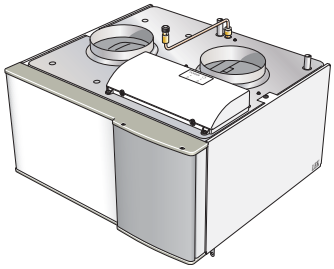
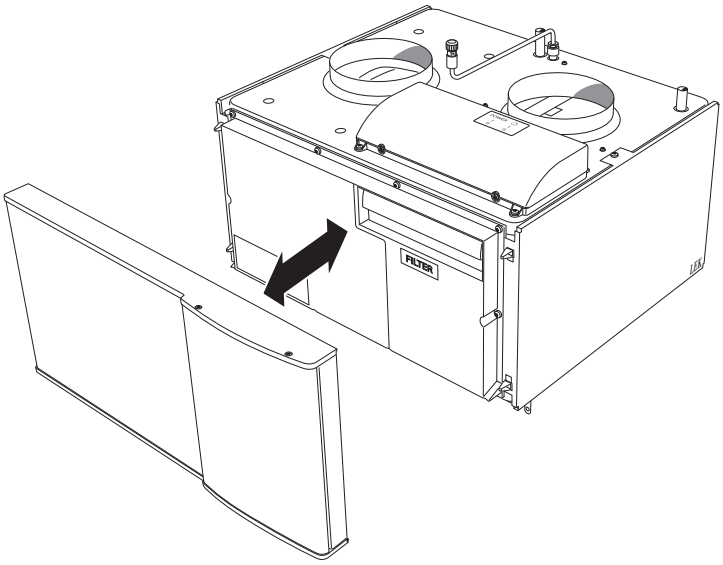


User manual

NIBE FLM

Exhaust air module

UHB GB 1214-2
031398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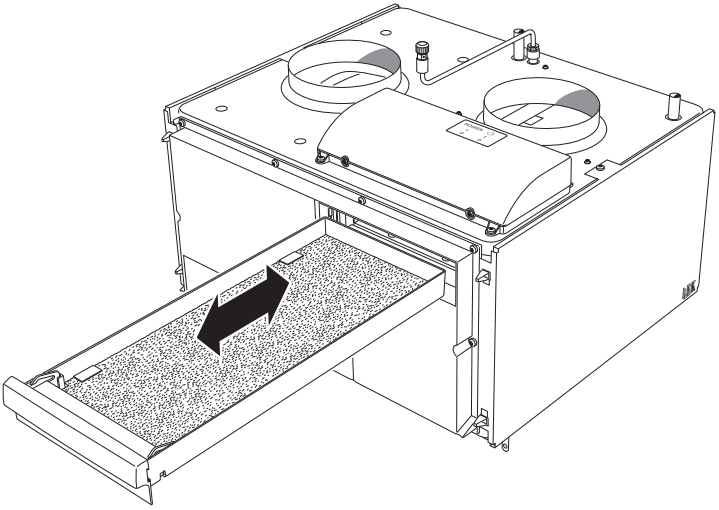


Table of Contents

1 Important information

Installation data

Product	NIBE FLM
Serial number	
Installation date	
Installer	

No.	Name	Default settings	Set
X	Difference brine in/out	X	
X	Exhaust air fan (fan speed, normal mode)	100%	

Serial number must always be given

Certification that the installation is carried out according to instructions in NIBE's installer manual and applicable regulations.

Date _____ Signed _____

Safety information

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.
Rights to make any design or technical modifications are reserved.

Symbols

NOTE

This symbol indicates danger to machine or person.

Caution

This symbol indicates important information about what you should observe when maintaining your installation.

TIP

This symbol indicates tips on how to facilitate using the product.

Marking

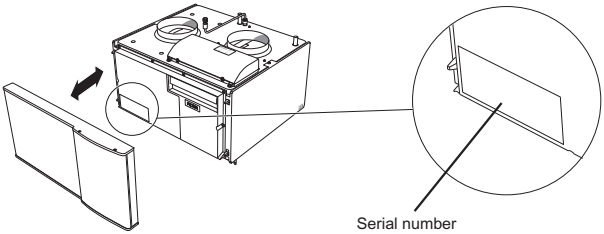
NIBE FLM is CE marked and fulfils IP21.

The CE marking means that NIBE ensures that the product meets all regulations that are placed on it based on relevant EU directives. The CE mark is obligatory for most products sold in the EU, regardless where they are made.

IP21 means that the product can be touched by hand, that objects with a diameter larger than or equivalent to 12.5 mm cannot penetrate and cause damage and that the product is protected against vertically falling drops.

Serial number

The serial number can be found at the bottom left inside the front cover.



Caution

Always give the product's serial number (14 digits) when reporting a fault.

Contact information

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For countries not mention in this list, please contact Nibe Sweden or check www.nibe.eu for more information.

NIBE FLM – An excellent choice

NIBE FLM is part of a new generation of heating products, which have been introduced to supply your home with inexpensive and environmentally friendly heating and/or cooling. NIBE FLM combines recovery of mechanical exhaust air with rock heat pump and can be connected to any NIBE F1145/F1245/F1345. NIBE FLM gives a better indoor climate, increases the heat pump's output and means that the length of the collector coil can be reduced. The energy that is in the accommodation's indoor air can be used to recharge the borehole/collection coil.

Excellent properties for NIBE FLM:

- ***DC fan***

  An energy efficient DC fan (Class A) is integrated in the exhaust air module.

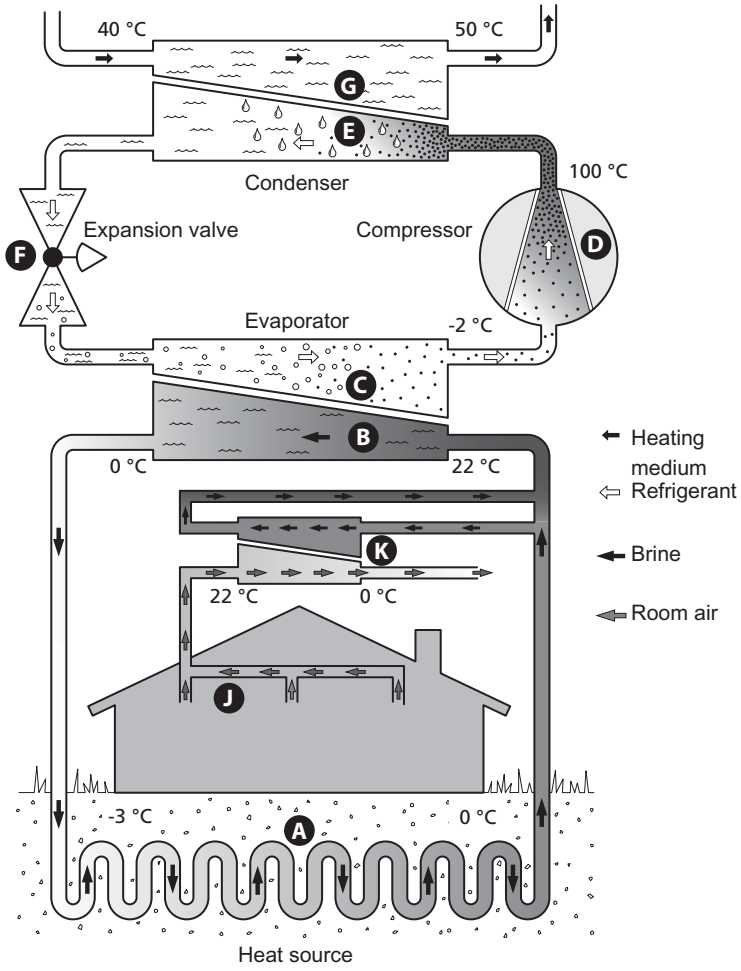
- ***Low noise level***

  The exhaust air module has a very low noise level.

- ***Easy to install***

  The exhaust air module is easy to install together with F1145/F1245/F1345 or other heat pump. When installing together with F1145/F1245/F1345, the exhaust air module is connected to the heat pump, which enables you to read off the exhaust air module's values from the heat pump's display.

2 The heating installation – the heart of the house



The temperatures are only examples and may vary between different installations and time of year.

Exhaust air module function

An exhaust air module uses the heat that is in the building's ventilation air to heat up the brine.

Brine circuit

A In a hose, collector, an anti-freeze liquid, brine, circulates from the heat pump out to the heat source (rock/ground/lake). The energy from the heat source is stored by it heating the brine a few degrees, from about –3°C to about 0 °C.

B The collector then routes the brine to the heat pump's evaporator. Here, the brine releases heat energy and the temperature drops a few degrees. The liquid then returns to the heat source to retrieve energy again.

Refrigerant circuit

C Another liquid circulates in a closed system in the heat pump, a refrigerant, which also passes the evaporator. The refrigerant has a very low boiling point. In the evaporator the refrigerant receives the heat energy from the brine and starts to boil.

D The gas that is produced during boiling is routed into an electrically powered compressor. When the gas is compressed, the pressure increases and the gas's temperature increases considerably, from 5 °C to approx. 100 °C.

E From the compressor, gas is forced into a heat exchanger, condenser, where it releases heat energy to the heating system in the house, whereupon the gas is cooled and condenses to a liquid form again.

F As the pressure is still high, the refrigerant can pass an expansion valve, where the pressure drops so that the refrigerant returns to its original temperature. The refrigerant has now completed a full cycle. It is routed to the evaporator again and the process is repeated.

Heat medium circuit

G The heat energy that the refrigerant produces in the condenser is retrieved by the climate system's water, heating medium, which is heated to 35 °C (supply temperature).

Ventilation

J The hot air is transferred from the rooms to the heat pump via the exhaust air module.

K The fan then routes the air to the exhaust air module heat exchanger. Here, the air releases the heating energy to the brine and the air's temperature drops significantly. The cold air is then blown out of the house.

The temperatures are only examples and may vary between different installations and time of year.

Maintenance of NIBE FLM

Regular checks

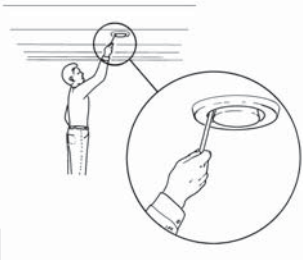
Your exhaust air module requires minimal maintenance after commissioning. On the other hand, it is recommended that you check your installation regularly.

If NIBE FLM is installed with F1145/F1245/F1345 and something untoward occurs, a message appears regarding the operating disturbance in the form of different alarm texts in the heat pump display.

Cleaning the ventilation devices

The building's ventilation devices should be cleaned regularly with, for example, a small brush to maintain the correct ventilation.

The device settings must not be changed.



NOTE

If you take down more than one ventilation device for cleaning, do not mix them up.

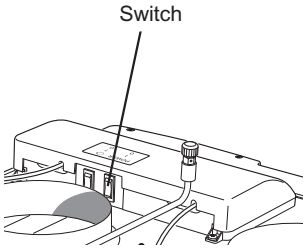
Cleaning the air filter

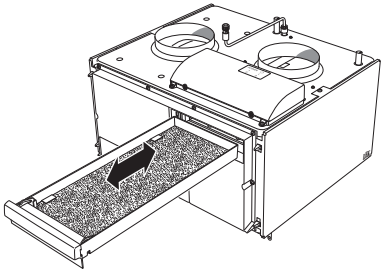
Clean NIBE FLM's air filter regularly, how often depends on the amount of dust in the ventilation air (every three months is recommended).

If NIBE FLM is connected to F1145/F1245/F1345, an alarm indication occurs in the display when it is time to clean the filter. Factory setting for alarm indication is every three months.

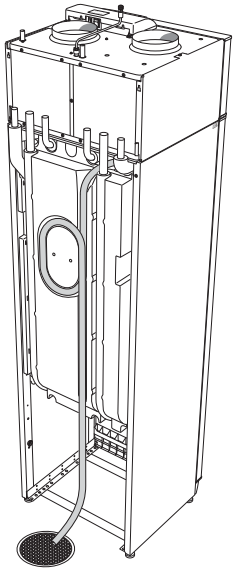
1. Set the switch to "O".
2. Switch off the heat pump.
3. Remove the upper front cover by pulling straight out.
4. Pull out the filter cassette.
5. Take out the filter and shake/vacuum off any dirt. Do not use water or other liquids for cleaning.
6. Check that the filter is not damaged.
7. Carry out assembly in reverse order.

Even if the filter appears clean, dirt collects in it and this affects the efficiency of the filter. Therefore, replace it after 2 years. New filters can be ordered via the installer.





Checking the condensation water seal



The condensation hose from NIBE FLM should be shaped into a water seal. The reverse of F1245 has grooves in the insulation for the condensation hose, F1145/F1345 does not have these grooves.

Check that there is water in the water seal. If it is empty or has a very low water level so that it "gurgles" water can be topped up.

After a period of operation dust and other particles can clog the water seal, consequently, you should check this regularly and clean when necessary.

3 Disturbances in comfort

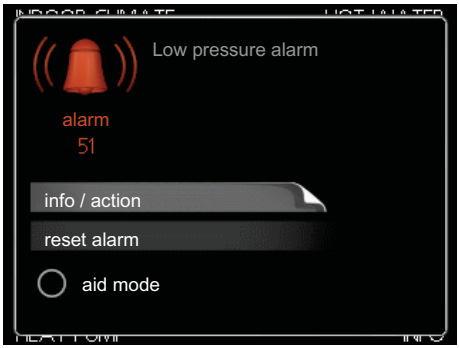
If NIBE FLM is not installed together with F1145/F1245/F1345, go directly to section Troubleshooting on page 15.

In most cases, the heat pump F1145/F1245/F1345 notes operational interference (operational interference can lead to disturbance in comfort) and indicates this with alarms and shows action instructions in the display.

Info-menu (F1145/F1245/F1345)

All the heat pump measurement values are gathered under menu 3.1 in the heat pump menu system. Looking through the values in this menu can often simplify finding the fault source.

Manage alarm (F1145/F1245/F1345)



In the event of an alarm, some kind of malfunction has occurred, which is indicated by the status lamp changing from green continuously to red continuously. In addition, an alarm bell appears in the information window.

Alarm

In the event of an alarm with a red status lamp a malfunction has occurred that the heat pump cannot remedy itself. In the display, by turning the control knob and pressing the OK button, you can see the type of alarm it is and reset it. You can also choose to set the heat pump to aid mode.

info / action Here you can read what the alarm means and receive tips on what you can do to correct the problem that caused the alarm.

reset alarm In most cases it is enough to select "reset alarm" to correct the problem that caused the alarm. If a green light illuminates after selecting "reset alarm" the alarm has been remedied. If a red light is still visible and a menu called "alarm" is visible in the display, the problem that caused the alarm remains. If the alarm disappears and then returns, contact your installer.

aid mode "aid mode" is a type of emergency mode. This means that the heat pump produces heat and/or hot water despite there being some kind of problem with the heat pump. This can mean that the heat pump's compressor is not running. In this case the immersion heater produces heat and/or hot water.

Problems withNIBE FLM do not affect heat pump operation. You do not need to select "aid mode" in event of problems with NIBE FLM.

Caution

Selecting "aid mode" is not the same as correcting the problem that caused the alarm. The status lamp will therefore continue to be red.

If the alarm does not reset, contact your installer for suitable remedial action.

NOTE

Always gives the heat pump and exhaust air module serial number when contacting your installer.

Troubleshooting

If the malfunction does not appear in the display or NIBE FLM is not connected to F1145/F1245/F1345, the following tips can be used:

Basic actions

Start by checking the following possible fault sources:

- That the heat pump is running or that the supply cable to NIBE FLM is connected.
- Group and main fuses of the accommodation.
- The property's earth circuit breaker.

Low or a lack of ventilation

- Filter blocked.
  - Clean or replace filter (see page 11).
- Exhaust air device blocked or throttled down too much.
  - Check and clean the exhaust air devices (see page 10).
- Fan speed in reduced mode.
  - If NIBE FLM is connected to F1145/F1245/F1345: Enter menu 1.2 and select "normal".

    If NIBE FLM is connected to another heat pump: Contact your installer!
- External switch for changing the fan speed activated.
  - Check any external switches.

High or distracting ventilation

- The ventilation is not adjusted.
  - Order ventilation adjustment.
- Fan speed in forced mode.
  - If NIBE FLM is connected to F1145/F1245/F1345: Enter menu 1.2 and select "normal".

    If NIBE FLM is connected to another heat pump: Contact your installer!
- External switch for changing the fan speed activated.
  - Check any external switches.
- Filter blocked.
  - Clean or replace filter (see page 11).

Gurgling sound

- Not enough water in the water seal.
  - Fill the water seal with water (see page 12).
- Choked water seal.
  - Check and adjust the condensation water hose (see page 12).

4 Technical data

Detailed technical specifications for this product can be found in the installation manual (www.nibe.eu).

5 Glossary

Brine

Anti-freeze liquid, e.g. ethanol or glycol mixed with water, which transports heat energy from the heat source (rock/ground/lake) to the heat pump.

Brine side

Brine hoses, any bore holes and the evaporator make up the brine side.

Circulation pump

Pump that circulates liquid in a pipe system.

Climate system

The climate system can also be called the heating and/or cooling system. The building is cooled or heated using radiators, under floor coils or convector fans.

Disturbances in comfort

Disturbances in comfort are undesirable changes to the hot water/indoor comfort, for example when the temperature of the hot water is too low or if the indoor temperature is not at the desired level.

A malfunction in the heat pump can sometimes be noticed in the form of a disturbance in comfort.

In most cases, the heat pump notes operational interference and indicates this with alarms and shows instructions in the display.

Efficiency

A measurement of how effective the heat pump is. The higher the value is the better it is.

Exhaust air

The air that comes from the exhaust air device in the various rooms of the accommodation, to NIBE FLM.

Exhaust air devices

Vents, usually in the ceiling, in the kitchen/bathroom/clothes closet where the air is drawn in to be forwarded to NIBE FLM.

Expansion vessel

Vessel with brine or heating medium fluid with the task of equalising the pressure in the brine or heating medium system.

Extract air

The air that the exhaust air module has retrieved heat from and which has therefore been cooled. This air is blown out of the building.

Heat exchanger

Device that transfers heat energy from one medium to another without mixing mediums.

6 Item register

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