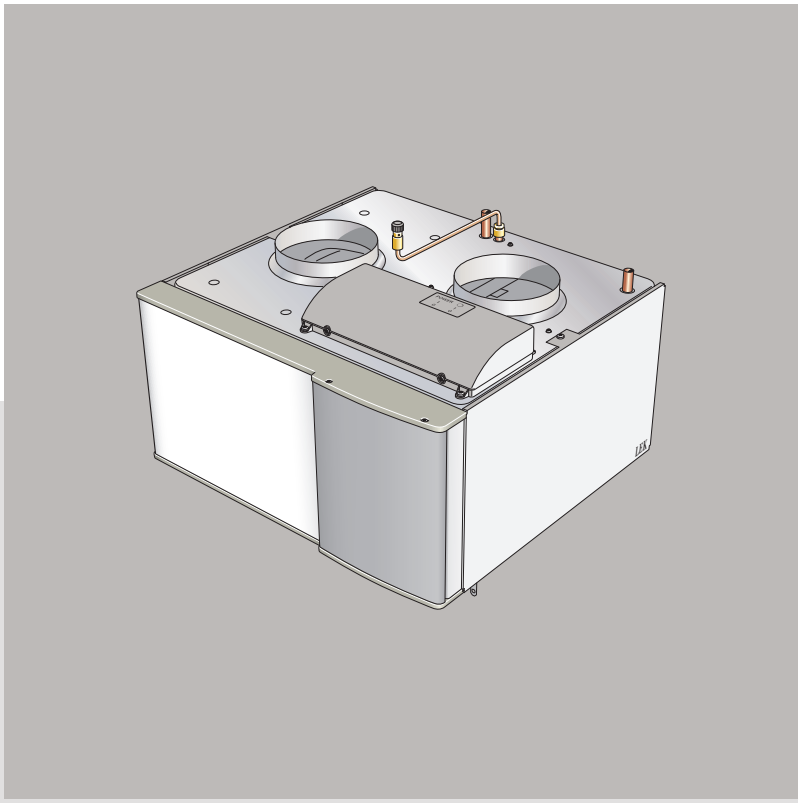
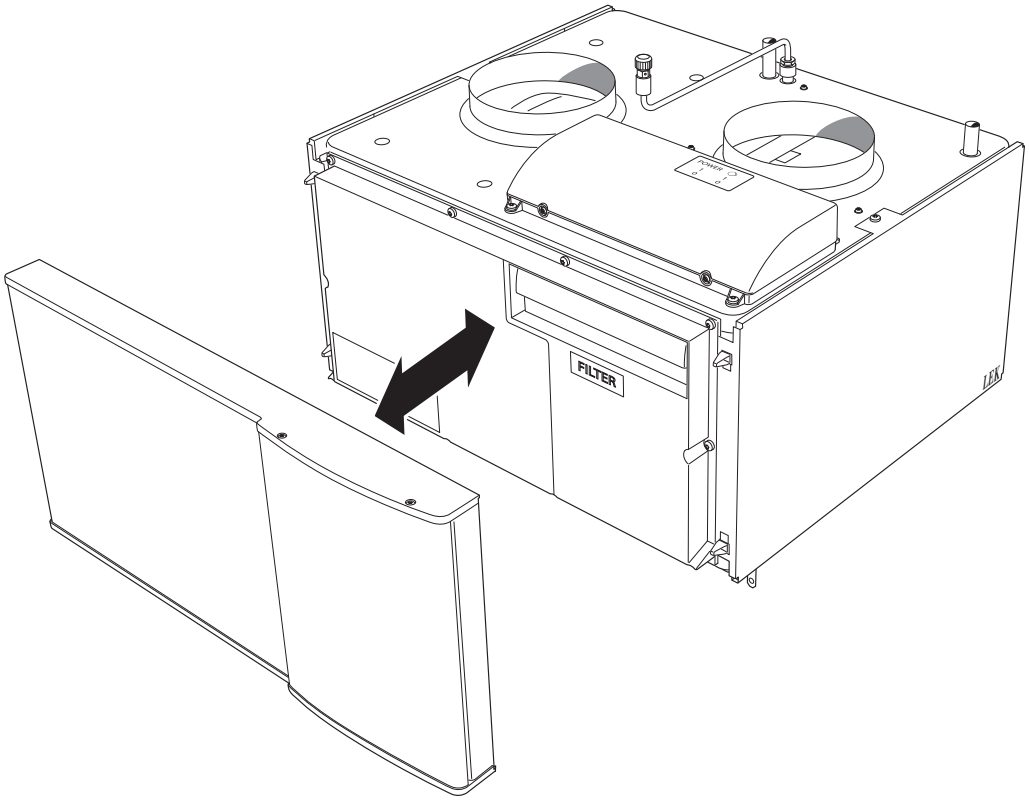
IHB EN 1850-5
331702

INSTALLER MANUAL

Exhaust air module NIBE FLM



NIBE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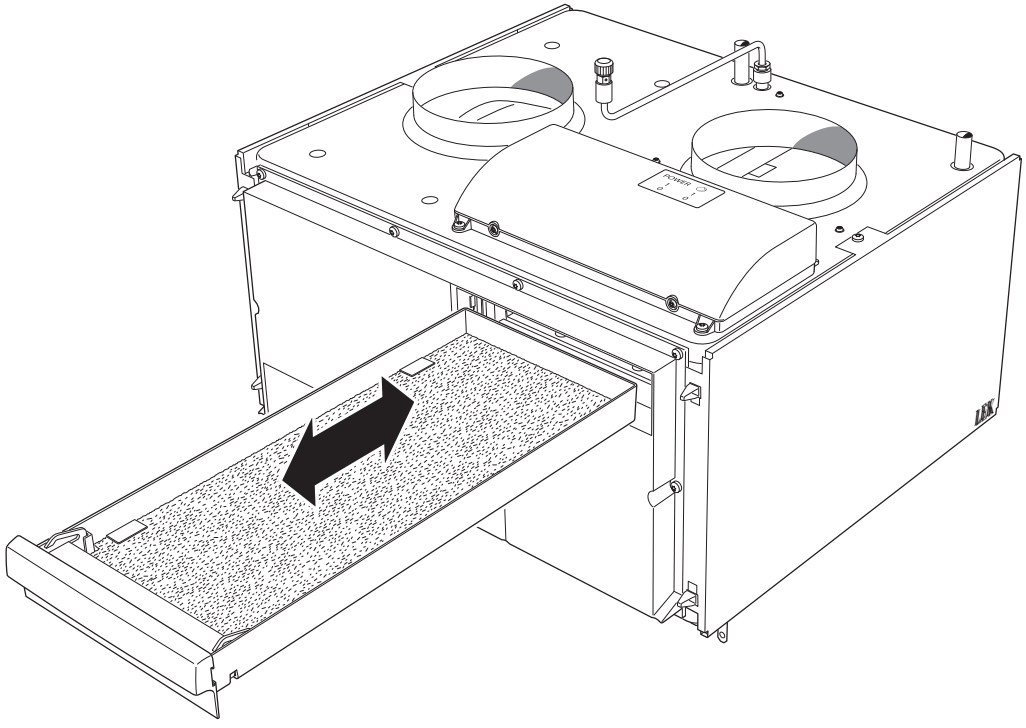


Table of Contents

1 Important information

Safety information

This manual describes installation and service procedures for implementation by specialists.

The manual must be left with the customer.

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.

Rights to make any design or technical modifications are reserved.

SYMBOLS

NOTE

This symbol indicates danger to person or machine .

Caution

This symbol indicates important information about what you should consider when installing or servicing the installation.

MARKING

CE The CE mark is obligatory for most products sold in the EU, regardless of where they are made.

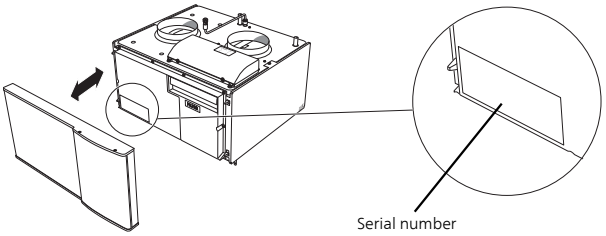
IP21 Classification of enclosure of electro-technical equipment.

Danger to person or machine.

Read the User Manual.

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.

RECOVERY

Leave the disposal of the packaging to the installer who installed the product or to special waste stations.

When disposing of the product, its constituent materials and components, e.g. compressors, fans, circulation pumps and circuit boards, must be disposed of at a special waste station or dealer who provides this type of service.

To access the separate components, refer to the section that shows the construction of the product. No special tools are required for access.

Improper disposal of the product by the user results in administrative penalties in accordance with current legislation.

INSPECTION OF THE INSTALLATION

In addition, fill in the page for the installation data in the User Manual.

Current regulations require the heating installation to be inspected before it is commissioned. The inspection must be carried out by a suitably qualified person. Current regulations require the exhaust air module to be inspected before it is commissioned. The inspection must be carried out by a suitably qualified person. In addition, fill in the page for the installation data in the User Manual.

✔	*Description*	*Notes*	*Signature*	*Date*
Ventilation (page 14)				
	Setting the ventilation flow			
Brine (page 12)				
	Non-return valve			
	System flushed			
	System vented			
	Antifreeze			
	Expansion vessel			
	Particle filter			
	Safety valve			
	Shut off valves			
	Circulation pump setting			
	Checking the condensation water seal			
	Trim valve			
Electricity (page 17)				
	Connections			
	Phase voltage			
	Supply connected 230 V			
	Circuit fuses			

2 Delivery and handling

Transport

The exhaust air module should be transported and stored in the dry.

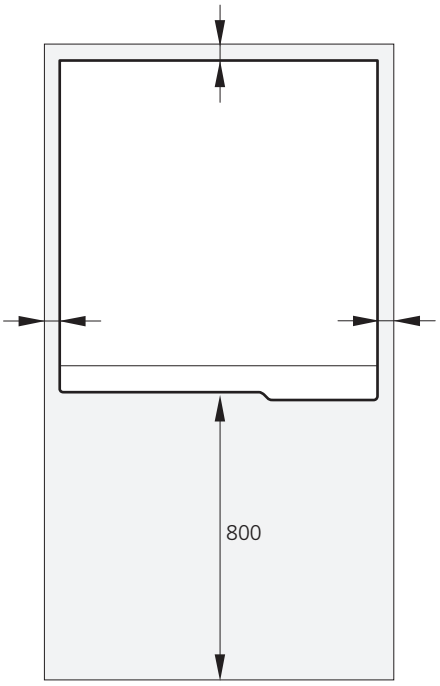
Assembly

NIBE FLM is installed on top of the ground heat pump or freestanding on brackets. Noise from the circulation pump or fan can be transferred to the brackets.

- Install with its back to an outside wall, ideally in a room where noise does not matter, in order to eliminate noise problems. If this is not possible, avoid placing it against a wall behind a bedroom or other room where noise may be a problem.
- Wherever the unit is located, walls to sound sensitive rooms should be fitted with sound insulation.
- Route pipes so they are not fixed to an internal wall that backs on to a bedroom or living room.

INSTALLATION AREA

Leave a free space of 800 mm in front of the product. Leave free space between NIBE FLM and wall/fittings/cables/pipes etc. It is recommended that a space of at least 10 mm is left to reduce the risk of noise and of any vibrations being propagated.



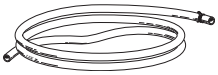
NOTE

Ensure that there is sufficient space (300 mm) above NIBE FLM for installing ventilation hoses.

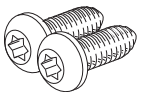
Supplied components

Trim valve (RN1)
Ø 15 mm

Non-return valve (RM1)
Ø 32 mm



Condensation water hose
Ø 20 mm



2 x screws (T25) for installing NIBE FLM on NIBE heat pump

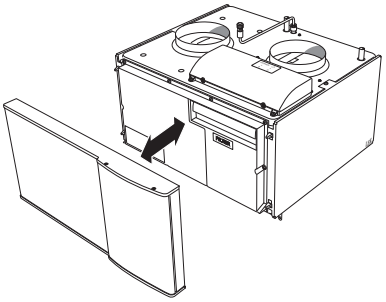
LOCATION

The bag of supplied items is placed on top of NIBE FLM.

Removing the covers

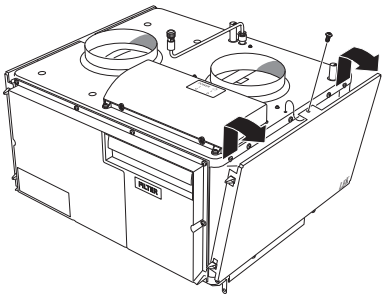
FRONT COVER

1. Remove the service cover by pulling it straight out.

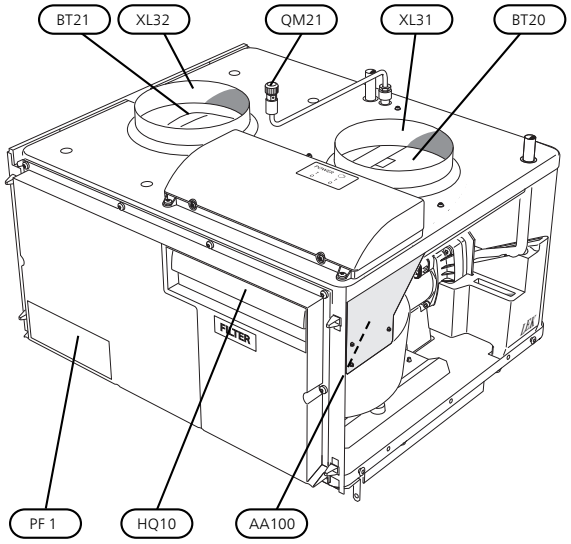


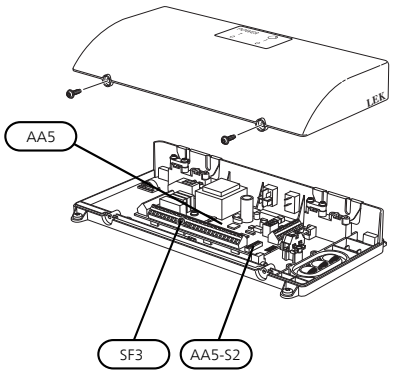
SIDE COVERS

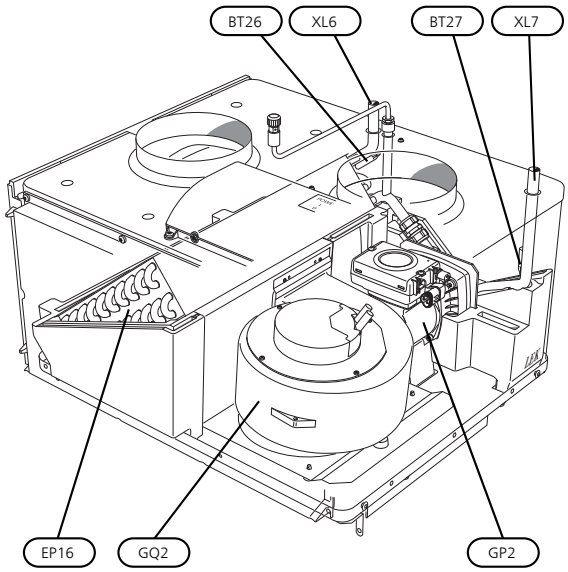
1. Undo the screws at the upper edge
2. Lift the side hatches upwards and twist the cover outwards slightly.
3. Assembly takes place in the reverse order.

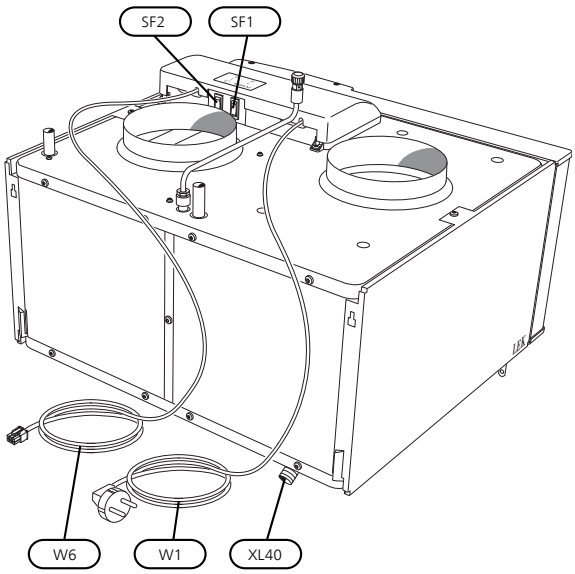


3 The design of the exhaust air module









Pipe connections

XL6	Connection, brine in, compression ring Ø 15 mm
XL7	Connection, brine out, compression ring Ø 15 mm
XL31	Ventilation connection exhaust air, Ø 160 mm
XL32	Ventilation connection extract air, Ø 160 mm
XL40	Drip-pan drain

HVAC components

EP16	Heat exchanger
GP2	Circulation pump, brine
QM21	Venting brine

Sensors etc.

BT20	Temperature sensor, exhaust air
BT21	Temperature sensor, extract air
BT26	Temperature sensor, collector in
BT27	Temperature sensor, collector out

Electrical components

AA5	Accessory card
AA5-S2	Dip switch
AA100	Joint card
SF1	Switch, position 0 - 1, main switch
SF2	Switch, position 0 - 1, circulation pump
SF3	Potentiometer
W1	Cord with connection plug
W6	Control cable

Ventilation

GQ2	Exhaust air fan
HQ10	Exhaust air filter

Miscellaneous

PF1	Type plate

Designations at component positions according to standard EN 81346-2.

4 Pipe and ventilation connections

General pipe connections

Pipe installation must be carried out in accordance with current norms and directives.

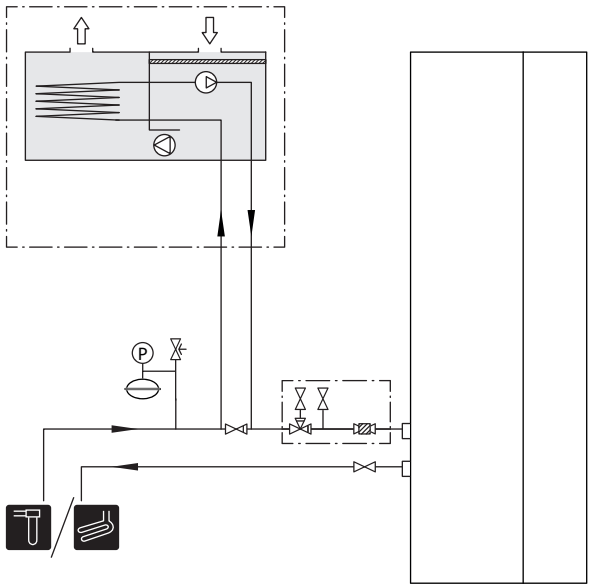
Lowest permitted temperature of incoming brine is -8°C.

Pipes and other cold surfaces must be insulated with diffusion-proof material to prevent condensation.

SYMBOL KEY

Symbol	*Meaning*
	Shut-off valve
	Non-return valve
	Circulation pump
	Expansion vessel
	Filterball
	Fan
	Pressure gauge
	Safety valve
	Trim valve
	Manual reversing valve/shunt
	Bore hole
	Ground collector

OUTLINE DIAGRAM



NOTE

Venting may be necessary during installation and after a period of use. Venting takes place through vent valve (QM21). When venting, set the switch for the circulation pump (SF2) to position "0".

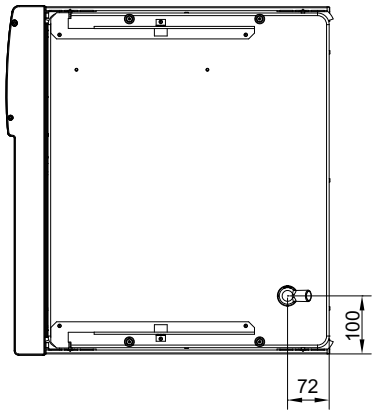
COMPATIBLE NIBE HEAT PUMPS

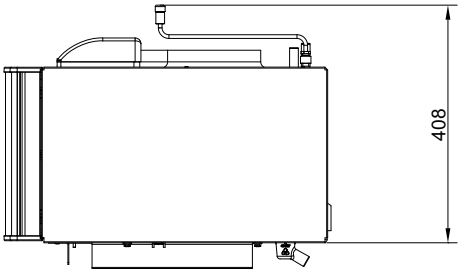
NIBE FLM ventilates the building and preheats the brine, regardless of which ground source heat pump is installed, but when NIBE FLM is installed together with a compatible ground source heat pump, it is possible to adjust settings and read off sensor values etc. in the heat pump's display.

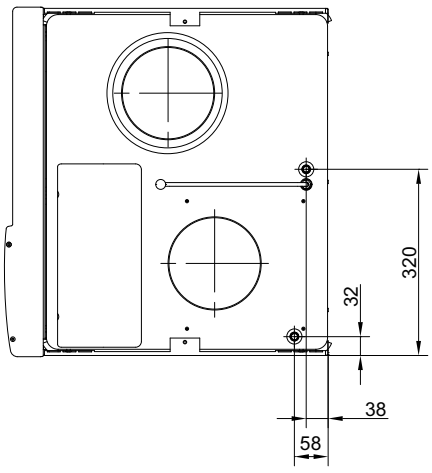
Compatible products

- F1145
- F1155
- F1245
- F1255
- F1345
- F1355

Dimensions and pipe connections





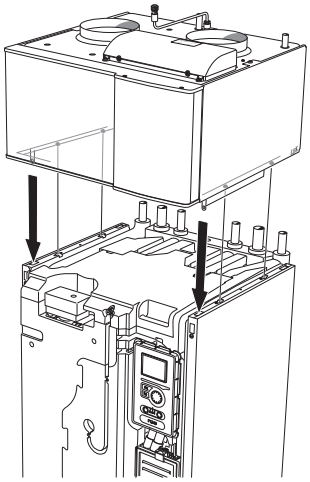


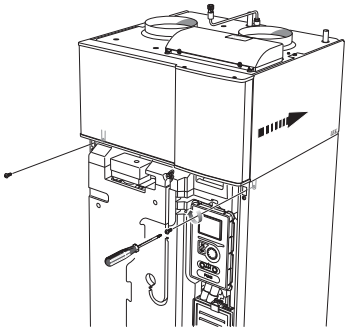
Mounting

CONNECTING TO F1145/F1155/F1245/F1255

1. Remove the front cover from the heat pump.
2. Remove the top panel from the heat pump (installed with 6 x screws).
3. Install NIBE FLM from the top and slide into position.
4. Secure NIBE FLM with the 2 supplied screws.
5. Connect brine and ventilation pipes.
6. Reinstall the front cover on the heat pump.

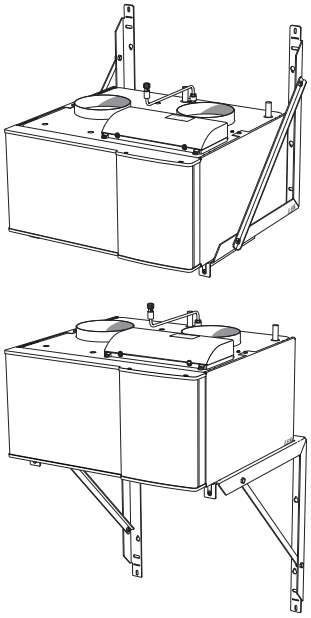
NIBE FLM can also be installed freestanding on brackets.





CONNECTING TO ANOTHER HEAT PUMP

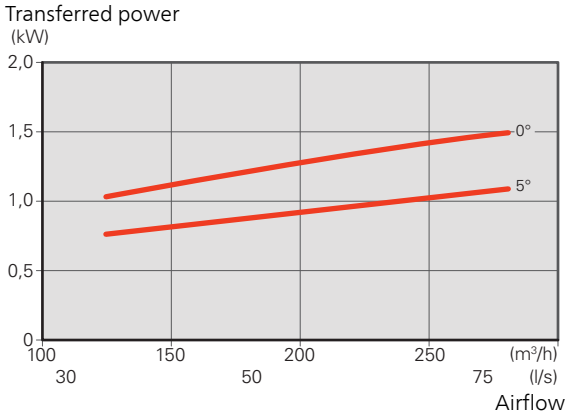
1. Install NIBE FLM on brackets.
2. Connect brine and ventilation pipes.



Brine side

OUTPUT TRANSFER TO BRINE

Output transfer to brine



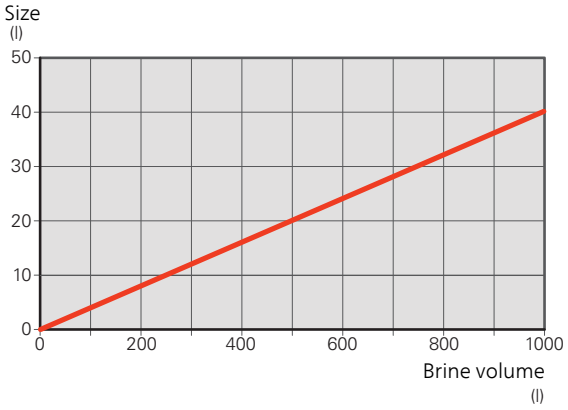
The diagram shows the power that is transferred from the ventilation air to the brine at 0°C and 5°C, and applies to an air temperature of +20°C and 50% relative air humidity.

EXPANSION VESSEL

The brine circuit must be provided with pressure expansion vessel (CM3). If there is a level vessel (CM2), this should be replaced. The brine side must be pressurised to at least 0.5 bar.

To prevent malfunctions, the pressure expansion vessel should be dimensioned as set out in the diagram. The pressure expansion vessel covers the temperature range from -10°C to +20 °C for the brine at a pre-pressure of 0.5 bar and with the safety valve's opening pressure set at 3 bar.

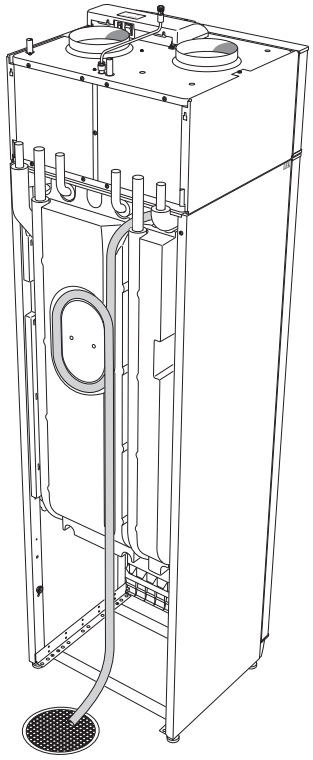
Expansion vessel



Condensation water hose

1. Connect the condensation water hose to the drip-pan drain (XL40).
2. Shape the hose into a water seal (see image). If NIBE FLM is connected to F1245/F1255 there is space for the hose and the water seal in the heat pump's insulation.
3. Route the hose to a floor drain or similar.
4. Refill the water seal with water.

Ensure that the end of the hose runs out above the water level in the floor drain. The hose must be easily accessible for future cleaning.



General ventilation connection

- Ventilation installation must be carried out in accordance with current norms and directives.
- Connections must be made via flexible hoses, which should be installed so that they are easy to replace.
- Provision must be made for inspection and cleaning of the duct.
- Make sure that there are no reductions of cross-sectional area in the form of creases, tight bends, etc., since this will reduce the ventilation capacity.
- The air duct system must be a minimum of air tightness class B.
- To prevent fan noise being transferred to the ventilation devices, silencers should be installed in the duct system. In the event of ventilation devices in noise-sensitive rooms, silencers must be installed.
- The extract air duct and ducts intended for supply air for FLM cooling have to be insulated with diffusion-proof material (at least PE30 or equivalent) along their entire length.
- Ensure that the condensation insulation is fully sealed at any joints and/or at lead-in nipples, silencers, roof cowls or similar.
- A duct in a masonry chimney stack must not be used for extract air.

EXHAUST AIR DUCT /KITCHEN FAN

Exhaust air duct (kitchen fan) must not be connected to NIBE FLM.

To prevent food vapour being transferred to NIBE FLM the distance between the kitchen fan and the exhaust air device must be considered. The distance should not be less than 1.5 m, but this can vary between different installations.

Always use a kitchen fan when cooking.

Ventilation flow

Connect NIBE FLM so that all the exhaust air, except kitchen duct air (kitchen fan), passes through the heat exchanger (EP16) in the product.

The ventilation flow must comply with the applicable national standards.

If the exhaust air module is connected to a compatible heat pump, set the ventilation capacity in the heat pump's menu system (menu 5.1.5). Otherwise, set the ventilation capacity via potentiometer (AA5-SF3).

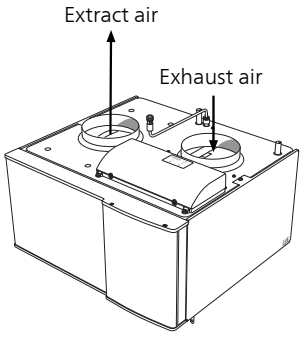
Adjusting ventilation

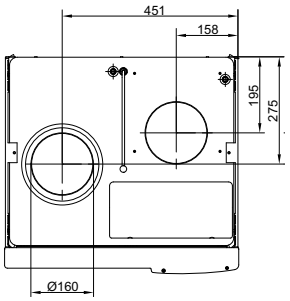
To obtain the necessary air exchange in every room of the house, the exhaust air devices must be correctly positioned and adjusted and the fan in the exhaust air module adjusted.

Immediately after installation adjust the ventilation so that it is set according to the projected value of the house.

Incorrect adjustment of the ventilation may lead to reduced installation efficiency and thus poorer operating economy, and may cause moisture damage in the building

Dimension and ventilation connections

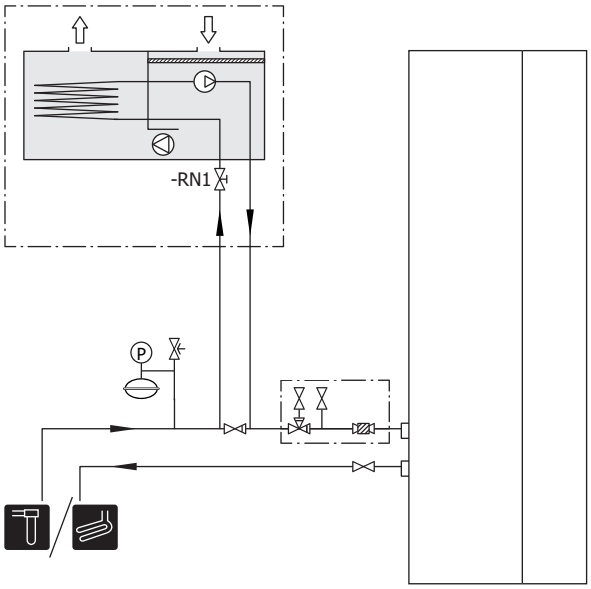




Installation alternative

ANOTHER HEAT PUMP

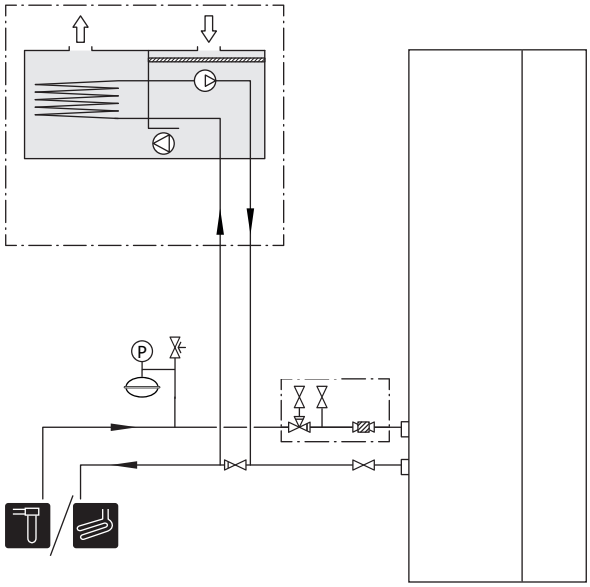
When NIBE FLM is installed together with another heat pump, the brine circuit is supplied with a trim valve (RN1). This is necessary for adjusting the brine flow.



FLM COOLING

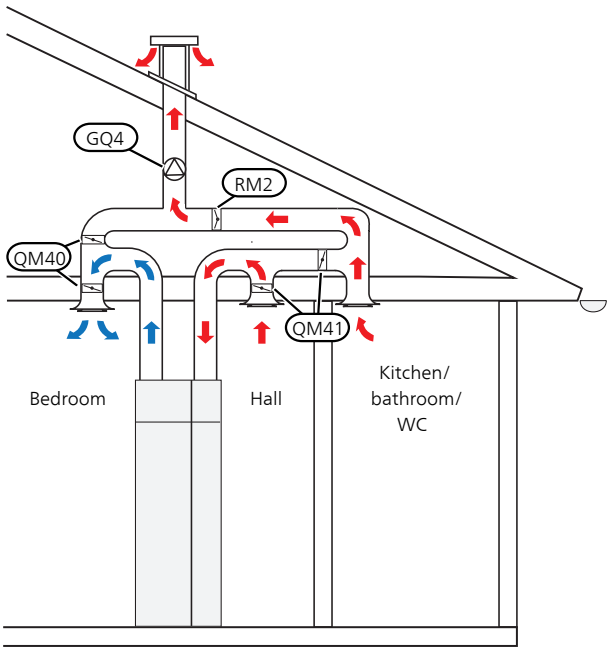
Where cooling is prioritised, NIBE FLM can be installed in the brine circuit after the heat pump in the direction of flow.

For FLM cooling, minimum software version 5539R5 is required.

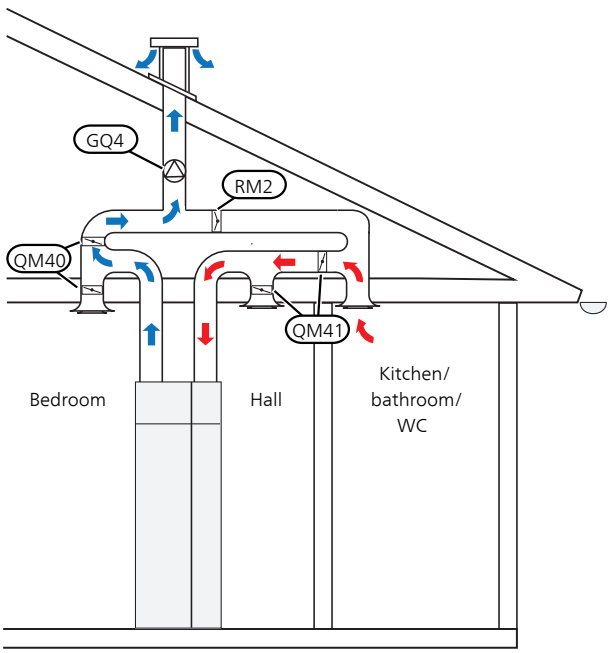


FLM cooling Requires an external fan (GQ4), four dampers that are controlled by two motors (QM40), (QM41) and a non-return damper (RM2). A room sensor (AZ1-BT50) is also required in one of the rooms where cooling is required. For electrical connection, see page 20.

The external fan (GQ4) takes over ventilation, which is led out of the house without recovery. At the same time, NIBE FLM circulates air to and from other rooms where cooling is required, normally two to three bedrooms.



Normal operation.



NOTE

When installing with cooling, the supply air ducts have to be insulated with diffusion-proof material (at least PE30 or equivalent) along their entire length.

5 Electrical connections

General

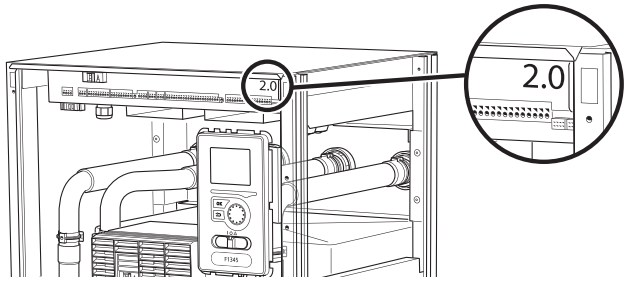
All electrical equipment is connected at the factory.

- Disconnect NIBE FLM before insulation testing the house wiring.
- For the exhaust air module wiring diagram, see page 34.
- Signal cables to external connections must not be laid close to high current cables.
- If the supply cable is damaged, only NIBE, its service representative or similar authorised person may replace it to prevent any danger and damage.

> *NOTE*
>
> Electrical installation and service must be carried out under the supervision of a qualified electrician. Electrical installation and wiring must be carried out in accordance with the stipulations in force.

Connections

F1345 has different electrical connection versions depending on when the heat pump was manufactured. To check which electrical connection applies to your F1345, check the designation "2.0" visible above the right hand side of the terminal block as illustrated.



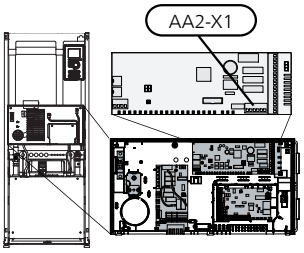
CONNECTING TO COMPATIBLE HEAT PUMP

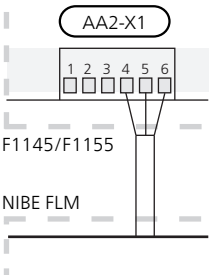
Connection of supply to NIBE FLM no. 1

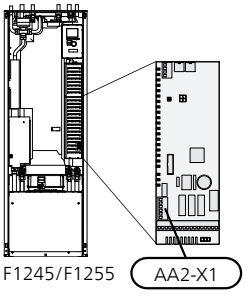
In cases where NIBE FLM is installed together with a compatible heat pump, it is possible to connect the supply for NIBE FLM no. 1 on the terminal block in the heat pump. If this is the case, remove the plug on the connection cable (W1) and then connect the cable to the base board (AA2) terminal block X1:4-6 in F1145/1155/F1245/1255 or on terminal blocks X2:6-9 and X2:11 in F1345, on terminal block AA101:X5 in F1345 2.0/F1355.

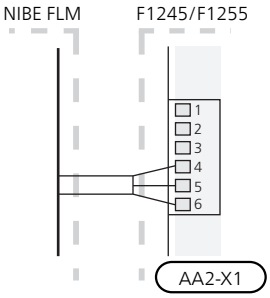
F1145/F1155/F1245/F1255

X1:4 Yellow/green, X1:5 Blue, X1:6 Brown



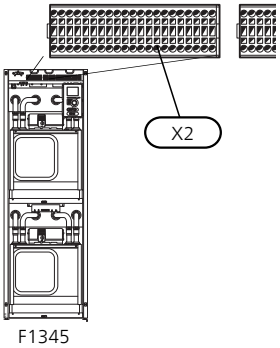


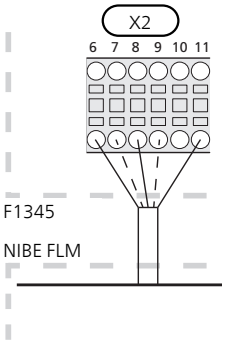




F1345 without 2.0

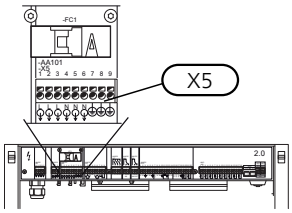
X2:6 or X2:7 Brown, X2:8 or X2:9 Blue, X2:11 Yellow/green

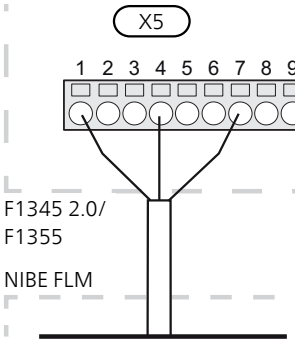




F1345 with 2.0/F1355

X5:1 Brown, X5:4 Blue, X5:7 Yellow/green





Connecting the supply to NIBE FLM no. 2-4

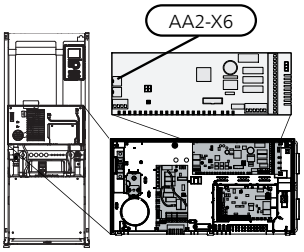
NIBE FLM no. 2-4 connects to an earthed single phase wall socket or a permanent installation. For permanent installations, NIBE FLM has to be preceded by a circuit breaker with at least a 3 mm breaking gap.

Connecting the communication to NIBE FLM no. 1

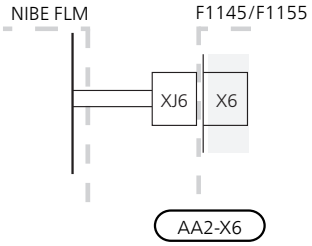
F1145/F1155/F1245/F1255: The control cable (W6) with connector XJ6 connects to contact X6 on the base board (AA2).

F1345/F1355: The control cable (W6) with connector XJ6 connects to contact X1 on the display board (AA4).

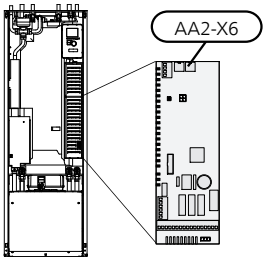
F1145/F1155



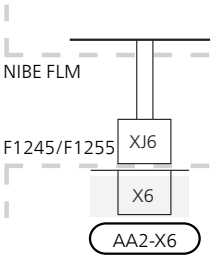
F1145/F1155



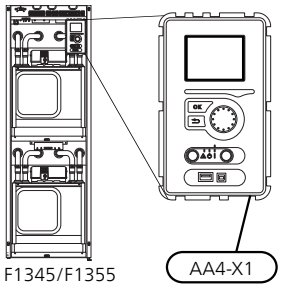
F1245/F1255



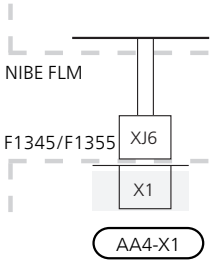
F1245/F1255



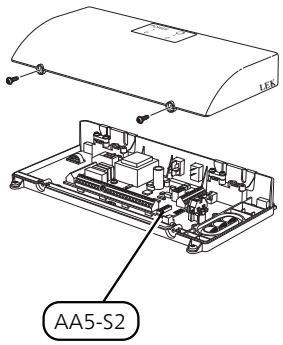
F1345/F1355

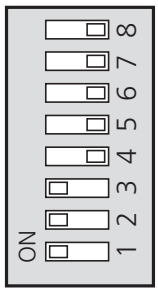


F1345/F1355



The DIP switch (AA5-S2) has to be set as follows.





AA5-S2

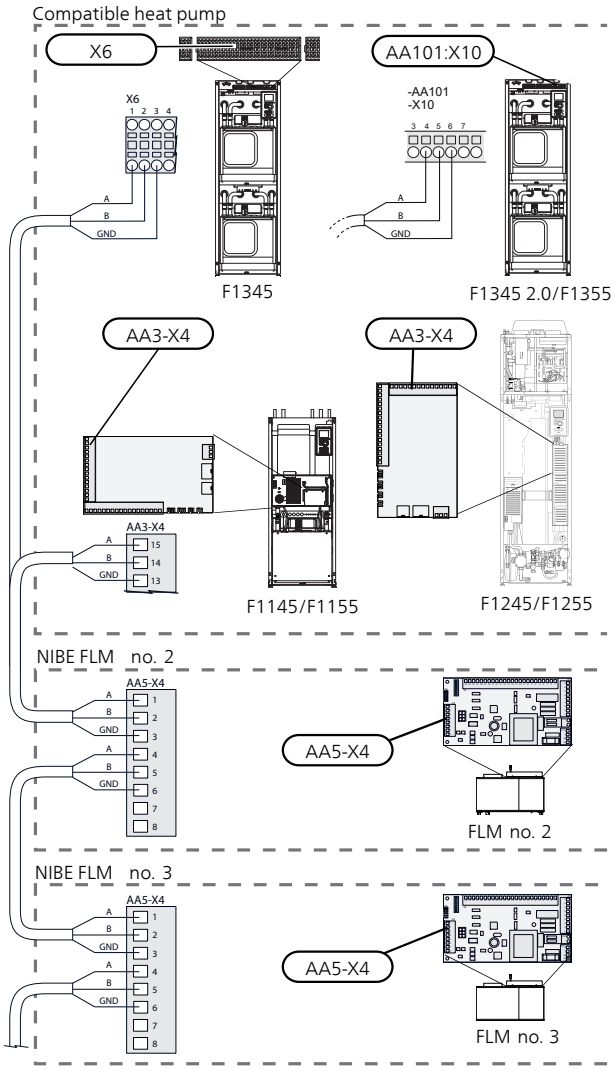
Connecting the communication to NIBE FLM no. 2-4

NIBE FLM no. 2 connects directly to the heat pump on the input board (terminal block AA3-X4) in F1145/F1155/F1245/F1255 or on terminal block X6 in F1345 and on terminal block AA101:X10 in F1345 2.0/F1355.

NIBE FLM no. 3 connects to the accessory board's terminal block (AA5-X4) in NIBE FLM no. 2.

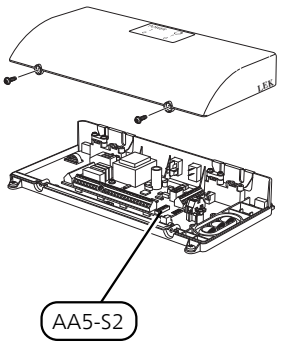
NIBE FLM no. 4 connects in a similar way in NIBE FLM no. 3.

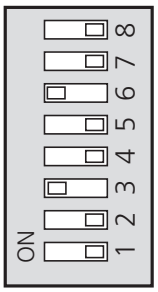
Use cable type LiYY, EKKX or similar.



NIBE FLM 2-4 can be connected in a similar way to a previously installed accessory and its accessory board.

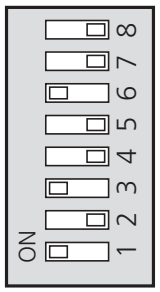
The DIP switch (AA5-S2) must be set as follows.





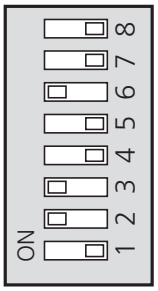
AA5-S2

NIBE FLM no. 2



AA5-S2

NIBE FLM no. 3



AA5-S2

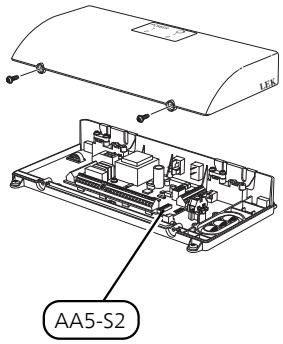
NIBE FLM no. 4

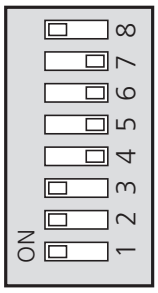
CONNECTING TO ANOTHER HEAT PUMP

In cases where NIBE FLM is installed together with another heat pump, connect the exhaust air module to a grounded single phase wall socket or through a permanent installation. For permanent installations, NIBE FLM must be preceded by a circuit breaker with at least a 3 mm breaking gap.

For installation with another heat pump, do not connect control cable (W6).

The DIP switch (AA5-S2) must be set as follows.





AA5-S2

OPTIONAL CONNECTIONS

Room sensor for FLM cooling

For optimum function, a separate room sensor (AZ1-BT50) should be connected when installing with cooling. This sensor is placed in the room that is to be kept coolest. The room sensor has up to three functions:

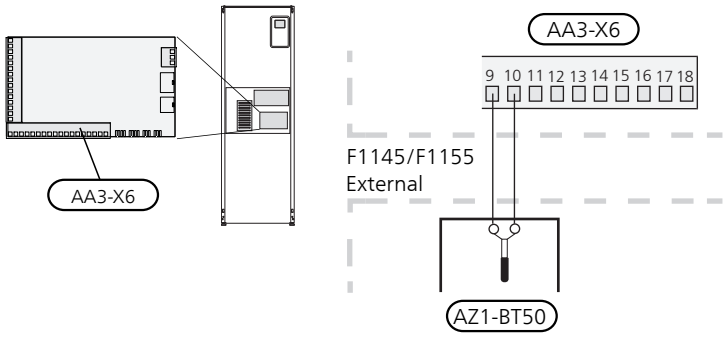
- Offers the opportunity to set a different target temperature in the room that is to be kept coolest.
- Show current room temperature in the display on the heat pump.
- Provides the opportunity to activate FLM cooling.

Install the sensor in a neutral position where the set temperature is required, 1.5 m above the floor. It is important that the sensor is not prevented from measuring the correct room temperature, for example by being located in a recess, between shelves, behind a curtain, above or close to a heat source, in a draught from an external door or in direct sunlight. Closed radiator thermostats can also cause problems.

Connection of room sensor for FLM cooling

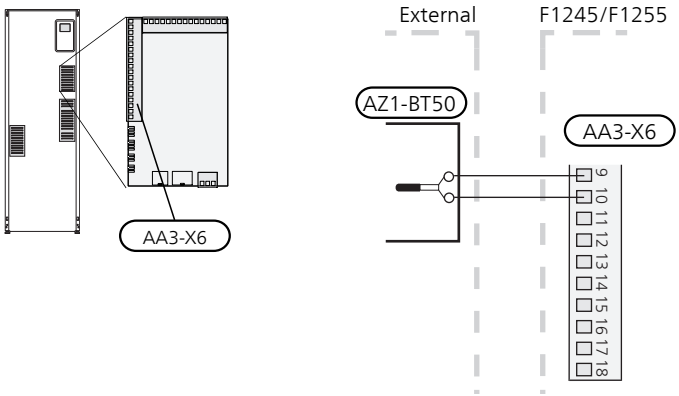
F1145/F1155

Room sensor (AZ1-BT50) is connected to any AUX input (AA3-X6:9-18).



F1245/F1255

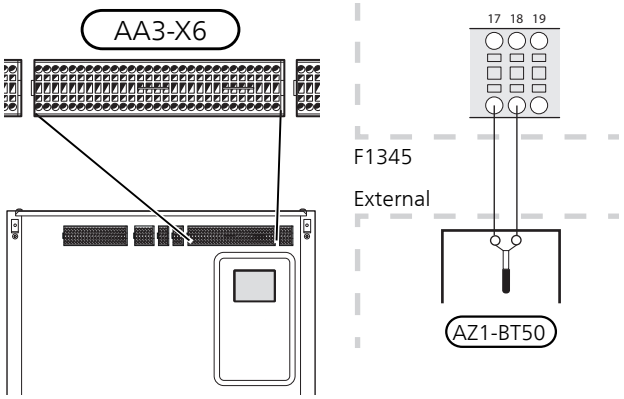
Room sensor (AZ1-BT50) is connected to any AUX input (AA3-X6:9-18).



F1345/F1355

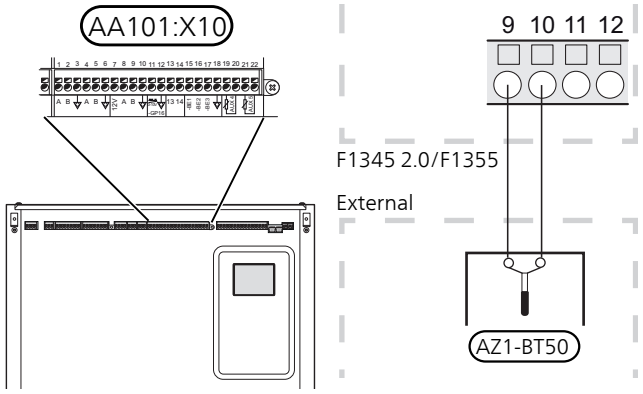
F1345 without 2.0

Room sensor (AZ1-BT50) is connected to any AUX input (AA3-X6:17-19)



F1345 with 2.0/F1355

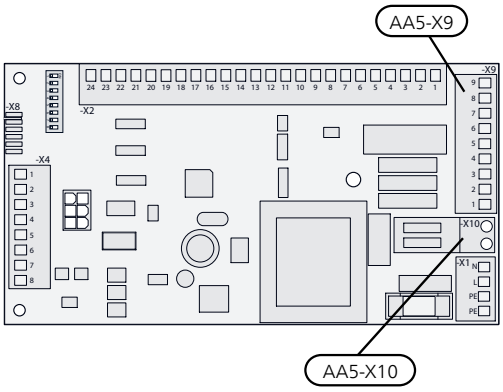
Room sensor (AZ1-BT50) is connected to any AUX input (AA101-X10:9-14, 19-22)

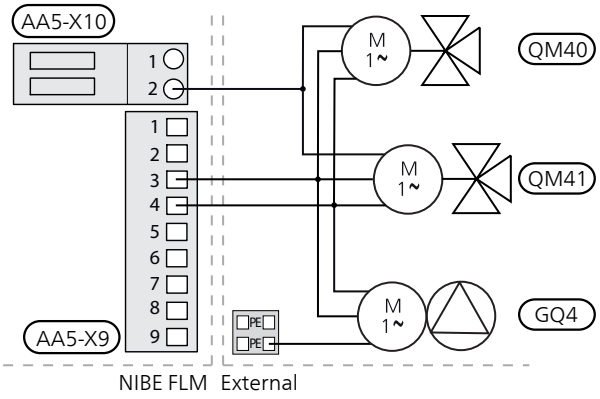


Connection of duct fan and damper for FLM cooling

Connect the fan (GQ4) and the damper (QM40) (QM41) for AA5-X9:4 (signal), AA5-X9:3 (N) and AA5-X10:2 (230V).

The connection on AA5-X10 and PE are occupied and these must be spliced with a clamp.





6 Commissioning and adjusting

Preparations

1. Check that the switch (SF1) for the compatible heat pump is in position "⏻".
2. Check that the filling valves are fully closed (see image).

Filling and venting

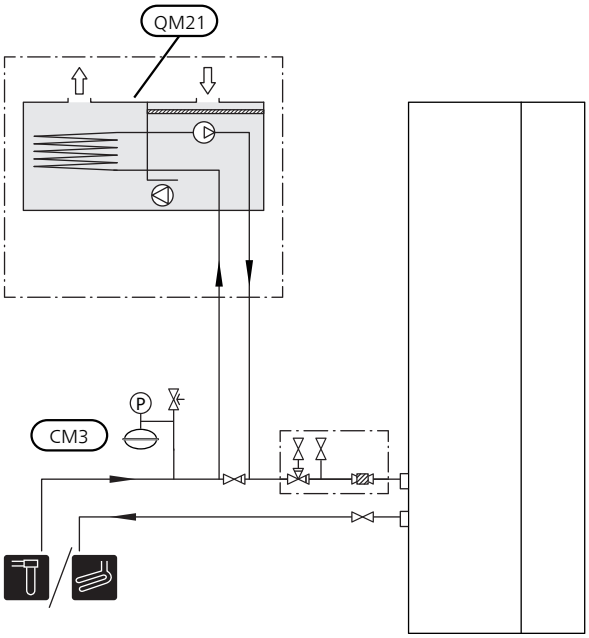
Caution

Insufficient venting can damage internal components in NIBE FLM.

FILLING AND VENTING THE BRINE SYSTEM

When filling the brine system, mix the water with antifreeze in an open container. The mixture should be protected against freezing down to about -15°C. The brine is topped up by connecting a filling pump.

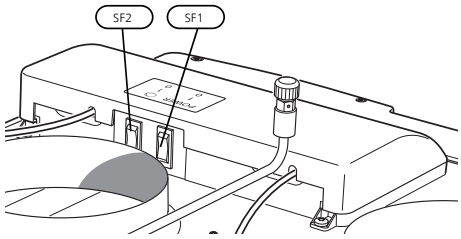
1. Check that the level vessel is replaced with expansion vessel (CM3).
2. Check the brine system for leakage.
3. Connect the filling pump and return line on the brine system's filling connection (QZ20) (accessory).
4. Close the reversing valve in the filling connection (QZ20).
5. Open the valves on the filling connection (QZ20).
6. Start the filling pump.
7. Fill until liquid enters the return pipe.
8. Vent the brine system with vent valve (QM21) on NIBE FLM.
9. Close the valves on the filling connection (QZ20).
10. Open the reversing valve in the filling connection (QZ20).



NOTE

Venting may be necessary during installation and after a period of use. Venting takes place through vent valve (QM21). When venting, set the switch for the circulation pump (SF2) to position "0".

Start-up and inspection



START-UP WITH COMPATIBLE HEAT PUMP

> ⚠ *NOTE*
>
> At cold outdoor temperatures and when the exhaust air fan in the compatible heat pump is running, NIBE FLM must not be deactivated or switched off using the mains plug. This creates a risk of NIBE FLM freezing.

1. Set the main switch (SF1) and the switch for the circulation pump (SF2) on NIBE FLM to position "1".
2. Set the heat pump's switch (SF1) to "I".
3. Follow the instructions in the start guide in the heat pump display. If the start guide does not start when you start the heat pump, start it manually in menu 5.7.
4. Check that the fan (GQ2) and circulation pump (GP2) are running.

Starting-up with ventilation only

In cases where NIBE FLM is to be run with ventilation only, e.g. before the brine side is ready for connection. In this mode the circulation pump must be switched off.

1. Follow points 1-4 under "Starting with NIBE heat pumps", but leave the switch for circulation pump (SF2) in "0" mode.
2. When the brine side is connected, the switch for circulation pump (SF2) is set to mode "1".

Commissioning with a compatible heat pump

The first time the heat pump is started a start guide is started. The start guide instructions state what needs to carried out at the first start together with a run through of the heat pump's basic settings.

The start guide ensures that start-up is carried out correctly and cannot be bypassed. The start guide can be started later in menu 5.7.

The brine flow over NIBE FLM is regulated by the circulation pump (GP2) and trim valve (RN1) so that the temperature difference on brine in and out from NIBE FLM is 2–4°C. The temperature is measured using external test equipment.

Adjustments are made when the heat pump is in operation. Temperature difference applies at 20 °C room temperature and 0 °C in the brine.

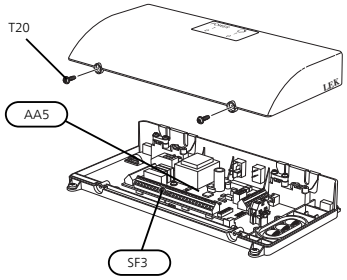
The brine flow through NIBE FLM will be from 0.1 l/s (360 l/h) to 0.15 l/s (540 l/h) at the above temperature difference, depending on the ventilation flow.

When the heat pump is at a standstill, the internal circulation pump in NIBE FLM gives from 0.085 l/s (306 l/h) to 0.125 l/s (450 l/h) in the return charging flow to the collector.

This applies to a heat pump with approximately 4 kW rated output.

For a 15 kW heat pump, the corresponding flow is from 0.09 l/s (324 l/h) to 0.14 l/s (504 l/h).

> ☞ *Caution*
>
> As long as the start guide is active, no function in the installation will start automatically.
>
> The guide will appear at each installation restart until it is deselected on the last page.



STARTING-UP WITH ANOTHER HEAT PUMP

1. Set the main switch (SF1) and the switch for the circulation pump (SF2) on NIBE FLM to position "1".
2. Disconnect the PWM cable from terminal AA5-X2:7-8. Insulate the wires properly.
3. Check that the fan (GQ2) and the circulation pump (GP2) are in operation.
4. Set the speed of the fan using the potentiometer (SF3).
5. Start the heat pump.

Starting-up with ventilation only

In cases where NIBE FLM is to be run with ventilation only, e.g. before the brine side is ready for connection. In this mode the circulation pump must be switched off.

1. Follow points 1-6 under "Starting with another heat pump", but leave the switch for the circulation pump (SF2) in "0" position.
2. When the brine side is connected, set the switch for the circulation pump (SF2) to position "1".

Starting-up with another heat pump

Start the brine pump in the heat pump (see your heat pump's handbook).

The brine flow over NIBE FLM is regulated by the trim valve (RN1), so that the temperature difference for brine in and out from NIBE FLM is 2–4°C. The temperature is measured using external test equipment.

Adjustments are made when the heat pump is running. Temperature difference applies at 20 °C room temperature and 0 °C in the brine.

The brine flow through NIBE FLM will be from 0.1 l/s (360 l/h) to 0.15 l/s (540 l/h) at the above temperature differences, depending on the ventilation flow.

When the heat pump is at a standstill the internal circulation pump in NIBE FLM gives from 0.085 l/s (306 l/h) to 0.125 l/s (450 l/h) in the return charging flow to the collector. This applies to a heat pump with approximately 4 kW rated output. For a 15 kW heat pump the corresponding flow is from 0.09 l/s (324 l/h) to 0.14 l/s (504 l/h).

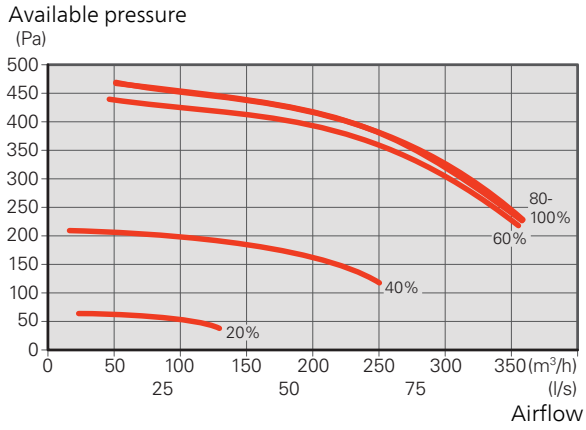
SETTING THE VENTILATION

Ventilation must be set according to applicable standards. If NIBE FLM is connected to a compatible heat pump, the setting is adjusted in menu 5.1.5. Otherwise the ventilation capacity is set via potentiometer (AA5-SF3).

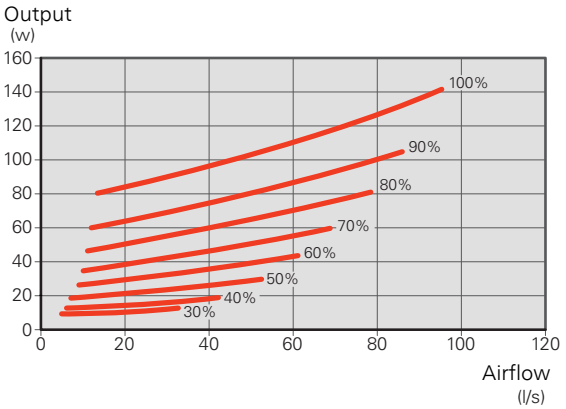
Even if ventilation is roughly set at installation it is important that a ventilation adjustment is ordered and permitted.

> ⚠ *NOTE*
>
> Order a ventilation adjustment to complete the setting.

Ventilation capacity

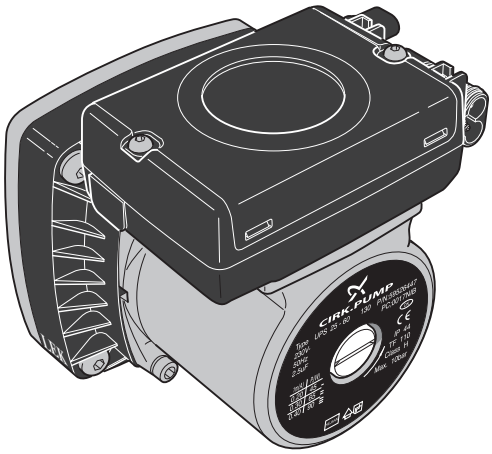


Power direct current fan

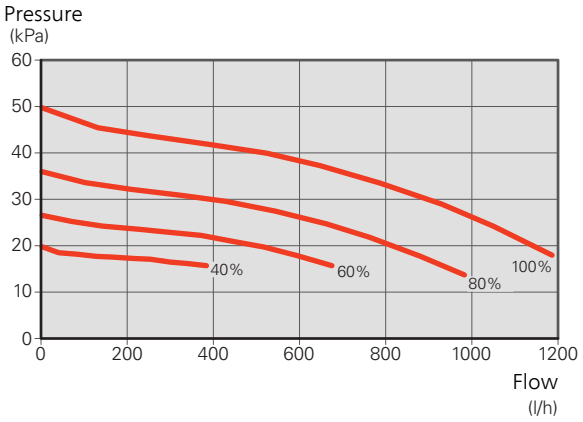


SETTING PUMP SPEED

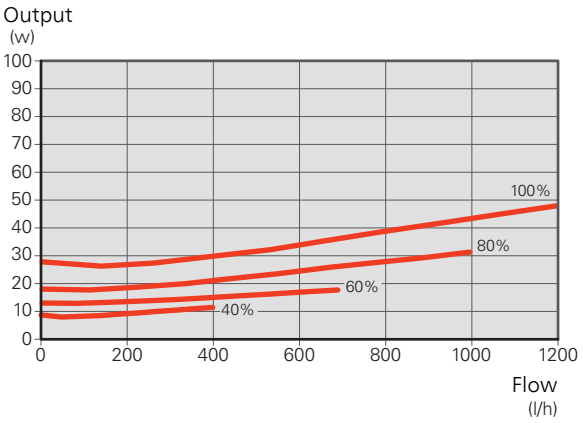
Set the circulation pump speed (GP2) in menu 5.3.1. For other heat pumps, the trim valve is used to set the flow.



Capacity circulation pump



Output circulation pump



7 Program settings

Program setting of NIBE FLM can be performed via the start guide or directly in the menu system in the compatible heat pump.

Caution

See also the User/Installer manual for the heat pump.

Start guide

The start guide appears upon first start-up after heat pump installation, but is also found in menu 5.7.

Menu system

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

MENU 5.2.4. - SYSTEM SETTINGS

Activating/deactivating of accessories.

Select "exhaust air module 1-4"".

MENU 1.3.3 - SCHEDULING VENTILATION

Increases or decreases in the ventilation to the accommodation can be scheduled here for up to two time periods per day.

MENU 1.9.6 - FAN RETURN TIME

Here you select the return time for temporary speed change (speed 1-4) on the ventilation in menu 1.2.

Return time is the time it takes before ventilation speed returns to normal.

MENU 1.9.9 - NIGHT COOLING

You can activate night cooling here. This always runs at fan speed 4.

activated

Activate night cooling.

start temp. exhaust air

Here you set the indoor temperature at which night cooling is to be permitted. When the indoor temperature exceeds this value, the ventilation is permitted to increase, if heating is not active and the temperature outdoors is below the set difference.

min diff. outdoor-exhaust

Here you can select how much lower the outdoor temperature has to be for the ventilation to increase.

MENU 5.1.5 - FAN SP. EXHAUST AIR

Set the speed for the five different selectable speeds for the fan here.

Caution

An incorrectly set ventilation flow can damage the house and may also increase energy consumption.

MENU 5.3.1 - FLM

Activates "continuous pump op." in NIBE FLM.

pump speed

Here you select the speed of the circulation pump in NIBE FLM. See pump diagram and pump adjustment.

time between defrosts

Here you can select the minimum time between defrost cycles of the heat exchanger in the exhaust air module. Defrosting only occurs if there is a risk of ice build-up, due to cold inlet/exhaust air.

months btwn filter alarms

Here you can set the number of months between each time the heat pump informs that it is time to clean the filter in the exhaust air module.

activate cooling

Here you activate FLM cooling. For cooling to run, there must be a room sensor (AZ1-BT50) connected to the main product.

MENU 5.4 - SOFT IN/OUTPUTS

Here you select the room sensor for FLM cooling (AZ1-BT50) on the relevant AUX input.

MENU 1.9.12 - FLM COOLING

Set the start and stop values here.

Cooling is activated at the set start value + difference and cools to the stop value.

FLM cooling always runs at fan speed 3.

Caution

Cooling can be activated at the same time as there is a heating demand.

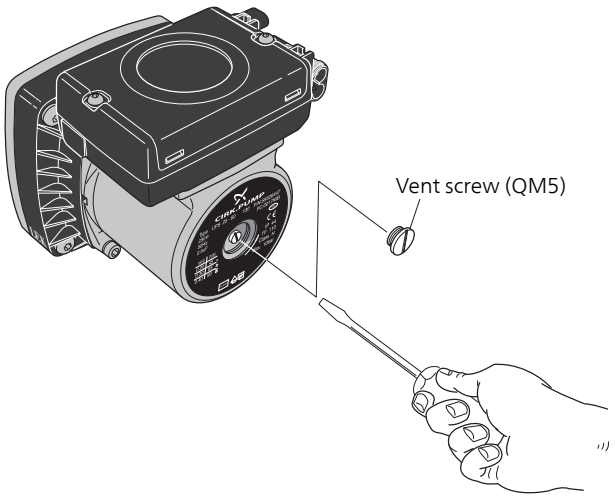
8 Service

Service actions

HELPING THE CIRCULATION PUMP TO START

1. Turn off NIBE FLM by setting the switch (SF1) to "0".
2. Remove the front cover
3. Remove the fan.
4. Loosen the venting screw (QM5) with a screwdriver. Hold a cloth around the screwdriver blade as a small amount of water may run out.
5. Insert a screwdriver and turn the pump motor around.
6. Screw in the venting screw (QM5).
7. Start NIBE FLM by setting the switch (SF1) to “1” and check that the circulation pump is working.

It is usually easier to start the circulation pump with NIBE FLM running, and with the switch (SF1) set to "1". If the circulation pump is helped to start while NIBE FLM is running, be prepared for the screwdriver to jerk when the pump starts.



9 Disturbances in comfort

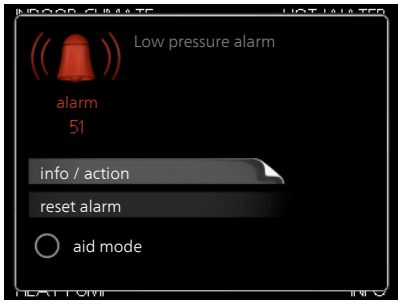
If NIBE FLM is not installed together with a compatible heat pump, go directly to section Troubleshooting.

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.

Info menu

All the installation's measurement values are gathered under menu 3.1 in the heat pump's menu system. Examining the values in this menu can often make it easier to identify the source of the fault.

Manage alarm



If there is an alarm, some kind of malfunction has occurred, which is indicated by the status lamp changing from a steady green to a steady red light. In addition, an alarm clock appears in the information window in the compatible heat pump.

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 many cases, it is sufficient to select "reset alarm" for the product to revert to normal operation. If a green light comes on after selecting "reset alarm", the alarm has been remedied. If the red light is still on, and a menu called "alarm" is visible in the display, the problem causing the alarm still remains.

aid mode "aid mode" is a type of emergency mode. This means that the heat pump produces heat and/or hot water even if there is some kind of problem with the heat pump. This could mean that the heat pump's compressor is not in operation. 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.

Troubleshooting

If the malfunction does not appear in the display or NIBE FLM 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 NIBE FLM is connected.
- Group and main fuses of the accommodation.
- The property's earth circuit breaker.

LOW OR A LACK OF VENTILATION

- Filter (HQ10) blocked.
  - Clean or replace the filter.
- The ventilation is not adjusted.
  - Order/implement ventilation adjustment.
- Exhaust air device blocked or throttled down too much.
  - Check and clean the exhaust air devices.
- Fan speed in reduced mode.
  - If NIBE FLM is connected to a compatible heat pump: Enter menu 1.2 and select "normal".

    If NIBE FLM is connected to another heat pump: Check the potentiometer (SF3).
- External switch for changing the fan speed activated.
  - Check any external switches.

HIGH OR DISTRACTING VENTILATION

- Filter (HQ10) blocked.
  - Clean or replace the filter.
- The ventilation is not adjusted.
  - Order/implement ventilation adjustment.
- Fan speed in forced mode.
  - If NIBE FLM is connected to a compatible heat pump: Enter menu 1.2 and select "normal".

    If NIBE FLM is connected to another heat pump: Check the potentiometer (SF3).
- External switch for changing the fan speed activated.
  - Check any external switches.

GURGLING SOUND

- Not enough water in the water seal.
  - Refill the water seal with water.
- Choked water seal.
  - Check and adjust the condensation water hose.

10 Accessories

BRACKET BAU 10

Wall mounting of NIBE FLM.

Part no. 067 526

TOP CABINET

Top cabinet that conceals the ventilation ducts.

Height 245 mm

Part no. 067 517

Height 345 mm

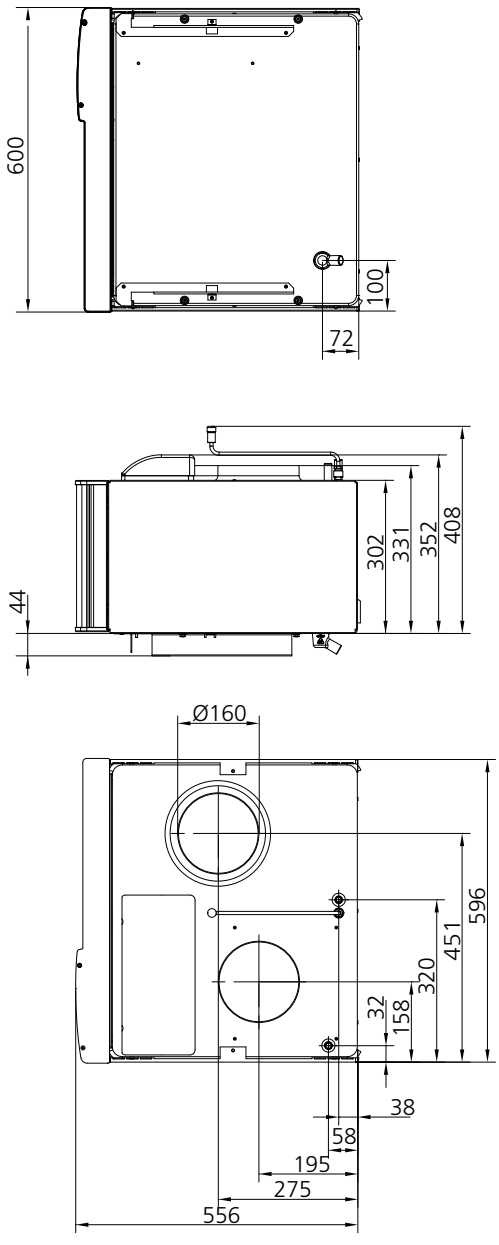
Part no. 067 518

Height 385-635 mm

Part no. 067 519

11 Technical data

Dimensions and setting-out coordinates

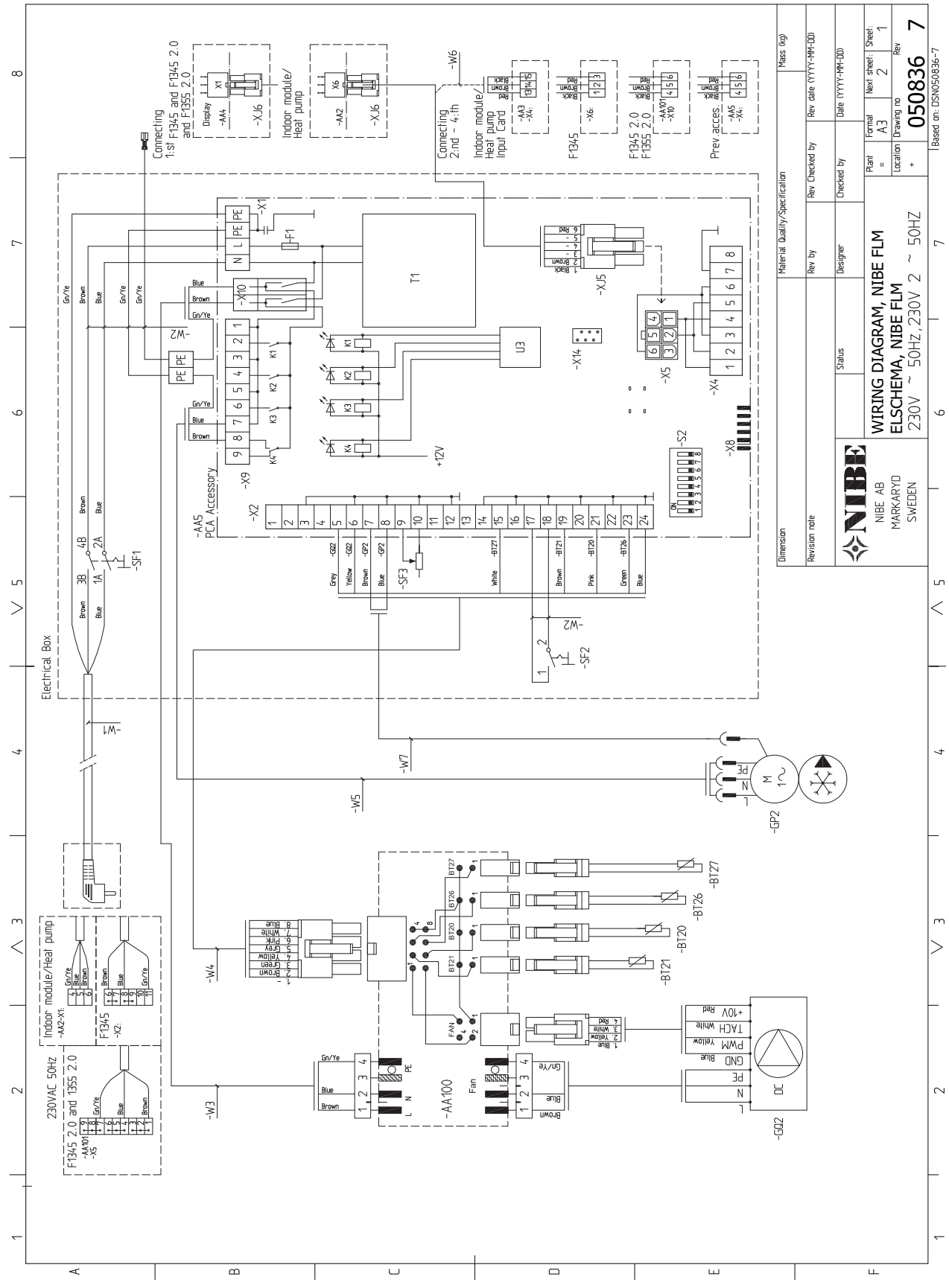


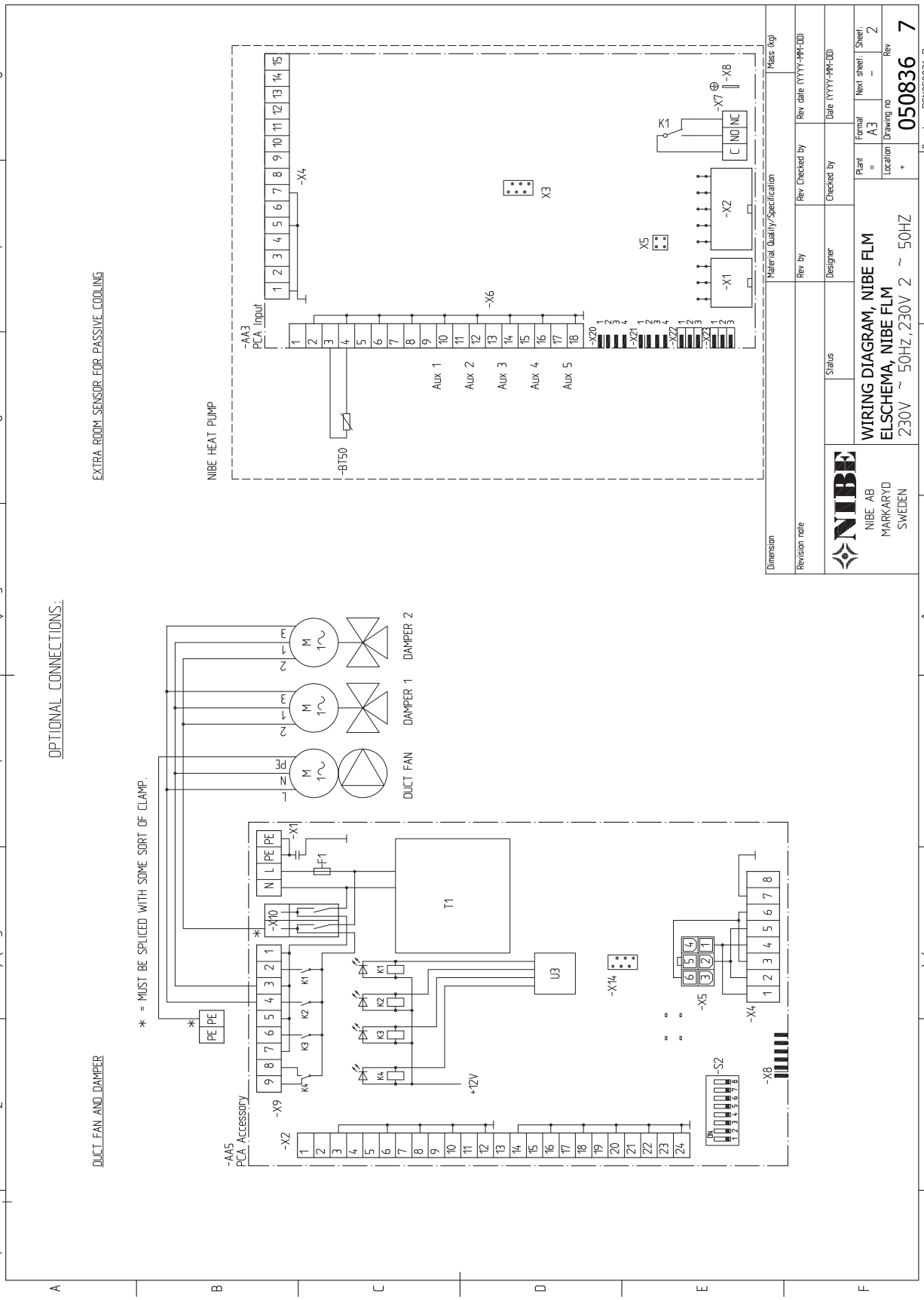
Technical specifications

NIBE FLM		
Electrical data		
Supply voltage	V	230 V NAC 50 Hz
Max driving power circulation pump	W	70
Driving power fan	W	175
Enclosure class		IP21
Ventilation		
Max airflow	m^3/h	350
Brine circuit		
Minimum incoming brine temperature	°C	-8
Maximum recommended incoming brine temperature	°C	15
Maximum outgoing brine temperature	°C	30
Min pressure brine	MPa/bar	0.02/0.2
Maximum pressure brine	MPa/bar	0.3/3
Sound power level according to EN 12,102		
Sound power level ($L_{W(A)}$)[1]	dB(A)	36-46
Miscellaneous		
Width	mm	600
Depth	mm	556
Height	mm	396
Weight	kg	35
Part No.		067 011

[1] The value varies with the selected fan curve.

Electrical circuit diagram




OPTIONAL CONNECTIONS:
DUCT FAN AND DAMPER
EXTRA ROOM SENSOR FOR PASSIVE COOLING
* = MUST BE SPLICED WITH SOME SORT OF CLAMP.
NIBE HEAT PUMP
-AA3
PCA Input
-AA5
PCA Accessory
-BT50
Aux 1
Aux 2
Aux 3
Aux 4
Aux 5
DUCT FAN
DAMPER 1
DAMPER 2
+12V
T1
U3
F1
K1
K2
K3
K4
-X1
-X2
-X3
-X4
-X5
-X6
-X7
-X8
-X9
-X10
-X14
-X20
-X21
-X22
-X23
-S2
WIRING DIAGRAM, NIBE FLM
ELSCHEMA, NIBE FLM
230V ~ 50Hz, 230V 2 ~ 50HZ
NIBE AB
MARKARYD
SWEDEN
050836 7
Based on: DSN050836-7

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T

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