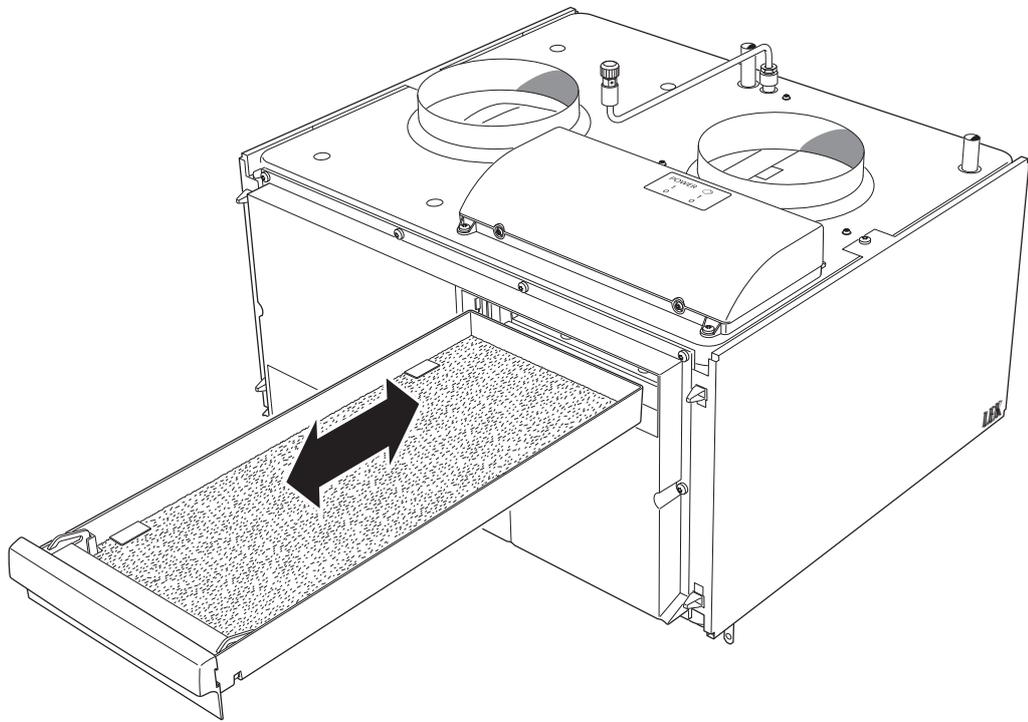
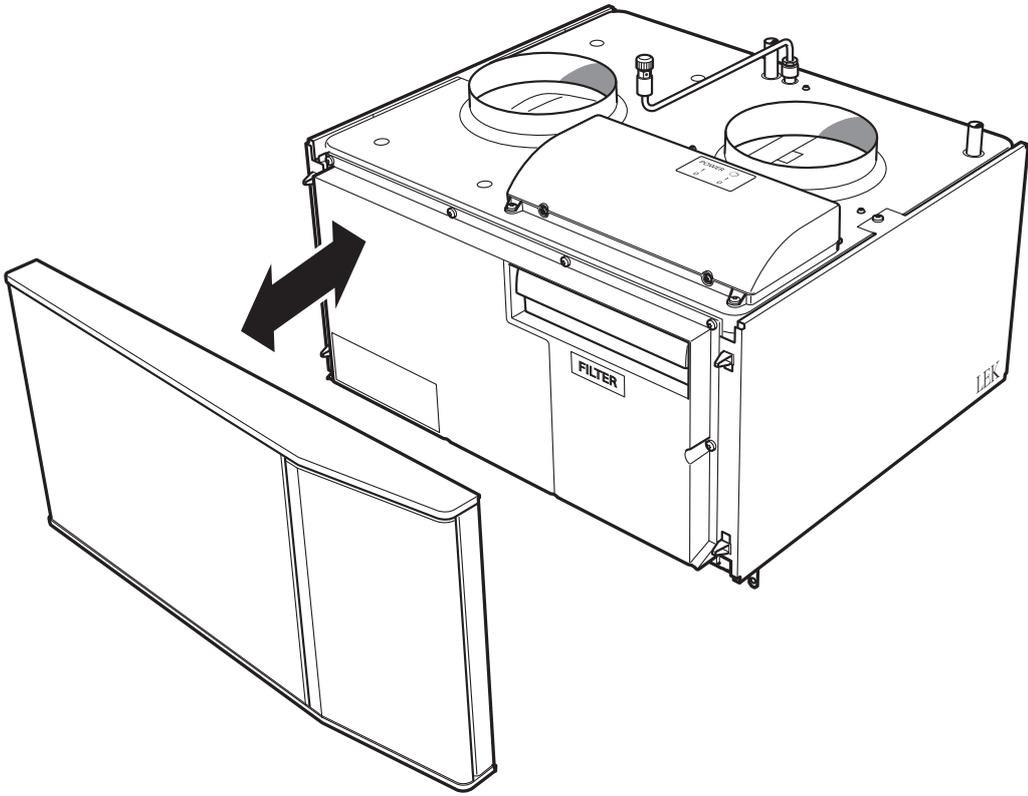


# Exhaust air module FLM S45





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# 1 Important information

## Installation data

<i>Product</i>	<i>FLM S45</i>
Serial number	
Installation date	
Installer	

<i>No.</i>	<i>Name</i>	<i>Fact. sett.</i>	<i>Set</i>
X	Differential 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 the accompanying installer manual and applicable regulations.

Date \_\_\_\_\_

Signed \_\_\_\_\_

# Safety information

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

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If the supply cable is damaged, only NIBE, its service representative or similar authorised person may replace it to prevent any danger and damage.

## SYMBOLS



### NOTE

This symbol indicates danger to person or machine .

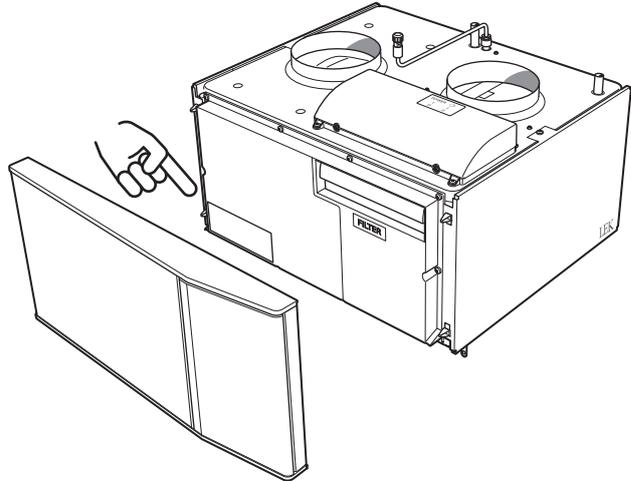


### Caution

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

# Serial number

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



### Caution

You need the product's (14 digit) serial number for servicing and support.

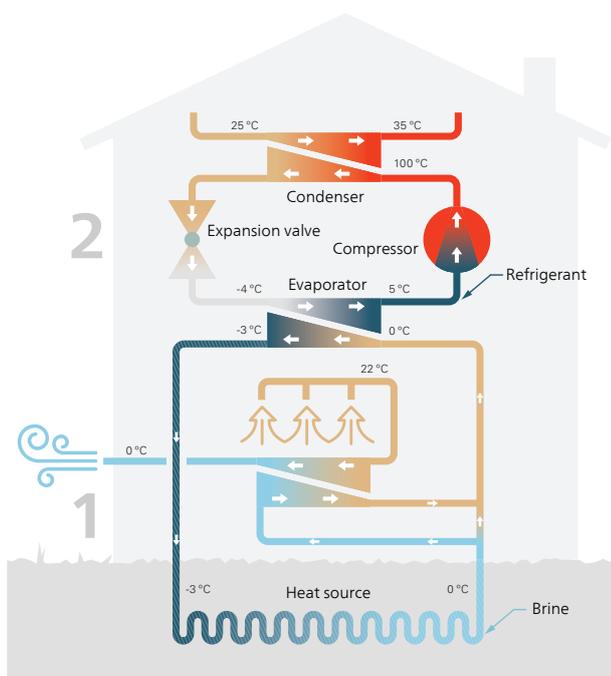
# Compatible NIBE heat pumps

FLM S45 ventilates the building and preheats the brine, regardless of which ground source heat pump is installed, but when FLM S45 is installed together with a compatible ground source heat pump, it is possible to adjust settings and read off sensor values etc. in the heat pump's display.

## COMPATIBLE PRODUCTS

- S1155
- S1255

# 2 The heating installation – the heart of the house



- 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 approx. 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.

## Exhaust air module function

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

### Brine circuit

- A** An anti-freeze liquid (brine) circulates in a hose (collector) 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.

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

# Maintenance of FLM S45

## REGULAR CHECKS

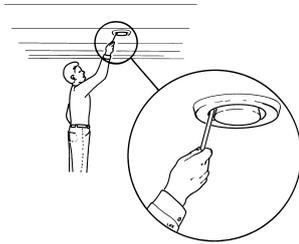
Your exhaust air module requires minimal maintenance after commissioning. On the other hand, it is recommended that you check your installation regularly.

If FLM S45 is installed with a compatible heat pump and something untoward occurs, a message appears regarding the malfunction in the form of various 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 the FLM S45's air filter regularly, how often depends on the amount of dust in the ventilation air. Select what is most suitable for your installation.



#### **Caution**

The efficiency of the installation can be impaired by a dirty air filter.

If FLM S45 is connected to a compatible heat pump, you receive a reminder to clean the filters in the display. The default setting for the reminder is every three months; however, if the power to the heat pump is interrupted, the countdown starts from zero again.

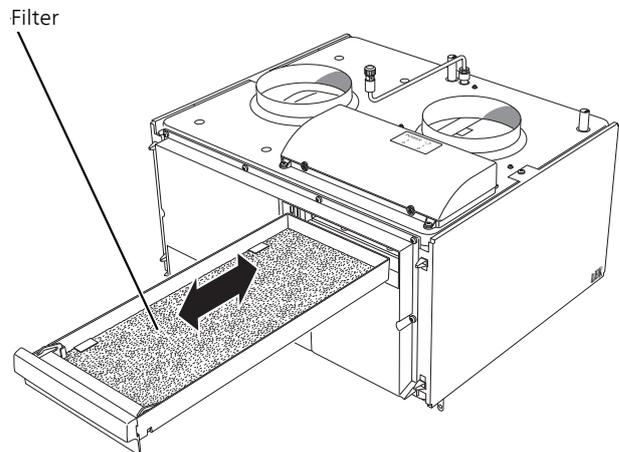
1. Switch off the heat pump.
2. Remove the front hatch by pulling it straight out.
3. Pull out the filter cassette.
4. Remove the filter and shake/vacuum it clean.
5. Check the condition of the filter.
6. Carry out assembly in reverse order.

Even if the filter appears clean, dirt collects in it and this affects the efficiency of the filter. Therefore, replace it after 1 years. New filters can be ordered via the installer.

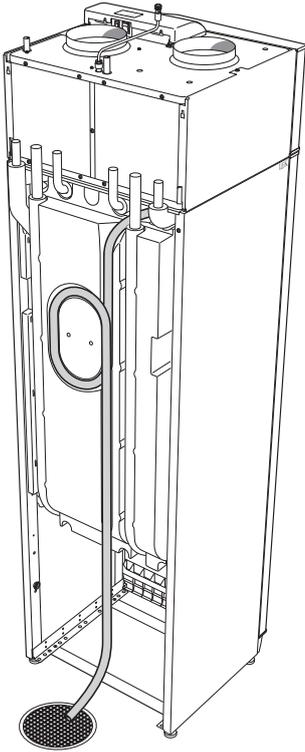


#### **NOTE**

Water or other liquids must not be used for cleaning.



## Checking the condensation water seal



The condensation hose from FLM S45 has to be shaped into a water seal. On the rear of S1255 there is a groove in the insulation for the condensation hose; other compatible heat pumps do not have this groove.

Check that there is water in the water seal. If it is empty, or has a very low water level so that it “gurgles”, it must be topped up with water.

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

In most cases, the compatible heat pump notes a malfunction (a malfunction can lead to disturbance in comfort) and indicates this with alarms and action instructions in the display.

If the malfunction does not appear in the display or FLM S45 is not connected to a compatible heat pump, the following tips can be used:

## BASIC ACTIONS

Start by checking the following items:

- That the heat pump is running or that the supply cable to FLM S45 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 7).
- The ventilation is not adjusted.
  - Order ventilation adjustment.
- Exhaust air device blocked or throttled down too much.
  - Check and clean the exhaust air devices (see page 7).
- Fan speed in reduced mode.
  - 1.2.1 and select "normal".  
If FLM S45 is connected to a compatible heat pump:  
Enter menu 1.2.1 and select "normal".  
If FLM S45 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

- Filter blocked.
  - Clean or replace filter (see page 7).
- The ventilation is not adjusted.
  - Order ventilation adjustment.

- Fan speed in forced mode.
  - If FLM S45 is connected to a compatible heat pump:  
Enter menu 1.2.1 and select "normal".  
If FLM S45 is connected to another heat pump:  
Contact your installer!
- External switch for changing the fan speed activated.
  - Check any external switches.

## GURGLING SOUND

- Not enough water in the water seal.
  - Fill the water seal with water (see page 8)
- Choked water seal.
  - Check and adjust the condensation water hose (see page 8).

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