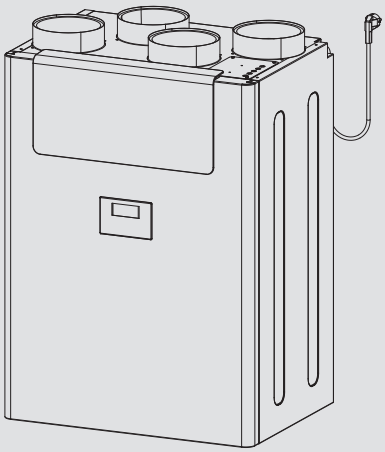
BEDIENUNG UND INSTALLATION
OPERATION AND INSTALLATION
UTILISATION ET INSTALLATION
USO E INSTALLAZIONE

Zentrales Lüftungsgerät mit Wärmerückgewinnung | Central ventilation appliance with heat recovery | Ventilation mécanique contrôlée double flux | Apparecchio di ventilazione centralizzata con recupero di calore

» LWZ 180
» LWZ 280
» LWZ 180 Enthalpie
» LWZ 280 Enthalpie



STIEBEL ELTRON

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GUARANTEE

ENVIRONMENT AND RECYCLING

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.
- The power cable must only be replaced (for example if damaged) by a qualified contractor authorised by the manufacturer, using an original spare part.
- Fix the appliance in position as described in chapter "Installation / Preparations".

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

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.

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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.
Intensive ventilation	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.

LWZ 180 Enthalpie, LWZ 280 Enthalpie: Enthalpy heat exchanger

The enthalpy heat exchanger is a highly efficient, moisture-transferring countercurrent heat exchanger with a selective membrane. The membrane helps to recover moisture from the extract air and transfer it to the supply air. This prevents the relative humidity in the rooms from dropping too low during the winter months.

3.1 Frost protection

The appliance has a frost protection controller, which ensures that it works to optimum effect even at low outside temperatures. If the outdoor air temperature falls below the selected frost protection value, the electric preheating coil is switched on. This prevents the cross-countercurrent heat exchanger from freezing up. When the preheating coil is active, the "Frost protection" symbol appears on the display.

3.2 Bypass mode

The appliance has an integral bypass damper. The bypass damper enables the supply of fresh air to bypass the heat exchanger.

Utilising cool outdoor air

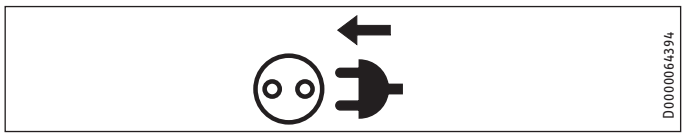
Cool, fresh air is required on summer nights in particular. In such cases, in automatic mode, as much of the warm air in the home as possible is displaced by cooler fresh air.

Utilising warm outdoor air

In spring and autumn, the appliance can increase the room temperature by opening the bypass damper in automatic mode and drawing warmer outdoor air into the building.

4. Settings

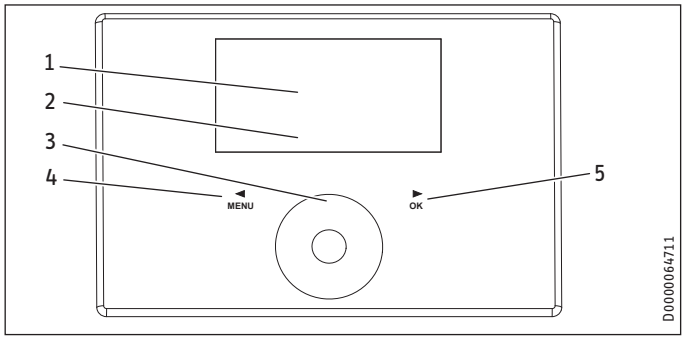
4.1 Switching the appliance on



▶ Plug the appliance into a standard socket.

4.2 Programming unit

An external programming unit can be connected to the appliance in addition to the factory-installed programming unit.



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
	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 unit.
	Bypass mode: The air flow bypasses the heat exchanger. No heat is recovered.
	Frost prot.: The preheating coil for frost protection is switched on.
	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.

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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 appliance 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 blockterminates 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

				LWZ 180, LWZ 180 Enthalpie				LWZ 280, LWZ 280 Enthalpie			
	Description	Code level	Unit	Min.	Max.	Options	Standard	Min.	Max.	Options	Standard
P1	Set room temperature	A0	°C	5	28		20	5	28		20
P2	Intens. vent. time	A0	min.	1	240		30	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)			Disabled (0) | Bypass/window contact (1) | Outdoor air routing automatic (2) | Extract air routing autom. (3)	(2)
P4	Filter reset	A0				Off | On	Off			Off | On	Off
P28	Enable fan	A0				Off | On	Off			Off | On	Off
P35	Cooling/heating, heat recovery bypass	A0				Cooling/heating (1) | Cooling (2) | Heating (3)	(1)			Cooling/heating (1) | Cooling (2) | Heating (3)	(1)
P80	Day	A0									
P81	Time	A0		00:00	23:59			00:00	23:59		

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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 unit
■ 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 unit 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	German
	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
	Term. device serial no.
☐■ Humidity prot.	Only for qualified contractors
☐■ Intensive ventilation	
☐☐■ Intens. vent. time	min
☐■ Heat recovery bypass	
☐☐■ Set room temperature	°C
☐☐■ 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
☐■ Frost protection	Only for qualified contractors
☐■ Condensate prevention	Only for qualified contractors
☐■ Enable fan	Off
	On
☐■ Ventilation unit	
☐☐■ Device software version	
☐☐■ Device software patch	
☐☐■ Term. device serial no.	

■ Settings

☐■ View

The only parameters displayed in the standard setting are those that have been released for the appliance user and can therefore be accessed without a code

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.

☐■ Intensive ventilation

☐☐■ 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

☐☐■ Set room temperature

Use this parameter to specify the outside temperature from which the outdoor air bypasses the heat exchanger by being routed through the bypass damper and directly into the building.

▶ Use the Touch-Wheel to set the required Set room temperature. Press "OK".

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□□■ Operating mode heat recovery bypass

	Effect
Disabled	Bypass mode is permanently disabled. Air flows through the heat exchanger.
Bypass/window contact	Bypass mode is active. The air flow bypasses the heat exchanger. 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.

Note
The qualified contractor can set the parameters mentioned in the description of this parameter.
- Temperature to enable heat recovery bypass
- Temperature to block heat recovery bypass
- Hysteresis for heat recovery bypass
- Temp. differential for heat recovery bypass

□□□■ Outdoor air routing automatic: Bypass mode with summer day detection

For bypass mode to be enabled, the following condition must be met for 60 minutes:
- Set room temperature + Temp. differential for heat recovery bypass < Outdoor air temp.

If all the following conditions are met, the appliance switches to bypass mode.
- Extract air temp. - Hysteresis for heat recovery bypass > Outdoor air temp.
- Extract air temp. > Set room temperature

If one of the following conditions is met, the appliance terminates bypass mode.
- Outdoor air temp. < Temperature to block heat recovery bypass
- Extract air temp. - Hysteresis for heat recovery bypass < Outdoor air temp.
- Extract air temp. < Set room temperature

□□□■ Extract air routing autom.: Bypass mode subject to extract air temperature

For bypass mode to be enabled, the following condition must be met for 60 minutes:
- Set room temperature + Temp. differential for heat recovery bypass < Extract air temp.

This delayed enabling prevents cooling down in spring and autumn.

If all the following conditions are met, the appliance switches to bypass mode.
- Extract air temp. - Hysteresis for heat recovery bypass > Outdoor air temp.
- Extract air temp. > Set room temperature

If one of the following conditions is met, the appliance terminates bypass mode.
- Outdoor air temp. < Temperature to block heat recovery bypass
- Extract air temp. - Hysteresis for heat recovery bypass < Outdoor air temp.
- Extract air temp. < Set room temperature

□□■ Cooling/heating, heat recovery bypass

▶ Set the bypass mode control according to the temperature.

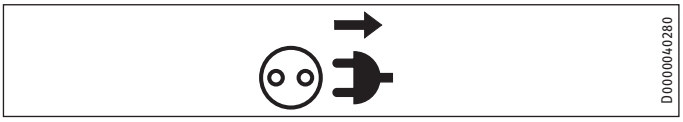
Parameter	Effect
Cooling/heating	Depending on the temperature, use the outdoor air for cooling or heating.
Cooling	Summertime: Use cool outdoor air.
Heating	Spring and autumn: Use warm outdoor air.

□■ 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



The appliance has no ON/OFF switch. Disconnect the power supply by pulling the power plug from its socket.

5. Maintenance, cleaning and care

Maintenance by the user is limited to filter inspection and replacement required at certain intervals.

5.1 Replacement filters

Product name	Part number	Description	
FMS G4-10 180	234147	Coarse particle filter mat	ISO Coarse > 60 % (G4)
FMK M5-2 180	234148	Fine filter	ePM_{10} ≥ 50 % (M5)
FMK F7-2 180	234208	Fine filter	ePM_1 ≥ 50 % (F7)

5.2 Filter inspection and replacement

Material losses
Never operate the unit without filters.

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

When the total fan runtimes reach the "Filter change interval" parameter set by the qualified contractor, the programming unit displays the filter change warning signal.

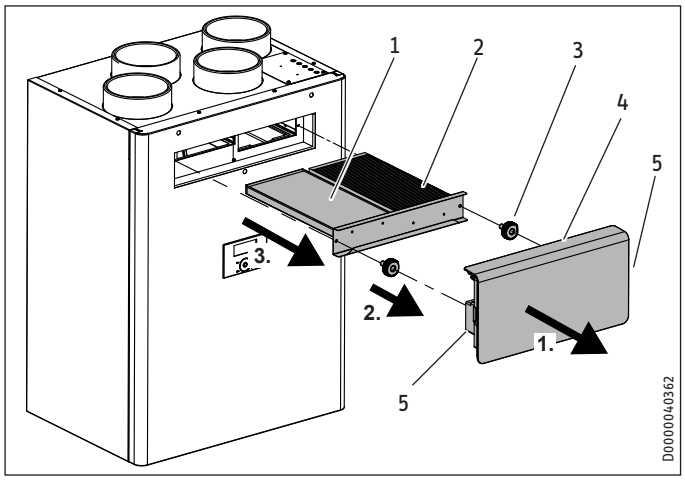
The qualified contractor can lengthen or shorten the interval for inspecting filters depending on the level of contamination.

Change the filters when the filter change warning signal appears. 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.

Filter inspection

▶ Pull the mains plug out of the socket.



1 Extract air filter
2 Outdoor air filter
3 Knurled screw for securing the filter drawer
4 Fascia
5 Locking tabs

The fascia is fastened to the appliance with locking tabs.

▶ To disengage the locking tabs, press the grip areas on the fascia sides.

▶ Remove the fascia from the appliance.

▶ Undo the knurled screws securing the filter drawer.

▶ Pull the filter drawer forwards to remove it from the appliance.

▶ If necessary, place one or more new filters in the filter drawer. Ensure that the filters are installed in the intended position. Air flows through the filters from top to bottom. The flow direction is indicated with an arrow on the filter drawer fascia. The outdoor air filter is marked with an arrow. Install the outdoor air filter with the arrow pointing in the flow direction. The extract air filter is imprinted with the words "Clean air side", which must be at the bottom.

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

▶ Push the filter drawer into the appliance.

▶ Secure the filter drawer with the knurled screws.

▶ Fit the fascia.

▶ Plug the mains plug into a standard socket.

▶ 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.

▶ Make a note of the filter change date.

Note
There is a label for each filter on the front panel.

▶ Once you have performed a filter change, delete the previously entered dates in the "Last" and "Next" columns.

▶ Enter today's date in the "Last" column.

▶ Enter the date for the next filter change in the "Next" column. For the period between "Last" and "Next", use the value set by the qualified contractor in the "Filter change interval"parameter.

▶ 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.

5.3 Care

A damp cloth is all you need to clean the plastic parts. Never use abrasive or corrosive cleaning agents.

6. Troubleshooting

The faults most recently registered by the unit 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).

ENGLISH

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.

WARNING Electrocution
Do not reach into the interior of the appliance through the "Outdoor air" connection when the power supply is switched on.

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.

Commissioning in Germany

Acceptance is carried out by the local flue gas inspector.

Commissioning outside Germany

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.

7.4 Operating the appliance in passive houses

If operating the appliance in a passive house, the factory-fitted outdoor air filter must be replaced. See chapter "Appliance description / Accessories".

8. Appliance description

8.1 Standard delivery

The following are delivered with the appliance:

- Wall mounting bracket
- 2 star grips as spacers for the rear of the appliance
- Condensate drain hose, hose clip, mounting bend
- 4 twin nipples, nominal diameter 160

8.2 Accessories

- Programming unit
- LWF SDA 180/280: Silencer attachment
- For installation of the equipment in passive houses: ePM_1 outdoor air filter ≥ 50 % (F7)

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

LWZ 180, LWZ 280

- Enthalpy heat exchanger

9. Preparation

9.1 Storage

Material losses
Never store the appliance in dusty places.

9.2 Installation site

Material losses
Never install the appliance outdoors.

Material losses
Check whether the wall can bear the weight of the appliance. A plaster board or metal framed wall is inadequate. Additional measures such as a double skin or additional supports would be needed in such cases.

- Ensure the appliance is level after installation.
- The installation room must have an adequate condensate drain with siphon.
- The installation room must be free from the risk of frost.

The design 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.

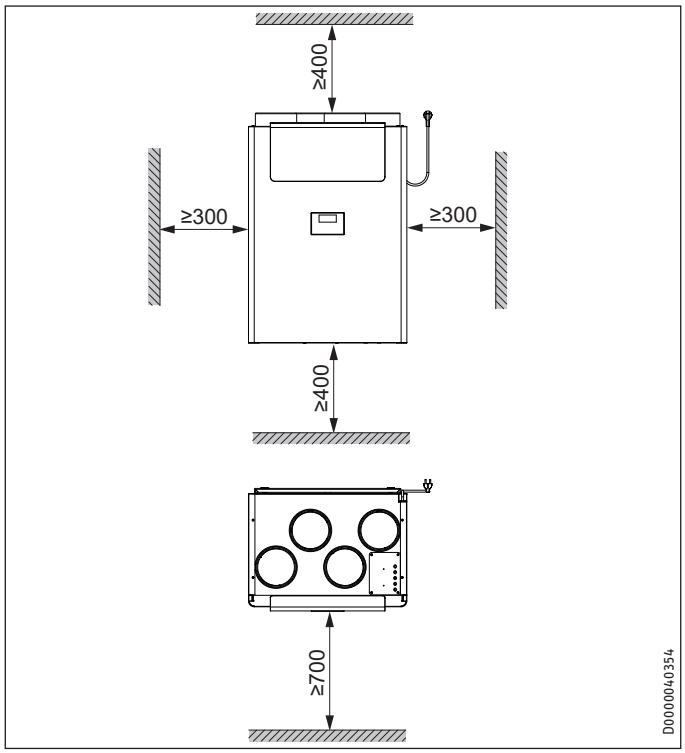
Avoid outdoor air intake in locations with polluted air:

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

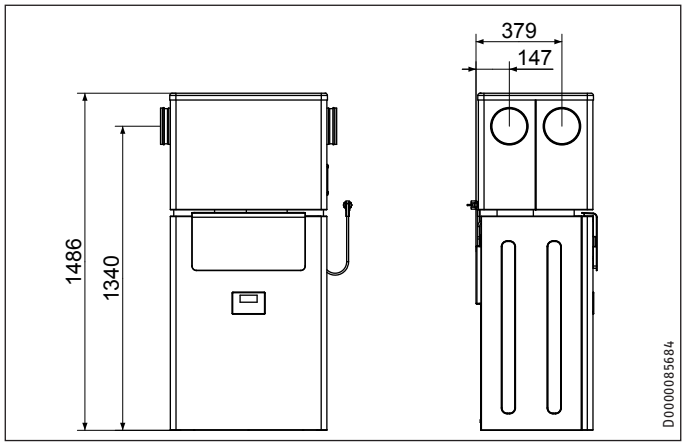
ENGLISH

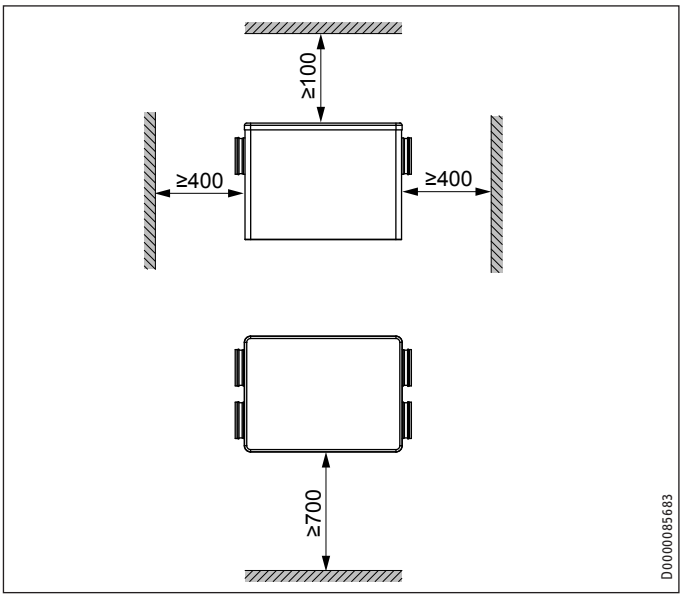
Minimum clearances

If you wish to install the silencer attachment, which is available as an accessory, observe the minimum clearances it requires.



Installation drawing with silencer attachment





9.3 Transport

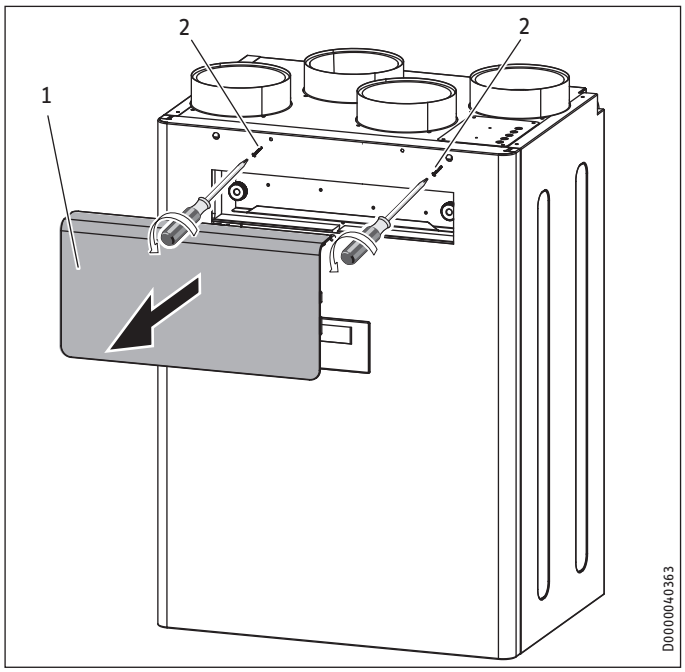
Material losses
If possible, transport the appliance to the installation location in its original packaging.
If the appliance is transported without packaging and without using a pallet, e.g. to carry it up or down stairs, its outer casing may be damaged.
To transport the appliance without packaging, 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

10.1 Removing the front panel

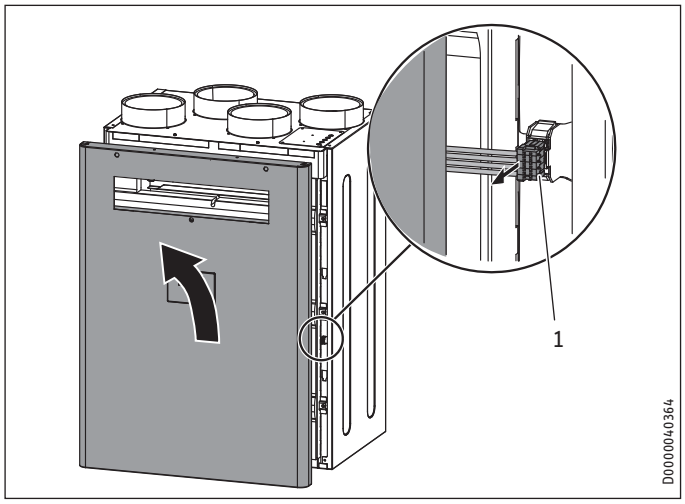
Remove the front panel before removing the appliance from the pallet, to avoid damaging the casing.



1 Fascia
2 Front panel fixing screws

The fascia is fastened to the appliance with locking tabs.

- ▶ To disengage the locking tabs, press the grip areas on the fascia sides.
- ▶ Remove the fascia from the appliance.
- ▶ Undo both screws securing the front panel at the top of the appliance.
- ▶ Carefully push the front panel upwards by a small amount to release it from the hooks on which it is engaged.



1 Plug on cable from programming unit to appliance

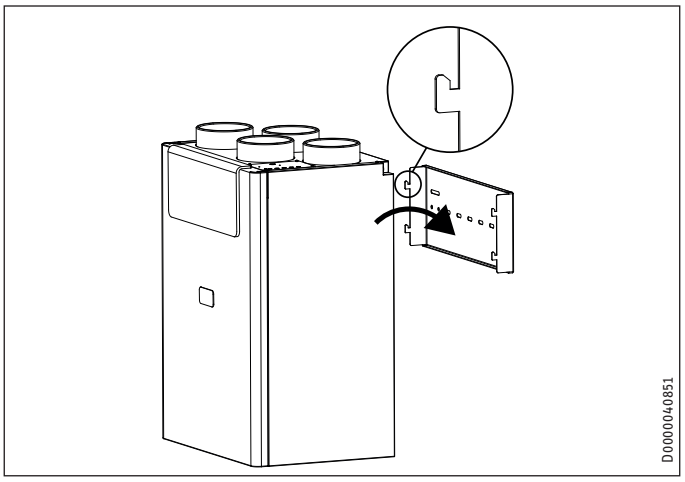
- ▶ Carefully raise the front panel by a small amount on the right-hand side.
- ▶ On the appliance, pull out the plug connecting the programming unit with the appliance.

10.2 Mounting the appliance

Material losses
If the unit is not mounted horizontally, condensate cannot drain properly. Condensate escaping in an uncontrolled manner can damage the floor or items in the vicinity of the unit.

Material losses
- ▶ Check whether the wall can bear the weight of the appliance.
- ▶ Use appropriate rawl plugs and screws suitable for the wall structure to attach the rail.

- ▶ Remove the wall mounting bracket from the appliance.



- ▶ Secure the wall mounting bracket to the wall with four screws. The text "TOP" must be at the top. The wall mounting bracket must be horizontal.
- ▶ If necessary, screw the star grips included in the standard delivery into the back of the appliance at the bottom to act as spacers.
- ▶ Fit the appliance onto the hooks of the wall mounting bracket.
- ▶ If the appliance is not hanging horizontally, screw the previously fitted star grips acting as spacers in or out by a small amount.

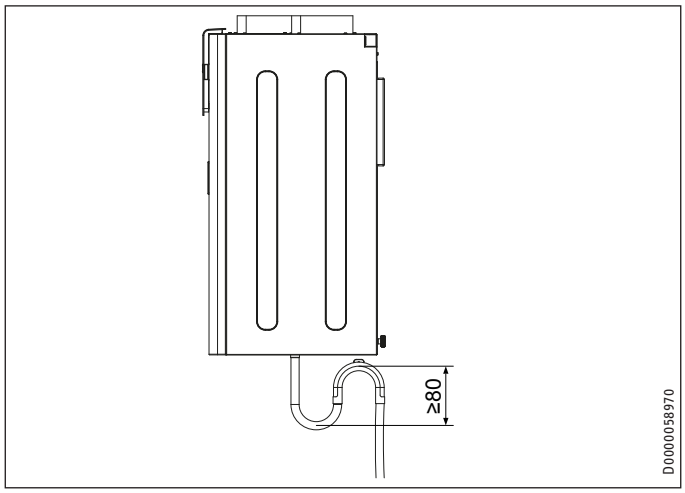
10.3 Connecting the condensate drain hose

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.

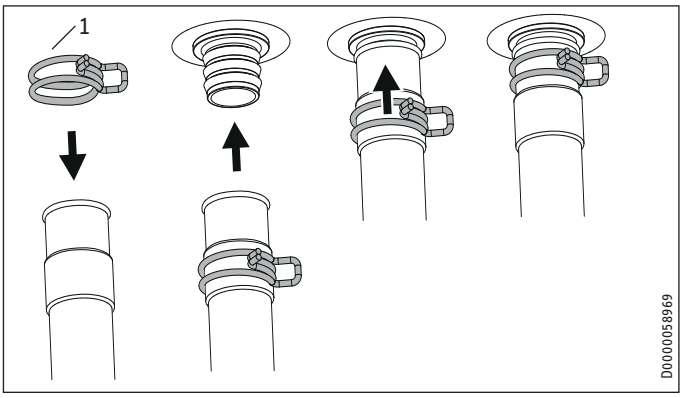
Material losses
A float switch prevents condensate from reaching live parts in the unit.
If the condensate drain hose is installed incorrectly, the float switch cannot prevent the uncontrolled leakage of condensate.

Note
To ensure the unit is airtight, there may be no interruption in the condensate drain between the unit and the trap. Use the supplied condensate drain hose and mounting bend.

The standard delivery includes a condensate drain hose and a hose clip. Connect the thinner end of the condensate drain hose to the appliance.



- ▶ Use the mounting bend included in the standard delivery to install the condensate drain hose in such a way as to create a siphon with a water trap height of at least 80 mm.
- ▶ Before connecting the condensate drain hose to the appliance, pour water into the siphon.



1 Hose clip

- ▶ Slide the hose clip onto the condensate drain hose far enough to be able to push the hose onto the condensate drain connector without squeezing the hose clip.
- ▶ Push the condensate drain hose onto the condensate drain connector.
- ▶ Push the hose clip towards the appliance so that it secures the hose on the condensate drain connector.

10.4 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.

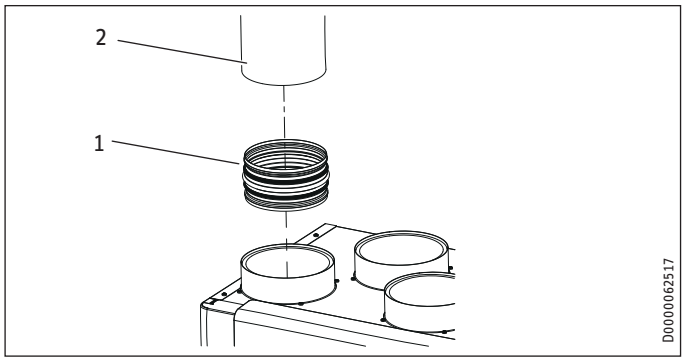
10.4.1 Insulation against condensation

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.

10.4.2 Connecting air ducts to the appliance

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

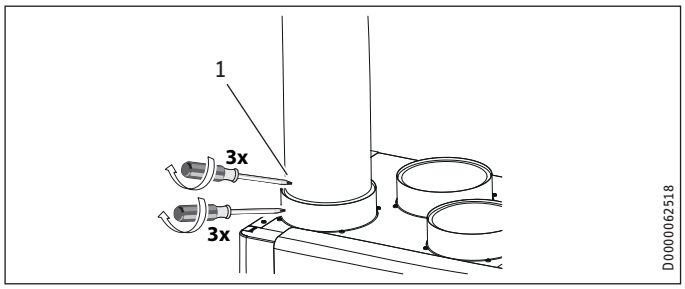
Diameter DN 160



1 Twin nipple
2 Air duct

▶ Push one of the twin nipples included in the standard delivery into the air connection.

▶ Push the air duct onto the twin nipple.

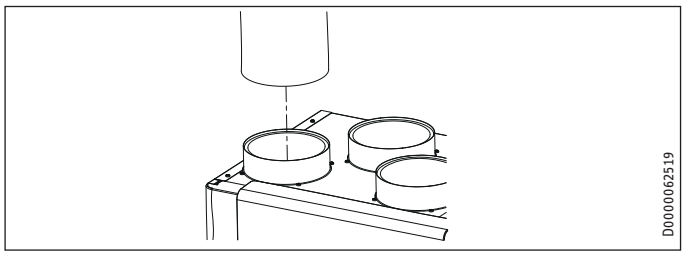


1 Self-tapping screw

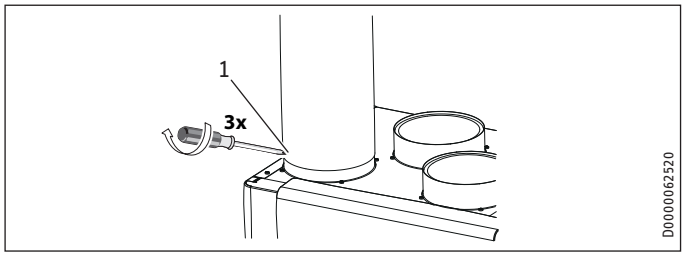
▶ Use no more than 3 screws to secure the twin nipple to the air connection of the appliance.

▶ Secure the air duct to the twin nipple with no more than 3 screws.

Diameter DN 180

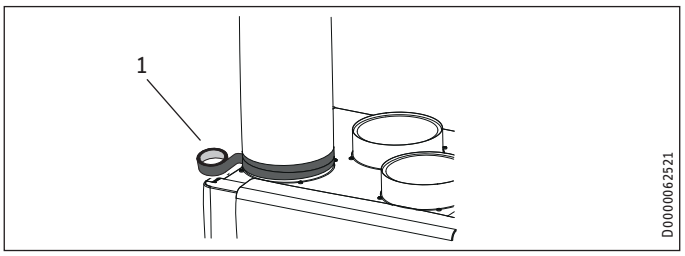


▶ Push the air duct over the air connector.



1 Self-tapping screw

▶ Use no more than 3 screws to secure the air duct to the air connection of the appliance.



1 Aluminium sealing tape

▶ Seal the transition from the air connection to the air duct with aluminium sealing tape.

10.4.3 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.

10.4.4 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.

10.4.5 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.

10.4.6 Cleaning apertures

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

10.4.7 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.

10.5 Fitting the front panel

- ▶ Push the plug on the cable leading to the programming unit into the appliance.
- ▶ Hook the front panel into the hooks provided at the front of the appliance.
- ▶ At the upper edge of the front panel, screw in the two screws for securing the front panel to the appliance.
- ▶ Fit the fascia.

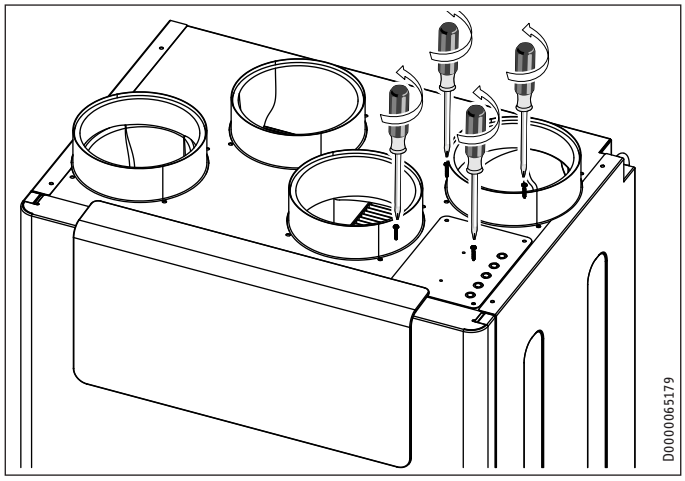
10.6 Electrical connection

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

10.6.1 Safety equipment for stove/fireplace operation

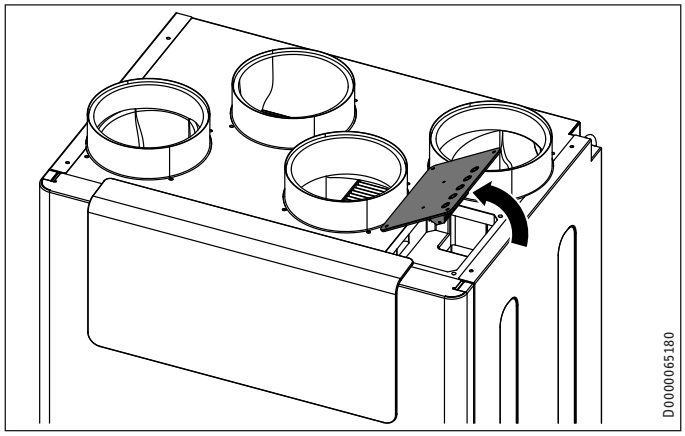
- ▶ Install the safety equipment in such a way that it interrupts the appliance power supply when required.

10.6.2 Connections in the control panel (safety extra low voltage)



- ▶ Undo the four screws from the control panel cover.

Note
After completing your work, screw the cover back onto the control panel.



- ▶ Carefully lift up the control panel cover. The terminal block, from which cables lead into the appliance, is suspended from the underside of the cover.

Terminal		Safety extra low voltage	
1	I²C bus	SCL	External programming unit
2		SCL	
3		GND	External programming unit
4		GND	
5		+5 V DC	External programming unit
6		+5 V DC	
7		SDA	External programming unit
8		SDA	
9	Not assigned		floating
10			
11			
12			
13	Intensive ventilation switching contact	GND	0.5 mA max.
14		+5 V	
15	Not assigned		floating
16			
17	Not assigned		floating

To connect an electrical cable in the control panel:

- ▶ Open an "entry for electrical cables" at the knock-out.
- ▶ Use an M12 cable fitting to seal the "entry for electrical cables".

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.

External programming unit

The programming unit is connected with an I²C bus.

10.6.3 Connection to a standard socket

The appliance is delivered fully wired.

- ▶ Take the power consumption of the preheating coil into consideration.
- ▶ Plug the appliance into a standard socket.

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.

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 unit
■ Diagnostics	Fault messages, operating time, maintenance intervals
■ Programs	Fan program
■ Settings	Adjustable values and functions

ENGLISH

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	German
	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	
☐■ Fan control	
☐☐■ Constant flow rate	
☐☐■ Constant pressure	
☐■ 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
☐■ Extract air diff. press.	
☐☐■ Diff. pressure, stage 0	Pa
☐☐■ Diff. pressure, stage 1	Pa
☐☐■ Diff. pressure, stage 2	Pa
☐☐■ Diff. pressure, stage 3	Pa
☐■ Favourites	F1, F2, F3
☐☐■ F1 F2 F3	Bypass status
	Extract air temp.
	Extract air hum.
	Filter runtime
	Device software version
	Device software patch
	Term. 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
☐■ Intensive ventilation	
☐☐■ Intens. vent. time	min
☐■ Heat recovery bypass	
☐☐■ Set room temperature	°C
☐☐■ Operating mode heat recovery bypass	Disabled
	Bypass/window contact
	Outdoor air routing automatic
	Extract air routing autom.
☐☐■ Temperature to enable heat recovery bypass	°C
☐☐■ Temperature to block heat recovery bypass	°C
☐☐■ Hysteresis for heat recovery bypass	K
☐☐■ Temp. differential for heat recovery bypass	K
☐☐■ Window contact mode (A2) (depending on unit)	Without window contact
	With window contact
☐☐■ Cooling/heating, heat recovery bypass	Cooling/heating
	Cooling
	Heating
☐■ Frost protection	Only for qualified contractors
☐☐■ Frost protection temp.	°C
☐☐■ Temp. to enable frost protection (A2)	°C

☐☐■ Enable preheating	Off
	On
☐☐■ Frost protection mode	Outdoor air reg.
	Supply air reg.
	Passive house reg.
☐■ Condensate prevention (A2)	
☐☐■ Enable condensate prevention	Off
	On
☐☐■ Offset condensate prevention	K
☐■ Enable fan	Off
	On
☐■ Ventilation unit	
☐☐■ Device software version	
☐☐■ Device software patch	
☐☐■ Term. 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.

☐■ Fan control

Use this parameter to switch fan control between "Constant flow rate" and "Constant pressure".

	Effect
Constant flow rate	The appliance maintains a constant flow rate for both fans. The unit works with the set values set for "Flow rate, stage 0" to "Flow rate, stage 3".
Constant pressure	The appliance maintains a constant pressure at the extract air fan. The unit regulates the pressure at the extract air connection to the set values set for "Diff. pressure, stage 0" to "Diff. pressure, stage 3". The flow rate that is established there is used as the set value for flow rate control of the supply air fan. "Supply air flow rate offset" is also included.

Note
If you change over the "Fan control" setting, the unit restarts.

☐■ 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".

ENGLISH

☐■ Heat recovery bypass

☐☐■ Window contact mode (depending on unit)

Setting whether the window contact is relevant for the bypass mode.

Parameter	Effect
Without window contact	The supply air fan is stopped independently of the window contact.
With window contact	The window contact is used to determine whether the appliance stops the supply air fan.

☐☐■ Temperature to enable heat recovery bypass

To enable checking of the other parameters for bypass mode, the outdoor air temperature must be no less than the value set in this parameter.

☐☐■ Temperature to block heat recovery bypass

If the outdoor air temperature falls below this blocking temperature, bypass mode is disabled.

☐☐■ Hysteresis for heat recovery bypass

To make cooling possible, the outdoor air temperature must be cooler than the extract air temperature by the value set in this parameter.

☐☐■ Temp. differential for heat recovery bypass

Use this parameter to define the temperature differential that must be exceeded for bypass mode to be enabled. For bypass mode to be enabled, the following condition must be met for 60 minutes:

If Operating mode heat recovery bypass: Outdoor air routing automatic

- Set room temperature + Temp. differential for heat recovery bypass < Outdoor air temp.

If Operating mode heat recovery bypass: Extract air routing autom.

- Set room temperature + Temp. differential for heat recovery bypass < Extract air temp.

☐■ Frost protection

☐☐■ Temperature for enabling frost protection

The unit only activates frost protection if the outdoor air temperature drops to the value that can be set in this parameter.

☐☐■ Enable preheating

Parameter	Effect
Off	The internal preheater is completely deactivated.
On	The internal preheater is activated. To keep the heat exchanger free from ice, preheating ensures a minimum supply air temperature with reference to the temperature, which can be set in the "Frost protection temp." parameter.

While this parameter is being displayed or adjusted, the "frost protection" symbol is shown on the display.

☐☐■ Frost protection mode

Parameter	Effect
Outdoor air reg.	At this setting, the appliance operates solely in frost protection mode. The preheating coil control only measures the outside temperature.
Supply air reg.	At this setting, the appliance operates in comfort mode. In addition to the outside temperature, the supply air temperature is also measured.
Passive house reg.	The preheating coil is controlled to ensure that the supply air temperature does not fall below the 16.5 °C specified in the passive house criteria.

☐■ 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

				LWZ 180, LWZ 180 Enthalpie				LWZ 280, LWZ 280 Enthalpie			
	Description	Code level	Unit	Min.	Max.	Options	Standard	Min.	Max.	Options	Standard
P1	Set room temperature	A0	°C	5	28		20	5	28		20
P2	Intens. vent. time	A0	min.	1	240		30	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)			Disabled (0) | Bypass/window contact (1) | Outdoor air routing automatic (2) | Extract air routing autom. (3)	(2)
P4	Filter reset	A0				Off | On	Off			Off | On	Off
P5	Fan control	A1				Constant flow rate (0) | Constant pressure (1)	(0)			Constant flow rate (0) | Constant pressure (1)	(0)
P6	Flow rate, stage 0	A1	m³/h	40	175		60	40	175		60
P7	Flow rate, stage 1	A1	m³/h	60	200		110	60	300		140
P8	Flow rate, stage 2	A1	m³/h	60	250		160	60	350		200
P9	Flow rate, stage 3	A1	m³/h	60	250		210	60	350		260
P10	Diff. pressure, stage 0	A1	Pa	40	160		40	40	160		40
P11	Diff. pressure, stage 1	A1	Pa	40	160		50	40	160		50
P12	Diff. pressure, stage 2	A1	Pa	40	160		70	40	160		70
P13	Diff. pressure, stage 3	A1	Pa	40	160		100	40	160		100
P14	Supply air flow rate offset	A1	m³/h	-100	100	Set to ON	0	-100	100		0
P15	Humidity prot. interval	A1	h	1	24		1	1	24		1
P16	Humidity capture delay	A1	min	5	15		5	5	15		5
P17	Humidity threshold	A1	%	5	95		65	5	95		65
P18	Frost protection temp.	A1	°C	-10.0	10.0		-0.5	-10.0	10.0		-0.5
P19	Filter change interval	A1	d	1	365	Set to 180 days	90	1	365		90
P22	Enable preheating	A1				Off | On	On			Off | On	On
P23	Frost protection mode	A1				Outdoor air reg. (0) | Supply air reg. (1) | Passive house reg. (2)	(2)			Outdoor air reg. (0) | Supply air reg. (1) | Passive house reg. (2)	(2)
P24	Temperature to enable heat recovery bypass	A1	°C	5.0	15.0		10.0	5.0	15.0		10.0
P25	Temperature to block heat recovery bypass	A1	°C	5.0	15.0		8.0	5.0	15.0		8.0
P26	Hysteresis for heat recovery bypass	A1	K	0.0	5.0	Set to 0	2.0	0.0	5.0		2.0
P27	Temp. differential for heat recovery bypass	A1	K	0.0	5.0	Set to 0	2.0	0.0	5.0		2.0
P28	Enable fan	A0				Off | On Set to ON	Off			Off | On	Off
P29	Device type	A1					1				2
P30	Temperature for enabling frost protection	A2	°C	-10.0	10.0		-3.0	-10.0	10.0		-3.0
P31	Enable humidity control	A1				Off | On	Off			Off | On	Off
P32	Enable condensate prevention	A2				Off | On	Off			Off | On	Off
P33	Offset condensate prevention	A2	K	-5.0	5.0		0.0	-5.0	5.0		0.0
P34	Window contact mode (depending on unit)	A2				without window contact | with window contact				without window contact | with window contact	
P35	Cooling/heating, heat recovery bypass	A0				Cooling/heating (1) | Cooling (2) | Heating (3)	(1)			Cooling/heating (1) | Cooling (2) | Heating (3)	(1)
P70	Clear notification list	A1				Off | On	Off			Off | On	Off
P80	Day	A0									
P81	Time	A0		00:00	23:59			00:00	23:59		

Note
If the option "Constant flow rate" is set in "Fan control", a parameter "Flow rate, stage 0" to "Flow rate, stage 3" is displayed.
If the option "Constant pressure" is set in "Fan control", a parameter "Diff. pressure, stage 0" to "Diff. pressure, stage 3" is displayed.

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

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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 by pulling the mains plug.

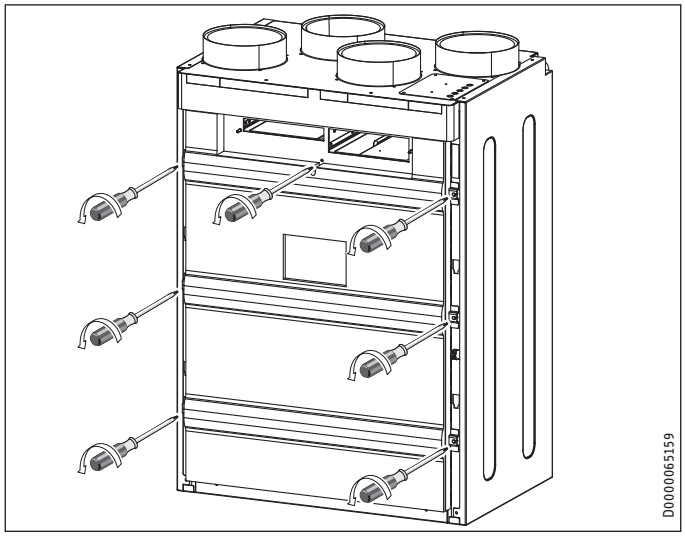
- ▶ Replace the filters.

14. Maintenance

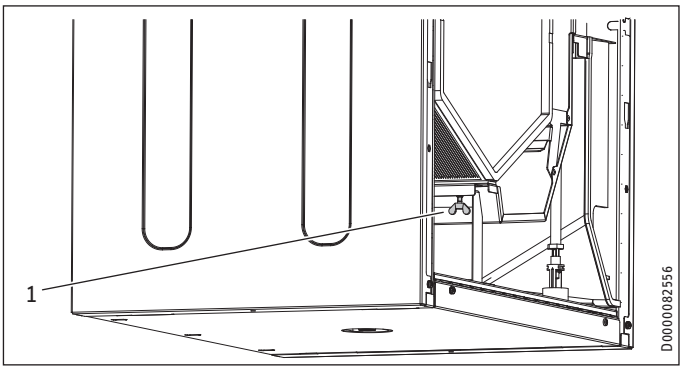
WARNING Electrocution
Disconnect the appliance from the power supply before carrying out work inside the appliance.
▶ Pull the mains plug out of the socket.

Maintenance by the qualified contractor includes cleaning the cross-countercurrent heat exchanger and the fans. Subject to runtime, this maintenance work should be carried out every 3 years.

- ▶ Disconnect the power supply by pulling the power plug from its socket.
- ▶ Remove the front panel (see chapter "Installation / Removing the front panel").
- ▶ Remove the filter drawer from the appliance.

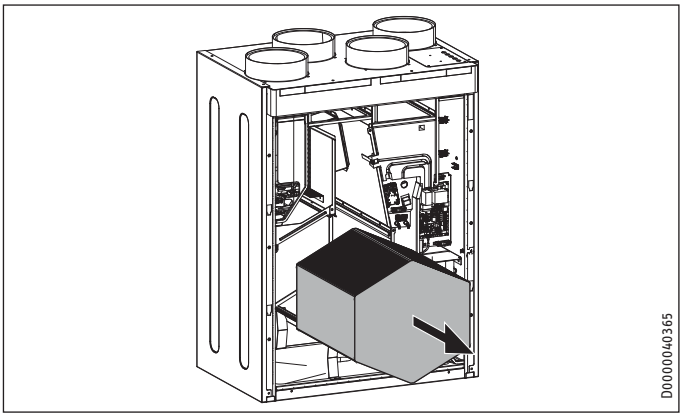


- ▶ Undo the screws on the inner front panel.
- ▶ Remove the inner front panel from the appliance by tilting the inner front panel forwards and then lifting it out of the bottom slots.

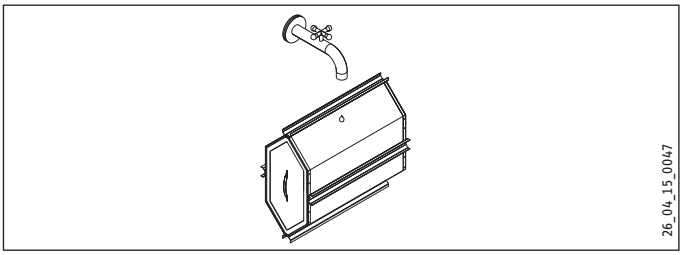


1 Wing screw

- ▶ To remove the heat exchanger from the appliance, undo the wing screw, which pushes the support bar against the heat exchanger from below.



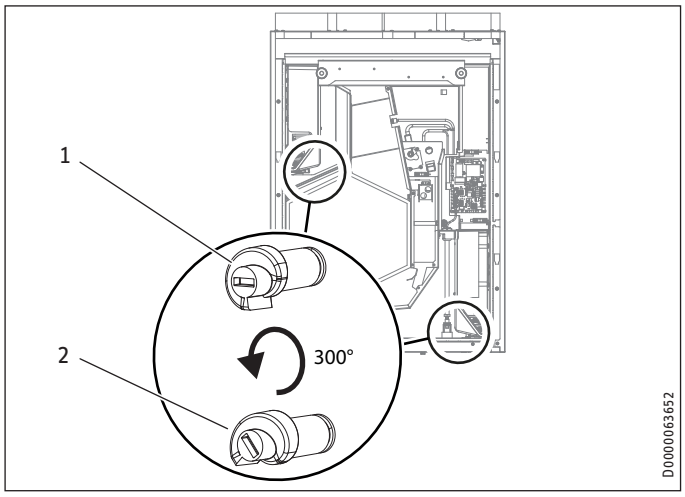
- ▶ Carefully remove the heat exchanger from the unit. Avoid damaging the gaskets in the appliance.
- ▶ Use a commercially available vacuum cleaner to remove dust and other loose dirt particles from the intake and discharge surfaces.



- ▶ 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.

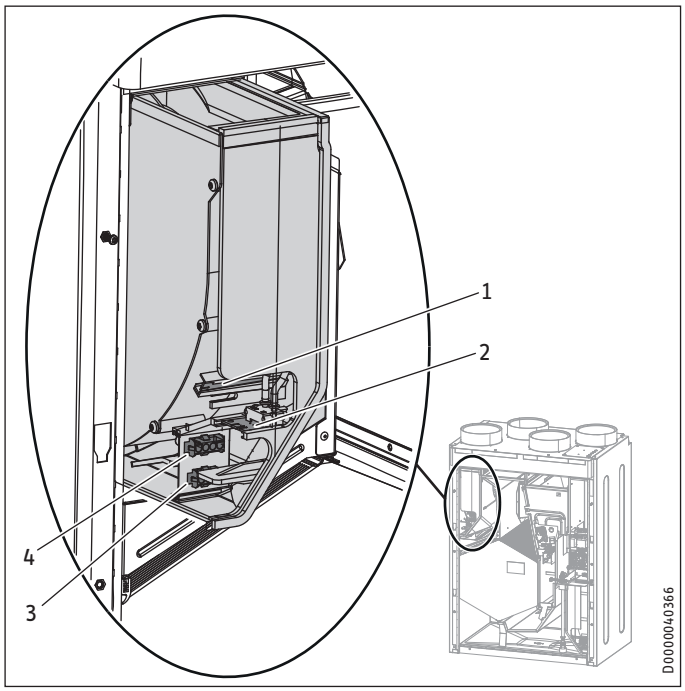
Cleaning the fan units

Each fan unit has a rotating eccentric bolt at the bottom. To ensure that the seals fit correctly on the fan unit, the eccentric bolt raises the fan unit while pushing it towards the back. Before pulling out the fan unit, you must release the eccentric bolt. Retighten the eccentric bolt after installing the fan unit.



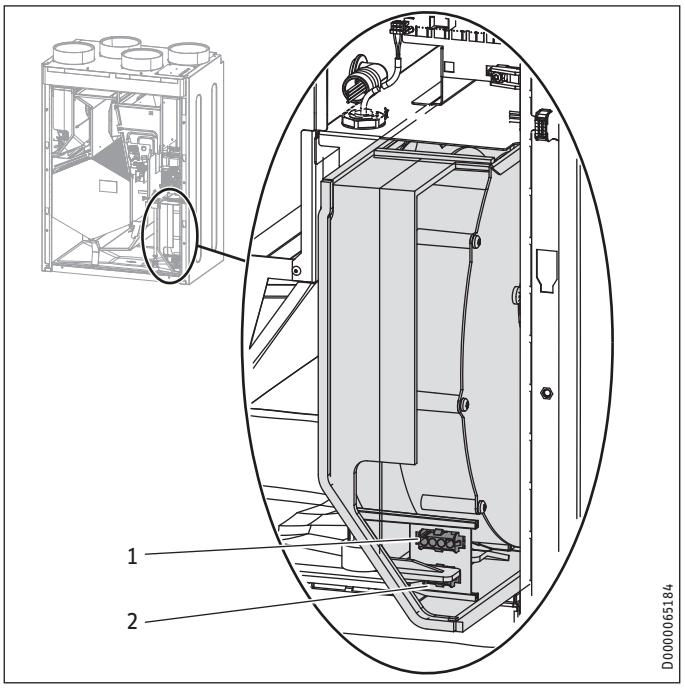
1 Eccentric bolt tightened (slot horizontal)
2 Eccentric bolt released

- ▶ Use a medium sized screwdriver to turn the eccentric bolt anti-clockwise by 300°.
- ▶ Carefully pull both fan units from the appliance by a small amount.



1 Temperature sensor connection
2 Pressure sensor connection
3 Connection for the fan power cable
4 Connection for the fan control cable

- ▶ At the front of the supply air fan, disconnect the 3-core power cable and the 4-core control cable.
- ▶ Disconnect the 6-core common cable for the pressure sensor and temperature sensor. Four cores of the cable are connected to the pressure sensor connection. Two cores of the cable are connected to the temperature sensor connection.
- ▶ Remove the supply air fan from the appliance.



1 Connection for the fan control cable
2 Connection for the fan power cable

- ▶ At the front of the exhaust air fan, disconnect the 3-core power cable and the 4-core control cable.
- ▶ At the back of the exhaust air fan, disconnect the 6-core common cable for the pressure sensor and temperature sensor. Four cores of the cable are connected to the pressure sensor connection. Two cores of the cable are connected to the temperature sensor connection.
- ▶ Remove the exhaust air fan from the appliance.
- ▶ Clean the fans with a soft brush.

Refitting the components

- ▶ Push the fan units back into the appliance.
- ▶ Turn the eccentric bolts under the fan units clockwise by 300°. The slot at the front of the eccentric bolts must be horizontal.
- ▶ Reconnect the fan cables.
- ▶ Slide the heat exchanger back into the appliance.
- ▶ To ensure that the support bar pushes the partition under the heat exchanger, tighten the wing screw until finger-tight. The top three gaskets must be in contact with the heat exchanger and become slightly deformed.
- ▶ Fit the inner front panel which ensures the appliance is air-tight. Secure the inner front panel with seven screws.
- ▶ Hook the front panel into the hooks provided at the front of the appliance.
- ▶ Secure the front panel with the screws at the top.
- ▶ Push the filter drawer into the appliance. The clean side of the filters must face down.
- ▶ Hook the fascia into the appliance.

Checking the condensate drain

Note
The appliance will only function correctly if the condensate drain is working and is filled.
▶ Check the condensate drain at regular intervals – at least once every six months.

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.
▶ Pull the mains plug out of the socket.

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		
1	Short circuit, supply air temperature sensor	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. Unplug connector X7 from the electronic assembly. Test the sensor.
2	Cable break, supply air temperature sensor	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. Unplug connector X7 from the electronic assembly. Test the sensor.
3	Short circuit, exhaust air temperature sensor	No effect	Isolate the appliance from the power supply. Check the sensor cable. Unplug connector X8 from the electronic assembly. Test the sensor.
4	Cable break, exhaust air temperature sensor	No effect	Isolate the appliance from the power supply. Check the sensor cable. Unplug connector X8 from the electronic assembly. Test the sensor.
5	No differential pressure – supply air sensor	To avoid build-up of negative pressure in the rooms, the appliance switches off both fans.	Isolate the appliance from the power supply. Check the sensor cable. Check the pressure hoses for contamination and damage. If necessary, replace the sensor and the hose.
6	No differential pressure – exhaust air sensor	The unit switches off the exhaust air fan. The supply air fan remains in operation.	Isolate the appliance from the power supply. Check the sensor cable. Check the pressure hoses for contamination and damage. If necessary, replace the sensor and the hose.
7	No differential pressure – extract air sensor	Constant pressure control is not possible. The appliance switches to flow rate control.	Isolate the appliance from the power supply. Check the sensor cable. Check the pressure hoses for contamination and damage. If necessary, replace the sensor and the hose. Check the setting of the "Fan control".
8	No humidity value for the extract air	The unit cannot provide humidity protection.	Isolate the appliance from the power supply. Check the sensor cable. Replace the sensor.
9	No humidity value for the outdoor air	The unit 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 bypass mode is not possible. Manual changeover of the bypass damper with the options "Disabled" and "Bypass/window contact" for "Operating mode heat recovery bypass" parameter is possible.	Isolate the appliance from the power supply. Check the sensor cable.
11	No temperature value for the outdoor air	Automatic bypass mode is not possible. Manual changeover of the bypass damper with the options "Disabled" and "Bypass/window contact" for "Operating mode heat recovery bypass" parameter is possible.	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.
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.
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 unit cannot provide humidity protection. Automatic bypass mode is not possible. Manual changeover of the bypass damper with the options "Disabled" and "Bypass/window contact" for "Operating mode heat recovery bypass" parameter is possible.	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.

xxx	Fault	Effect	Remedy
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.

Sensor resistance values

Note
When measuring with a multimeter, the resistance values serve only to identify faulty or incorrect sensors. Measuring with a multimeter is too imprecise to test for accuracy.

	Sensor type
Supply air	PT 1000
Exhaust air	PT 1000

Temperature [°C]	PT 1000 Resistance [Ω]
-30	882
-20	922
-10	961
0	1000
10	1039
20	1078
25	1097
30	1117
40	1155
50	1194
60	1232
70	1271
80	1309
90	1347
100	1385
110	1423
120	1461

16. Disposal

Dismantling

WARNING Electrocution
Disconnect the appliance from the power supply.

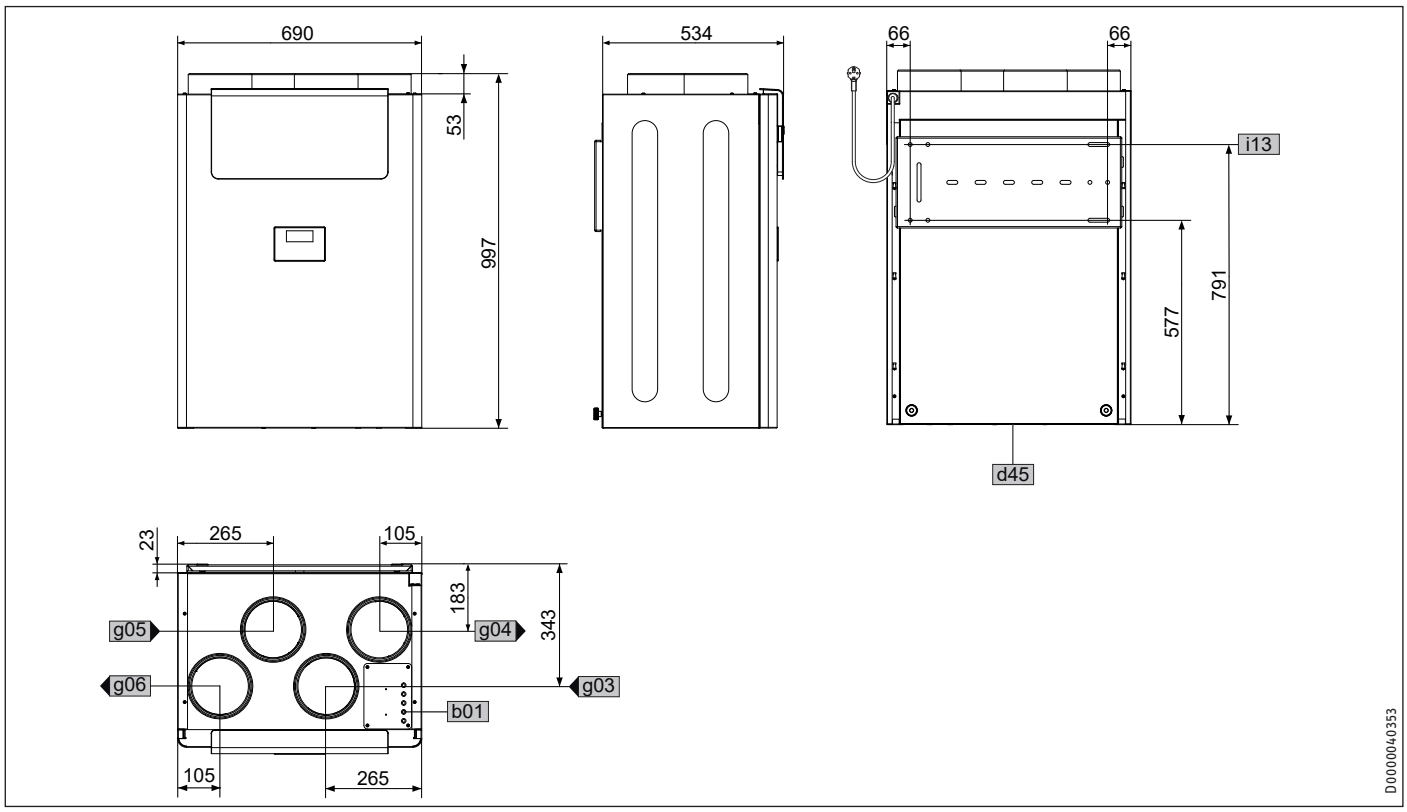
The following tools are required for disassembly and material separation prior to disposal:

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

ENGLISH

17. Specification

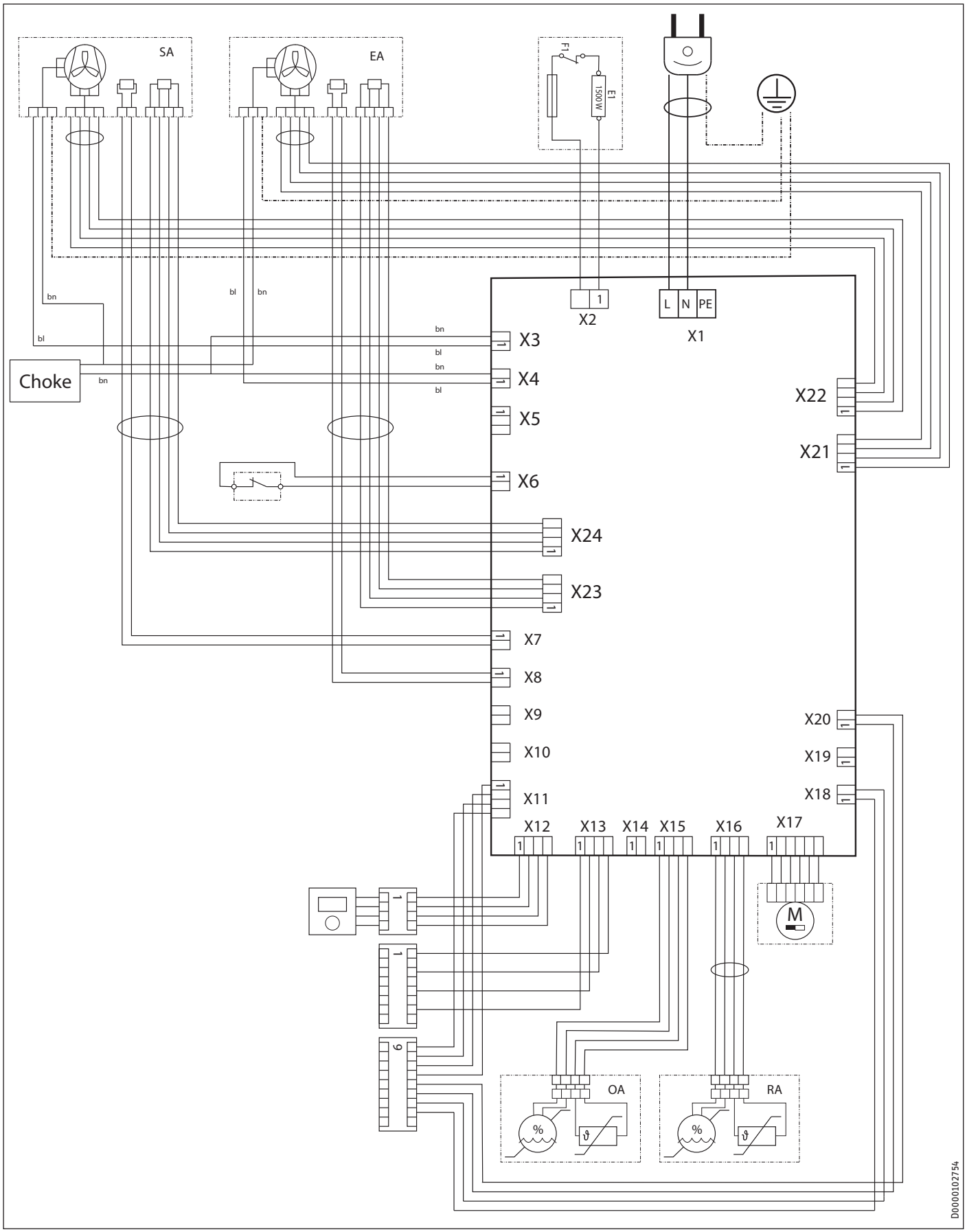
17.1 Dimensions and connections



				LWZ 180	LWZ 280	LWZ 180 Enthalpie	LWZ 280 Enthalpie
b01	Entry electrical cables						
d45	Condensate drain	Diameter	mm	22	22	22	22
g03	Outdoor air	Diameter	mm	160 / 180	160 / 180	160 / 180	160 / 180
g04	Exhaust air	Diameter	mm	160 / 180	160 / 180	160 / 180	160 / 180
g05	Extract air	Diameter	mm	160 / 180	160 / 180	160 / 180	160 / 180
g06	Supply air	Diameter	mm	160 / 180	160 / 180	160 / 180	160 / 180
i13	Wall mounting bracket						

17.2 Wiring diagram

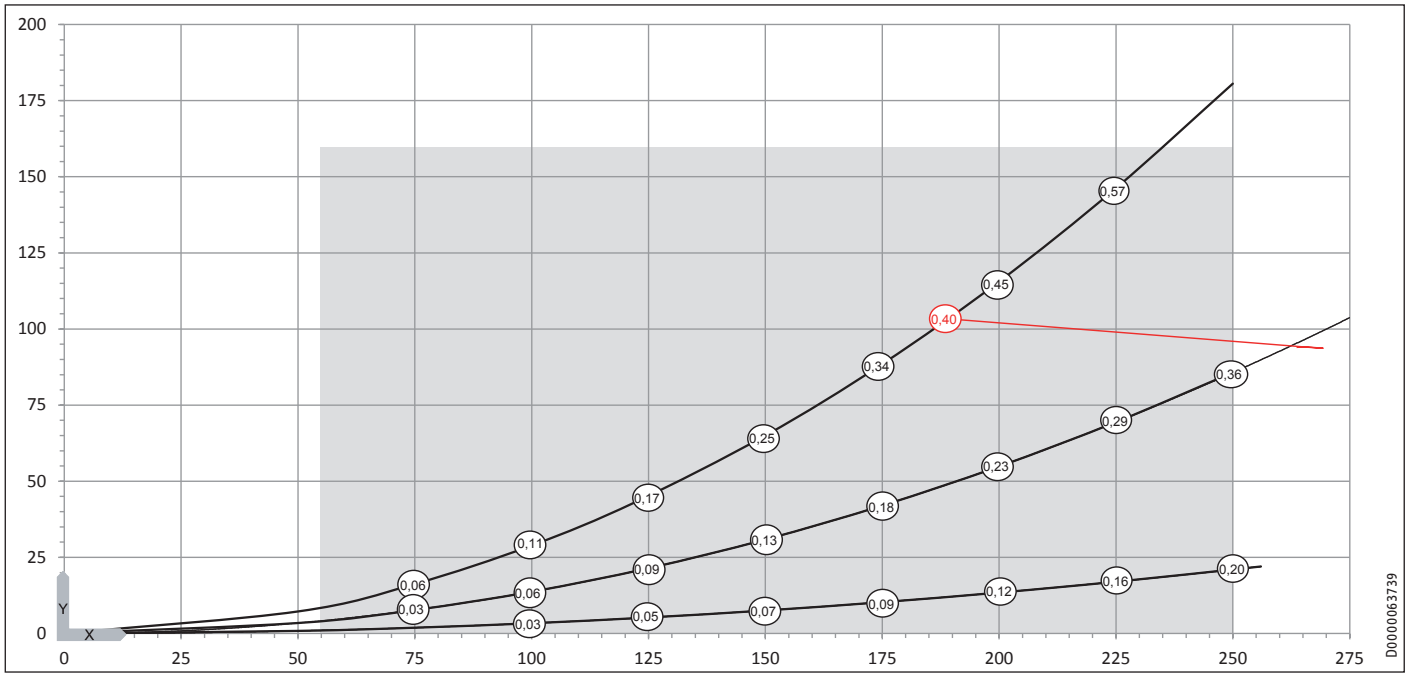
X1 Power supply
X2 Heating coil
X3 Supply air fan power cable
X4 Exhaust air fan power cable
X6 float switch
X7 Supply air temperature sensor
X8 Exhaust air temperature sensor
X11 I²C bus at terminal block
X12 Internal programming unit
X13 External programming unit
X15 Outdoor air humidity sensor
X16 Extract air humidity sensor
X17 Bypass damper motor
X19 No function
X20 Intensive ventilation switching contact
X21 Exhaust air fan control cable
X22 Supply air fan control cable
X23 Exhaust air pressure sensor
X24 Supply air pressure sensor
SA Supply air
EA Exhaust air
OA Outdoor air
RA Extract air
Choke Restrictor


SA
EA
F1
E1
1500W
L
N
PE
X1
X2
X3
X4
X5
X6
X7
X8
X9
X10
X11
X12
X13
X14
X15
X16
X17
X18
X19
X20
X21
X22
X23
X24
Choke
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D0000102754

17.3 Fan diagram

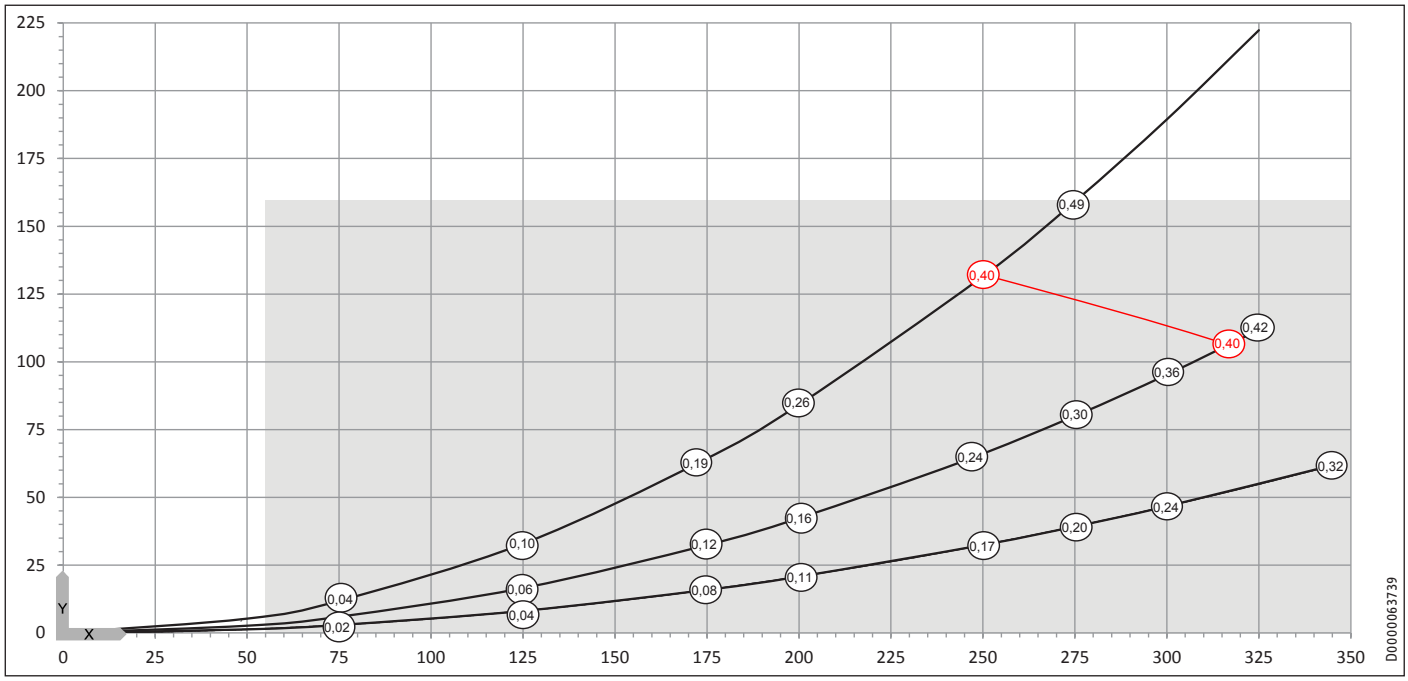
The graph shows the pressure drop for examples of air distribution systems.

LWZ 180 / LWZ 180 Enthalpie



X Air flow rate [m³/h]
Y Average value, static pressure [Pa]
(Z) Power consumption of both fans [Wh/m³]
Application range

LWZ 280 / LWZ 280 Enthalpie



X Air flow rate [m³/h]
Y Average value, static pressure [Pa]
(Z) Power consumption of both fans [Wh/m³]
Application range

17.4 Data table

		LWZ 180	LWZ 280	LWZ 180 Enthalpie	LWZ 280 Enthalpie
		232361	232362	236646	236647
Sound emissions					
Sound power level with standard ventilation and 50 Pa, external	dB(A)	43	47.7	43	47.7
Sound power level at max. flow rate and 100 Pa	dB(A)	50	55	50	55
Sound power level L_{wa}	dB(A)	43	47.7	43	47.7
Energy data					
Energy efficiency class		A	A	A	A
Energy efficiency class in moderate climates, manual control		A	A	A	B
Electrical data					
Rated voltage	V	230	230	230	230
Max. power consumption	A	9.00	9.00	9.00	9.00
Power consumption excl. preheating coil	A	0.60	0.80	0.60	0.8
Power consumption incl. preheating coil	A	7.10	7.30	7.10	7.3
Phases		1/N/PE	1/N/PE	1/N/PE	1/N/PE
Frequency	Hz	50	50	50	50
Power consumption excl. preheating coil	W	65	115	60	105
Power consumption incl. preheating coil	W	1565	1615	1560	1605
Versions					
IP rating		IP22	IP22	IP22	IP22
Filter class		ePM10 ≥ 50 % (M5) | ISO Coarse > 60 % (G4)	ePM10 ≥ 50 % (M5) | ISO Coarse > 60 % (G4)	ePM10 ≥ 50 % (M5) | ISO Coarse > 60 % (G4)	ePM10 ≥ 50 % (M5) | ISO Coarse > 60 % (G4)
Dimensions					
Height	mm	997	997	997	997
Width	mm	690	690	690	690
Depth	mm	534	534	534	534
Weights					
Weight	kg	78	78	80	80
Connections					
Air connection diameter	mm	160	160	160	160
Condensate connection	mm	22.00	22.00	22.00	22.00
Values					
Max. air flow rate	m³/h	250	350	250	350
Air flow rate	m³/h	60-250	60-350	60-250	60-350
Heat recovery level up to	%	94	94	89	89
Application range, extract air	°C	15–35	15–35	15-35	15-35
Max. ambient temperature	°C	40	40	40	40
Available external pressure, ventilation	Pa	160	160	160	160

Further details

		LWZ 180	LWZ 280	LWZ 180 Enthalpie	LWZ 280 Enthalpie
		232361	232362	236646	236647
Maximum height for installation	m	2000	2000	2000	2000
Storage and transportation temperature	°C	-25 - 60	-25 - 60	-25 - 50	-25 - 50

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.

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Stand 9734

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