



Translation of the original instruction manual

# Heat Recovery Unit FOCUS 200 Base



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# 1 Introduction

## 1.1 General

This translation of the original instruction manual contains instructions and information on the safe operation, correct installation, operation and maintenance of the Focus 200 Base ventilation unit.

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

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

## !/? Questions

You can address all questions and request the most recent manuals and new filters from your Zehnder representative. The contact information is found on the back cover of this manual.

## 1.2 Validity

This document applies to the following unit types:

- FOCUS 200 Base series (Zehnder Focus 200 Base series)

All the units in the FOCUS 200 series are referred to below using the generic product name FOCUS, except where it is necessary to distinguish between specific types.

This instruction manual deals with the various design variants of the FOCUS heat recovery unit. Possible accessories are only described to the extent necessary for appropriate operation of the unit. Please refer to the respective instructions for further information on accessory parts.

## 1.3 Target groups

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

### 1.3.1 Qualification of target group

#### 1.3.1.1 Users

Users must be instructed by qualified personnel as follows:

- Instruction in hazards when handling electrical devices
- Instruction in the operation of the FOCUS unit
- Instruction in the maintenance of the FOCUS unit
- Knowledge of and compliance with this manual, including all safety instructions

#### 1.3.1.2 Qualified personnel

Qualified personnel must have the following qualifications:

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

## 1.4 Conformity

The Focus 200 Base series ventilation units from the manufacturer



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Zwolle commercial register 05022293

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

## 2 Proper use

### 2.1 Operation of the unit

- The unit may only be operated if it has been installed correctly and according to the specifications and directives of the installation manual of the unit.
- The unit may be operated by the following groups of people: children from age 8, persons with limited physical, sensory or mental abilities, or persons with insufficient experience and specialised knowledge, provided they are supervised or instructed in the safe handling of the unit and understand the associated hazards.
- Children must not play with the unit.
- Children must not carry out cleaning and maintenance without supervision.

### 2.2 Intended use

- The FOCUS unit can be used for controlled ventilation in homes and offices (and also in industrial buildings subject to certain restrictions). Any other use or any use beyond this is considered improper use.
- The ventilation unit is not suitable for smoke extraction or drying buildings, for ventilation of rooms with aggressive and corrosive gases or for rooms with extreme dust levels.
- The unit must not be used for extracting combustible or explosive gases.
- Intended use also includes observing all instructions in the instruction manual.

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

### 2.3 Provisions for operation with fireplaces

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

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

The ventilation units for controlled ventilation of an apartment or comparable utilisation unit must not be installed if open flue fireplaces are connected to multiple-occupancy flue systems in the utilisation unit.

For proper operation, it must be possible to shut off any combustion ventilation lines and flue gas systems of open flue fireplaces. In case of flue gas systems of fireplaces for solid fuels, it must only be possible to operate the cut-off device manually. The position of the cut-off device must be recognisable from the setting of the operating handle. This is considered to be fulfilled if a cut-off device against soot (soot blocker) is used. Fire protection requirements with regard to the fire protection installation regulations for the construction of the ventilation system, and federal state regulations, in particular the building authority guideline on the fire protection requirements for ventilation systems in the currently valid version, must be observed.

### 2.4 Guarantee conditions, warranty and liability

#### 2.4.1 Guarantee conditions

The manufacturer gives a warranty of 24 months starting from the installation date, or a maximum 30 months starting from the date of manufacture, for the unit. Warranty claims may only be asserted for material defects and/or design faults that have occurred during the warranty period.

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

#### 2.4.2 Warranty

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

**The warranty shall be null and void if:**

- The warranty period has elapsed.
- The installation has not been carried out in accordance with the applicable regulations.

- The unit is operated without a filter.
- Original parts have been replaced by non-original parts.
- Unauthorised changes or modifications to the unit have been made.
- The defects are due to improper installation, improper use or neglected maintenance of the system.

### 2.4.3 Liability

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

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

- Failure to observe the instructions specified in this manual pertaining to safety, operation and maintenance.
- Modifications to the ventilation unit or the use of components that have not been approved or recommended by the manufacturer.
- Incorrect installation, improper use or contamination of the system.
- Original parts have been replaced by non-original parts.
- The unit is operated without a filter.

## 3 Safety

Carefully read all safety instructions prior to commissioning the unit to make sure that you use the unit in a safe and intended way.

### 3.1.1 Symbols used

You will find the following symbols in this document:

Symbol	Meaning
	<b>Important note!</b>
	<b>Caution: Risk of affecting the operation of the ventilation system or damaging the unit!</b>
	<b>Caution: Risk of personal injury!</b>

### 3.1.2 Safety regulations

#### 3.1.2.1 Safety instructions – general

- Always observe the safety regulations, warning, comments and instructions stated in this manual. Non-observance results in hazard of injury and hazard of material damage to the FOCUS unit.
- The installation, commissioning and maintenance (except for filter replacement) must be carried out by an approved technician unless stated otherwise in the instructions. Implementation of this work by a non-approved technician can result in personal damage or reduced performance capacity of the ventilation system.
- Do not disconnect the unit from the power supply unless instructions to the contrary are listed in the manual. This can result in the formation of moisture and mould.
- Do not make any changes to the unit or to the specifications listed in this document. Such changes can cause personal injury or lead to reduced performance of the ventilation system.
- To prevent accidents, a damaged mains cable must be replaced by an original cable by the manufacturer, a person commissioned to carry out maintenance by the manufacturer or a similarly qualified person.
- After installation, have your system engineer/installer instruct you on the unit and the control panel. The ventilation unit may only be used in accordance with chapter 2 "Intended Use".
- Only operate the unit with a closed housing.

### 3.1.2.2 Safety instructions – Installation

- Comply with the general locally applicable building, fire, safety and installation regulations of the relevant local authorities, the regulations of the water and electric utilities and all other official regulations.
- Pull the unit's plug from the mains socket to separate the unit from the power supply. If the unit does not have a plug, use a switch according to EN 60335-1 (with separation of all three poles and 3 mm clearance, over-voltage category III).
- Always disconnect the unit from the power supply prior to commencing maintenance or repair activities. If the unit is operated while open, there is hazard of injury.
- Make sure that the FOCUS unit cannot switch on unintentionally.
- To eliminate the risk of coming into contact with the running fans, the air ducts must be fastened to the unit before the power supply is connected, observing a minimum length of 900 mm.
- Therefore, always apply measures to prevent electrostatic discharges when working on the electronics. Wear an antistatic wrist band, for example. Static energy can cause damage to electronic components.
- The entire installation must comply with the applicable (safety) regulations from the following sources:
  - local EU standard for safety features for low voltage systems;
  - Mounting/installation manual of the manufacturer (see the back cover of the instruction manual for the contact data of Zehnder).
- A socket with grounding at a distance of 1 meter or no more than the length of the included mains cable must be present.
- For safety reasons do not use an extension cable.

### 3.1.3 Installation conditions

The following conditions must be considered when deciding whether a unit should be installed in a specific area to ensure the correct installation of the unit.

- Ensure that the temperatures in the installation area are in the permissible range year-round. The information regarding the permissible temperature can be found in the "Technical specification" table.
- When choosing an installation location, it is recommended that you avoid areas with a high average level of humidity (ambient conditions for indoor climate control system must not continuously exceed 70% RH at 22 °C).
- The unit must not be installed in rooms subject to explosion hazards.
- Inside wet rooms, the unit may only be installed outside of protection zones 1 and 2 in accordance with DIN 57100/VDE 100 Part 701.
- Connect the unit to a power source with 230 V/50 Hz.
- Check whether the electrical installation is suitable for the maximum output of the unit. The values for the electrical input power can be found in the "Technical specification" chapter.
- Check that the installation area of the unit meets the requirements in the "Installation requirements" chapter.

## 4 Chapter for operators and qualified personnel

### 4.1 Product description

The FOCUS unit is a ventilation unit with heat recovery for healthy, well-balanced and energy-saving comfort ventilation. A comfort ventilation system extracts foul-smelling waste air from areas such as kitchens, bathrooms and toilets and conveys an identical quantity of fresh air into living rooms, bedrooms and children's rooms. A highly efficient cross-counterflow heat exchanger made from plastic is used for waste heat recovery. An optional summer box module can be used instead of the heat exchanger for thermal separation of the two airflows. The housing is made from sheet metal with an anthracite powder coating. The high-quality polypropylene inner lining ensures the necessary thermal insulation and unit soundproofing.

The FOCUS unit has two maintenance-free 230 VAC centrifugal fans with an integrated power supply unit and electronic commutation. The fans run at a steady volume flow to keep the air volume constant at any selected fan speed. The air volume is not affected even if the filters become soiled.

The unit contains filters according to EN ISO 16890 of the filter class ISO Coarse for the outdoor air and the extract air. These consist of a synthetic non-woven filter medium with a polypropylene frame. As an option, filters of filter class ePM1 can be used for the outdoor air. The filters are accessed via the front panel.

### 4.1.1 Control panel

The external control panel allows you to operate the system from a central location. The control panel is only suitable for use in indoor areas.

### 4.1.2 Main components

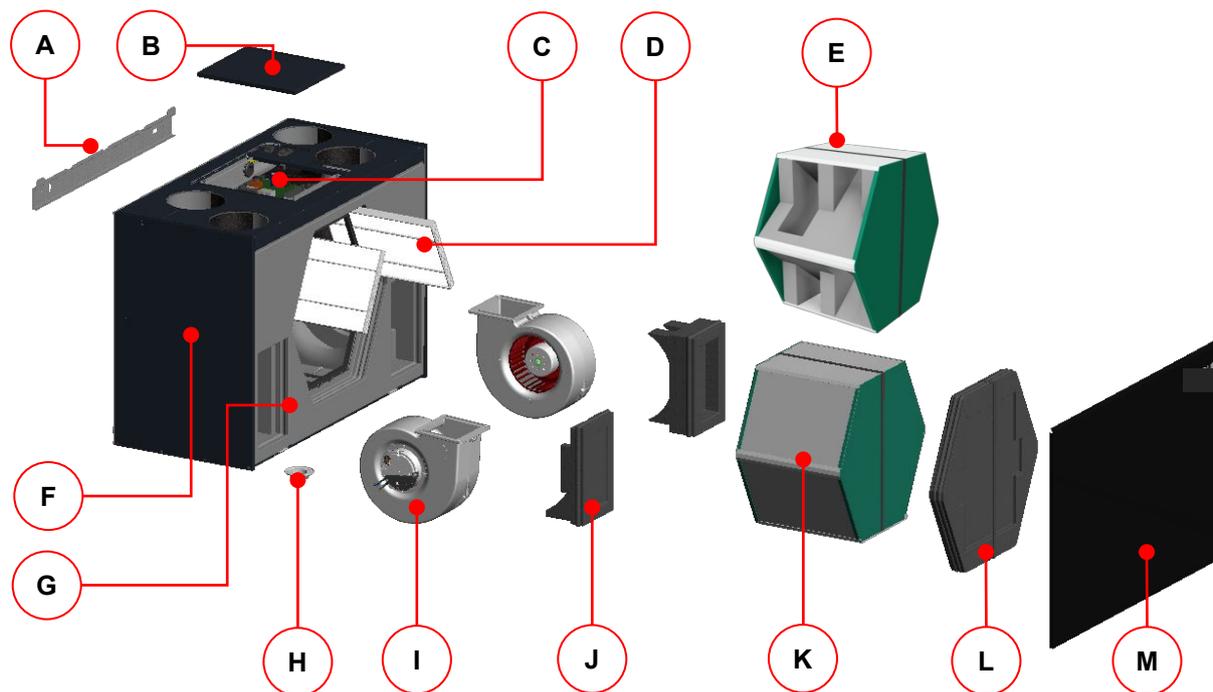


Fig. 1: Main components of the FOCUS ventilation unit

Item	Description
A	Fastening sheet
B	Control cover plate
C	Control board
D	Filter (2x ISO coarse)
E	Summer box (optional)– Module that keeps the air flows thermally separate
F	Housing made from coated sheet steel
G	EPP moulded parts
H	Condensate drain screw connection
I	Fans (2x)
J	EPP foam cover for fan (2x)
K	Heat exchanger with strap and condensate tray
L	EPP foam cover with strap for filter and heat exchanger
M	Front panel made from coated sheet steel

Table 1: FOCUS main components

### 4.1.3 Type label

The type label identifies the product unequivocally. You will need the details on the type label for the safe use of the product and in case of questions for service. The type label is located on the same side of the unit as the air connections and must remain permanently attached to the product.

### 4.1.4 Frost protection

The FOCUS unit is equipped with automatic frost protection, which prevents the heat exchanger from freezing should the outdoor air temperature drop to a very low level. The temperature limit for the outdoor air on the unit side is -3 °C. If the temperature drops below this limit value, the fans are switched off temporarily, unless effective external frost protection is in place in the system. If an external electric pre-heater (optional) is installed, it is activated by the unit control system if the temperature drops below the limit value of 0 °C. The only electric pre-heater that may be used for this purpose is the Iso defroster heater DN125 (Zehnder art. no 527003450).



**If an optional hydraulic heating register is installed downstream, please note that the supply air temperature is not monitored to protect it against freezing!**

## 4.2 Available control modules

The FOCUS unit can be operated with the following control modules:

- External control panel (W x H x D in mm: 71 x 71 x 25)
- External control signal (0–10 V)
- External boost ventilation key(s) (as many as required, potential-free)

### 4.2.1 External control panel

To control the fans, the control panel has a rotary knob with an infinitely variable adjustment range (first scaling segment on the intensity scale) for the air volume flow.

The two ON/OFF keys can be used to set the operating mode. You can choose between normal mode (both fans switched on), extract air mode (only the exhaust air fan switched on) or supply air mode (only the supply fan switched on). The green LED above the respective symbol indicates which mode has been set. Use the boost ventilation mode/reset filter running time key to trigger the operating function associated with each one. The operating LED lights up red to indicate that the un-occupied or boost ventilation operating modes are possibly active or that the filters should be inspected.

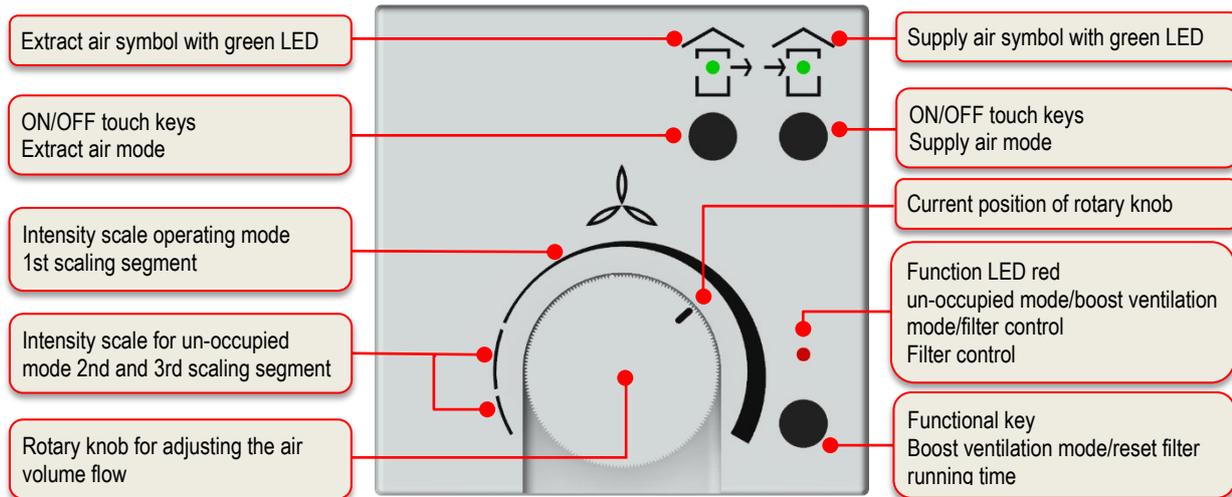


Fig. 2: Operation and information fields control panel

#### 4.2.1.1 Control panel operating functions

Description	Explanation
Intensity scale Rotary knob positioning	<p><b>Operating mode:</b> Ventilation with constant air volume flow according to the intensity scale</p> <p>Position 1st scaling segment on the left: lowest air volume flow</p> <p>Position 1st scaling segment on the far right: highest air volume flow</p> <p>Positions within the 1st scaling segment: air volume flow proportional to the intensity scale</p> <p><b>Un-occupied mode:</b> Ventilation with the lowest intermittent air volume flow</p> <p>Position 2nd scaling segment: 5 minutes ON and 1 minute OFF</p> <p>Position 3rd scaling segment on the far left: 1 min ON and 5 min OFF</p> <p>Positions within 2nd and 3rd scaling segment: ON/OFF cycle-time ratio adapted indirectly proportional</p>

Touch key Extract air mode	Pressing this key so that it clicks into place activates extract air mode and switches on the exhaust air fan. Pressing it again deactivates extract air mode.  <b>If the ventilation unit is being operated together with a fireplace, do <u>not</u> use this touch key unless supply air mode is activated at the same time! Simultaneous operation of a ventilation system and fireplace imposes more stringent safety requirements with regard to <u>low pressure monitoring</u> and a switch-off function is required for the ventilation unit.</b>
Touch key Supply air mode	Pressing this key so that it clicks into place activates the supply air mode and switches on the supply air fan. Pressing it again deactivates the supply air mode.
Normal mode	Pressing both keys so that they click into place switches on both fans.
Key Boost ventilation mode/reset filter running time	Function key for boost ventilation mode: Pressing this key activates boost ventilation for 15 minutes with an air volume flow corresponding to the rotary knob being turned all the way to the right. At the end of the 15-minute boost ventilation time, the unit reverts to the previous air volume in the currently active mode. You can cancel the boost ventilation mode at any time by pressing this key again for > 3 s. Function key for reset filter running time: To ensure cyclic filter inspection, the control has an integrated operating hours counter with a fixed running time of 180 d. The boost ventilation mode/reset filter running time key allows you to reset the filter running time. To restart the filter running time, press and hold this key for > 3 s. If the filter running time is reset before the end of 180 d by pressing this key for > 3 s, the LED fan symbol will blink rapidly four times in succession to confirm the reset operation.  <b>No reset command can be issued while boost ventilation mode is active!</b>

Table 2: External control panel operating functions

#### 4.2.1.2 Signals used to indicate working/maintenance conditions

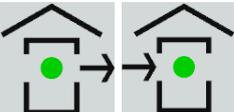
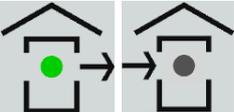
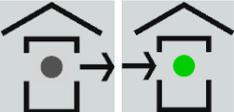
Symbol	LED signal	Function / Meaning / Action required
	Both LEDs light up	Normal mode (extract air and supply air)
	Extract air symbol LED lights up	Extract air mode is active (extract air only)
	Supply air symbol LED lights up	Supply air mode is active (supply air only)
	Fan symbol LED lights up	Ventilation boost mode is active  <b>The boost ventilation mode can be selected while in any other mode!</b>
	Fan symbol LED blinks	Un-occupied mode is active  <b>Un-occupied mode can be selected while in any other mode!</b>
	Fan symbol LED blinks rapidly	Filter running time has expired; inspect or replace filter  <b>Boost ventilation mode cannot be activated until a reset command is issued!</b>

Table 3: Functions assigned to LED signals

#### 4.2.2 External control signal 0–10 V

The ventilation unit can be operated with an external 0–10 V control signal. When a 0–10 V analogue signal is applied, it is interpreted as a control signal for the fan speed. The current position of the rotary knob on the scale marks the point at which the external control voltage becomes effective.

 **To make use of the entire external 0–10 V control range, the rotary knob must be pointing to the position of the 3rd scaling segment!**

### 4.2.3 Boost ventilation mode with external boost ventilation key

Boost ventilation keys are usually installed in rooms from which air is extracted, such as bathrooms, toilets or kitchens. In this way, maximum ventilation can be activated locally within these rooms for a specific period to enable rapid extraction of high humidity and odours. When this control module is activated, the functional features and displays described for boost ventilation mode apply. Boost ventilation mode is restarted each time it is activated and interrupts the currently set air volume flow. Afterwards, the unit reverts to the previously active working condition.

## 4.3 Maintenance by the user

For the user, maintenance of the ventilation unit and system is limited to replacing the filters periodically and cleaning the supply and extract air valves. The filters should be inspected every three months. Filter replacement should be carried out as necessary, but no later than once every six months. As part of this process, please inspect the other filters in the ventilation system and replace them if necessary. The filter mats on the extract air valves (e.g. bathroom, kitchen, WC) should be replaced or cleaned every 2–3 months or when checking the degree of contamination at one's own discretion.



**If the maintenance work is not carried out regularly, this will affect the functionality of the comfort ventilation system in the long run!**

### 4.3.1 Replacing the unit filters



**The system must not be operated without filters. During filter replacement and maintenance work, the ventilation unit must remain switched off!**

Two high-quality original filters from the manufacturer are installed in the FOCUS unit. The filters must be inspected whenever the control panel signals that this is necessary. In doing so, proceed as follows:

1. Disconnect the unit from the mains power supply.
2. Press the two snap fasteners **A** on the bottom of the unit.

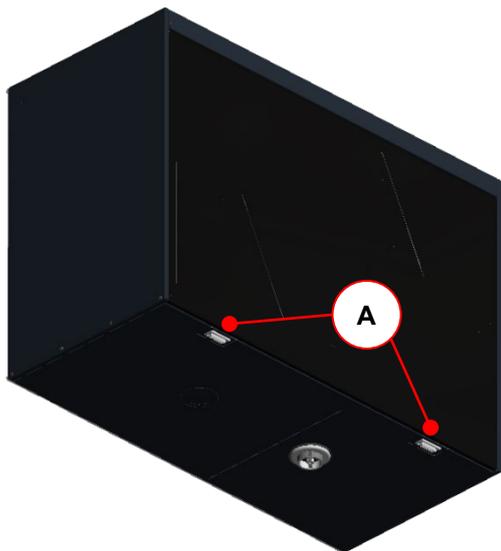


Fig. 3: Pressing the snap fasteners

3. Remove the front panel **B** gradually as indicated by the arrows. To do this, open the front panel in the snap fastener area at an angle of no more than 15° and unhook it from the lock seam of the housing.

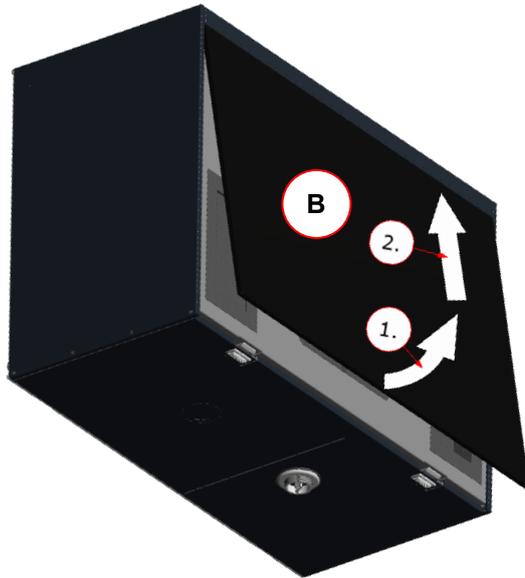


Fig. 4: Opening the front panel

4. Use strap **C** to pull the EPP foam cover **D** for the filters and heat exchanger out of the EPP housing. To do this, grip the strap at one end and pull while using your other hand to support the unit.

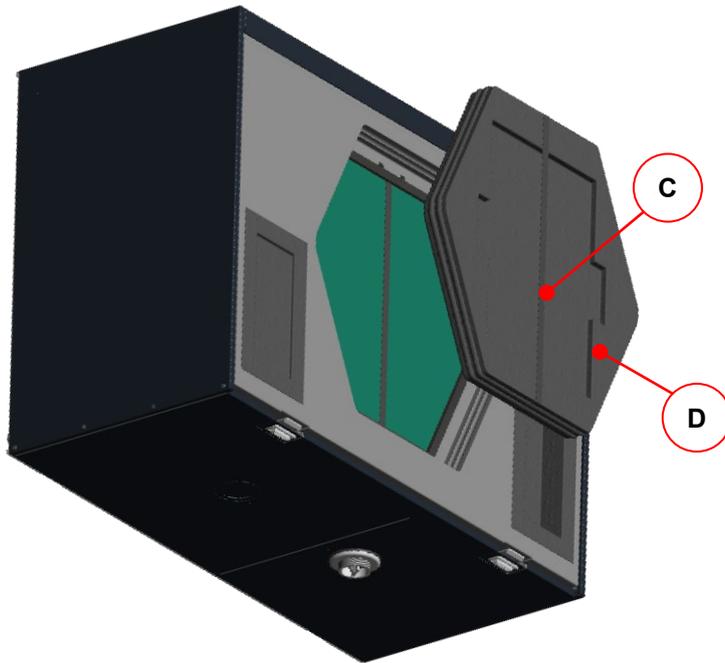


Fig. 5: Pulling out the EPP foam cover of the filters and heat exchanger

5. Holding them by the strap, pull the filters **E** out of the filter compartments.

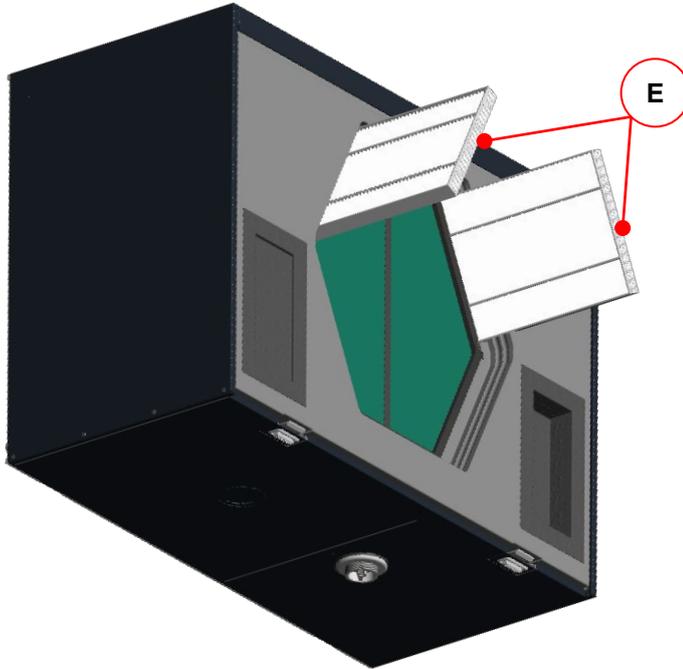


Fig. 6: Pulling out the filters

6. On the filter frame of each filter, there is an arrow to indicate the prescribed direction of flow. Insert the new filters according to their designated direction of flow **F**.

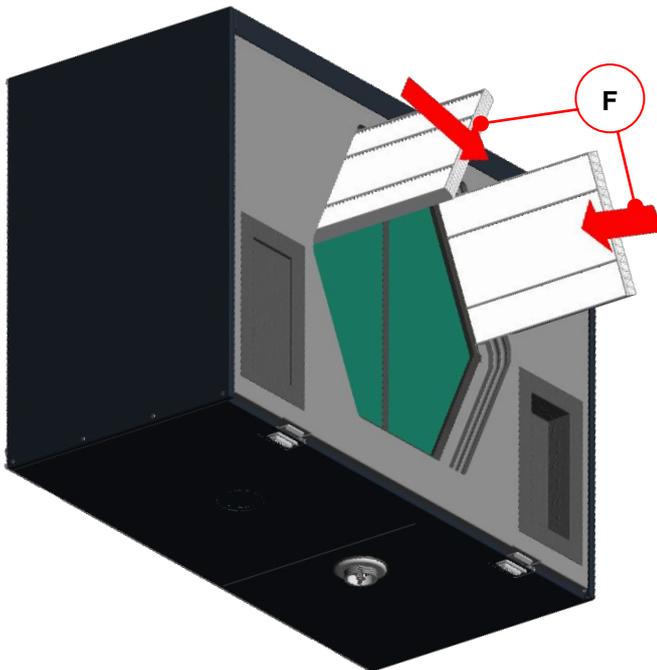


Fig. 7: Inserting the new filters according to the direction of flow



Depending on the unit type according to the type label, filters with filter class ISO ePM1 must be inserted into the filter compartment of the outdoor air connector! The outdoor air connector is indicated by the symbol



AUL → ODA → on the air connections sticker.

7. Attach the EPP foam cover to enclose the slide-in filter compartments and heat exchanger.
8. Hook the front panel into the lock seam of the housing. Then press it down onto the housing in the snap fastener area until it engages in the snap fasteners.
9. Reconnect the unit to the mains.

### 4.3.2 Resetting the filter running time

After completing the filter replacement, the counter for the filter running time must be reset. To reset the filter running time, press and hold the boost ventilation mode/reset filter running time key for > 3 s. The LED on the fan symbol stops blinking rapidly.



**Use check list A to document the maintenance work completed.**

### 4.3.3 What should I do in case of a fault?

Contact the installation technician in case of a fault. Note down the type of your FOCUS unit according to the type label on the side of the unit where the air connections are located.

The mains connection must always be established, unless the FOCUS unit has to be shut down due to a serious fault, for maintenance work or for some other urgent reason.



**As soon as the unit is disconnected from the mains, the apartment will no longer be mechanically ventilated. This may result in moisture and mould problems in the apartment. Therefore, you should avoid switching off the FOCUS unit for long periods.**

## 4.4 Disposal

The unit must be disposed of in an environmentally-friendly manner. Do not dispose the unit with your domestic waste.



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

## 5 Chapter for qualified persons

### 5.1 Installation requirements

The following requirements must be assured for the correct installation:

- Installation in accordance with the general and locally applicable safety and installation regulations, such as the electric and water utilities etc. and in accordance with the regulations stipulated in this instruction manual
- Frost-free indoor area
- Power supply 230 VAC, 50 Hz
- Sufficient space for connecting the ventilation tubes and for maintenance work

#### 5.1.1 Transport and packaging

Proceed with care when transporting and unpacking the FOCUS unit.



**Do not remove the unit packaging until right before installation! Before and during interruptions to the installation, the ventilation tube connections must be closed with the air connector sealing caps to prevent construction site dust and moisture from entering.**

#### 5.1.2 Checking the scope of delivery

If the delivered product is found to be damaged or incomplete, please contact the supplier immediately. Included in the scope of delivery are:

- Ventilation unit FOCUS with power cable,  
Check the type label to make sure that the unit is the right one (type, version as per type label)
- Fastening sheet with two self-adhesive spacers (rubber buffers)
- Control panel
- Instruction manual
- Product labels showing energy efficiency

## 5.2 Mounting

The distances from adjacent surfaces shown in Fig. 8 must be observed. Please note that these are not shown to scale. The surfaces are allowed to be made from flammable materials:

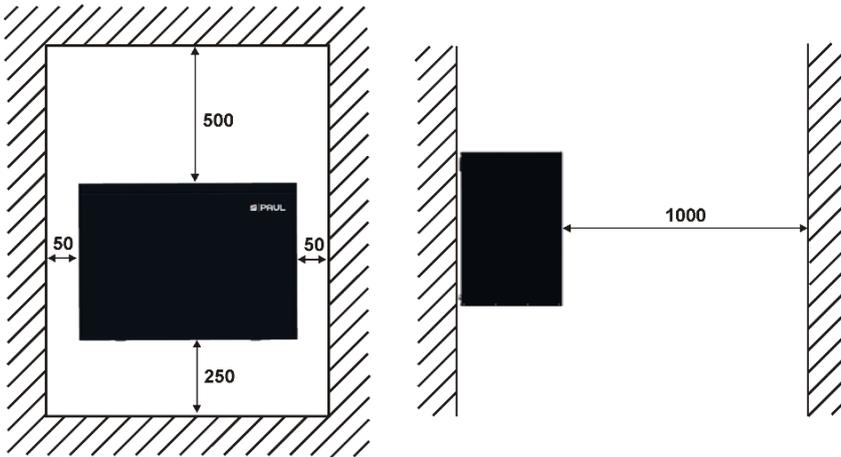


Fig. 8: Distances from adjacent surfaces in mm



**Make sure you leave at least 1 m clearance in front of the FOCUS unit for subsequent maintenance work.**

The FOCUS unit must be installed horizontally. Before mounting the unit on a wall, check that the wall construction has the necessary load-bearing capacity (net weight of the FOCUS unit is 25 kg) and that the fastening sheet can be mounted securely. In case of unsuitable walls, we recommend using the floor stand for fitting to the floor (optionally available). This prevents potential transfer of structure-borne noise as much as possible.

### 5.2.1 Wall mounting

Proceed as follows for wall mounting:

1. Mount the supplied fastening sheet **A** horizontally on the wall with the lugs **B** pointing upwards. Use the slotted holes **C** to fix it in place with suitable fixing materials.

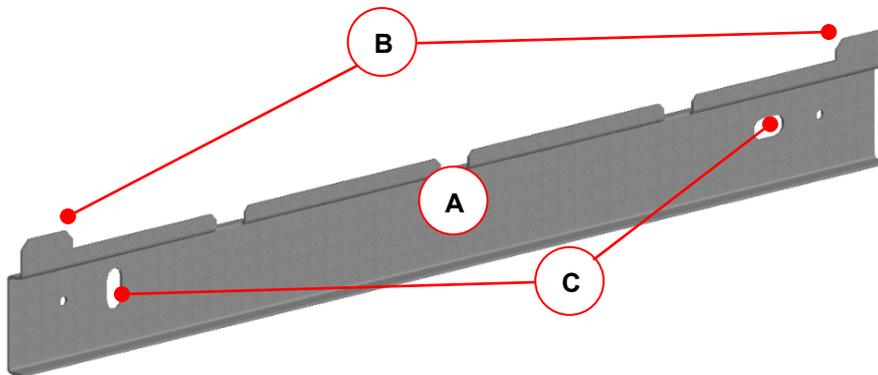


Fig. 9: Fastening sheet for wall mounting

 **Observe the minimum distance required in relation to the finished floor!**

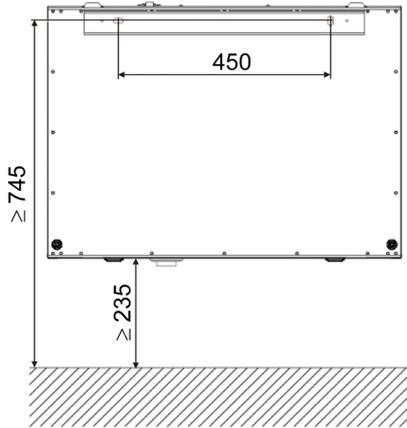


Fig. 10: FFL distance for wall mounting (version LEFT)

2. Stick one of the supplied self-adhesive spacers **D** in each corner on the rear of the unit.

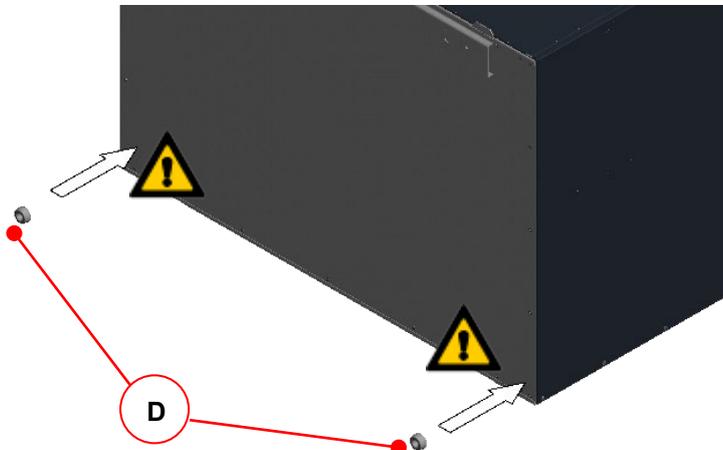


Fig. 11: Spacers mounting

3. Hook the FOCUS unit onto the fastening sheet by inserting the lugs **B** into the slots **E** in the lock seam at the top of the rear cover.

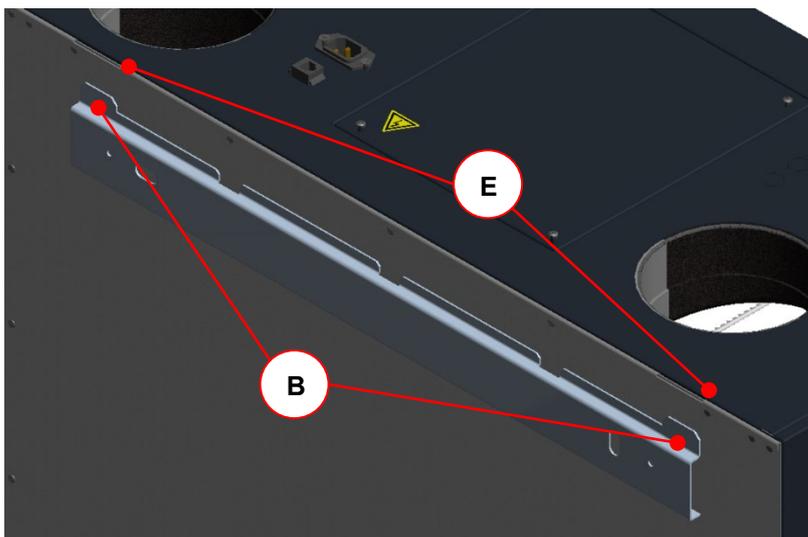
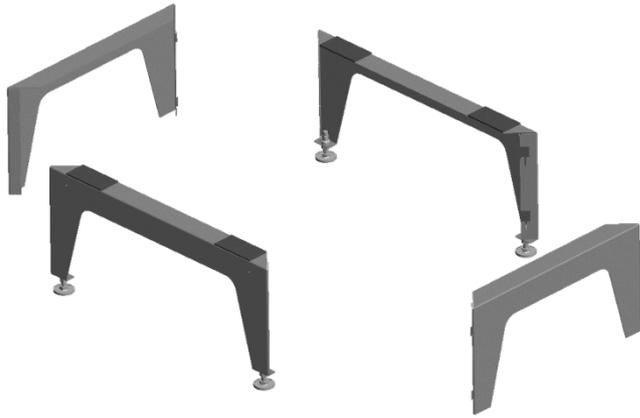


Fig. 12: Hooking the unit into the fastening sheet

### 5.2.2 Fitting on Floor stand (optional)

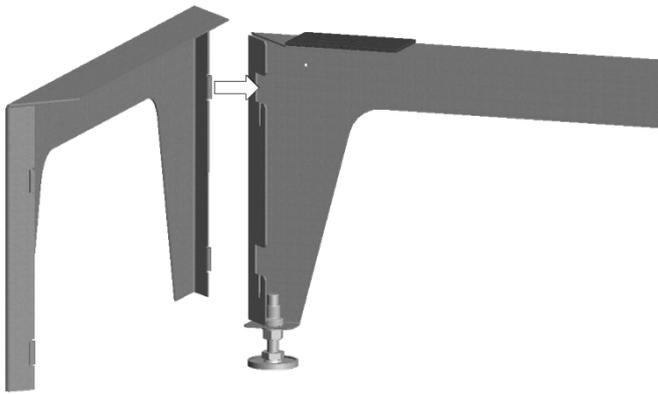
The dimensions of the floor stand are as follows: footprint = (620 x 292) mm; variable height adjustment = between 280 mm and 320 mm using adjustable feet. The floor stand consists of two long base parts (each with two adjustable feet) and two short base parts.



*Fig. 13: Individual parts of the floor stand*

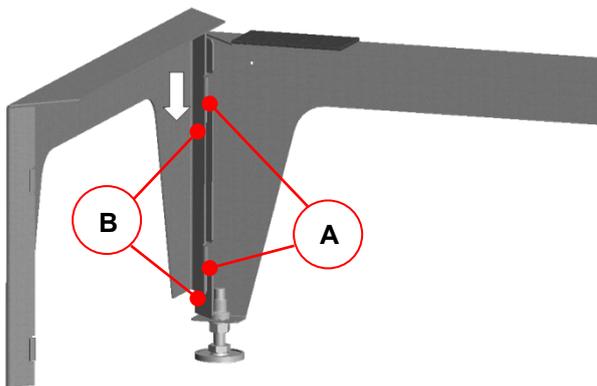
Assemble the individual parts of the floor stand as shown in the illustrations. In doing so, proceed as follows:

1. Working in the direction of the arrow, place the short base part at right angles to the long base part at a staggered height.



*Fig. 14: Assembling the base parts*

2. Working in the direction of the arrow, push the lugs **A** of the short base part into the guide slots **B** of the long base part so that they engage and fix the two base parts together.



*Fig. 15: Fixing the two base parts*

3. Now connect the other two base parts in the same way.

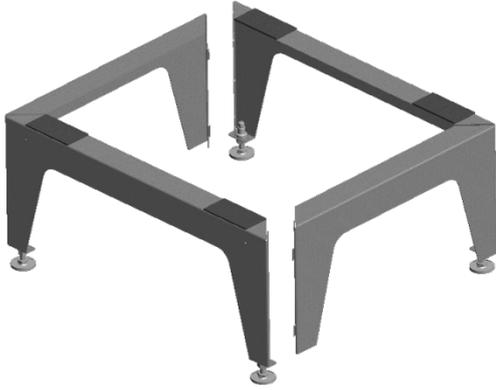


Fig. 16: Two sets of base parts fixed together

4. Mount the fastening sheet **C** on the long base part with the lugs pointing upwards. To do this, screw the two Parker screws **D** into the holes provided **E** on the base part so that they go through the fastening sheet.

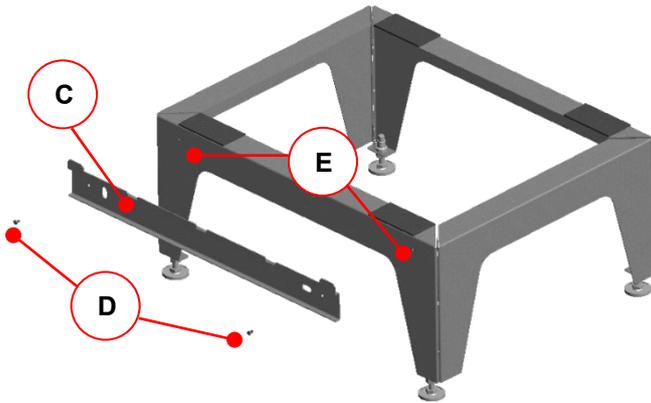


Fig. 17: Mounting the fastening sheet on the base part

5. Now use the height-adjustable feet **F** to adjust the fully assembled floor stand on the designated set-up area so that it is plumb vertical and stable. Then fix it in this height position with the lock nuts of the adjustable feet.

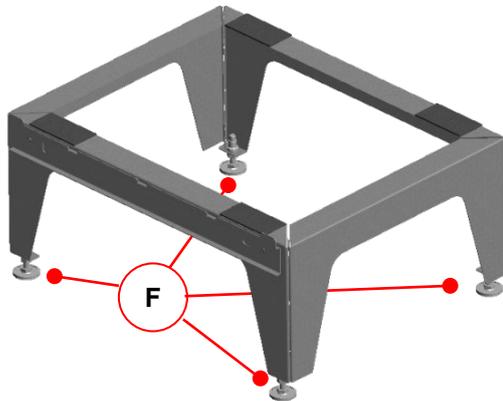


Fig. 18: Aligning the floor stand

6. Place the FOCUS unit on the floor stand so that the lugs of the fastening sheet hook into the slots in the lock seam at the bottom of the unit's rear cover. See Fig. 12.

### 5.2.3 Connecting the ventilation tubes

The following points must be observed when installing the ventilation tubes:

- Attach the different types of ventilation tube provided with the ventilation system to the relevant connectors according to whether the unit is the LEFT- or RIGHT-hand version (see air connections sticker on control cover plate).

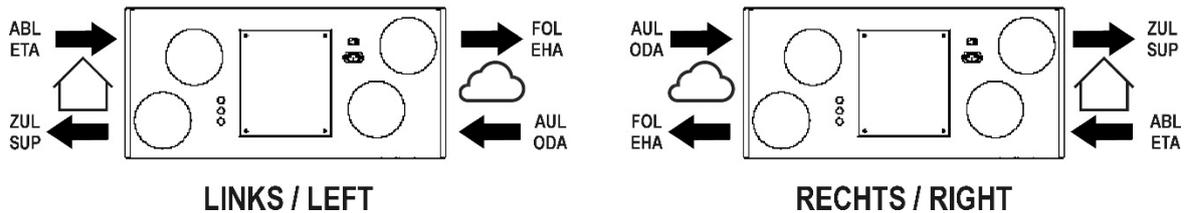


Fig. 19: Arrangement of the air connections Unit version LEFT and unit version RIGHT

- Remove the sealing caps from the air connectors.
- Using ventilation tube materials with the lowest possible air resistance, connect the ventilation technology components to one another so that they are air-tight.
- The unit connectors are made from EPP and have a sleeve size of DN 125.
- The outdoor air and exhaust air tubes must be insulated in such a way that they are sealed against vapour diffusion. This prevents condensate from forming on the outside of the ventilation tubes.
- If – when installing the exhaust air tube – it is not possible to avoid a low point between the exhaust air connector on the unit and the exhaust air outlet, a connection to the condensate drain must be provided at this point. This is because the exhaust air is saturated with steam at cold outdoor temperatures and droplets may be deposited on the inner wall of the tube.
- The exhaust air pipework that runs from the unit connector to the roof terminal must not be straight. Otherwise, any ice that forms could drop onto the blades of the exhaust air fan when it thaws, causing damage to the blades.

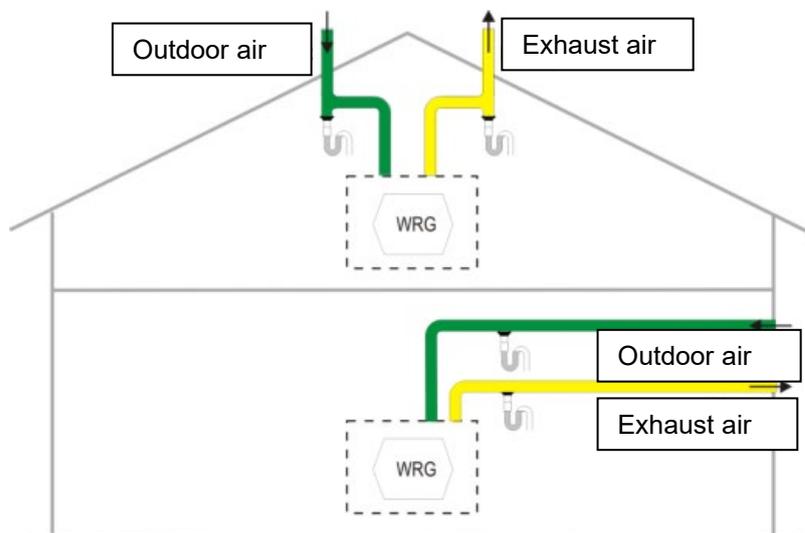


Fig. 20: Drainage arrangement for outdoor and exhaust air tubes

- If an attenuator is fitted at the exhaust air connector, it must be routed upwards with a bend to prevent it being drenched by condensate running back from the exhaust air tube.
- If the exhaust air is routed above the roof, a double-walled or insulated roof passage must be installed. This prevents condensate from forming between the roof boards.
- For the supply and extract air ducts, we recommend using thermal and vapour-tight insulation to prevent unnecessary temperature losses in both the summer and winter.

#### 5.2.4 Connecting the condensate drain hose

In the heat exchanger, the warm extract air is cooled by the outdoor air. This causes the moisture in the room air to condense inside the heat exchanger. The condensate that forms in the heat exchanger is routed to the sink valve. The sink valve screw connection **A** has a 1¼" male thread for the siphon. This is located on the bottom of the FOCUS unit, with the exact position varying according to the unit version and design.



Fig. 21: Sink valve screw connection on unit version LEFT

A siphon must be attached to the screw connection so that the upper edge of the surge tank is at least 60 mm below the screw connection and the minimum liquid level is 60 mm.

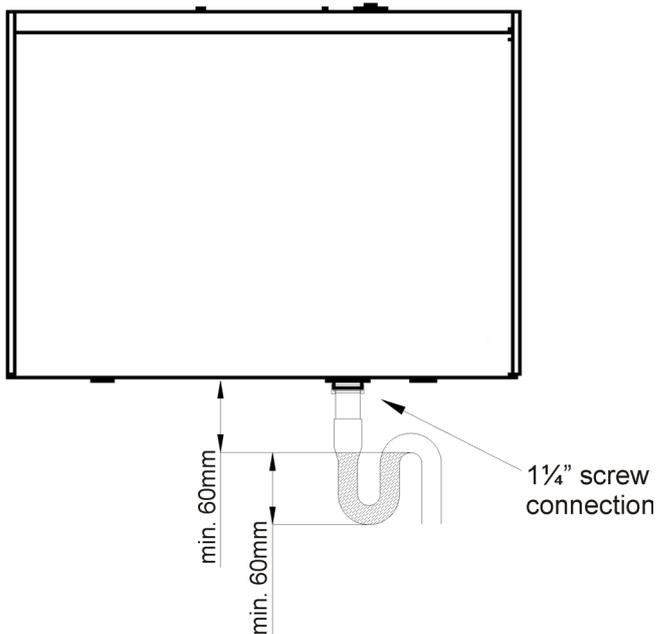


Fig. 22: Condensate drain (version LEFT)



**The siphon must not be connected directly to the sewer tunnel network (e.g. whereby the condensate flows freely into a funnel with a siphon connected to the sewer line)**

**Siphons can dry out! The siphon must always be topped up with water when:**

- The unit is commissioned
- The siphon starts making (slurping/gurgling) noises



**We generally recommend using a dry siphon!** (No functional restrictions if it dries out, no need for a 2nd siphon)

### 5.3 Electrical connections



Electrical connections are to be implemented in accordance with the standards specific to the relevant country and by qualified personnel only!

The FOCUS unit must be electrically connected to the mains power supply via the mains unit lead with a CEE 7/4 plug. This is to be plugged into a 230 VAC CEE 7/4 socket. The control panel is connected to the ventilation unit with a 4-wire cable using the flat connector **C**. The cable for an optional connected pre-heater is connected directly to the

control board **A**. To do this, loosen the 4 screws **B** in the cover plate and connect the wires of the cable to the relevant clamping points on the control board. This cable must be fed through an M16 cable gland and secured, which is done by breaking out one of the pre-punched cable guides **D**

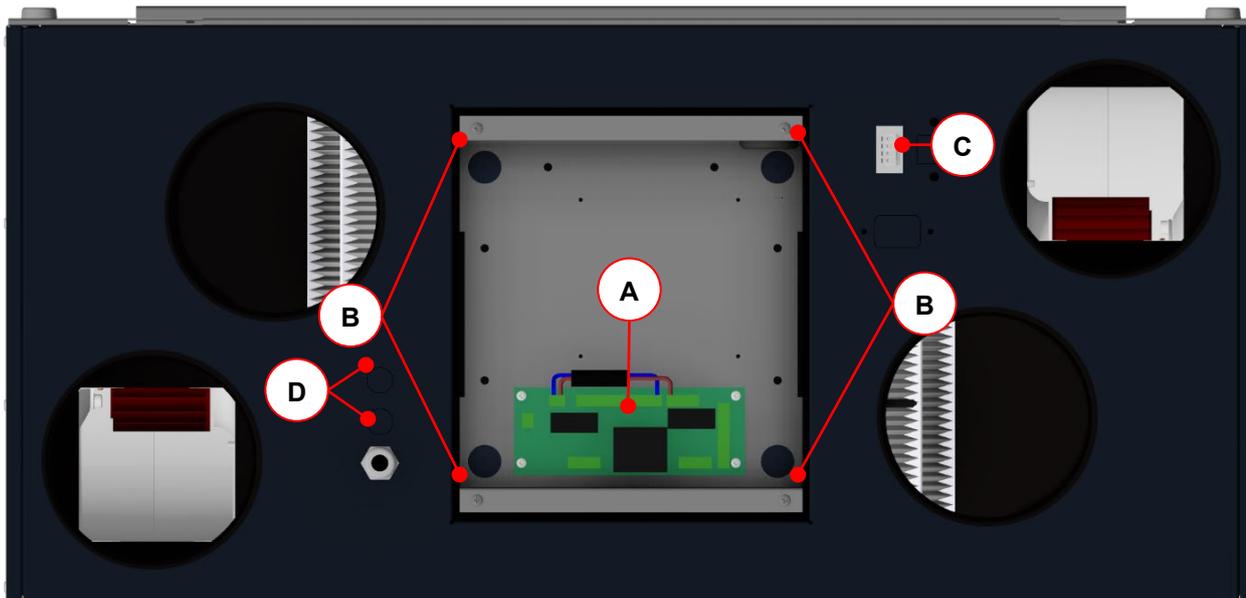


Fig. 23: Casing side of electrical connections without control sheet cover plate

Item	Description
<b>A</b>	Control board
<b>B</b>	Control cover plate screws (4x)
<b>C</b>	Flat connector socket for control panel connecting cable
<b>D</b>	Pre-punched cable guides (2x) for M16 cable gland
<b>5.7.4</b>	FOCUS 200 Base terminal scheme

Table 4: Overview of the electrical connections

### 5.3.1 Connecting the control panel

#### 5.3.1.1 Connecting the connecting cable to the flat connector plug

As shown in Fig. 24, a J-Y(St)Y 2x2x0.6 cable is recommended as the connecting cable between the control panel and the FOCUS unit. The maximum permitted cable length is 25 m.

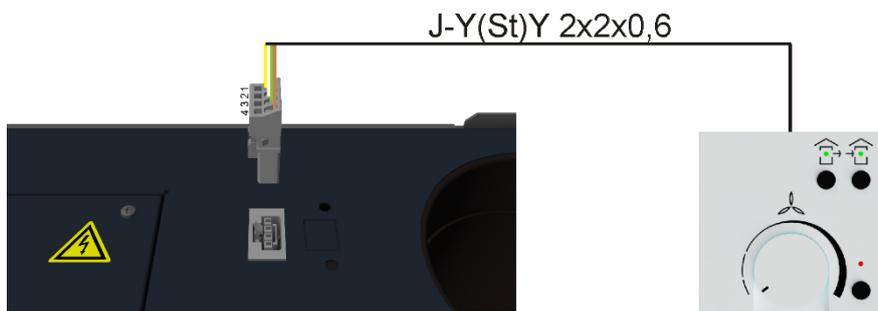


Fig. 24: Connecting cable with flat connector plug

The four wires are to be connected to the spring-type terminals of the flat connector as shown in Table 5.

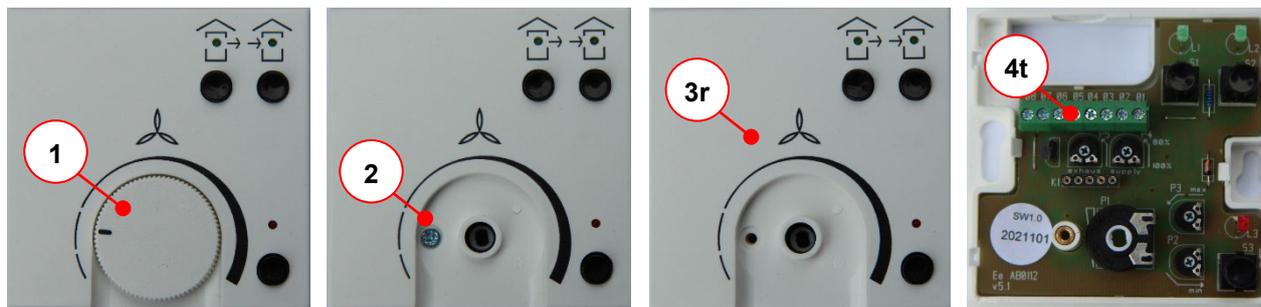
Flat connector connecting cable wire	Signal
1	+12 V
2	U <sub>s</sub> (supply fan control voltage)
3	U <sub>s</sub> (extract air fan control voltage)
4	GND

Table 5: Flat connector wire assignment

#### 5.3.1.2 Connecting the connecting cable to the control panel

The external control panel is installed in a standardised  $\varnothing$  60 mm switchbox for in-wall installation. The wires of the connecting cable are to be connected to the relevant connection terminal of the control panel according to the flat connector wire assignment, as shown in Table 6.

To open the control panel, proceed as follows:



1. Remove the rotary knob
2. Fully unscrew and remove the fixing screw
3. Remove top section of the control panel
4. Access the control panel connecting terminal

Control panel connecting terminal	Flat connector wire	Signal
X.01	1	+12 V
X.02	2	U <sub>s</sub> (supply fan control voltage)
X.03	3	U <sub>s</sub> (extract air fan control voltage)
X.04	4	GND
X.05	./.	Analogue input 0–10 V
X.06	./.	Analogue input GND
X.07	./.	Input for external boost ventilation key
X.08	./.	GND input for external boost ventilation key

Table 6: Control panel connecting terminal assignment

### 5.3.2 Connecting external boost ventilation keys

Boost ventilation mode can be activated by operating one or more boost ventilation keys (connected in parallel). The keys that are usually installed as part of the switch range design are triggered when the boost ventilation mode is selected. To establish the potential-free connection between the key and control panel connecting terminal, use a 2-core cable as a minimum (recommended cable type: J-Y(ST)Y 2x2x0,6).

Control panel connecting terminal	Wire of boost ventilation key cable
X.07	Wire 1
X.08	Wire 2 (GND)

Table 7: Terminal assignment of boost ventilation key connection

### 5.3.3 Connecting external sensors

A sensor-controlled automatic mode is supported. This is controlled by an analogue 0–10 V sensor signal generated by one or more sensors. To establish the connection between the sensor module and control panel connecting terminal, use the type of cable stipulated for transmitting the sensor signal.

Control panel connecting terminal	Sensor module cable wire
X.05	Wire 1 (0–10 V sensor signal)
X.06	Wire 2 (GND)

Table 8: Terminal assignment of analogue sensor signal connection

### 5.3.4 Connecting an external pre-heater

If there is an optional electric pre-heater, this must be connected to terminals X2/X4b of the control board. Feed the pre-heater power cable through a cable guide and fix it in place using a cable gland for strain relief.



**The optional electric pre-heater must take the form of the Iso defroster heater DN 125 (Zehnder art. no. 527003450) with a thermal output of 700 W!**

X2 / X4b terminal on control board	Wire of pre-heater cable
X2.33– PE	PE
X4b.44 – N	N
X4b.45 – Lvo	L

Table 9: Terminal assignment control board for connecting a pre-heating register

## 5.4 Commissioning

### 5.4.1 Readiness for operation



The unit is ready for operation once all the requirements of the safety regulations and installation conditions have been met. In particular, this means ensuring that the ventilation tube material is clean and that all the ventilation technology components required to operate the system are present, properly installed and ready for operation.



Check all the safety-related components and carry out a function test.

### 5.4.2 Adjusting the air volume flow

Once you have checked that the FOCUS unit is ready for operation, you can commission it as described below. Diagram 1 shows the scale for the available air volume flow in relation to the rotary knob positioning. As per the system design rules, the nominal ventilation must equal the total outdoor air volume flow. This nominal air volume flow must correspond to a rotary knob position according to the illustration of the control unit.

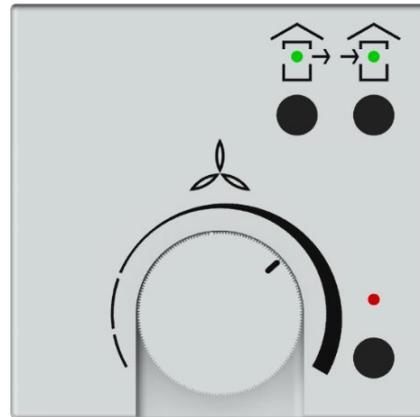
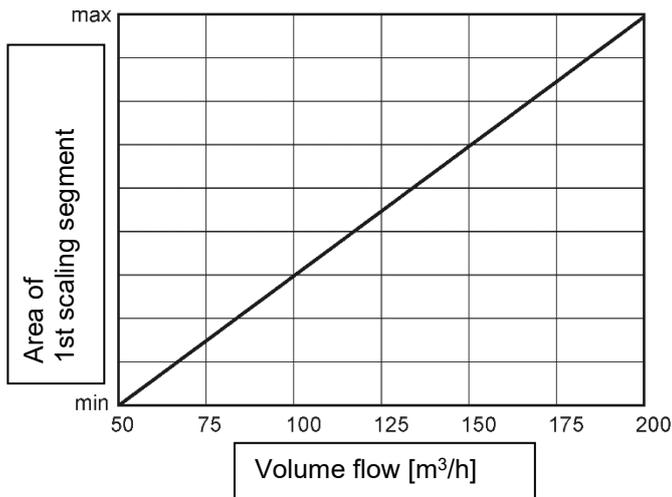


Fig. 25: Diagram 1, fan speeds parametrisation

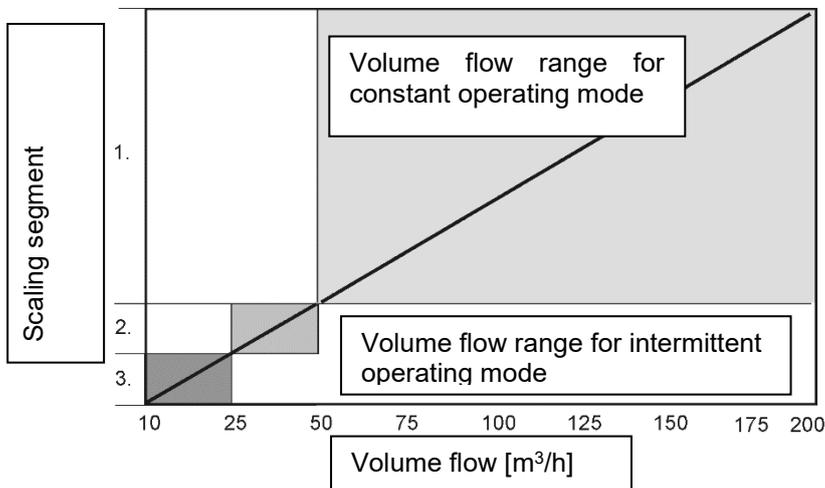


Fig. 26: Diagram 2, assignment of volume flow ranges

### 5.4.3 Adjusting the valves



**At the start of volume flow measurement, make sure that the supply air and extract air valves are open as wide as possible.**

- Set the fans to the nominal air volume flow
- Adjust the valve orifices, throttle valves or throttle foam inserts
- Measure the volume flows at the outlets using a volume flow hood and flow meter (see air volume protocol)
- Readjust the valves
- Lock the valves, shutters and throttles in their adjusted positions
- Record the set air volumes and all other settings in the documentation intended for this purpose

## 5.5 Service and maintenance



If regular maintenance work is not carried out on the FOCUS unit, this will affect the functionality of the comfort ventilation.

Maintenance and repair by qualified personnel should be carried out by a maintenance service team on the basis of a maintenance contract. Maintenance and repair measures of the FOCUS unit includes inspecting and cleaning the fans and heat exchanger. The heat exchanger should be cleaned based on how dirty it gets but the maintenance interval must not exceed two years.



Use checklist B to document the maintenance work completed.

### 5.5.1 Inspection and cleaning of the heat exchanger

In doing so, proceed as follows:

1. Disconnect the FOCUS unit from the mains power supply.
2. Press the two snap fasteners **A** on the bottom of the unit.

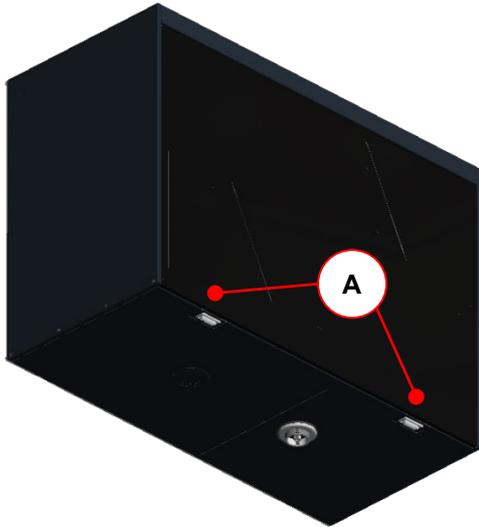


Fig. 27: Pressing the snap fasteners

3. Remove the front panel **B** gradually as indicated by the arrows. To do this, open the front panel at an angle of no more than 15° and unhook it from the lock seam of the housing.

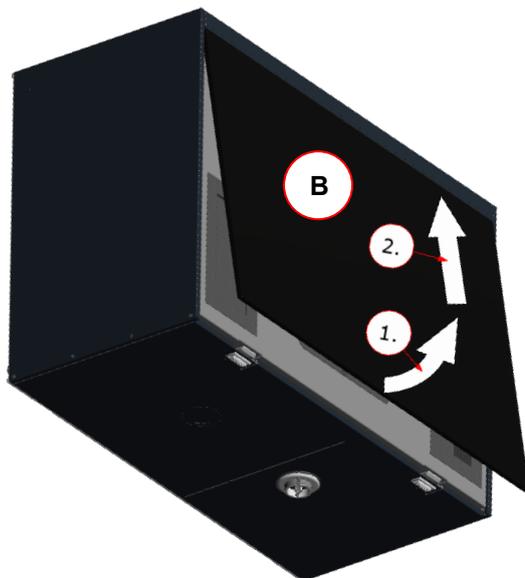


Fig. 28: Opening the front panel

4. Use strap **C** to pull the EPP foam cover **D** for the filters and heat exchanger out of the EPP housing. To do this, grip the strap at one end and pull while using your other hand to support the unit.

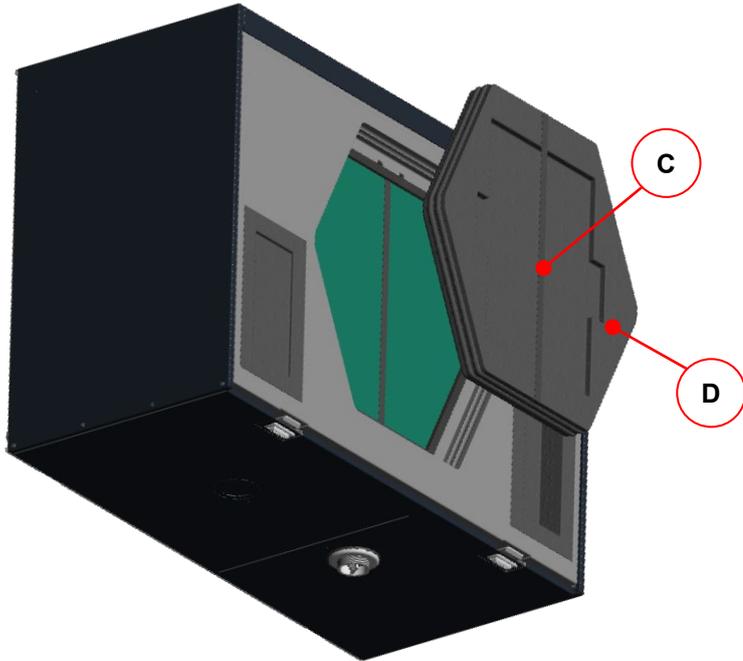


Fig. 29: Pulling out the EPP foam cover

5. Holding them by the strap, pull the filters **E** out of the filter compartments.

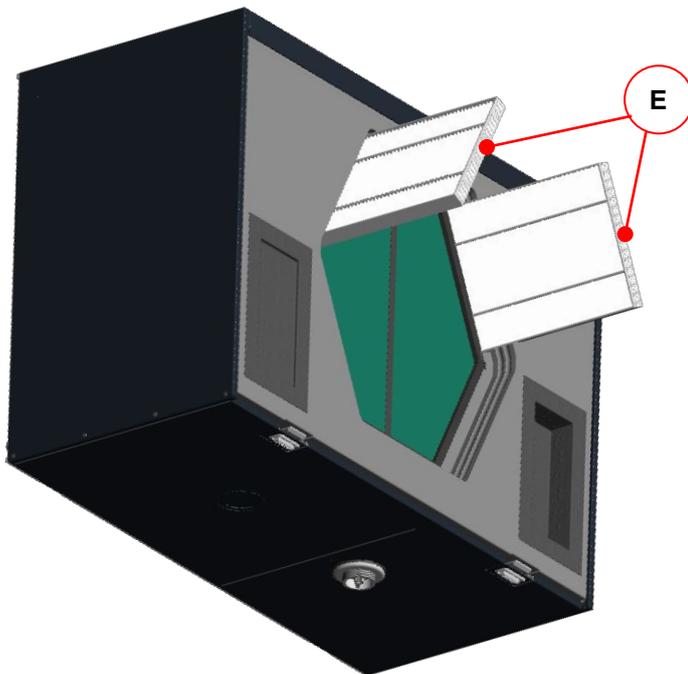


Fig. 30: Pulling out the filters

6. Holding it by the strap **F**, pull the heat exchanger **G** out of the EPP housing.

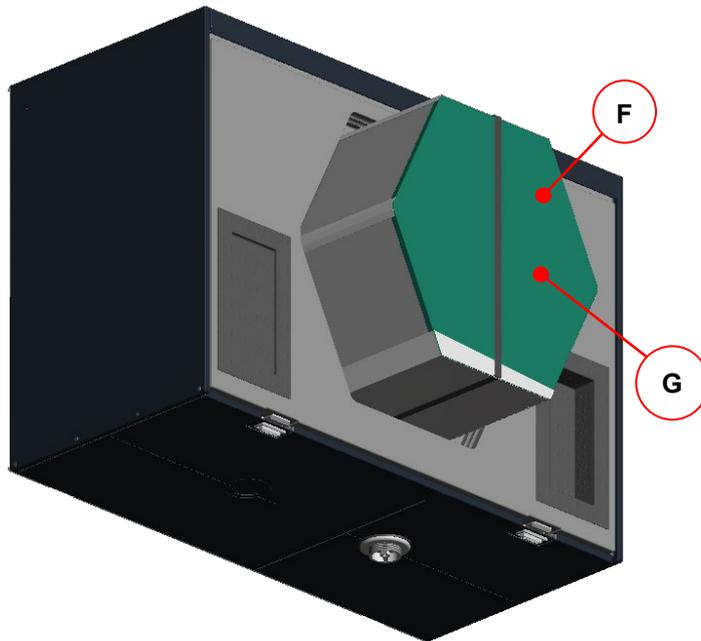


Fig. 31: Removing the heat exchanger

7. Clean the heat exchanger. In doing so, proceed as follows:

- Dip the heat exchanger several times in warm water (max. 40 °C).
- Then rinse off the heat exchanger thoroughly with warm tap water (max. 40 °C).



**Do not use aggressive or dissolving cleaning agents!**

- In order to dry it, position the heat exchanger such that residual water can run out of the openings.
- Leave the heat exchanger to dry fully before reinstalling it.



**Instructions for proper disinfection can be found at [www.core.life](http://www.core.life).**

8. Install the heat exchanger.



**Take care when installing the heat exchanger!**

On the bottom side of the heat exchanger there is a condensate tray with two recesses **H**. When inserting the heat exchanger into the unit make sure that the two recesses of the condensate tray face the condensate drain **I**!

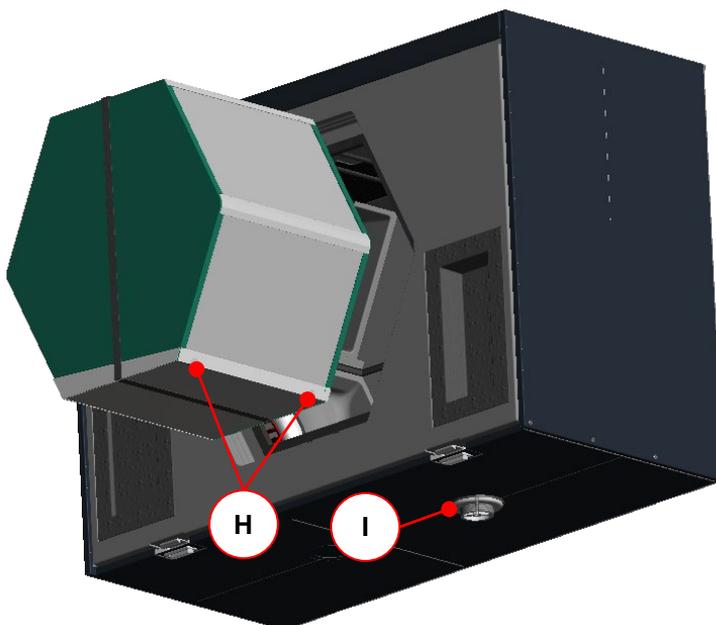


Fig. 32: Position of condensate tray when sliding in the heat exchanger

9. Following the inspection, install all parts in the reverse order.
10. Reconnect the unit to the mains.

### 5.5.2 Swapping the heat exchanger for the summer box



The summer box is not capable of transferring heat or moisture. Instead, this module can be used to replace the heat exchanger for summer ventilation while maintaining a supply air and extract air mode!

In doing so, proceed as follows:

1. Perform work steps 1 to 6 as described in 5.5.1.
2. Insert the summer box module and perform work steps 9 to 10 as described in 5.5.1.

## 5.6 Display of working conditions on the control board

The control board is equipped with three LEDs for signalling working conditions. The following working conditions are shown based on the LED display in Table 10:

LED	Signal	Condition / Cause
LED 1	Lights up	Unit ready for operation / operating voltage present
LED 2	Lights up dimly	Normal operating mode
	Blinking	Temperature too low downstream of pre-heater; fans to be switched off
	Blinks 2x per second	Temperature downstream of pre-heater < 1K below limit value
	Blinks 3x per second	Temperature downstream of pre-heater < 2K below limit value
	Blinks 4x per second	Temperature downstream of pre-heater < 3K below limit value
LED 3	Lights up	Pre-heater heating up

Table 10: Overview of how working conditions are displayed

## 5.7 Technical description

### 5.7.1 Air connection design versions

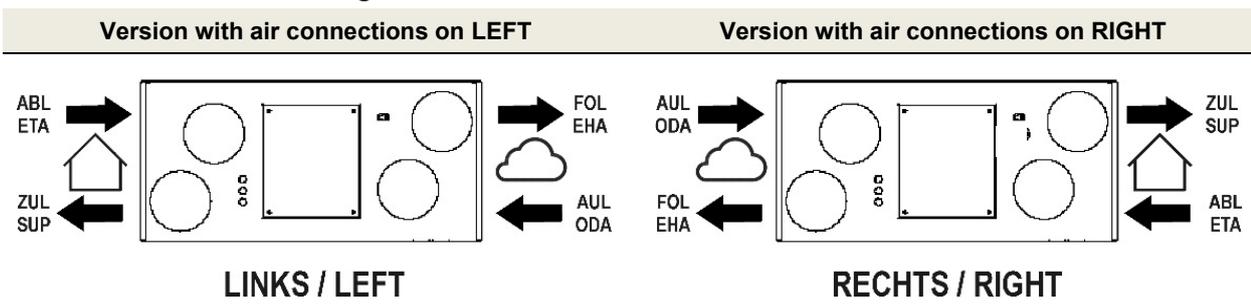


Table 11: Overview of air connection design versions

### 5.7.2 Technical specification

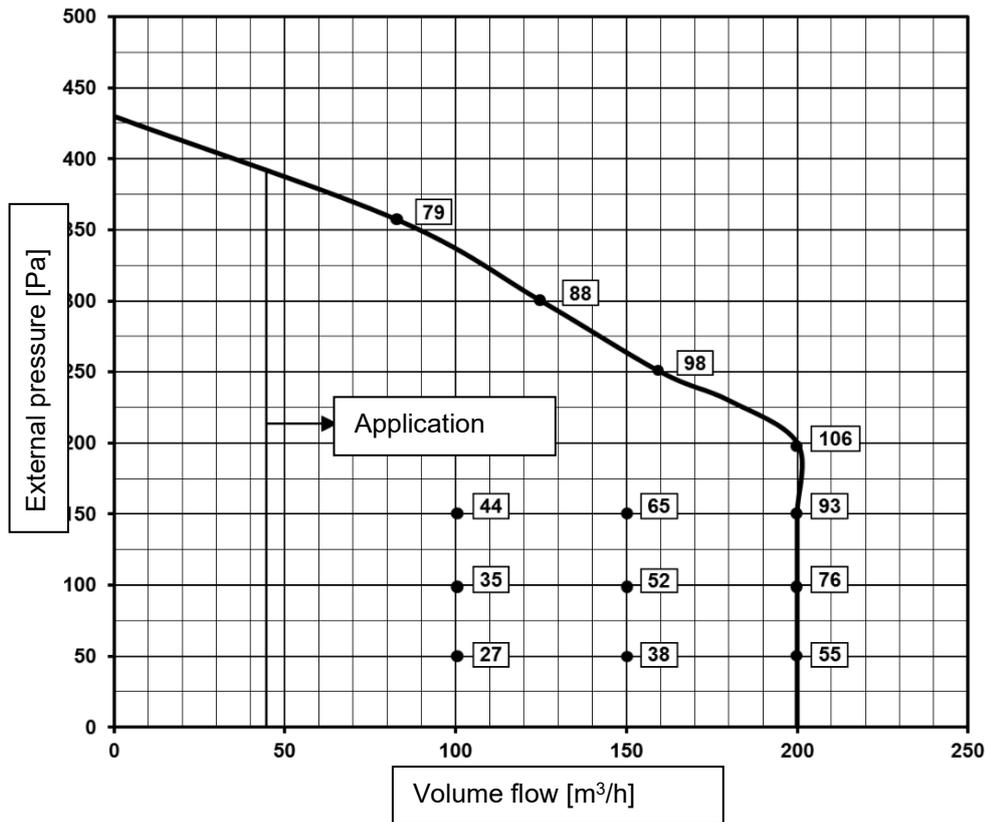
General specifications	Description / Value
Heat exchanger type	Cross-counterflow heat exchanger made from plastic
Housing / Interior lining	Galvanised sheet steel, powder-coated, free of thermal bridges; interior lining is made of expanded polypropylene (EPP) to provide thermal and sound insulation
Pipe connections	DN 125 (sleeve size)
Weight	25 kg
Electrical connection	230 VAC, 50-60 Hz; 2 m mains cable with CEE 7/4 plug
Connection power	140 W / 840 W (without/with Iso defroster heater DN 125)
Protection class	I
Degree of protection	IP 30
Temperature range for transport and storage	-20 to 50 °C
Temperature range for moving air	-20 to 50 °C
Temperature range at the mounting location	Permanently frost-free
Mounting position	Horizontal wall mounting or on a floor stand (optional)

Table 12: General specifications

Operation data	Value
Volume flow	45 to 200 m <sup>3</sup> /h
Efficiency criterion	0.31 Wh/m <sup>3</sup> (at 135 m <sup>3</sup> /h / 100 Pa)
Waste heat recovery according to PHI	91% (at 135 m <sup>3</sup> /h / 100 Pa); FOCUS 200
Sound pressure level, distance of 3 m (unit emission according to DIN EN ISO 3743-1)	30 dB(A) (at 155 m <sup>3</sup> /h / 100 Pa) 24 dB(A) (at 200 m <sup>3</sup> /h / 100 Pa)

Table 13: Operation data

### $p\dot{V}$ characteristic curve



**Note:**

The numerical values shown in the  $p\dot{V}$  characteristic curve diagram indicate the power consumption in [W] for the respective operating points.

Table 14: Diagram 3,  $p\dot{V}$  characteristic curve

### 5.7.3 Dimensions

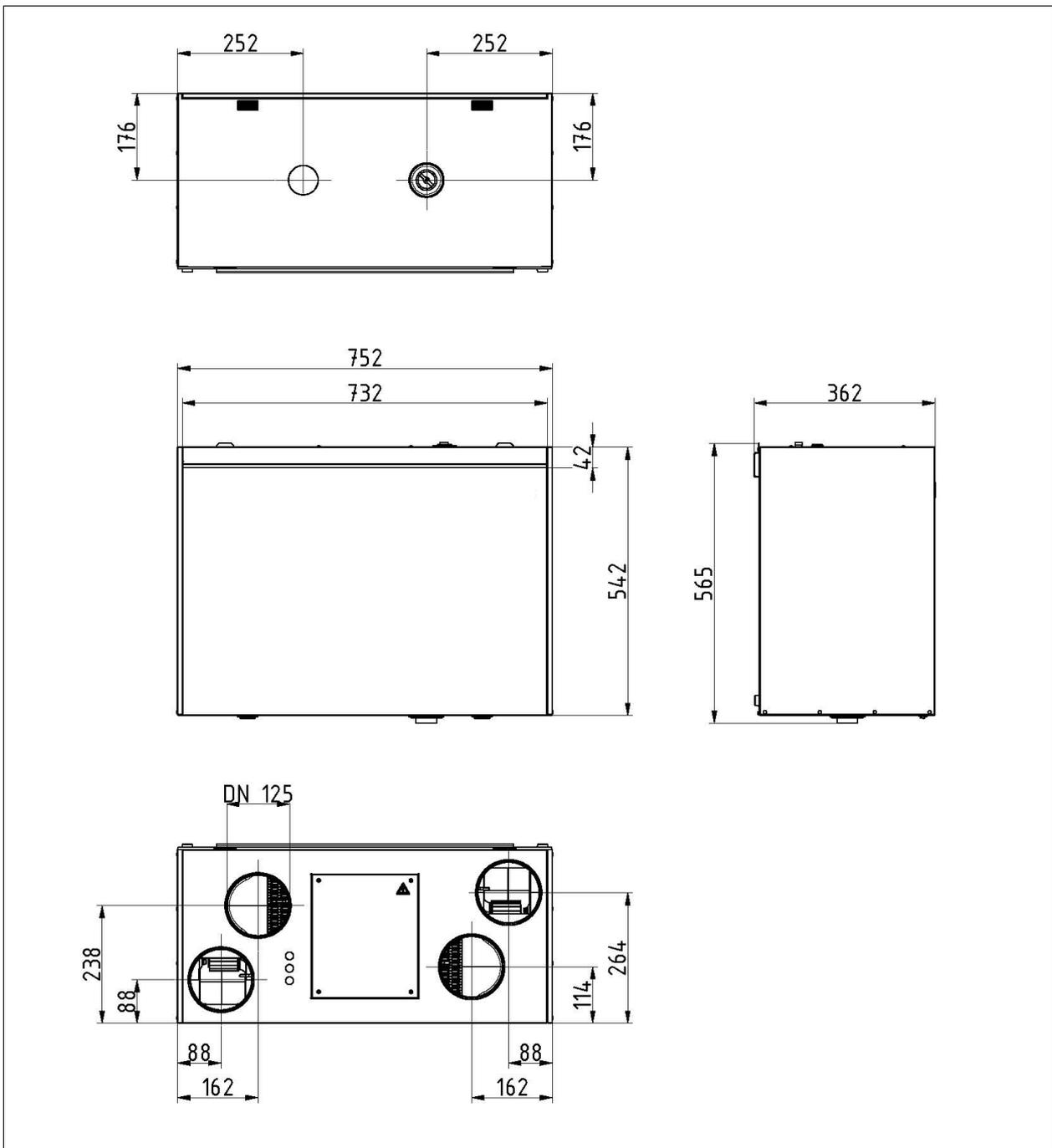


Fig. 33: Dimensional drawing



## 6 Appendices

### 6.1 Checklist A Maintenance work for users

Maintenance work		Enter date in quarter			
1st Replace both filters in the HR unit (filter replacement cycle 90 days)					
Year \ Quarter	I	II	III	IV	
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
2nd Extract air supplementary filter / clean the filters in extract air valves (filter replacement cycle approx. 2 months)					
Year \ Quarter	I	II	III	IV	
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
3rd Replace other filters in the ventilation tube system					
Year \ Quarter	I	II	III	IV	
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					
20...					

## 6.2 Checklist B Maintenance work for qualified personnel

Maintenance work			enter result					
<ul style="list-style-type: none"> <li>- The listed maintenance work must be carried out in accordance with the components actually present.</li> <li>- Comments on status using informal protocol</li> <li>- Further annual tranches on separate sheet</li> </ul>								
No.	Components	Annually	Result	20...	20...	20...	20...	20...
1	Fan / ventilation unit	Cleaning of components carried out? - Fan - Enthalpy exchanger - Air-contacting surfaces on unit	yes / no					
		Frost protection / dew device operational?	yes / no					
		Structure-borne sound transmission, are fasteners avoided?	yes / no					
		Are status displays operational?	yes / no					
2	Electrical engineering / control	Cable connections and clamping assemblies secure?	yes / no					
		Are the regulating and control units functional?	yes / no					
3	Ventilation tube / heat insulation	Has cleaning (if necessary) been carried out? Testing OK? For cleaning when needed, see VDI 6022	yes / no					
		Heat insulation and moisture barrier OK?	yes / no					
		Are flexible connections between the unit and ventilation tube functional?	yes / no					
4	Fan, ventilation unit, filter, filter status	Stipulated filter class adhered to?	yes / no					
5	Fan / ventilation unit and fireplace if available	Safety feature with fireplace operational?	yes / no					
6	Extract air / supply air passage	Seat and locking provided?	yes / no					
		Stipulated filter class adhered to?	yes / no					
		Filter, filter status OK?	yes / no					
		Air volumes acc. to protocol OK?	yes / no					
7	Overflow air vents	Open cross section provided?	yes / no					
		No structure-borne and airborne sound transmission?	yes / no					

### 6.3 Commissioning and handover protocol

Customer data		
Family name:	First name:	Tel.:
Street:	Postcode:	Town/city:
Construction project:		
Unit type:	Serial no.:	Year of construction:

Completeness			
No.	Components	Version	Result
1	Supply air duct	- Design as planned - Cleaning option provided	yes / no yes / no
2	Supply air vents	- Arrangement as planned - Design as planned - Cleaning option provided	yes / no yes / no yes / no
3	Overflow air vents	- Arrangement as planned - Design as planned	yes / no yes / no
4	Extract air vents	- Arrangement as planned - Design as planned - Cleaning option provided	yes / no yes / no yes / no
5	Extract air duct	- Cleaning option provided	yes / no
6	Extractor fan	- Cleaning option provided	yes / no
7	Control / regulation system	- Operational	yes / no
8	Filter, optional	- Replacement or cleaning option provided	yes / no
9	Heat exchanger for waste heat recovery	- Cleaning option provided	yes / no
10	Documentation	- Available	yes / no

Function			
1	Operational with rated ventilation, as planned	Result OK Action required	yes / no yes / no
2	Switching steps possible, as planned	Result OK Action required	yes / no yes / no
3	Electrical power consumption	Result OK Action required	yes / no yes / no

Record of confirmation	
<p>Date: .....Signature/stamp: .....</p> <p style="text-align: right;">Commissioning personnel / installation technician</p>	



