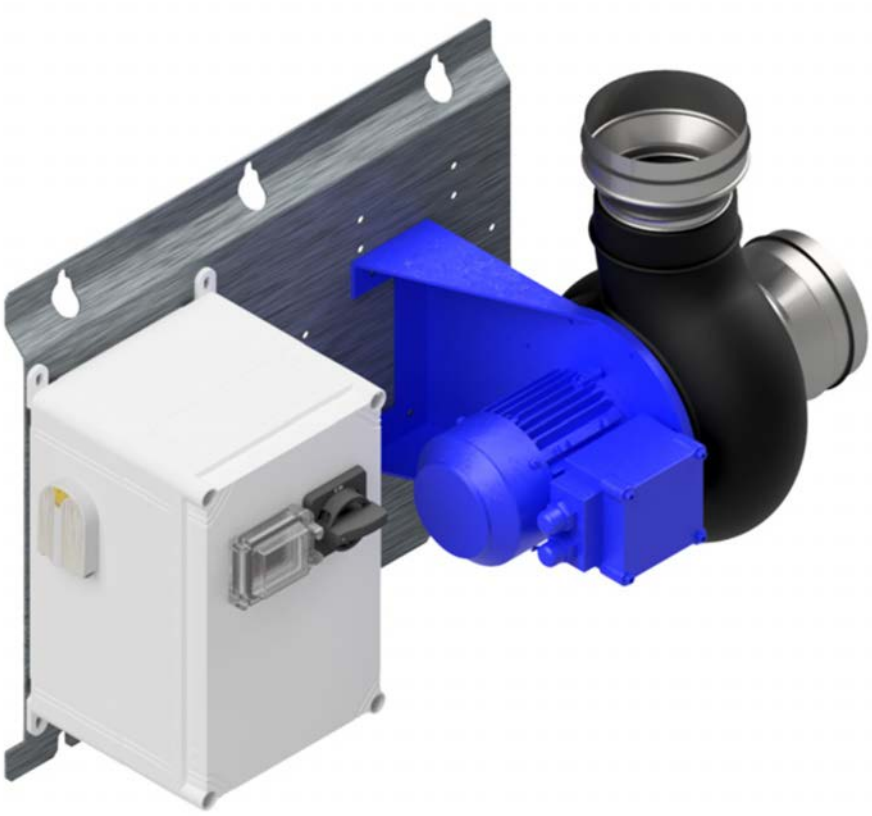
GEBWELL

Installation Manual

Gebwell GebEF Ventilation Air Extractors



WWW.GEBWELL.FI/EN

28.10.2025

Congratulations on an excellent choice!

You have chosen an environmentally friendly heat pump that uses a natural refrigerant. This choice will not only improve the energy efficiency of your property but also help protect the environment. Thank you for your participation in making the world a greener place!

Content

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1 General

1.1 Device information and storage of operating instructions

Keep the user instructions in the immediate vicinity of the device.

Read the instructions carefully before installing, adjusting or servicing the device. Follow the instructions.

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1.2 Standards and regulations

Installation work must comply with the following

- National regulations
- Statutory accident prevention regulations
- Statutory environmental protection regulations
- Specific safety regulations for the professional field

2 Safety

2.1 Safety symbols

This manual contains hazard, warning, caution, and note statements. They inform the user or authorized service representative of potential harm to the product or to persons.

A hazardous situation means a risk of personal injury. Any abnormal use is prohibited, including disregarding the safety information.

Check the safety precautions specific to each work step in the separate section for each work step!

DANGER indicates an immediate hazard that will result in death of serious injury.

CAUTION indicates a potential hazard that could result in minor or moderately serious injury.

WARNING indicates a potential hazard that could result in death or serious injury.

NOTICE indicates a potential situation that could result in property damage or an adverse outcome or condition.

COMMENT indicates information intended to clarify or simplify the procedure.

2.2 Highly flammable refrigerant

The extractor fan is used in Gebwell G- Eco- in the safety circuit of heat pumps. G-Eco heat pumps contain R290 refrigerant, which is classified as a highly flammable, class A3 substance.

When installing, operating and servicing the device, special safety instructions regarding flammable substances must be followed to prevent the risk of ignition and refrigerant leaks. However, thanks to the device's safety mechanisms, the risk of leaks is very limited. This requires that the equipment is installed and used in accordance with the instructions. The Gebwell G – Eco heat pump does not in itself constitute a zone classification for the operating space.

Due to its low flash point, it is particularly important to identify and eliminate potential ignition sources before starting maintenance and installation work. Ignition sources can include open flames, hot surfaces or mechanical sparks, as well as static electricity from clothing, for example. Check and identify ignition sources carefully before starting work.

3 Shipping and Handling

Before unloading the delivery, the recipient must inspect it for any damage. Damage must be recorded in the waybill and reported to the transport company and Gebwell Ltd. Any damage detected after opening the package and hidden defects caused during transport must be reported to the supplier within 10 days.

3.1 Delivery content

- Gebwell GebEF- extractor fan
- Installation instructions
- Extractor fan controller (frequency converter)
- Wall/ceiling mount
- Mounting screws

3.2 Transportation and storage

The fan is factory-packaged to withstand normal handling during transport. Be careful not to subject it to shocks or strong vibrations.

Before installation, store the product in its shipping packaging in a dry and warm place. If stored in cold and humid conditions, the device's electrical components may become damp, which may cause problems with the device's operation.

3.3 Recycling

Return the broken product to the SER waste collection point. For more information about the collection points, please visit www.elker.fi. Appropriate recycling fees have been paid for heat pumps and packaging materials delivered to Finland. You can check the nearest recycling point for packaging materials at https://rinkiin.fi/ .

3.4 Unpacking

1. Carefully remove the protective plastic without scratching the product.
2. Make sure the product is the right type and includes the right accessories.
3. Recycle the packaging material.

4 Design guide

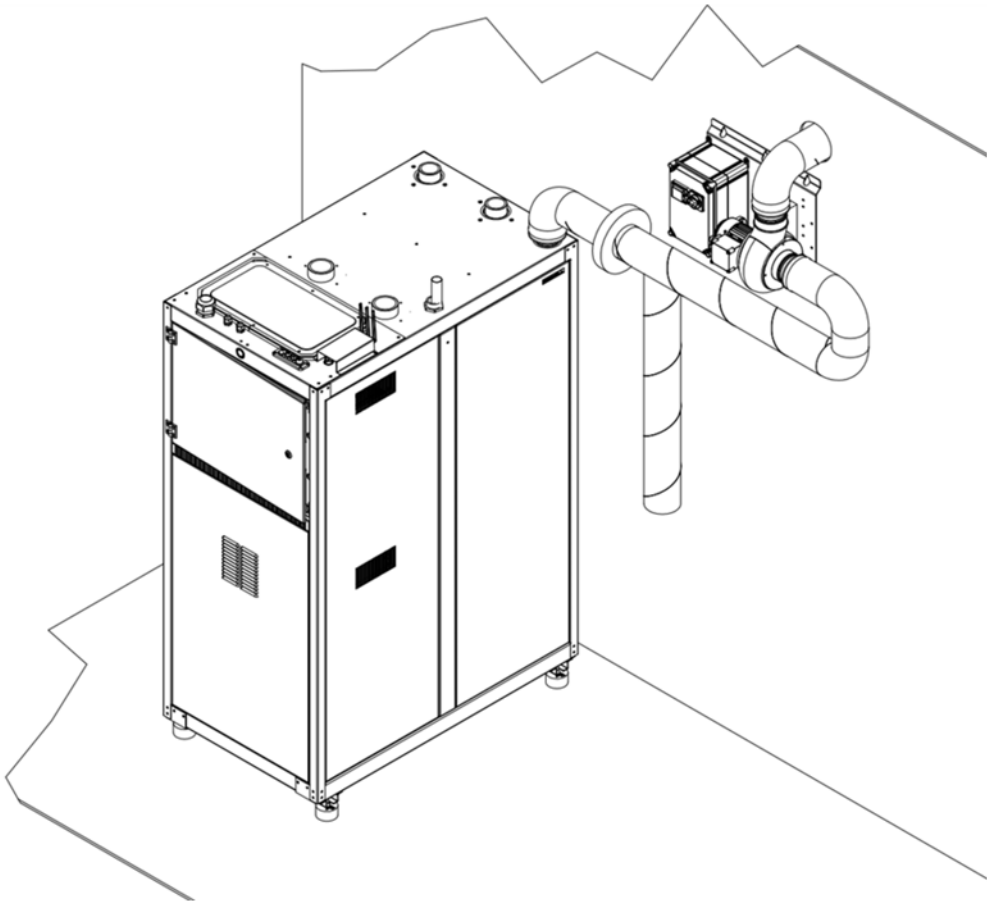
The safe discharge direction from the building must always be planned on a site-specific basis.

Plan the route of the ventilation duct to the outside and the direction of the extraction air before installation.

The extractor fan should be installed indoors as close as possible to the ventilation outlet. If the extraction fan cannot be installed close to the ventilation outlet, the ventilation duct must be airtight on the pressure side of the fan, if it is in a room.

Make sure that there are no:

- Emergency exits
- Exits
- Ignition sources
- Fresh air intakes



Kuva 4.1 Installation example of ventilation air extractor and ductwork

4.1 Performance value graphs

The ventilation duct must be designed on a site-specific basis so that at least the device-specific Q_{min} flow rate is achieved when the extractor fan's SAFETY function is activated. The achievement of the Q_{min} flow rate must be verified by measurement when the device is put into operation.

Measuring connections must be installed in the ventilation duct leaving the device, through which the air volume can be measured.

The air volume is adjusted with the heat pump's correction air damper, not with the control damper installed in the duct. Refer to the installation manual of the specific heat pump for detailed instructions.

After measurements, the measurement/control damper is opened to the open position so that the area flowing through the duct is not restricted.

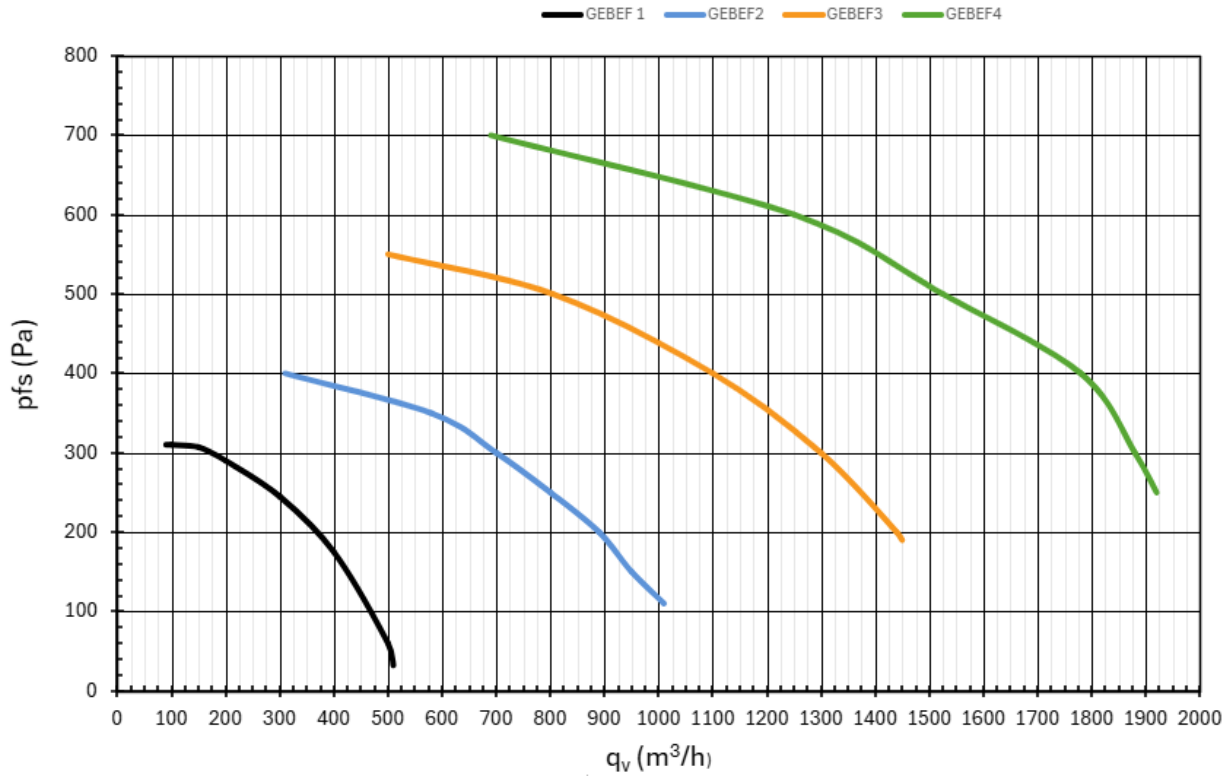


Figure 4.2 Performance value graphs for extractor fans

5 Installing the extractor fan

Things to consider when installing and maintaining

Install the unit in accordance with this installation manual, securely on a load-bearing mounting surface, to prevent the unit from falling and causing property damage or personal injury.

Disconnect the main power supply to the unit before performing any maintenance

For maintenance operations, use only non-sparking tools and clothing, as well as a leak detector suitable for R290 refrigerant.

Never rinse the unit with water.

Do not touch the device or controls with wet hands.

Use only original accessories and components during installation.

5.1 Installation dimensions

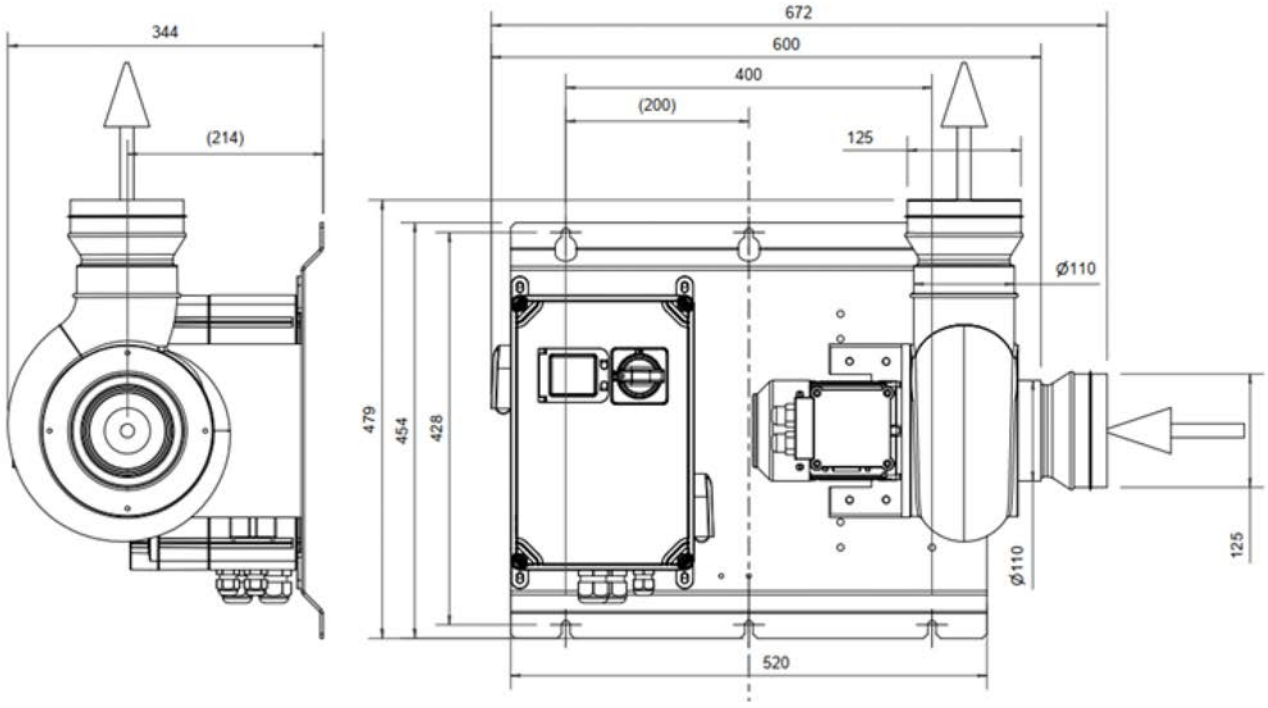


Figure 5.1 GebEF1 installation dimensions

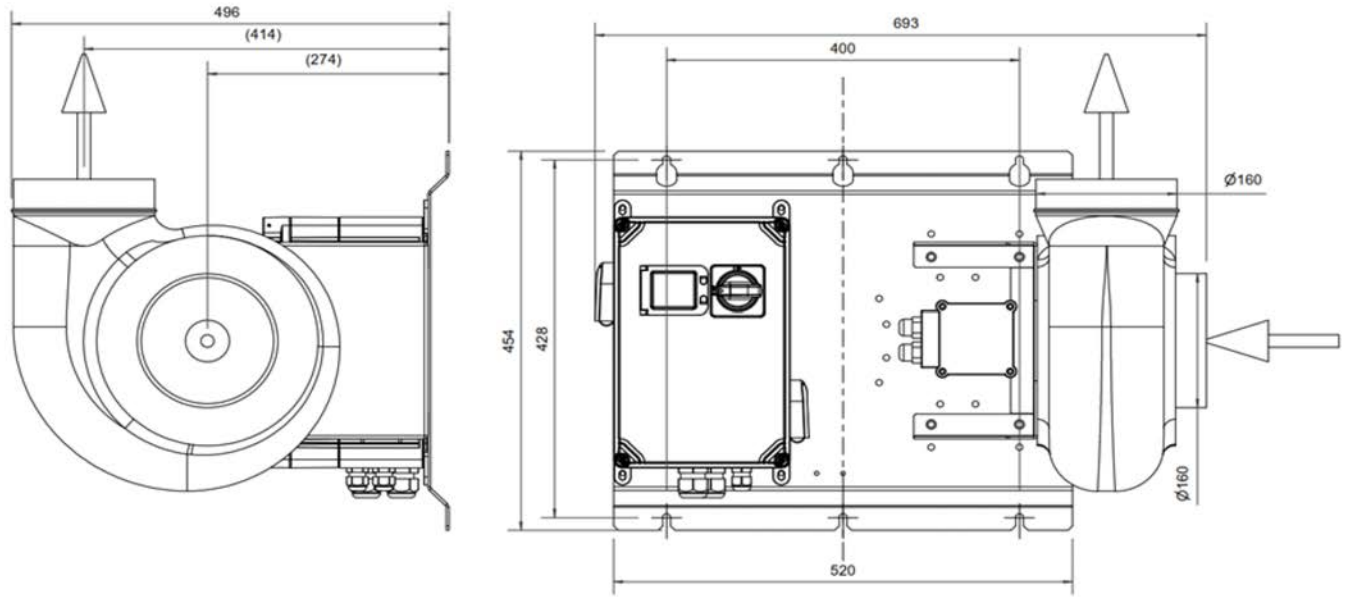


Figure 5.2 GebEF2 installation dimensions

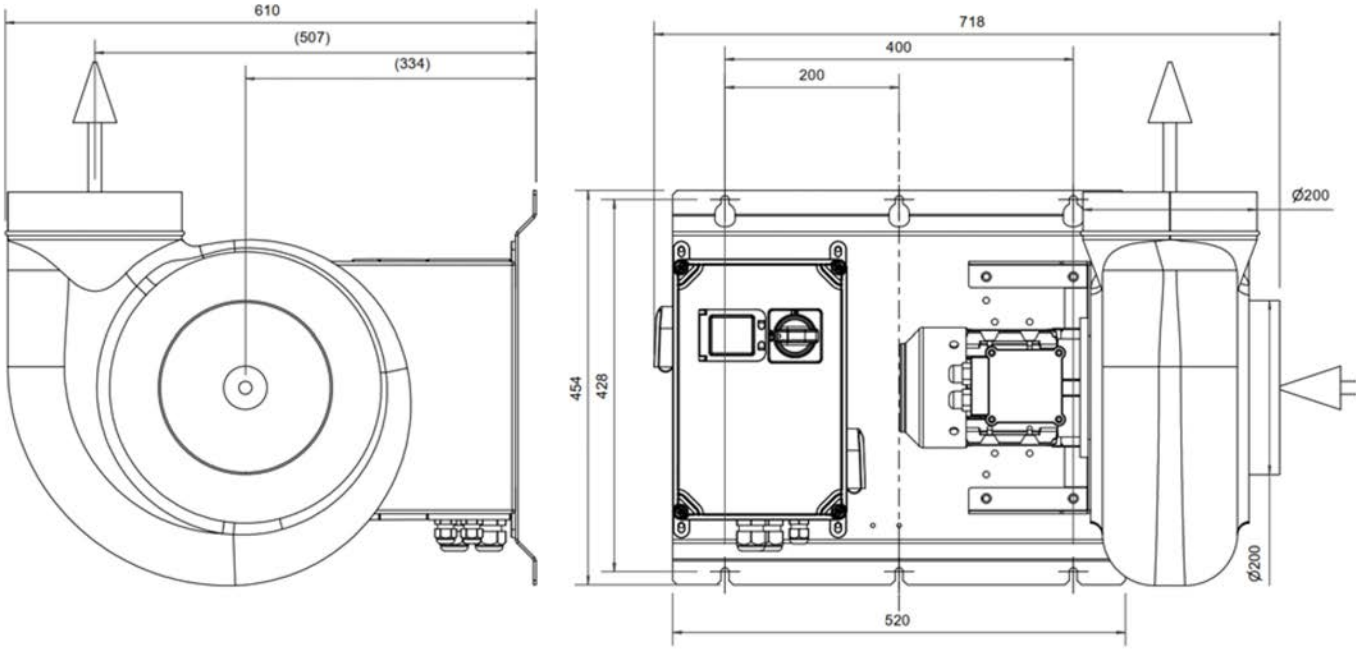


Figure 5.3 GebEF3 & GebEF4 installation dimensions

5.2 Mounting the extractor fan

Securely mount the extractor fan to the wall or ceiling using the screws and anchors provided.

The extractor fan must be installed in such a way that service and maintenance can be carried out safely.

The blower direction of the extractor fan can be turned to the desired position.

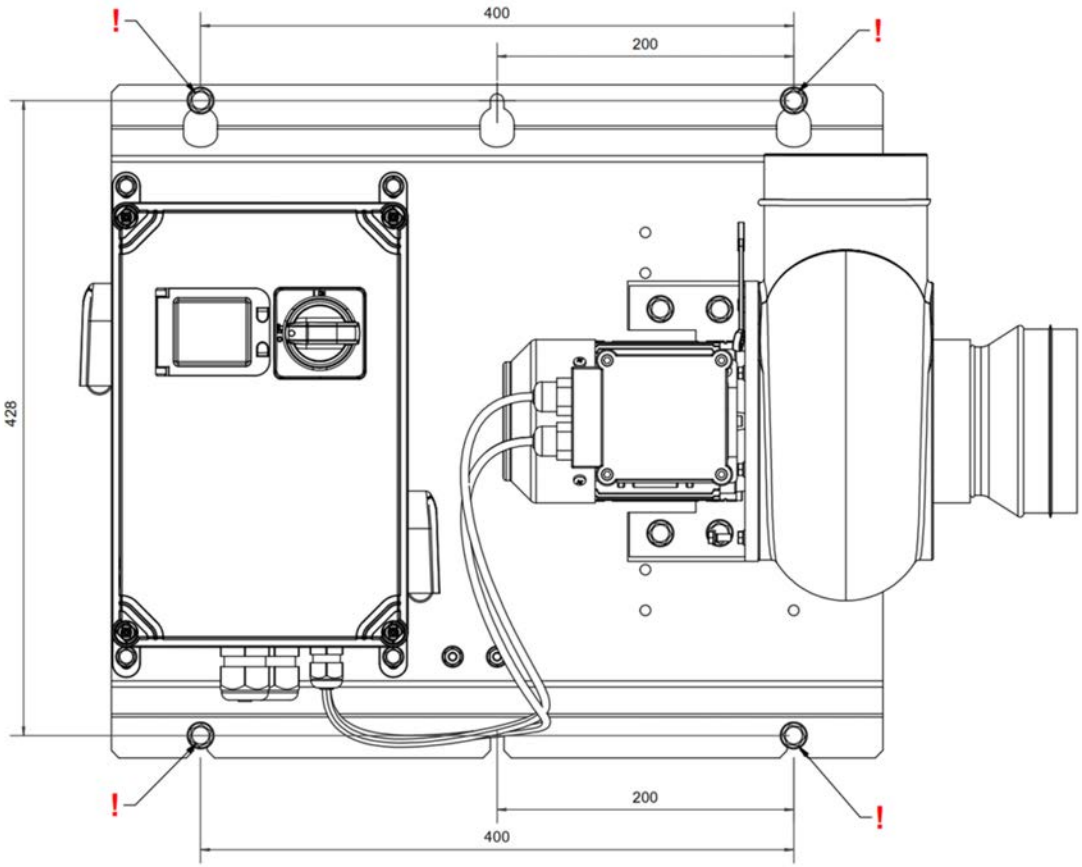


Figure 5.4 Mounting points for extractor fan

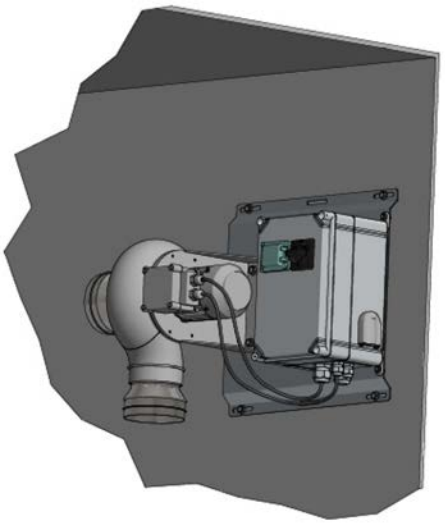


Figure 5.5 Wall mounting

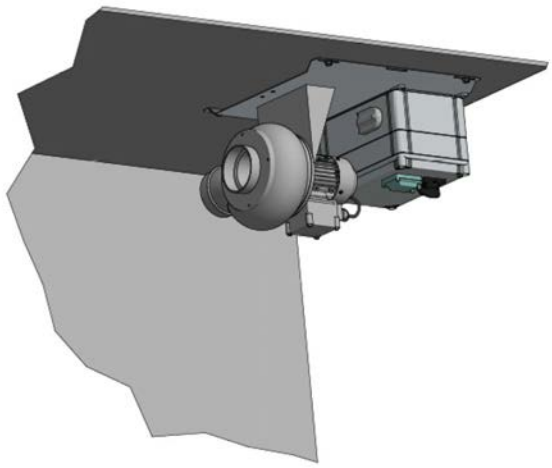


Figure 5.6 Ceiling mounting

5.3 Position reversal

The extractor fan can be turned into different positions to make installation easier. The motor can be turned horizontally or vertically in the mounting plate, and the blowing direction can be turned to a different position. When changing position, carefully tighten the screws back into place. Allowed installation positions in Figure 5.8 and Figure 5.9. Motor must not be installed downwards!

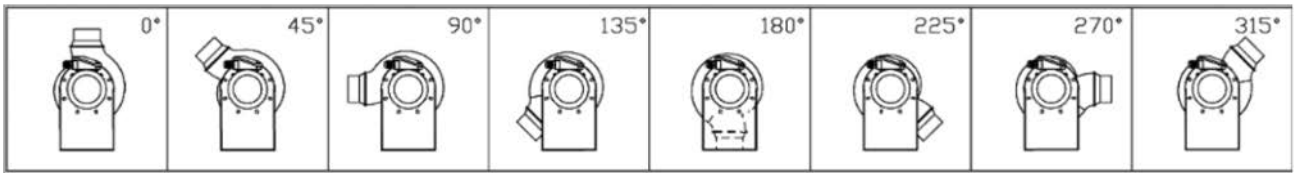


Figure 5.7 Alternative fan position

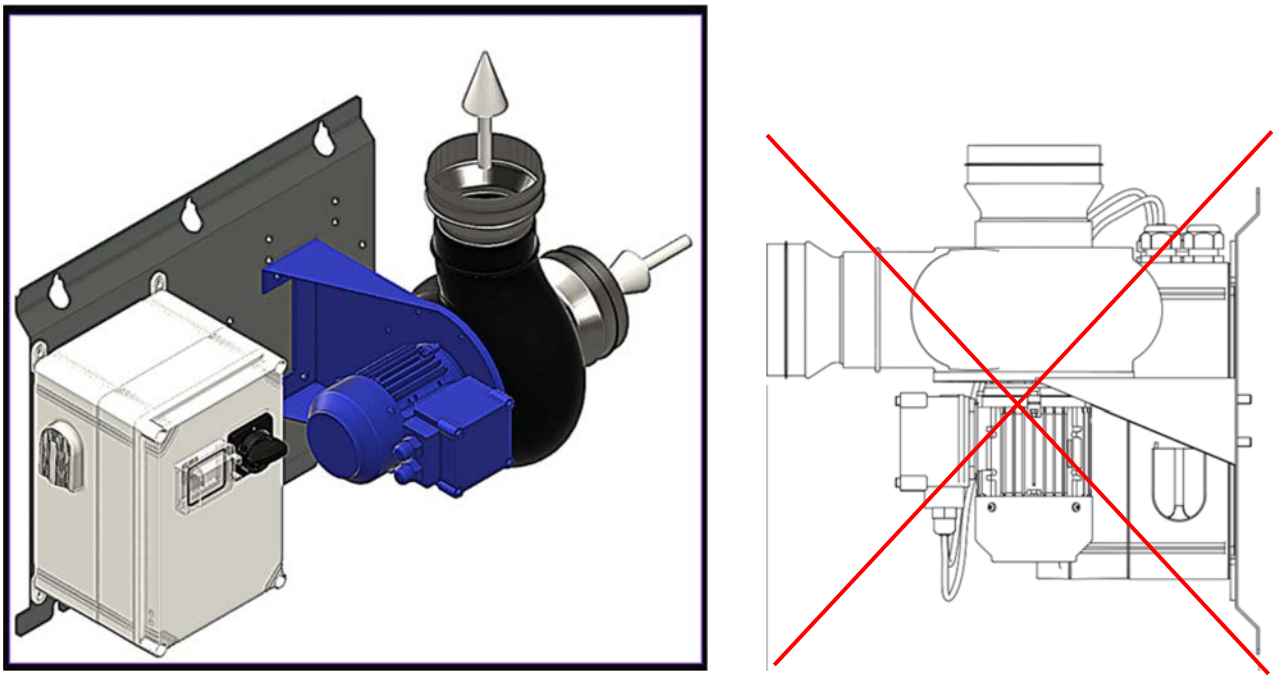


Figure 5.8 Extractor fan in horizontal position GebEF1, GebEF2, GebEF3 & GebEF4

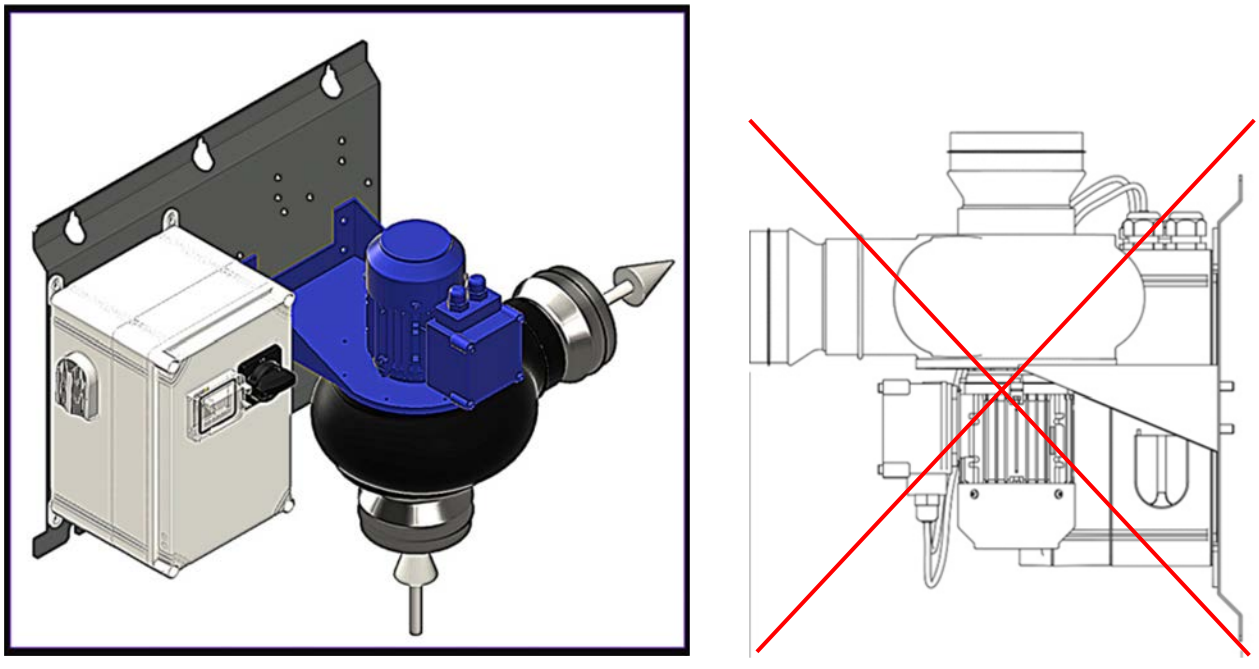


Figure 5.9 Extractor fan in vertical position GebEF 1 & GebEF2

6 Electrical connections

The heat pump's electrical components carry a potentially fatal voltage.

Before opening the protective cover of the control panel or the compressor module, switch off the device using the main switch.

Remove all sources of ignition from the space before starting work.

Only use spark-resistant tools and clothing when working

Electrical installation must be carried out by an authorised electrician and the system must be connected separately.

Never jeopardise safety by bypassing safety devices.

Use only fuses with the correct rating (correct trigger current) in places where a fuse should be used.

Only an authorised electrician may perform connection work.

The device's warranty does not cover faults due to circumstances beyond the warrantor's control, such as excessive voltage fluctuations, thunderstorms, fires or accidents, or servicing, repairs or structural alterations performed by parties other than authorised retailers.

6.1 Connecting the power supply

The **power supply for the extractor fan must be provided from the building's distribution board** to ensure that the safety circuit operates as intended.

1. Remove the junction box cover
2. Bring the power supply cable from the cable gland to the junction box.
3. Ensure strain relief by tightening the cable gland.
4. Connect the power supply cable to the power supply terminals.

Electricity for the extractor fan **comes from the property's distribution panel and regulation/control from the heat pump.** This enables the safety circuit of the heat pump to work as intended when heat pump does not have electricity.

Connect the control to the heat pump's connection box according to the connection instructions.

The extractor fan's control is inverted, meaning that if there is no signal, the extractor fan operates at full power.

Ground all ductwork and extractor fans according to the instructions.

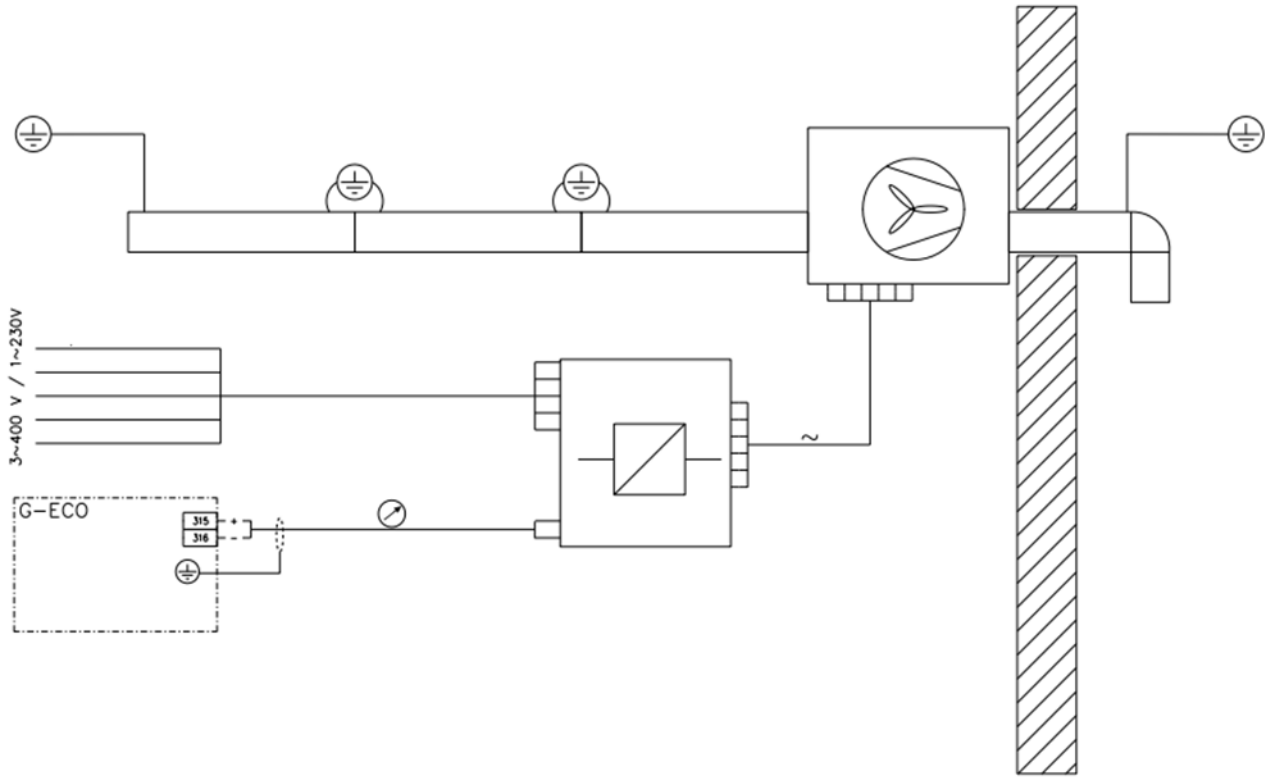


Figure 6.1 Extractor fan/ducting connections

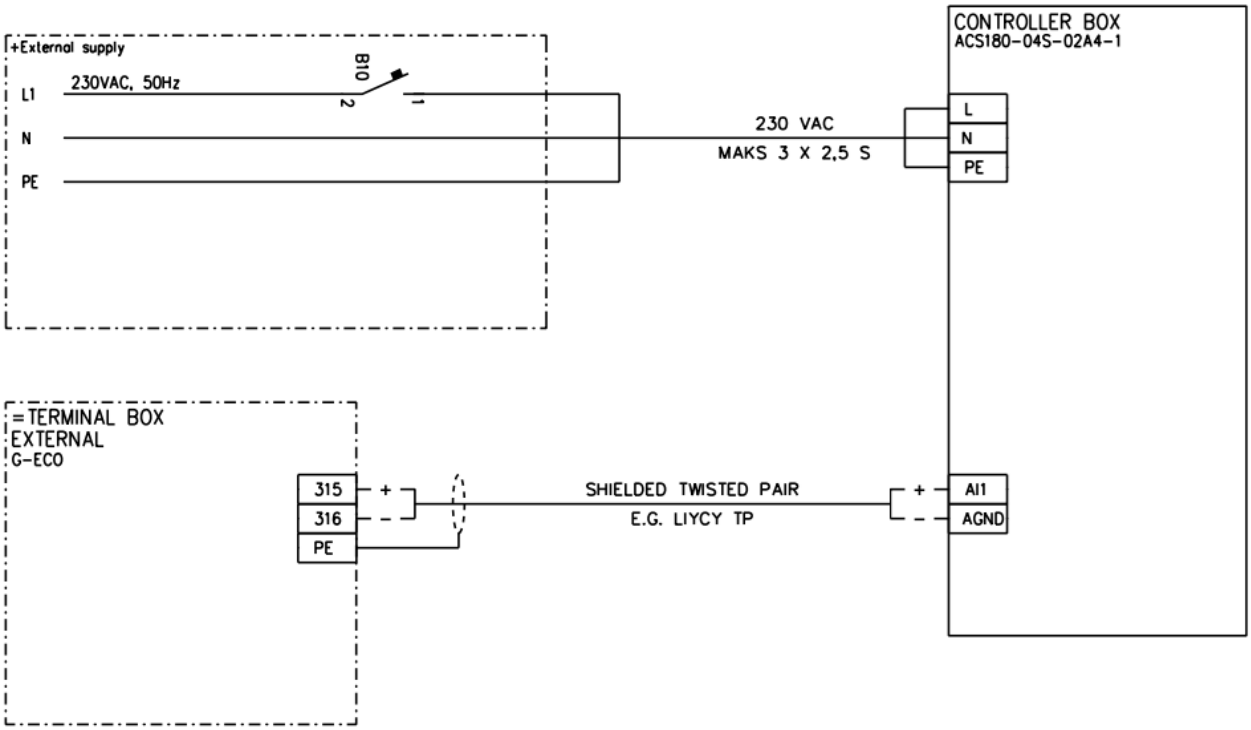


Figure 6.2 Wiring diagram for controller box

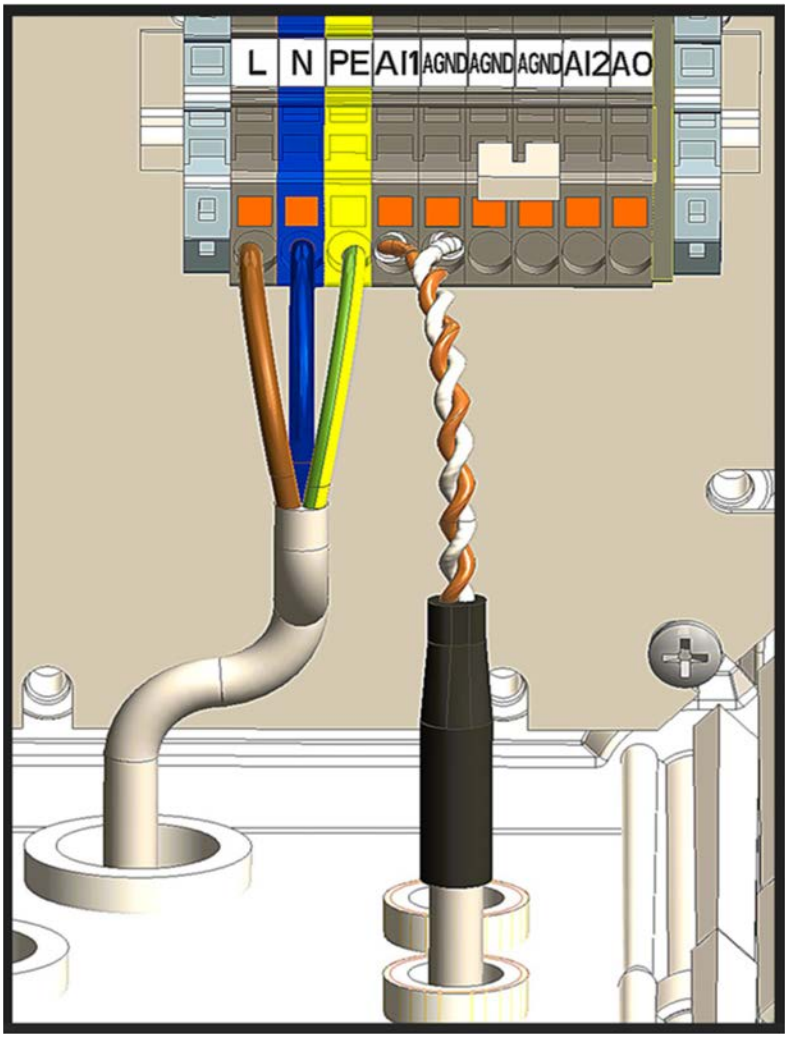


Figure 6.3 Connections of the controller box

7 Starting the extractor fan

Commissioning is only permitted if all safety instructions have been followed and the checks according to the checklist have been carried out.

Check the following during commissioning:

- Moving parts do not touch the housing
- The impeller rotates in the right direction (arrow on the housing)
- The motor rotates smoothly without any strange noises and does not vibrate. (Strong vibrations caused by imbalance, e.g. as a result of transport damage or incorrect handling, can cause damage)
- All electrically conductive components are grounded
- The fan is not controlled by on/ off control, but by the controller's 0…10V control signal.
- The motors are intended for continuous operation.

7.1 Testing the operation of the extractor fan

The operation of the extractor fan should be tested before starting the heat pump.

1. Connect the power to the exhaust fan from the property's electrical center.
2. The extractor fan starts at 100% speed in the absence of a control signal (control inverted)
3. Start the heat pump controller
4. Test the controller control from the heat pump user interface at different speeds
    - SERVICE MENU -> FUNCTION TEST -> EXHAUST AIR EXHAUST
5. Set speed to 50% -> listen/check that the vacuum cleaner is working properly
6. Set speed to 80% -> listen/check that the vacuum cleaner is working properly
7. Finally, set the vacuum cleaner to AUTO mode.

8 Technical Data

	GEBEF1	GEBEF2	GEBEF3	GEBEF4
Voltage	230V 1N~50Hz			
Power / Current	120 W / 1,1 A	180 W / 0,96 A	250 W / 1,1 A	370 W / 1,6 A
Recommended fuse	1x10A			
Recommended fuse type	C10G10 / B10			
IP class	IP 24			
Max speed [rpm]	2848	2850	2840	2840
Sound power level [dB(A)]	36-59	40-64	45-67	50-71
Weight [kg]	16,5	21,5	23	25
Operational range [rpm]	570-2848	570-2850	568-2840	568-2840