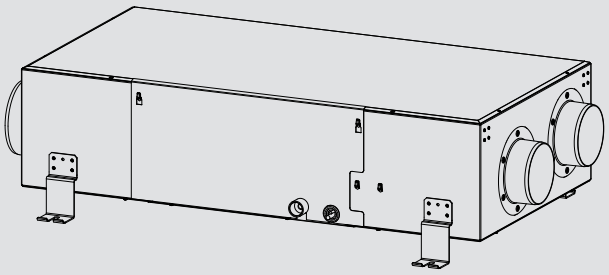
OPERATION AND INSTALLATION
USO E INSTALLAZIONE

Central ventilation unit with heat recovery | Unità di ventilazione centralizzata con recupero di calore

» VCR 180 MC



STIEBEL ELTRON

TABLE OF CONTENTS

SPECIAL INFORMATION

- The appliance may be used by children over 8 years of age and persons with reduced physical, sensory or mental capabilities or a lack of experience and expertise, provided that they are supervised or they have been instructed on how to use the appliance safely and have understood the potential risks. Children must never play with the appliance. Cleaning and user maintenance must not be carried out by children without supervision.
- Observe all applicable national and regional regulations and instructions.
- The appliance is not approved for outdoor installation.
- You must not install the appliance in safety zones 0, 1 and 2. The safety zones are defined in the IEC 60364-7-701 standard.
- Maintain the minimum clearances. See chapter "Preparations / Installation site".
- Fix the appliance in position as described in chapter "Installation / Preparations".
- If the appliance is permanently connected to the power supply, ensure that the appliance can be separated from the power supply by an isolator that disconnects all poles with at least 3 mm contact separation.
- Observe the fuse protection required for the appliance (see chapter "Specification / Data table").
- For the power cable, connections and connecting cables to external control equipment, observe chapter "Electrical connection" and the wiring diagram in chapter "Specification".
- The power cable must only be replaced (for example if damaged) by a qualified contractor authorised by the manufacturer, using an original spare part.

OPERATION

1. General information

The chapters "Special information" and "Operation" are intended for appliance users and qualified contractors. The chapter "Installation" is intended for qualified contractors.

Note
Read these instructions carefully before using the appliance and retain them for future reference. Pass on these instructions to a new user if required.

1.1 Safety instructions

1.1.1 Structure of safety instructions

KEYWORD Type of risk
Here, possible consequences are listed that may result from failure to observe the safety instructions.
▶ Steps to prevent the risk are listed.

1.1.2 Symbols, type of risk

Symbol	Type of risk
	Injury
	Electrocution
	Burns (burns, scalding)

1.1.3 Keywords

KEYWORD	Meaning
DANGER	Failure to observe this information will result in serious injury or death.
WARNING	Failure to observe this information may result in serious injury or death.
CAUTION	Failure to observe this information may result in non-serious or minor injury.

1.2 Other symbols in this documentation

Note
General information is identified by the adjacent symbol.
▶ Read these texts carefully.

Symbol	Meaning
	Material losses (appliance damage, consequential losses and environmental pollution)
	Appliance disposal

▶ This symbol indicates that you have to do something. The action you need to take is described step by step.

□□■ **These symbols show you the software menu level (in this example level 3).**

1.3 Information on the appliance

Connections

Symbol	Meaning
	Outdoor air
	Exhaust air
	Extract air
	Supply air
	Filters
	Electric preheating coil
	Cross-countercurrent heat exchanger
	Fans

1.4 Standardised output data

Information on determining and interpreting the specified standardised output data

Standard: EN 13141-7

The output data specifically mentioned in text, diagrams and technical datasheet has been determined in line with the test conditions specified in the standard shown in the heading of this chapter.

Generally, these standardised test conditions will not fully meet the conditions found at the installation site of the system user. Depending on the chosen test method and the extent to which the selected method deviates from the conditions specified in the standard shown in the heading of this chapter, any deviations can have a considerable impact. Additional factors that have an influence on the test values are the measuring equipment, the system configuration, the age of the system and the flow rates.

A confirmation of the specified output data can only be obtained if the conditions applicable to the relevant test match those of the standard shown in the heading of this chapter.

1.5 Units of measurement

Note
All measurements are given in mm unless stated otherwise.

2. Safety

2.1 Intended use

The appliance is designed as a mechanical ventilation unit with central supply and extract air routing.

The appliance is intended for domestic use. It can be used safely by untrained persons.

The appliance can also be used in non-domestic environments, e.g. in small businesses, as long as it is used in the same way. Any other use beyond that described shall be deemed inappropriate. Observation of these instructions and of the instructions for any accessories used is also part of the correct use of this appliance.

The following are deemed inappropriate:

- Use extract air containing grease, explosive gases, dust or adhesive aerosols
- Connect cooker hoods or vented tumble dryers to the ventilation system

Never adjust the settings of supply and extract air vents inside the rooms. These have been set up by a qualified contractor during commissioning.

2.2 General safety instructions

WARNING Injury
The appliance may be used by children over 8 years of age and persons with reduced physical, sensory or mental capabilities or a lack of experience and expertise, provided that they are supervised or they have been instructed on how to use the appliance safely and have understood the potential risks. Children must never play with the appliance. Cleaning and user maintenance must not be carried out by children without supervision.

WARNING Injury
The discharged cold air can cause condensation to be formed in the vicinity of the air discharge.
▶ Ensure that no risk of slipping due to wet conditions or ice formation occurs on adjacent footpaths and driveways at low temperatures.

2.3 Test mark

See type plate on the appliance.

3. Appliance description

The appliance draws in outdoor air with a fan. A second fan extracts stale air from the rooms containing odours or moisture, e.g. kitchen, bathroom, WC. Extract air and outdoor air are routed through separate air ducts. Extract air and outdoor air are filtered by separate filters.

The extract air and outdoor air flow through a cross-countercurrent heat exchanger. The outdoor air absorbs heat taken from the extract air. This enables a large proportion of thermal energy to be recovered.

The air flow rate is preset for each fan setting by the qualified contractor during commissioning. Constant flow rate control ensures that the air flow rates through the supply air and extract air fans are achieved irrespective of the duct pressure.

Operating mode	Fan stage	Description
Humidity prot.	0	Necessary ventilation for ensuring that the building structure is protected under normal conditions of use with somewhat reduced moisture loads, e.g. during temporary absence of users and no drying of washing in the residential unit.
Stage 1	1	Reduced ventilation is the ventilation necessary to meet hygiene standards and ensure protection of the building structure (moisture level) under standard conditions of use with partially reduced moisture and pollutant loads, e.g. as a result of intermittent user absence.
Stage 2	2	Standard ventilation is the ventilation necessary to meet hygiene standards and ensure protection of the building structure when users are present.
Intens. vent.	3	Intensive ventilation is increased ventilation with a higher flow rate to reduce load peaks, e.g. for rapid ventilation during or after a party. You can switch on intensive ventilation with the programming unit or with an optionally connectible external pushbutton.
Time program mode	0 to 2	Time controlled fan program with various adjustable fan settings.

3.1 Bypass mode

Bypass mode is usually used for passive cooling in summer, when the outside temperature is lower than the set room temperature.

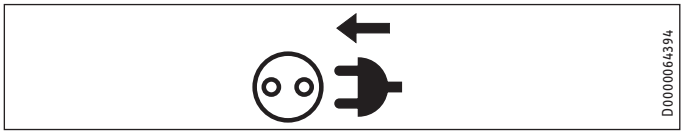
In bypass mode, cooler outdoor air can displace the warm air in the home by bypassing the cross-countercurrent heat exchanger.

When the conditions are met for bypass mode, the "bypass mode" symbol appears.

The appliance does not have a built-in bypass damper.

4. Settings

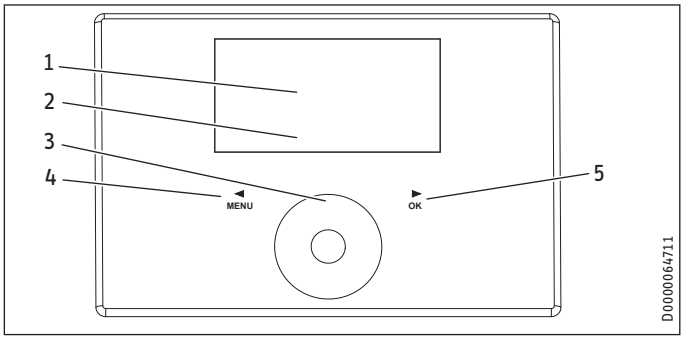
4.1 Switching the appliance on



▶ Plug the appliance into a standard socket.

4.2 Programming unit

The programming unit enables convenient operation and the display of system parameters from the living space.



1 Text field
2 Appliance status symbols
3 Touch-Wheel
4 "MENU" button
5 "OK" button

4.2.1 Display

If you do not perform any settings for a while, the display illumination switches off and the home screen appears.

Press any button to switch the illumination back on again.

4.2.2 Symbols

Symbol	Description
⧖0 ⧖1 ⧖2	Time program mode: The set fan program is active. Depending on the setting, the unit is operated at various fan stages. The number indicates the fan setting.
	Intens. vent.: The unit runs at the highest fan setting for the set period of time.
	Condensate prevention (depending on unit): Condensate prevention is active.
	Filter change: Change the filters when this symbol appears.
	Fault: The symbol is displayed permanently in the event of faults that do not impair the basic function of the appliance.
	Bypass mode: When the conditions are met for bypass mode, the "bypass mode" symbol appears. When the symbol appears and you wish to activate bypass mode, open the window. When the "bypass mode" symbol goes out, close the window.
	Fan disable: The symbol is displayed in the event of the "Enable fan" is set to "Off".

4.2.3 Controls

Operating controls	Description
"MENU" button	Press this button for approx. one second to call up the menu from the home screen.
	Within the menu, press this button to go back one menu level at a time.
	When setting a parameter value, press this button to exit setting of the parameter. Any changes made will not be saved in this case.
"OK" button	Pressing the "OK" button within the menus confirms the selected parameter and takes you to the next menu level down.
	In order to set the parameter, you must first make it editable by pressing the "OK" button. Then you can change the value with the Touch-Wheel.
	Once you have set the parameter, confirm your entry with the "OK" button.
Touch-Wheel	From the home screen, you can select the following parameters by turning the Touch-Wheel: "Humidity prot.", fan settings "Stage 1" or "Stage 2", "Time program mode", "Intens. vent.", "Favourites", "Direct selec." and "Function block". Confirm the selection with the "OK" button.
	Use the Touch-Wheel to select a parameter or value in the menu.
	If you turn the Touch-Wheel quickly, the increment size changes after a while.

Note
Gloves, wet hands or moisture on the touch-sensitive operating controls make it more difficult to make entries.

4.2.4 Operation

- ▶ Press the "MENU" button to access the menus from the home screen.
- ▶ Turn the Touch-Wheel to move to the next parameter.
- ▶ Press "OK" to change the value of the parameter displayed.
- ▶ Adjust the value with the Touch-Wheel.
- ▶ Press "OK" to save the selected value. If you do not confirm the change with the "OK" button, the change will not be saved.

If you do not make any changes for a while, the display automatically switches from the menu structure back to the home screen. Parameter changes made before this which had not yet been confirmed with OK are lost.

If the Touch-Wheel and buttons are not used for a while, the programming unit is locked.

- ▶ Touch "MENU" for three seconds to activate the programming unit.

4.3 Parameters adjustable from the home screen

4.3.1 Activating humidity protection

- ▶ In the home screen, turn the Touch-Wheel until "Humidity prot." appears. Press "OK".

Humidity protection control is active. The moisture in the extract air is measured and if humidity is high, the unit starts to ventilate.

4.3.2 Selecting the fan setting

- ▶ Using the Touch-Wheel, select the fan setting "Stage 1" or "Stage 2". Press "OK".

The selected fan setting is active.

4.3.3 Activating time program mode

The "Time program mode" symbol indicates that the fan program is activated.

- ▶ If the fan program is not activated, select "Time program mode". Press "OK".

The displays shows the "Time program mode" symbol.

For times where there is no fan program defined, the unit operates at fan stage 2.

Note
If you switch the unit to Time program modea fan program must be entered in the "Programs" menu. Otherwise the unit continues to run without a time limit in fan stage 2.

4.3.4 Switching on Intens. vent.

- ▶ Switch on Intens. vent. with the Touch-Wheel and the "OK" button or with an external pushbutton.

When intensive ventilation is switched on, the "Intens. vent." symbol is shown.

After expiry of the period of time set under "Intens. vent. time", the unit switches back to the previously selected fan setting.

When intensive ventilation switches off, the "Intens. vent." symbol goes out.

4.3.5 Setting favourites

- ▶ Select "Favourites" using the Touch-Wheel. Press "OK".

This will take you from the standard view directly to the favourites in the "Settings" menu.

- ▶ Select the required favourites. Press "OK".

The set favourites F1, F2 and F3 are displayed on the home screen.

4.3.6 Activating function block

- ▶ Select "Function block" using the Touch-Wheel. Press "OK".

A 60 second countdown and "Maintenance" are displayed.

Then you can wipe the programming unit clean without inadvertently changing any settings. The function block terminates after 60 seconds.

4.3.7 Direct selec.

Use direct selection to move from the standard view directly to the adjustable or readable parameters.

- ▶ Select "Direct selec." using the Touch-Wheel. Press "OK".

Note
The table shows only the direct selection parameters to be set by the appliance user. The other direct selection parameters shown on the display may only be set by a qualified contractor or the service department.

Direct selection parameters

	Description	Code level	Unit	Min.	Max.	Options	Standard
P2	Intens. vent. time	A0	min.	1	240		30
P3	Operating mode heat recovery bypass	A0				Disabled (0) | Bypass/window contact (1) | Outdoor air routing automatic (2) | Extract air routing autom. (3)	(2)
P4	Filter reset	A0				Off | On	Off
P28	Enable fan	A0				Off | On	Off
P35	Cooling/heating, heat recovery bypass	A0				Cooling/heating (1) | Cooling (2) | Heating (3)	(1)
P80	Day	A0					
P81	Time	A0		00:00	23:59		

4.4 Menus

Note
Some parameters are protected by a code and can only be set by a qualified contractor or the service department. Depending on the set code, not all parameters may be displayed in the individual menus.

▶ Press the "MENU" button to access the menus from the home screen.

Menu	Description
■ Info	Information about the actual values of the appliance
■ Diagnostics	Fault messages, operating time, maintenance intervals
■ Programs	Fan program
■ Settings	Adjustable values and functions

4.4.1 "Info" menu

■ Info	Value
☐■ Bypass status	Off | On
☐■ Extract air temp.	°C
☐■ Extract air hum.	%

4.4.2 "Diagnostics" menu

■ Diagnostics	Value
☐■ Notification list	Off | On
☐■ Filter runtime	h
☐■ Filter reset	Off | On

■ Diagnostics

☐■ Notification list

The faults most recently registered by the appliance are stored in the notification list. The most recent fault is stored in #1, the oldest error in #10.

If no faults are entered, dashes are shown. Possible faults are listed for qualified contractors in the "Troubleshooting" chapter.

☐■ Filter runtime

The filter runtime is dependent on the operating conditions and has been defined by the qualified contractor.

☐■ Filter reset

▶ After changing the filters, set the "Filter reset" to "On".

The unit resets the filter runtime to 0 and the "Filter reset" is automatically reassigned the value "Off". The filter change warning signal goes out.

4.4.3 "Programs" menu

■ Programs	Value
☐■ Fan program	Monday
	Tuesday
	Wednesday
	Thursday
	Friday
	Saturday
	Sunday
	Monday - Friday
	Saturday - Sunday
	Monday - Sunday

■ Programs

☐■ Fan program

Note
For times where there is no fan program defined, the unit operates at fan stage 2.
You cannot switch on fan stage 3 with fan programs.

For the fan programs, you can specify a fan setting, time, day of week or time block.

Setting switching time pairs

You can set three switching time pairs for each day of the week or time block. The switching time pairs are shown on the display, to the right of the clock.

Each switching time pair consists of a start time and an end time. After a switching time pair has expired, the unit switches to "Stage 2" operating mode.

Periods around midnight

Switching time pairs can be programmed only up to 24:00. If you want to choose periods that extend beyond midnight, you will need to set an additional switching time pair for the following day.

▶ In the "Programs" menu, select "Fan program" using the Touch-Wheel. Press "OK".
▶ Select a day of the week or a time block. Press "OK".
▶ Select one of the three switching time pairs. Press "OK".
▶ Select "Stage". Press "OK".
▶ Select the fan setting. Press "OK".
▶ Select "Start". Press "OK".
▶ Set the start time. Press "OK".
▶ Select "End". Press "OK".

▶ Set the end time. Press "OK".

The fan program is now set.

▶ In standard view, select "Time program mode". Press "OK" to activate the fan program.

Note
If there are fan programs with identical times, the higher level switching time pairs and individual days of the week have priority.

Example

	Switching time pairs	Stage
Monday to Friday	06:00 - 22:00	2
	22:00 - 06:00	1
Saturday, Sunday	07:00 - 23:00	2
	23:00 - 07:00	1

Fan program Day of the week or time block	Stage	Start	End
Monday - Friday	1	22:00	24:00
Monday - Friday	1	00:00	06:00
Saturday - Sunday	1	23:00	24:00
Saturday - Sunday	1	00:00	07:00

For times where there is no fan program defined, the unit operates at fan stage 2.

Deleting switching time pairs

▶ To delete a switching time pair, select the "Start" or "End" of a switching time pair.

▶ Turn the Touch-Wheel to the left beyond 00:00 until dashes "-- --" are displayed. Press "OK".

Resetting one of the times to "--:--" automatically resets the other time of the switching time pair.

Deleting day of the week or time block

▶ Delete all three switching time pairs to delete the fan program for the weekday or time block.

4.4.4 "Settings" menu

■ Settings	Value
☐■ View	Code for qualified contractor
☐■ General	
☐☐■ Time/date	Day
	Hour:Minute
☐☐■ Language	English
	English
	Francais
	Nederlands
	Italiano
	Polski
	Cesky
	Magyar
	Slovensko
	中文
	Slovensky
	日本語
☐☐■ Contrast	1 - 10
☐☐■ Brightness	%
☐☐■ Touch sensitivity	1 - 10
☐☐■ Touch boost	1 - 10
☐☐■ Prog. unit software	
☐■ Air flow rate	Only for qualified contractors
☐■ Favourites	
☐☐■ F1	Bypass status
F2	Extract air temp.
F3	Extract air hum.
	Filter runtime
	Device software version
	Device software patch
	Mobile device serial no.
☐■ Humidity prot.	Only for qualified contractors
☐■ Intens. vent.	
☐☐■ Intens. vent. time	min
☐■ Heat recovery bypass	
☐☐■ Operating mode heat recovery bypass	Disabled
	Bypass/window contact
	Outdoor air routing automatic
	Extract air routing autom.
☐☐■ Cooling/heating, heat recovery bypass	Cooling/heating
	Cooling
	Heating
☐■ Condensate prevention	Only for qualified contractors
☐■ Enable fan	Off
	On
☐■ Ventilation unit	
☐☐■ Device software version	
☐☐■ Device software patch	
☐☐■ Mobile device serial no.	

■ Settings

☐■ View

Only those parameters which are enabled for the appliance user, and therefore accessible without a code, are shown in the default settings.

Qualified contracts can use the "View" parameter to enable actual values and parameters, which are reserved for qualified contractors.

☐■ General

☐☐■ Time/date

The "Time/date" parameter enables you to set the day of the week and the current time.

☐☐■ Language

The "Language" parameter enables you to select the language of the display.

☐☐■ Contrast

The "Contrast" menu item allows you to adjust the contrast of the display.

☐☐■ Brightness

The "Brightness" menu item allows you to set the brightness of the display.

☐☐■ Touch sensitivity

The "Touch sensitivity" parameter enables you to adjust the touch sensitivity of the Touch-Wheel and the sensor keys.

☐☐■ Touch boost

The "Touch boost" lets you adjust the reaction speed of the Touch-Wheel and the sensor keys.

☐☐■ Favourites

In the "Favourites" parameter, you can select up to three parameters that you wish to have displayed in the standard display.

☐■ Intens. vent.

☐☐■ Intens. vent. time

This parameter defines the runtime for intensive ventilation. After this time has expired, the unit switches back to the previously selected fan setting. If the intensive ventilation is switched on with an external pushbutton, this parameter defines how long the intensive ventilation continues to run after the button has been pushed.

☐■ Heat recovery bypass

☐☐■ Operating mode heat recovery bypass

	Effect
Disabled	Bypass mode is permanently disabled. Air flows through the heat exchanger.
Bypass/window contact	Bypass mode is enabled. The "Bypass mode" symbol appears on the display.
Outdoor air routing automatic	Bypass mode operates with summer day detection. This option is set in the delivered condition. The "Bypass mode" symbol appears on the display.
Extract air routing autom.	Bypass mode operates subject to the extract air temperature. The "Bypass mode" symbol appears on the display.

When bypass mode is enabled, only the extract air fan is activated and the supply air fan switches off. The air flow bypasses the heat exchanger.

☐☐■ Cooling/heating, heat recovery bypass

▶ Set the bypass mode control according to the temperature.

Parameter	Effect
Cooling/heating	Depending on the temperature, use the outdoor air for cooling or heating.
Cooling	Summertime: Use cool outdoor air.
Heating	Spring and autumn: Use warm outdoor air.

☐■ Enable fan

You can switch off the fans at any time via the programming unit menu, e.g. to deactivate ventilation if there is a fire.

	Effect
Off	The fans are disabled. The "Fan disable" symbol appears on the display.
On	The fans are enabled.

4.5 Switching off the appliance

Material losses
If you interrupt the power supply to the appliance, check that humidity protection is ensured for the building.

The appliance has no ON/OFF switch. Disconnect the power supply at the fuse/MCB in the domestic distribution board.

5. Maintenance, cleaning and care

▶ Never use abrasive or corrosive cleaning agents. A damp cloth is sufficient for cleaning the appliance.

6. Troubleshooting

The faults detected by the appliance are stored in the notification list.

If you cannot remedy the fault, contact your qualified contractor. To facilitate and speed up your enquiry, please provide the serial number from the type plate (000000-0000-000000). The type plate is located on the control panel on the side of the appliance.

Supposed errors

Problem	Cause	Remedy
Intensive ventilation continues to run after the external switch has been opened, although the value 0 is set for the follow-up time in parameter “Intens. vent. time”.	After opening the switch, it may take 10 seconds for the device to change the fan level.	No action required.

INSTALLATION

7. Safety

Only a qualified contractor should carry out installation, commissioning, maintenance and repair of the appliance.

7.1 General safety instructions

We guarantee trouble-free function and operational reliability only if original accessories and spare parts intended for the appliance are used.

7.2 Instructions, standards and regulations

WARNING Injury
In connection with the fire prevention regulations concerning the installation of ventilation systems, observe all country-specific regulations and requirements. In Germany, these are particularly the building regulation guideline on fire prevention requirements of ventilation systems in its applicable version.

Note
Observe all applicable national and regional regulations and instructions.

7.3 Operation of the appliance in buildings with combustion equipment

The term "combustion equipment" used below includes, for example, tiled stoves, fireplaces and equipment with gas combustion.

WARNING Injury
Ventilation units can generate negative pressure in the dwelling. If combustion equipment is operating at the same time, combustion exhaust gases can penetrate the combustion equipment installation room. It is therefore important to observe a number of points for simultaneous operation of a ventilation unit and combustion equipment.

The engineering, installation and operation of the ventilation unit and combustion equipment must be carried out in accordance with national and regional regulations.

7.3.1 Planning safety measures

Together with the relevant authorities, engineers plan the safety measures that are required for simultaneous operation of a ventilation unit and combustion equipment.

Alternate operation

Alternate operation means that, when the combustion equipment is commissioned, the mechanical ventilation system is switched off and/or cannot be started. Alternate operation must be ensured by appropriate measures, e.g. automatically enforced shutdown of the ventilation unit.

Simultaneous operation

For simultaneous operation of combustion equipment and a mechanical ventilation system, we recommend choosing approved room sealed combustion equipment (in Germany, with DIBt approval).

If open flue combustion equipment is operated in the dwelling at the same time as a ventilation unit, combustion exhaust gases must be prevented from penetrating the home as a result of possible negative pressure in the room.

The ventilation unit may only be operated in combination with intrinsically safe combustion equipment. This combustion equipment has, for example, a draught hood or an exhaust gas monitor and is permitted to be operated in conjunction with ventilation units. Alternatively, external, tested safety equipment can be connected to monitor the operation of the combustion equipment. For example, you can install differential pressure monitoring to monitor the chimney draught and to switch off the ventilation unit in the event of a fault.

The equipment for differential pressure monitoring must fulfil the following requirements:

- Monitoring of the differential pressure between the connection piece to the chimney and the combustion equipment installation room
- Possibility of matching the shutdown value for the differential pressure to the minimum draught requirement for the combustion equipment
- Floating contact to switch off the ventilation function
- Optional connection of a temperature capturing device so that differential pressure monitoring is only enabled when the combustion equipment is in operation and so that unwanted shutdowns due to environmental influences can be prevented

Note
Differential pressure switches that use the pressure differential between the outdoor air pressure and the pressure in the combustion equipment installation room as a response criterion are not suitable.

Note
We recommend installing and regularly maintaining a carbon monoxide detector in accordance with EN 50291 for operation of any combustion equipment.

7.3.2 Commissioning

When commissioning the ventilation unit, it is important to check and document in the commissioning log that combustion exhaust gases are not penetrating the dwelling in a quantity that is harmful to health.

Acceptance must be carried out by a specialist. In case of doubt, you must involve an independent expert in the acceptance procedure.

7.3.3 Maintenance

Regular maintenance of the combustion equipment is prescribed. Maintenance includes checking the exhaust gas extraction system, the free pipe cross-sections and the safety equipment. The relevant qualified contractor responsible must prove that there is a sufficient flow of combustion air.

8. Appliance description

8.1 Standard delivery

The following are delivered with the appliance:

- Hardwired, wall mounted programming unit with wall mounted enclosure, adaptor cable
- Anti-vibration mount

8.2 Accessories

- DN 150 air duct connectors

You can obtain ventilation pipes, extract air and supply air vents and similar accessories from us.

9. Preparation

9.1 Storage

Material losses
Never store the appliance in dusty places.

9.2 Installation site

WARNING Electrocution
You must not install the appliance in safety zones 0, 1 and 2. The safety zones are defined in the IEC 60364-7-701 standard.

Material losses
Never install the appliance outdoors.

Material losses
▶ Check whether the ceiling can bear the weight of the appliance.

Material losses
In dwellings in which only one air conditioning unit is installed or planned, the appliance must only be operated with one enthalpy heat exchanger.
Otherwise material losses may arise due to the formation of condensation.

- The installation room must be free from the risk of frost.
- The appliance must be installed horizontally.
- The installation room must have an adequate condensate drain with siphon.

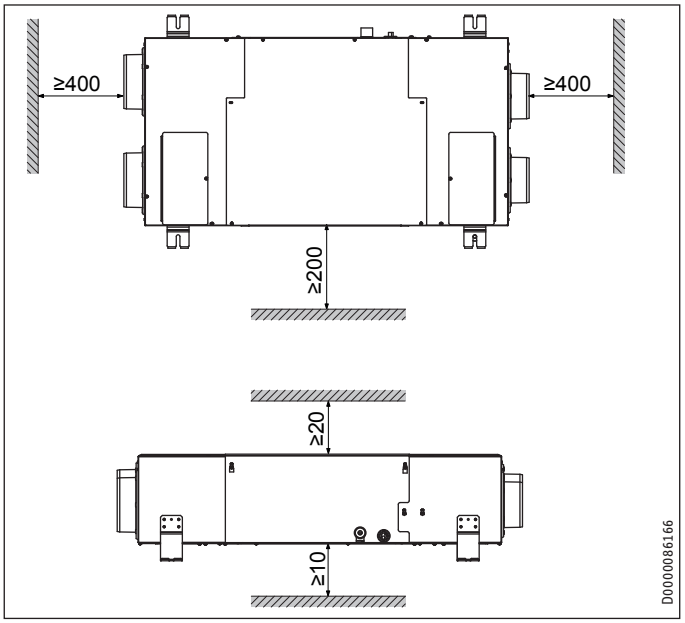
The type and location of the outside air intake must ensure that the least polluted outdoor air in the area of the building and surroundings is drawn in.

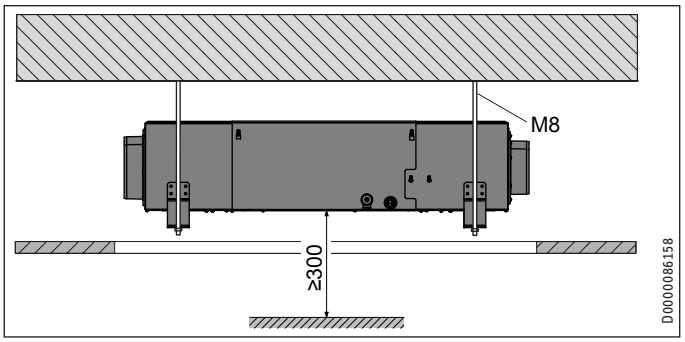
The outside air intake for controlled mechanical ventilation must be at least the following height above ground level: 700 mm. In addition, you must observe the minimum suction height from the standard applicable to you.

Avoid outdoor air intake in locations with polluted air:

- car parks and roads
- under bushes and trees
- in the proximity of waste containers
- locations contaminated with microorganisms, dust or ash

Minimum clearances





The appliance must be accessible from below for changing filters and maintenance purposes. Mount a cover (600 x 1200 mm) beneath the appliance or design the suspended ceiling in such a way that it is removable under the appliance.

9.3 Transport

Material losses
If possible, transport the appliance to the installation location in its original packaging.
If the appliance is transported without packaging and without using a pallet, e.g. to carry it up or down stairs, its outer casing may be damaged.
To transport the appliance without packaging, first remove the front panel of the appliance. See chapter "Installation / Removing the front panel".

Material losses
Never use the air connections as handles for carrying the appliance.

10. Installation

WARNING Electrocution
Do not install the appliance if it is damaged and there is a risk that live components could be touched.
► Check the appliance for external damage.

Material losses
► Make sure that there are no sharp objects at the installation location that could drill through the outer envelope of the appliance.

10.1 Mounting the appliance

Material losses
► Check whether the ceiling can bear the weight of the appliance.

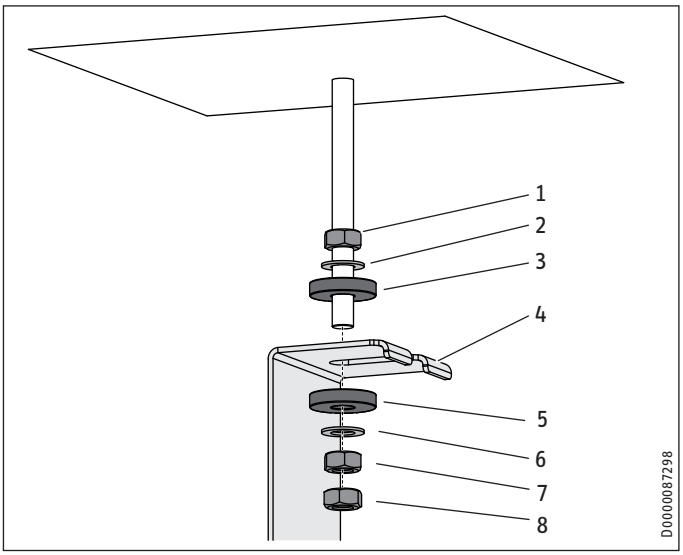
Material losses
► Always install the appliance horizontally so that any condensate arising can flow into the condensate drain.

Note
The filter cassettes are located at the bottom of the appliance.

Note
Install the appliance before mounting the ceiling panels of the suspended ceiling.

Note
► When positioning the appliance, ensure there is sufficient space to install the supply and extract air ducts (see chapter "Preparations / Installation site / Minimum clearances").

► Drill holes in the ceiling for mounting the appliance with threaded pins or double ended screws.
► Fit the following parts onto each threaded pin in the sequence described.



1 Nut
2 Washer
3 Anti-vibration mount
4 Appliance mounting
5 Anti-vibration mount
6 Washer
7 Nut
8 Nut (Lock nut)

► Use a spirit level to check whether the appliance is level horizontally.
► Level the appliance horizontally by turning the nuts.

10.2 Connecting the condensate drain hose

Material losses
The weight of the condensate drain hose and condensate pump must not exert a leverage effect on the appliance condensate drain connection. This could cause the condensate drain connection to leak or break off.
► Secure the condensate drain hose, e.g. to the ceiling.

Material losses
To ensure that condensate drains correctly, always lay the condensate drain hose without any kinks. Lay the condensate drain hose with a fall of at least 10 %. The appliance must be installed horizontally.
The drain pipe may only contain one siphon. The condensate must be able to drain freely downstream of the siphon.
The condensate must drain away via the domestic sewer system. The pipes must not rise in the domestic sewer system downstream of the siphon. The condensate drain must be free from the risk of frost.

Note
Prevent air from being drawn in through the condensate drain.
► Install the condensate drain hose in such a way as to create a siphon with a water trap height of at least 60 mm.

► Before connecting the condensate drain hose to the appliance, pour water into the siphon.

- ▶ Push a condensate drain hose onto the condensate drain connection.
- ▶ Prevent the condensate drain hose from slipping off the condensate drain connection, e.g. with a cable tie.

10.3 Air ducts

Material losses
Never link cooker hoods to the ventilation system.

Material losses
During installation, ensure that no metal swarf enters the pipework. However, should this occur, remove this debris, otherwise the fans may be damaged.

Install the air ducts using materials that can be obtained from us or with commercially available folded spiral-seam tubes.

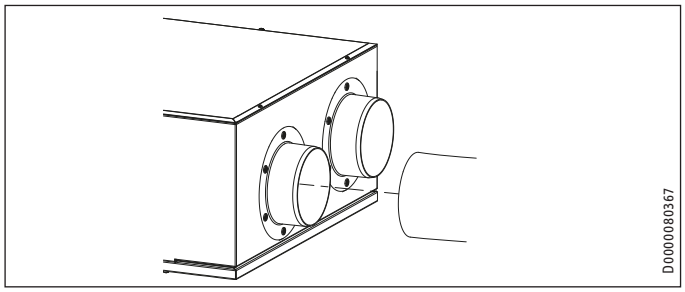
10.3.1 Insulation against condensation

Material losses
When warm air meets cold surfaces, condensation can result.
- ▶ For outdoor air and exhaust air ducts, use vapour proof thermally insulated pipes.
- ▶ If the supply and extract air ducts are routed through unheated rooms, insulate these ducts as well.

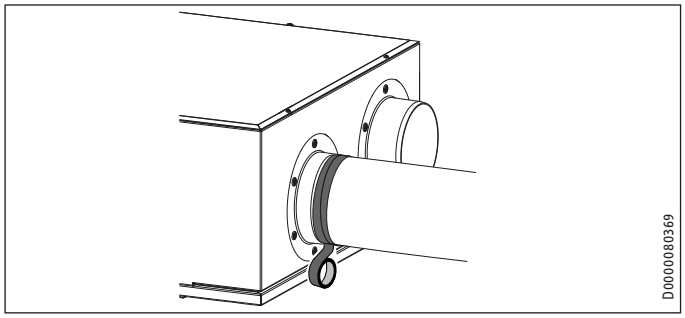
10.3.2 Connecting air ducts to the appliance

You can connect air ducts with two different diameters to the appliance.

Air ducts with diameter DN 125



- ▶ Push the air duct onto the air connection.



- ▶ Secure the air duct at the appliance air duct connection with self-adhesive aluminium sealing tape.

Optional: Air ducts with diameter DN 150

You can obtain DN 150 air duct connectors from us as accessories.
- ▶ Remove the air duct connectors mounted in the delivered condition by undoing the screws.
- ▶ Screw the new air duct connectors onto the appliance.

10.3.3 External wall outlets

Install the outdoor air intake into the building at a location where contamination (dust, soot, odours, flue gas, microorganisms, ash, exhaust air) is as low as possible.

When installing external wall outlets, prevent any short circuit between the air intake and the air discharge.

10.3.4 Silencers

- ▶ Install a silencer in both the supply air duct and the extract air duct. Install these silencers as close as possible to the appliance, so that noise is suppressed at an early stage.

We recommend installing additional silencers if required to avoid sound transmission.

If a room with a high noise level needs to be ventilated, install additional silencers upstream of this room to reduce sound transmission to the neighbouring rooms.

Aspects such as carried voices and impact sound must also be taken into consideration in the case of ducts embedded in concrete. Carried voices should be avoided by designing the duct with separate branches to the vents. If necessary, insulate the supply air ducts, e.g. if they are mounted outside the insulated wall panel.

10.3.5 Overflow apertures

Living rooms and bedrooms are only supplied with air. Air is only extracted from rooms where odours and moisture are generated. Ensure an unimpeded overflow and consequently air balancing. Install ventilation grilles in internal doors or walls, or enlarge the air gap beneath the door to ≥ 8 mm.

10.3.6 Cleaning apertures

- ▶ Fit cleaning apertures when installing the air ducts, so that the air ducts can be inspected and cleaned at regular intervals.

10.3.7 Supply and extract air vents

Supply and extract air vents for the living space are available for wall or ceiling mounting.

When venting the kitchen, ensure that the extract air vent is fitted as far as possible from the cooker.

10.4 Programming unit

10.4.1 Installation location of the programming unit

The programming unit is connected with an I²C bus. The length of the bus cable between the programming unit and ventilation unit must not exceed 20 m.

Observe the following installation location requirements to ensure correct function.

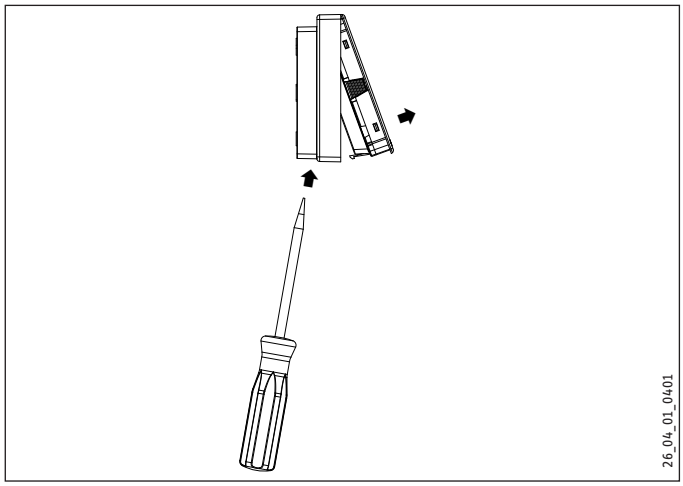
- ▶ Fit the programming unit to an internal wall, but not in a recess.
- ▶ Do not cover the programming unit with curtains or similar.
- ▶ Do not expose the programming unit to any direct external heat source (e.g. the sun, a heater or a TV set).
- ▶ Avoid direct draughts coming from windows and doors.

10.4.2 Installing the programming unit

- ▶ Route a 4-core bus cable from the ventilation unit to the mounting position of the programming unit. Use a screened electronic cable such as LiYCY 2x2x0.8 mm². Do not route the cable parallel to a three-phase cable.

The BUS cable must protrude 20 to 30 cm out of the wall to allow installation.

Remove programming unit from the wall mounted enclosure



- ▶ Release the locking tab found in the opening on the underside of the wall mounted enclosure. Press the locking tab with a screwdriver.

Installation with a flush box

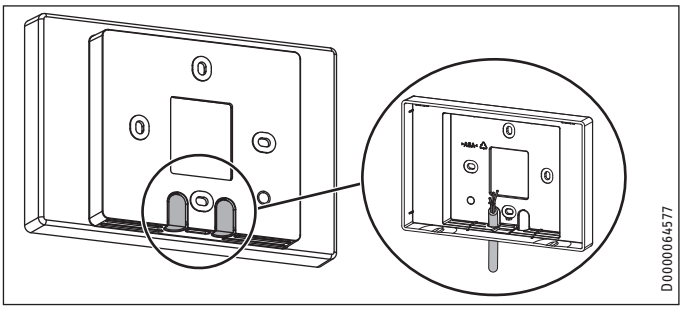
For securing to a wall we recommend using a flush box, which can hold the part of the bus cable protruding from the wall.

- ▶ Make sure that the screws supporting the flush box are arranged either vertically or horizontally opposite one another.
- ▶ Route the bus cable through the aperture in the wall mounted enclosure from the back.

Installation without a flush box

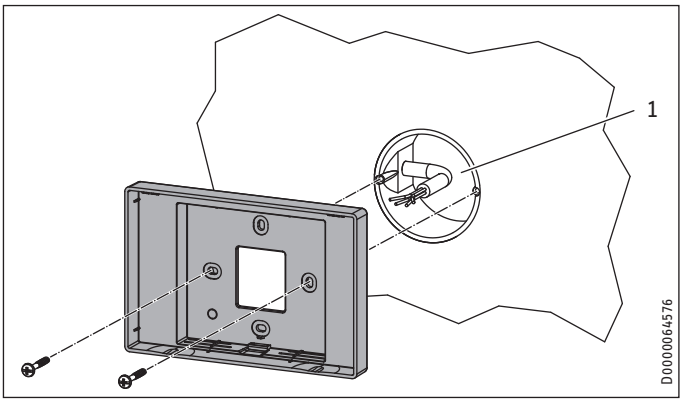
- ▶ To secure the wall mounted enclosure, drill four holes (Ø 5 mm).
- ▶ When routing the BUS cable, be careful not to damage the cable when drilling the fixing holes.

In the area around the cable entry (behind the wall mounted enclosure), a reservoir needs to be made to hold 20 to 30 cm of data cable.



- ▶ Break out one of the knock-outs in the wall mounted enclosure.
- ▶ Route the bus cable through the aperture from the back.

Installing the wall mounted enclosure



1 Flush box

- ▶ Secure the wall mounted enclosure to the flush box or to the wall using the screws provided.

10.5 Electrical connection

WARNING Electrocution
Carry out all electrical connection and installation work in accordance with national and regional regulations.

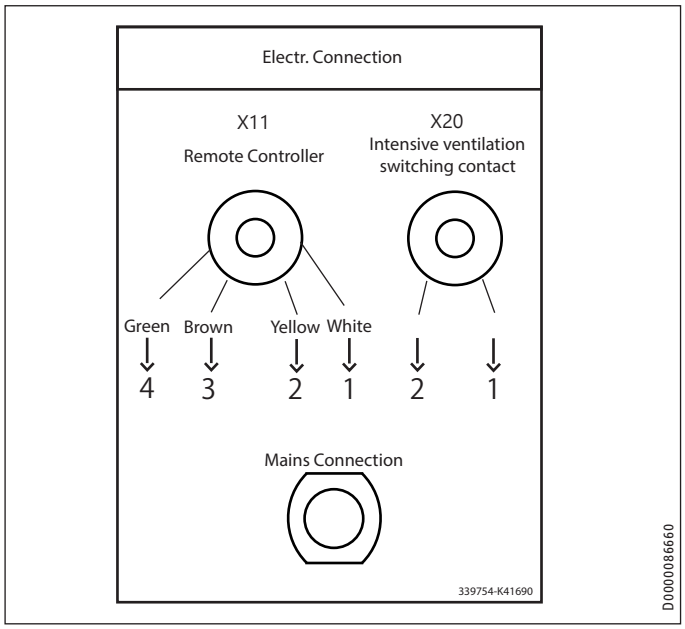
WARNING Electrocution
If the appliance is permanently connected to the power supply, ensure that the appliance can be separated from the power supply by an isolator that disconnects all poles with at least 3 mm contact separation.

WARNING Electrocution
Before any work on the appliance, isolate the connecting cables in the control panel.

WARNING Electrocution
Do not install the appliance if it is damaged and there is a risk that live components could be touched.
▶ Check the appliance for external damage.

Material losses
Observe the fuse protection required for the appliance (see chapter "Specification / Data table").

Note
For the power cable, connections and connecting cables to external control equipment, observe chapter "Electrical connection" and the wiring diagram in chapter "Specification".



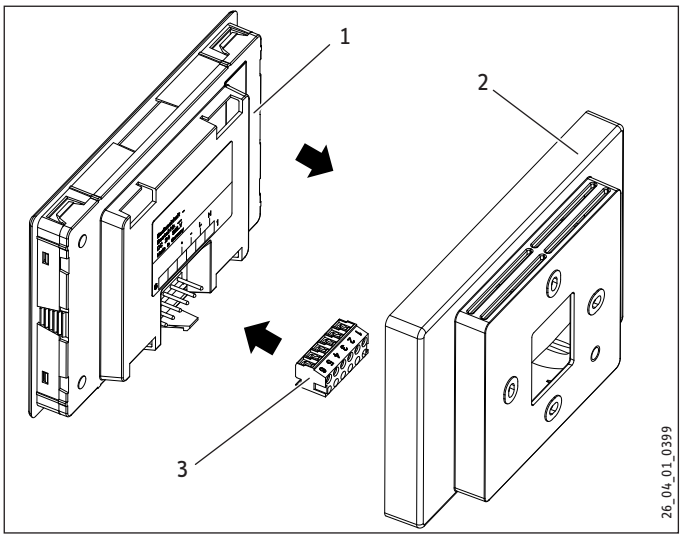
X11 Remote control (Safety extra low voltage)
X20 Intensive ventilation switching contact
1 White
2 Yellow
3 Brown
4 Green

	Safety extra low voltage
X11-1	SDA
X11-2	+5 V DC
X11-3	GND
X11-4	SCL

Power supply

Use the plug on the power cable to connect the appliance to a standard socket.

Programming unit



1 Programming unit
2 Wall mounted enclosure
3 6-pin female connector

▶ Connect the bus cable to the ventilation unit.
▶ Connect the bus cable to the female connector.

Safety extra low voltage	6-pin female connector
Not assigned	1
Not assigned	2
GND	3
+5 V DC	4
SDA	5
SCL	6

▶ Connect the female connector to the back of the programming unit.
▶ Click the programming unit carefully into place in the wall mounted enclosure.

Safety equipment for stove/fireplace operation

▶ Install the safety equipment in such a way that it interrupts the appliance power supply when required.

Intensive ventilation switching contact

You can connect a floating switching contact, the actuation of which switches the appliance to intensive ventilation. You can set the runtime for intensive ventilation in the "Intens. vent. time" parameter. After this time has expired, the unit switches back to the previously selected fan setting.

▶ Connect the external pushbutton to terminals 13/14.

10.6 Overflow apertures

Create suitable overflow apertures in the supply air area or overflow area. This is essential, as bypass mode is not possible without it.

11. Commissioning

WARNING Injury
If the unit is switched on without the air ducts connected and someone reaches through the air connectors into the unit, there is a risk of injury.
Do not commission the unit until the air ducts are firmly connected to it.

Material losses
Never operate the unit without filters.

Material losses
Never operate the ventilation system if there are high levels of dust inside the building or outside in the immediate vicinity, as this could block the filter. Dust is created by cutting tiles or working with plasterboard, for example.

Note
Observe the operating instructions. It explains which parameters can also be set by the appliance user.

11.1 Initial start-up

■ Settings

□■ View

When you enter a four-digit code, additional actual values and parameters become visible, which were previously hidden from the appliance user.

▶ To access actual values and parameters which are reserved for qualified contractors, enter the code "1 0 0 0" for "View". Press "OK".

"Service" is shown on the display, when this is entered correctly.

Note
After entering the code, switch to the menu by pressing the "MENU" button. If you first switch to the home screen, the parameter block is reactivated.

□■ General

□□■ Time/date

□□□■ Day

▶ Set the current day of the week (Monday to Sunday).

□□□■ Hour:Minute

▶ Set the current time (00:00 to 23:59).

□□■ Language

▶ Set the required language.

□■ Air flow rate

▶ Select the air flow rate for the fan settings under "Air flow rate" with "Flow rate, stage 0" to "Flow rate, stage 3".

□■ Enable fan

The fans are deactivated in the delivered condition.

▶ Set the "Enable fan" parameter to "On".

11.2 Recommissioning

▶ Check whether filters are fitted in the unit. Never operate the unit without filters.

▶ Check whether the condensate drain hose is damaged or kinked.

11.3 Appliance handover

▶ Explain the appliance function to users and familiarise them with how it works.

Note
Hand over these operating and installation instructions to users for safekeeping. All information in these instructions must be closely observed. The instructions provide information on safety, operation, installation and maintenance of the appliance.

12. Settings

Note
Observe the operating instructions. It explains which parameters can also be set by the appliance user.

12.1 Menus

Note
Some parameters are protected by a code. The factory programmed code for qualified contractors is "1 0 0 0".

Note
The parameters shown in grey can only be adjusted by the service department.

▶ Press the "MENU" button to access the menus from the home screen.

Menu	Description
■ Info	Information about the actual values of the appliance
■ Diagnostics	Fault messages, operating time, maintenance intervals
■ Programs	Fan program
■ Settings	Adjustable values and functions

12.1.1 "Info" menu

■ Info	Value
☐■ Bypass status	Off | On
☐■ Extract air temp.	°C
☐■ Extract air hum.	%
☐■ Extract air dew pt	°C
☐■ Outdoor air temp.	°C
☐■ Outdoor air hum.	%
☐■ Outdoor air dew pt	°C
☐■ Supply air temp.	°C
☐■ Exhaust air temp.	°C
☐■ Supply air fan control	%
☐■ Supply air fan speed	rpm
☐■ Supply air flow rate	m³/h
☐■ Exhaust air fan control	%
☐■ Exhaust air fan speed	rpm
☐■ Exhaust air flow rate	m³/h
☐■ Heating coil control	%
☐■ Extract air diff. press.	Pa

12.1.2 "Diagnostics" menu

■ Diagnostics	Value
☐■ Notification list	
☐■ Clear notification list	Off | On
☐■ Filter runtime	h
☐■ Filter reset	Off | On
☐■ Filter change interval	d
☐■ Device operating time	d
☐■ Fan operating time	d

■ Diagnostics

☐■ Clear notification list

To clear the notification list, set this parameter to "On". Press "OK" to confirm. Afterwards, "Off" is displayed again and the fault messages are deleted.

12.1.3 "Programs" menu

■ Programs	Value
☐■ Fan program	Monday
	Tuesday
	Wednesday
	Thursday
	Friday
	Saturday
	Sunday
	Monday - Friday
	Saturday - Sunday
	Monday - Sunday

12.1.4 "Settings" menu

■ Settings	Value
☐■ View	Code for qualified contractor
☐■ General	
☐☐■ Time/date	Day
	Hour:Minute
☐☐■ Language	English
	English
	Francais
	Nederlands
	Italiano
	Polski
	Cesky
	Magyar
	Slovensko
	中文
	Slovensky
	日本語
☐☐■ Contrast	1 - 10
☐☐■ Brightness	%
☐☐■ Touch sensitivity	1 - 10
☐☐■ Touch boost	
☐☐■ Prog. unit software	
☐■ Air flow rate	
☐☐■ Flow rate, stage 0	m³/h
☐☐■ Flow rate, stage 1	m³/h
☐☐■ Flow rate, stage 2	m³/h
☐☐■ Flow rate, stage 3	m³/h
☐☐■ Supply air flow rate offset	m³/h
☐■ Favourites	F1, F2, F3
☐☐■ F1 F2 F3	Bypass status Extract air temp. Extract air hum. Filter runtime Device software version Device software patch Mobile device serial no.
☐■ Humidity prot.	Only for qualified contractors
☐☐■ Enable humidity control (A2)	Off
	On
☐☐■ Humidity prot. interval	h
☐☐■ Humidity threshold	%
☐☐■ Humidity capture delay	min
☐■ Intens. vent.	
☐☐■ Intens. vent. time	min
☐■ Heat recovery bypass	
☐☐■ Operating mode heat recovery bypass	Disabled Bypass/window contact Outdoor air routing automatic Extract air routing autom.
☐☐■ Window contact mode (A2) (depending on unit)	Without window contact With window contact
☐☐■ Cooling/heating, heat recovery bypass	Cooling/heating Cooling Heating
☐■ Condensate prevention (A2)	
☐☐■ Enable condensate prevention	Off
	On
☐☐■ Offset condensate prevention	K
☐■ Enable fan	Off
	On
☐■ Ventilation unit	
☐☐■ Device software version	
☐☐■ Device software patch	
☐☐■ Mobile device serial no.	
☐☐■ Device type	

■ Settings

□■ View

Standard (A0)	The only parameters displayed are those that have been released for the appliance user and can therefore be accessed without a code.
Service (A1)	Parameters for qualified contractors: Code "1 0 0 0"
Expert (A2)	Parameters for service department.

▶ To access actual values and parameters which are reserved for qualified contractors, enter the code "1 0 0 0" for "View". Press "OK".

"Service" is shown on the display, when this is entered correctly.

If you switch to the actual values or parameters, you see the enabled parameters.

Note
After entering the code, switch to the menu by pressing the "MENU" button. If you first switch to the home screen, the parameter block is reactivated.

□■ Air flow rate

□□■ Supply air flow rate offset

Use this parameter to adjust the supply air flow rate during commissioning. The offset refers to standard ventilation and is converted internally as a percentage for the other fan stages.

Example

Nominal flow rate (stage 2)	m³/h	180
Offset	m³/h	45

Stage	Set flow rate	Offset	Set flow rate + offset	Offset factor	internal set flow rate = set flow rate * offset factor
0	50				50*1.25 = 62
1	130				130*1.25 = 162
2	180	45	180+45 = 225	225/180 = 1.25	180*1.25 = 225
3	235				235*1.25 = 294

□■ Humidity prot.

□□■ Enable humidity control

With humidity-dependent flow rate control, the air flow rate is increased or decreased depending on the humidity level.

Parameter	Effect
Off	inactive
On	active

□□■ Humidity prot. interval

If you set fan stage 0, the appliance switches to a 24 hour dormant phase. Only after this will humidity protection control start.

The unit measures the humidity of the extract air for the time set for "Humidity capture delay". The unit compares the last measured value with the limit value set for "Humidity threshold". If the humidity threshold is exceeded, the unit starts to ventilate. If the humidity threshold is undershot again, the unit terminates ventilation. At this point, the Humidity prot. intervalstarts again, at the end of which the moisture is measured.

□□■ Humidity capture delay

The unit measures the humidity of the extract air for the time set for "Humidity capture delay". The unit compares the last measured value with the limit value set for "Humidity threshold".

□■ Heat recovery bypass

□□■ Window contact mode (depending on unit)

This parameter has been set at the factory. The default setting is “Without window contact”. Don’t change the parameter. The appliance has no window contact.

□■ Condensate prevention

□□■ Enable condensate prevention

The Condensate prevention function is intended for units without an enthalpy heat exchanger in areas with a subtropical climate.

If the unit is in ventilation mode, and this parameter has the value "On", the unit checks the following conditions:

- Outdoor air temp. > Extract air temp.
- Extract air temp. + Offset condensate prevention < Outdoor air dew point

If both conditions are met, the unit switches the fans off. After a shutdown, the unit switches on the fans cyclically and checks whether the conditions are still valid or whether ventilation mode can be resumed.

Interval between measurements	min	60
Duration of measurement	min	5

□□■ Offset condensate prevention

This parameter changes the shutdown point for Condensate prevention. This allows the fans to be switched off 2 K before the dew point temperature is reached, for example.

□■ Ventilation unit

□□■ Device type

This parameter is set at the factory. The parameter can only be set after the controller assembly has been replaced.

12.2 Direct selection parameters

	Description	Code level	Unit	Min.	Max.	Options	Standard
P2	Intens. vent. time	A0	min.	1	240		30
P3	Operating mode heat recovery bypass	A0				Disabled (0) | Bypass/window contact (1) | Outdoor air routing automatic (2) | Extract air routing autom. (3)	(2)
P4	Filter reset	A0				Off | On	Off
P6	Flow rate, stage 0	A1	m³/h	50	100		50
P7	Flow rate, stage 1	A1	m³/h	50	180		90
P8	Flow rate, stage 2	A1	m³/h	50	180		125
P9	Flow rate, stage 3	A1	m³/h	110	180		180
P14	Supply air flow rate offset	A1	m³/h	-100	100		0
P15	Humidity prot. interval	A1	h	1	24		1
P16	Humidity capture delay	A1	min	5	15		5
P17	Humidity threshold	A1	%	5	95		65
P19	Filter change interval	A1	d	1	365		90
P28	Enable fan	A0				Off | On	Off
P29	Device type	A1					3
P31	Enable humidity control	A1				Off | On	Off
P32	Enable condensate prevention	A2				Off | On	Off
P33	Offset condensate prevention	A2	K	-5.0	5.0		0.0
P34	Window contact mode (depending on unit)	A2				without window contact (0) | with window contact (1)	(0)
P35	Cooling/heating, heat recovery bypass	A0				Cooling/heating (1) | Cooling (2) | Heating (3)	(1)
P70	Clear notification list	A1				Off | On	Off
P80	Day	A0					
P81	Time	A0		00:00	23:59		

Note
The parameters shown in grey can only be adjusted by the service department.

13. Shutting down the system

We recommend running the appliance in fan stage 1, even during prolonged absence.

Material losses
If you interrupt the power supply to the appliance, check that humidity protection is ensured for the building.

If the appliance needs to be taken out of use for an extended period, disconnect it from the power supply.

▶ Replace the filters.

14. Maintenance

WARNING Electrocution
Disconnect the appliance from the power supply before carrying out work inside the appliance.
▶ Isolate the appliance from the power supply.

Activity	Maintenance interval (in years)
Filter	1/4
Cleaning the condensate pan	1
Cleaning the condensate drain	1
Cleaning the cross-countercurrent heat exchanger	3
Cleaning the fans	3
Cleaning the air ducts	3

▶ Open the cover beneath the appliance or remove the suspended ceiling panels under the appliance.

▶ Disconnect the appliance from the power supply and secure it against unauthorised reconnection.

Filters

Material losses
Never operate the appliance without filters.

Material losses
Operate the appliance with at least the recommended filter class. Ensure that filters are fitted precisely so that they can fulfil their function.

▶ Inspect the filters for the first time three months after commissioning the appliance.

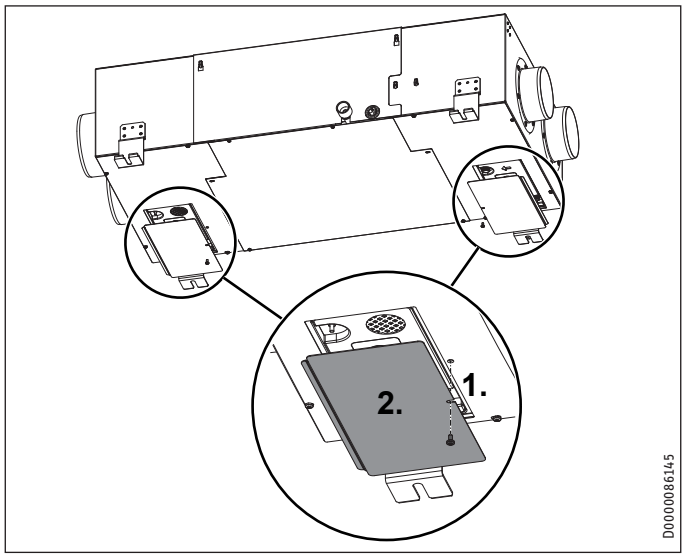
When the total fan runtimes reach the “Filter change interval” value, which can be set by the qualified contractor, the programming unit displays the “Filter” symbol.

The qualified contractor can lengthen or shorten the interval for inspecting filters depending on the level of contamination.

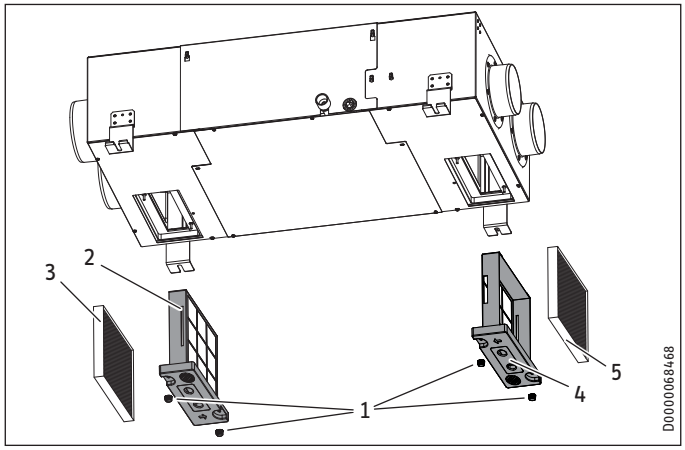
If the “filter” symbol illuminates, check the filters.

Change the filters if the surface is covered completely in dirt or the filter is discoloured throughout.

Change the filters at least every 12 months.



- ▶ Undo the screw in the cover. Do not let it fall.
- ▶ Remove the cover.



1 Wing screw
2 Filter cassette, extract air filter
3 Extract air filter
4 Filter cassette, outdoor air filter
5 Outdoor air filter

- ▶ Undo the wing screw on the filter cassette of the extract air filter by turning the screw anti-clockwise.
- ▶ Remove the filter cassette from the appliance.

Part number	Product name	Description	Classification in accordance with ISO 16890	Quantity
337409	FMS G4 VCR 180 ECN	Coarse particle filter mat	ISO Coarse > 60 % (G4)	2

- ▶ If necessary, place a new filter in the filter cassette.

Material losses
Operate the appliance with at least the recommended filter class. Ensure that filters are fitted precisely so that they can fulfil their function.

- ▶ Ensure that the direction of air flow through the filter is correct.

G4, M5, F7: The direction of flow is indicated by an arrow on the side of the filter.

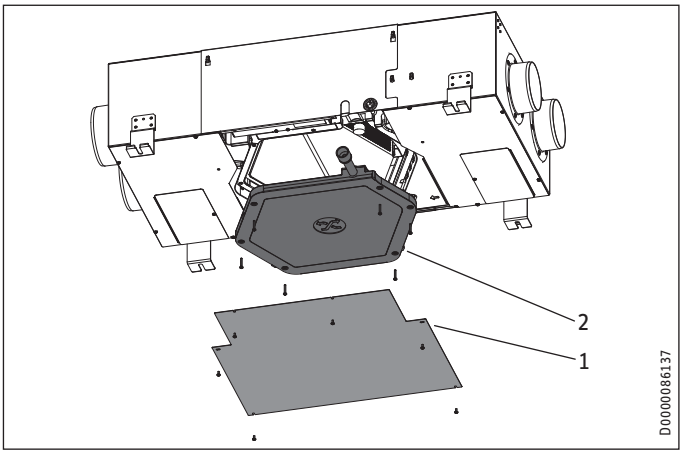
- ▶ Push the filter cassette into the appliance. Ensure that the filter cassette is installed in the intended position. The arrow on the filter cassette and the arrow on the appliance must point in the same direction.
- ▶ To secure the filter cassette, turn the wing screw clockwise.
- ▶ Undo the wing screw on the filter cassette of the outdoor air filter by turning the screw anti-clockwise.
- ▶ Remove the filter cassette from the appliance.
- ▶ If necessary, place a new filter in the filter cassette.
- ▶ Push the filter cassette into the appliance. Ensure that the filter cassette is installed in the intended position. The arrow on the filter cassette and the arrow on the appliance must point in the same direction.
- ▶ To secure the filter cassette, turn the wing screw clockwise.
- ▶ Make a note of the filter change date.

Note
- ▶ Log the filter inspection in the appendix of this manual.

- ▶ Fit the cover.
- ▶ Switch on the power supply to the appliance.
- ▶ Order new filters in good time or purchase a filter subscription.

Note
If other filters are installed in the system, e.g. filters in the extract air vents or a filter box, also perform the inspection there and change the filter(s) if necessary.

Cleaning the condensate pan



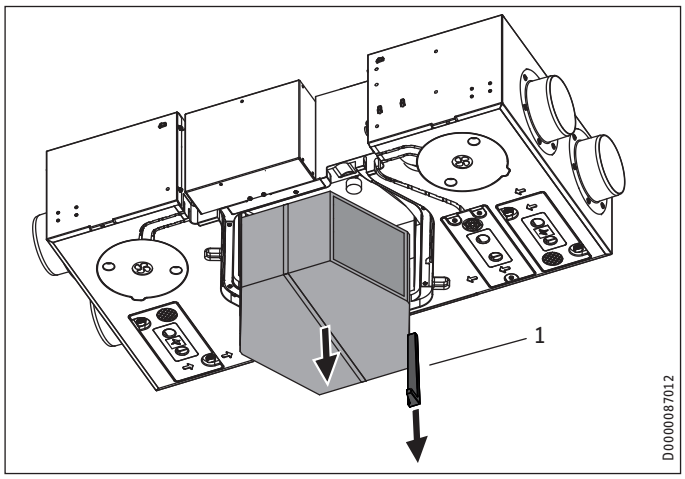
1 Cover
2 Condensate pan

- ▶ Undo the fixing screws of the condensate pan.
- ▶ Remove the condensate pan from the appliance carefully as it may still contain water.
- ▶ Clean the condensate pan.

Cleaning the condensate drain

Material losses
A blocked condensate drain can cause appliance faults. If the condensate drain is blocked, condensate can escape from the appliance in an uncontrolled manner and cause water damage.
- ▶ Clean the condensate drain at regular intervals.

Cleaning the cross-countercurrent heat exchanger



1 Wedge

CAUTION Injury
After the wedge has been removed, the cross-countercurrent heat exchanger may become detached and fall down.
- **▶ When you remove the wedge, you must also remove the cross-countercurrent heat exchanger.**

- ▶ Remove the wedge from between the appliance body and the cross-countercurrent heat exchanger.
- ▶ Carefully remove the heat exchanger from the appliance. Do not let it fall. Avoid damaging the EPS parts in the appliance.
- ▶ Use a commercially available vacuum cleaner to remove dust and other loose dirt particles from the intake and discharge surfaces.
- ▶ If required, clean the heat exchanger with warm water (max. 55 °C) and a commercially available detergent. Do not use solvents.
- ▶ Flush the heat exchanger with water.

Cleaning the fans

You can clean the fans without disconnecting the cables leading to the fans. Nevertheless, we recommend removing the control panel cover. Then you can unplug the control cable and power cable from the printed circuit board.

- ▶ Undo the screws securing the fans.
- ▶ Clean the fans with a soft brush.

Refitting the components

- ▶ Push the fan units back into the appliance.
- ▶ Reconnect the fan cables.
- ▶ Fit the control panel cover.
- ▶ Slide the cross-countercurrent heat exchanger back into the appliance.
- ▶ Push the wedge back in again.
- ▶ Fit the condensate pan.
- ▶ Fit the cover.

Cleaning the air ducts

Air ducts must be checked at regular intervals and cleaned if necessary. Disconnect the air ducts from the appliance or carry out inspection and cleaning through the extract air and supply air vents.

15. Troubleshooting

WARNING Electrocution
Disconnect the appliance from the power supply before carrying out work inside the appliance.
▶ Disconnect the appliance from the power supply and secure it against unauthorised reconnection.

WARNING Electrocution
The power cable must only be replaced (for example if damaged) by a qualified contractor authorised by the manufacturer, using an original spare part.

Fault (Exxx)

xxx	Fault	Effect	Remedy
---	No fault present		
8	No humidity value for the extract air	The appliance cannot provide humidity protection.	Isolate the appliance from the power supply. Check the sensor cable. Replace the sensor.
10	No temperature value for the extract air	Automatic passive cooling is not possible. Passive cooling can be manually enabled with the option "Bypass/window contact" in the parameter "Operating mode heat recovery bypass".	Isolate the appliance from the power supply. Check the sensor cable.
11	No temperature value for the outdoor air	Automatic passive cooling is not possible. Passive cooling can be manually enabled with the option “Bypass/window contact” in the parameter “Operating mode heat recovery bypass”.	Isolate the appliance from the power supply. Check the sensor cable.
16	The condensate float switch has responded.	The unit switches off the fans.	Check the condensate drain. Check the cable for breakages.
17	Outdoor air temperature sensor short circuit	No control to the comfort temperature required for passive houses of at least 16.5 °C in the supply air	Isolate the appliance from the power supply. Check the sensor cable.
18	Outdoor air temperature sensor lead break	No control to the comfort temperature required for passive houses of at least 16.5 °C in the supply air	Isolate the appliance from the power supply. Check the sensor cable.
101	Supply air fan	The unit does not receive any speed feedback from the fan. There is no effect on the flow rate control mode.	Isolate the appliance from the power supply. Check the cabling. Check the PWM control signal that the electronic assembly sends to the fan. Check the speed signal that the fan sends to the electronic assembly. Replace the fan.
102	Exhaust air fan	The unit does not receive any speed feedback from the fan. There is no effect on the flow rate control mode.	Isolate the appliance from the power supply. Check the cabling. Check the PWM control signal that the electronic assembly sends to the fan. Check the speed signal that the fan sends to the electronic assembly. Replace the fan.
105	Maximum outdoor air temperature exceeded	The high limit safety cut-out may respond.	Isolate the appliance from the power supply. Check the air flow rate. Check the triac for continuity. Check the sensor cable.
201	No RTC communication (RTC = real-time clock)	Time-dependent program sequences are disrupted.	Isolate the appliance from the power supply. Replace the electronic assembly.
202	No RTC pulse	Time-dependent program sequences are disrupted.	Isolate the appliance from the power supply. Replace the electronic assembly.
203	Sensor voltage too low	The unit controls the fans with the maximum value of the currently selected fan stage. The appliance cannot provide humidity protection. Automatic passive cooling is not possible. Passive cooling can be manually enabled with the option “Bypass/window contact” in the parameter “Operating mode heat recovery bypass”.	Isolate the appliance from the power supply. Check the sensor voltage after disconnecting one of the following sensor plugs: X15, X16, X23, X24. Replace the sensor. Replace the electronic assembly.
204	Supply air shutdown	If the supply air temperature drops below 5 °C, the fan is switched off.	Check the preheating coil.
205	Maximum outdoor air temperature exceeded	The high limit safety cut-out may respond.	Isolate the appliance from the power supply. Check the triac for continuity. Check the sensor cable.
–	Programming unit does not start.	Parameters cannot be adjusted.	I²C-connection faulty: Check cable and plug-in connections. Replace damaged cable.
–	Set time programs have been deleted.	If the programming unit is replaced, the time programs are deleted.	Set the time programs again.

If fault 16 appears, faults 101 and 102 will also be displayed in the fault memory.

16. Disposal

Dismantling

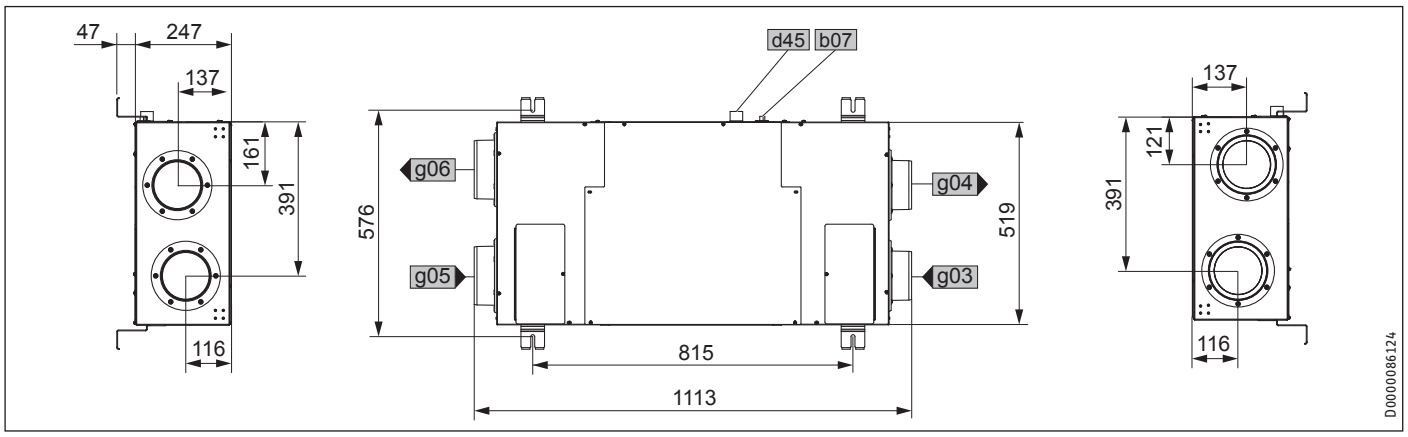
WARNING Electrocution
Disconnect the appliance from the power supply.

The following tools are required for disassembly and material separation prior to disposal:

- Personal protective equipment
- Set of screwdrivers
- Set of spanners
- Combi pliers
- Stanley knife

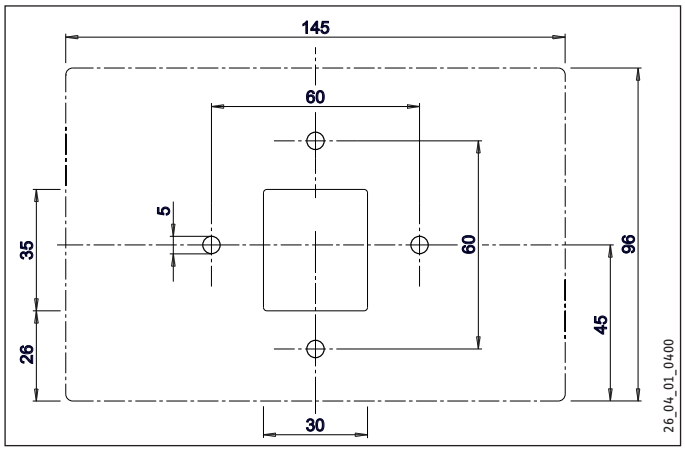
17. Specification

17.1 Dimensions and connections



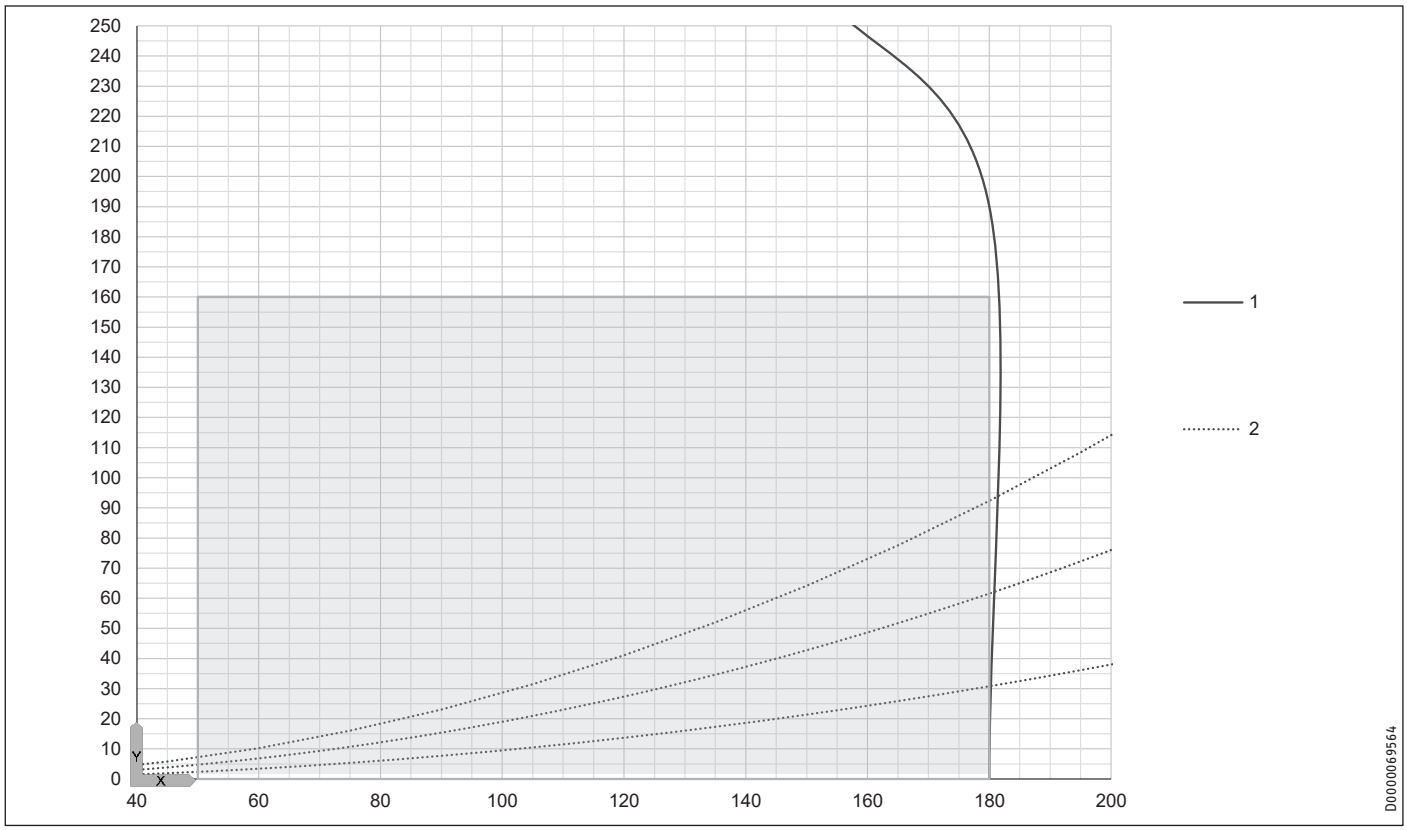
				VCR 180 MC
b07	Electrical connection			
d45	Condensate drain	Diameter	mm	16.5
g03	Outdoor air	Nominal diameter		DN 150
g04	Exhaust air	Nominal diameter		DN 150
g05	Extract air	Nominal diameter		DN 150
g06	Supply air	Nominal diameter		DN 150

Remote control



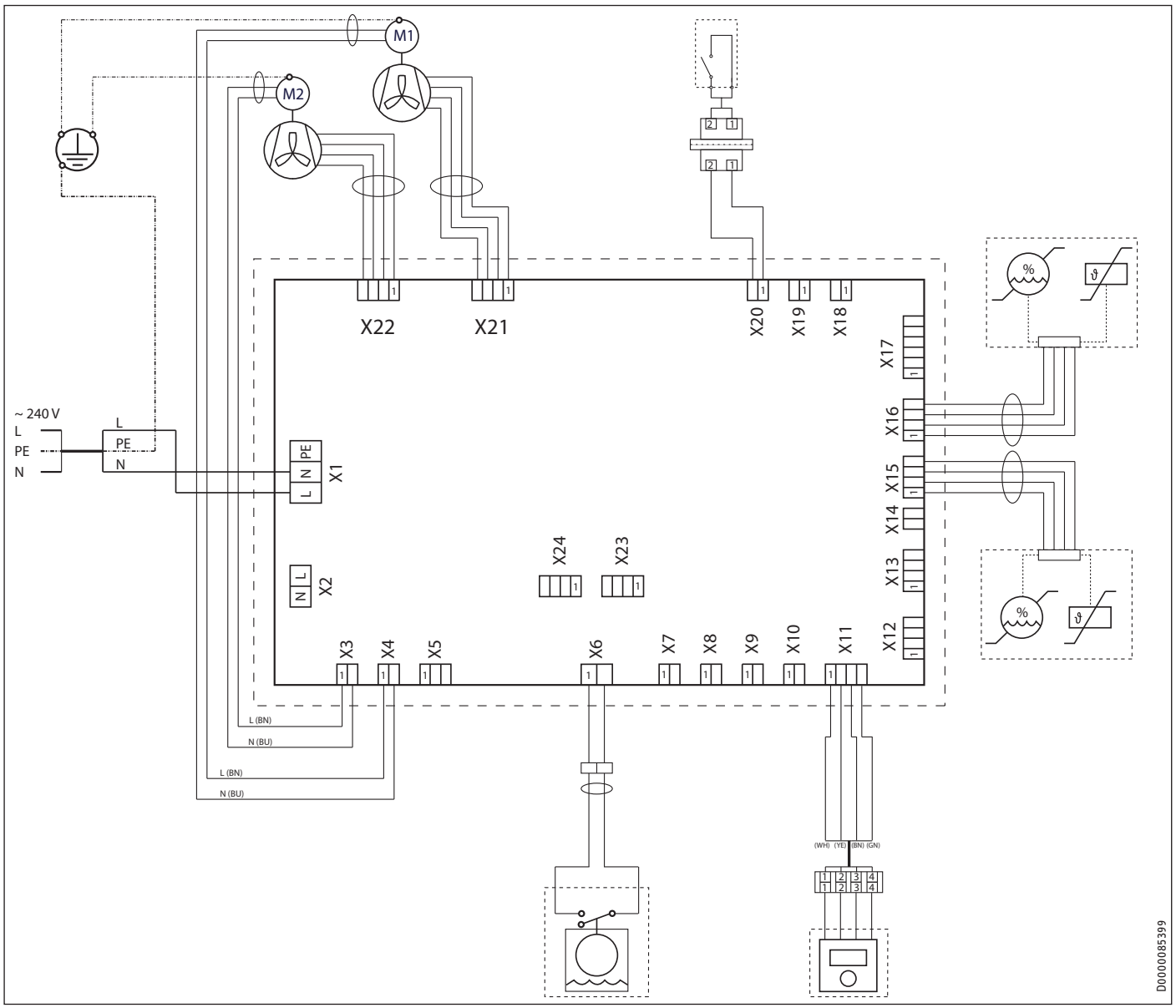
17.2 Fan diagram

The graph shows the pressure drop for examples of air distribution systems.



Application range
X Air flow rate [m³/h]
Y Average value, static pressure [Pa]
1 Maximum fan curve
2 System curves

17.3 Wiring diagram



X1 Mains power connection
X3 Supply air fan power cable
X4 Exhaust air fan power cable
X6 Internal float switch
X11 Remote control
X15 Outdoor air temperature and humidity sensor
X16 Extract air temperature and humidity sensor
X20 Intensive ventilation switching contact
X21 Exhaust air fan control cable
X22 Supply air fan control cable

Specification

17.4 Data table

		VCR 180 MC
		201848
Sound emissions		
Sound power level with standard ventilation and 50 Pa, external	dB(A)	33
Sound power level at max. flow rate and 100 Pa	dB(A)	40
Application limits		
Application range, outdoor air (temperature)	°C	-15-60
Application range, extract air (temperature)	°C	15-35
Electrical data		
Rated voltage	V	220 - 240
Phases		1/N/PE
Frequency	Hz	50
Power consumption excl. preheating coil	A	0.46
Power consumption excl. preheating coil	W	30
Voltage consumption range	V	220-240
Fuse protection (circuit breaker)	A	B16
Max. mains impedance Zmax	Ω	0.32
Versions		
Filter class		ISO Coarse > 60 % (G4)
IP rating		IP20
Dimensions		
Height	mm	292
Width	mm	640
Depth	mm	1113
Weights		
Weight	kg	27
Connections		
Air connection diameter	mm	150
Values		
Heat recovery level up to	%	89
Available external pressure, ventilation	Pa	160
Max. ambient temperature	°C	60
Air flow rate	m³/h	50-180
Application range, extract air	°C	15-35
Min. ambient conditions, installation room (temperature)	°C	2
Max. ambient conditions, installation room (temperature)	°C	35
Available external pressure at max. air flow rate	Pa	160
Heat recovery level	%	89

Further details

		VCR 180 MC
		201848
Maximum height for installation	m	2000

Guarantee

The guarantee conditions of our German companies do not apply to appliances acquired outside of Germany. In countries where our subsidiaries sell our products a guarantee can only be issued by those subsidiaries. Such guarantee is only granted if the subsidiary has issued its own terms of guarantee. No other guarantee will be granted.

We shall not provide any guarantee for appliances acquired in countries where we have no subsidiary to sell our products. This will not affect warranties issued by any importers.

Environment and recycling

We would ask you to help protect the environment. After use, dispose of the various materials in accordance with national regulations.

Warranty Stiebel Eltron Australia Only - According to national regulations in Australia

STIEBEL ELTRON solutions do not only convince with premium quality, but also outstanding reliability. If you encounter problems with one of our products, rest assured that our national service team will take care of it. We pride ourselves with great customer service as we consider this the basis for a long and successful partnership. For further information, please refer to the detailed warranty conditions listed below or contact our service team on 1800 153 351.

Australian Consumer Law

1. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

2. The STIEBEL ELTRON warranty for the unit is in addition to any rights and remedies you may have under the Australian Consumer Law.

3. Without excluding or limiting any rights you may have under the Australian Consumer Law, any guarantees or warranties that would otherwise be implied by law are excluded. If your rights under the Australian Consumer Law can be limited, they are limited to the maximum extent permitted by the Australian Consumer Law.

Who gives the warranty

4. The warranty is given by Stiebel Eltron (Aust) Pty Ltd (A.B.N. 82 066 271 083) of 294 Salmon Street, Port Melbourne, Victoria, 3207 (“we”, “us” or “our”).

The unit

5. This warranty applies to STIEBEL ELTRON Ventilation Solutions – Model VCR 180 MC (the “unit”).

The warranty period

6. The warranty period commences on the date of completion of the installation of the unit. Where the date of completion of installation is not known, then the warranty period will commence 2 months after the date of manufacture.

7. The warranty period for a unit used for domestic purposes is shown in the table below. Domestic purposes means that the unit is used in a domestic dwelling.

Component	Warranty period
All components	2 years from the date of completion of the installation of the unit.

8. The warranty period for a unit used for commercial purposes is shown in the table below. Commercial purposes means that the unit is used for a non-domestic purpose and includes but is not limited to being used in a motel, hotel, mining camp or nursing home.

Component	Warranty period
All components	2 years from the date of completion of the installation of the unit.

Warranty entitlement

9. You are only entitled to make a warranty claim under this warranty if:

9.1. you own the unit or if you have the owner’s written consent to represent the owner of the unit;

9.2. you contact us within a reasonable time of discovering the problem with the unit and in any event within 30 days;

Warranty claim

10. To make a valid warranty claim you must provide us with the following information:

10.1. the model number of the unit;

10.2. a description of the problem with the unit;

10.3. the name, address and contact details (such as phone number and e-mail address) of the owner;

10.4. the address where the unit is installed and the location (e.g. in laundry);

10.5. the serial number of the unit;

10.6. the date of purchase of the unit and the name of the seller of the unit;

10.7. the date of installation of the unit;

10.8. a copy of the certificate of compliance when the unit was installed.

11. The contact details for you to make your warranty claim are:

Name:	Stiebel Eltron (Aust) Pty Ltd
Address:	294 Salmon Street, Port Melbourne VIC 3207
Telephone:	1800 153 351 (8.00 am to 5.00 pm AEST Monday to Friday)
Contact person:	Customer Service Representative
E-mail:	service@stiebel-eltron.com.au

12. We will arrange a suitable time with you to inspect and test the unit.

Warranty

13. Subject to the warranty exclusions, we will repair or replace, at our absolute discretion, a faulty component in your unit free of charge if it fails to operate in accordance with its specifications, and you make a valid warranty claim in accordance with this warranty, during the warranty period.

14. If we repair or replace a faulty component to your unit under this warranty, the warranty period is not extended from the time of the repair or replacement.

Warranty exclusions

15. We may reject your warranty claim if:

15.1. the unit was not installed by a registered and suitably qualified tradesperson.

15.2. the unit was not installed and commissioned:

a) in Australia;

b) in accordance with the Operating and Installation Guide (which is available on the Stiebel Eltron Australia website and request);

c) in accordance with the relevant statutory and other legal requirements of the State or Territory the unit is installed.

15.3. the unit has not been operated or maintained in accordance with the Operating and Installation Guide.

15.4. the unit does not bear its original Serial Number or Rating Label.

15.5. the unit was damaged by or is faulty due to any or any combination of the following:

a) normal fair wear and tear;

b) connection to an incorrect or faulty power supply;

c) connection to faulty equipment, such as a faulty circuit breaker;

d) accidental or malicious damage;

e) act of God, flood, storm, fire, lightning strike, cyclones, earthquakes, natural disasters or other similar actions of the elements;

f) wiring not to AS/NZS 3000 standards.

g) ingress of vermin.

15.6. the unit was damaged before it was installed e.g. it was damaged in transit.

15.7. an unauthorised person has modified, serviced, repaired or attempted to repair the unit without our written consent.

15.8. non genuine parts other than those manufactured or approved by us have been used on the unit.

16. We may charge you:

16.1. for any additional transport costs if the unit is installed more than 30 kilometres from our closest authorised service technician.

16.2. for the extra time it takes our authorised service technician to access the unit for inspection and testing if it is not sited in accordance with the Operating and Installation Guide or not readily accessible for inspection.

16.3. for any extra costs of our authorised service technician to make the unit safe for inspection.

17. You must ensure that access to the unit by our authorised service technician is safe and free from obstruction.

18. Our authorised service technician may refuse to inspect and test the unit until you provide safe and free access to it, at your cost.

19. If we reject your warranty claim in accordance with clause 15, we may charge you for our authorised service technician's labour costs to inspect and test the unit.

20. In order to properly test the unit, we may remove it to another location for testing.

FILTER INSPECTION LOG

Filters in appliance

Date	Filter dirty		Filter cleaned		Filter changed	
	yes	no	yes	no	yes	no

Filters in extract air/supply air apertures (if present)

Date	Filter dirty		Filter cleaned		Filter changed	
	yes	no	yes	no	yes	no

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