Exhaust air heat pump
NIBE F730

❖ NIBE

Quick guide

Navigation

Ok button (confirm/select)

Back button (back/undo/exit)

Control knob (move/increase/reduce)
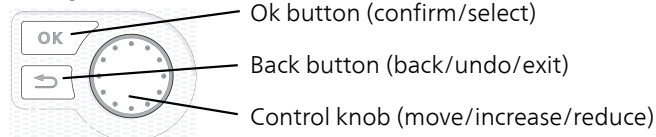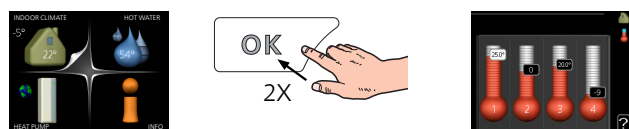
A detailed explanation of the button functions can be found on .

How to scroll through menus and make different settings is described on .

Set the indoor climate

The mode for setting the indoor temperature is accessed by pressing the OK button twice, when in the start mode in the main menu.

Increase hot water volume

To temporarily increase the amount of hot water, first turn the control knob to mark menu 2 (water droplet) and then press the OK button twice.

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.

©NIBE 2018.

Water may drip from the safety valve's overflow pipe, so this pipe must be inclined along its entire length to prevent water pockets. It must also be frost-proof. The overflow pipe must be visible and its outlet must be open.

F730 must be installed with a disconnection option on the supply cable. Minimum cable area must be sized according to the fuse rating used. Electrical installation and wiring must be carried out in accordance with applicable regulations.

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.

💡 *TIP*

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

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.

Read the User Manual.

Read the Installer Manual.

Serial number

The serial number can be found at the bottom right of the front cover and in the info menu (menu 3.1).
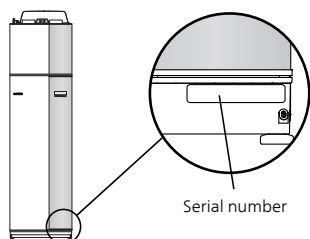
Serial number

> 🖝 *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.

  Do not dispose of used products with normal household waste. It must be disposed of at a special waste station or dealer who provides this type of service.

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

Environmental information

This unit contains a fluorinated greenhouse gas that is covered by the Kyoto agreement.

F-GAS REGULATION (EU) NO. 517/2014

The equipment contains R407C, a fluorinated greenhouse gas with a GWP value (Global Warming Potential) of 1774. Do not release R407C into the atmosphere.

Inspection of the installation

Current regulations require the heating installation 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.

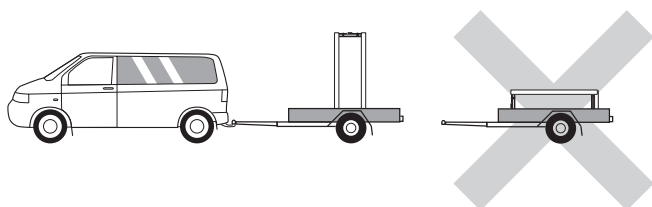| ✔	Description	Notes	Signature	Date
	Ventilation (page 21)			
	Setting ventilation flow exhaust air			
	Heating medium (page 17)			
	System flushed			
	System vented			
	Safety valve			
	Pressure in the climate system			
	Hot water (page 17)			
	Mixing valve			
	Safety valve			
	Electricity (page 23)			
	Connections			
	Main voltage			
	Phase voltage			
	Fuses heat pump			
	Fuses property			
	Outside sensor			
	Room sensor			
	Safety breaker			
	Earth circuit-breaker			

2 Delivery and handling

Transport

F730 is supplied in two sections and can be installed separately or as one unit. The images in this manual show F730 installed as one unit. For more information see page 18.

F730 should be transported and stored vertically in a dry place. However. the F730 may be carefully laid on its back when being moved into a building. The centre of gravity is in the upper part.

Assembly

- Position F730 on a fixed foundation that can take the weight of the heat pump. Use the product's adjustable feet to obtain a horizontal and stable set-up.

  Because water comes from F730, the floor coating is important. A waterproof floor or floor membrane is recommended.

20-55 mm
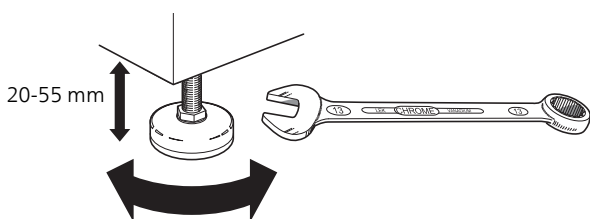
- Because water comes from F730, it is good if the area where the heating pump is located is provided with floor drainage.

- 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.

- The heat pump's installation area should always have a temperature of at least 10 °C and max 30 °C.

INSTALLATION AREA

Leave a free space of 800 mm in front of the product. Leave free space between F730 and wall/other machinery/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.

800
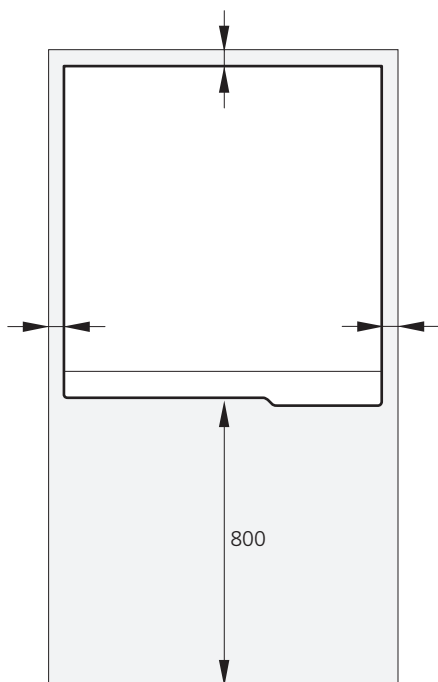
⚠ **NOTE**

Ensure that there is sufficient space (300 mm) above the heat pump for installing ventilation hoses.

Supplied components
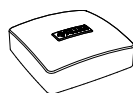
Outside sensor

Room sensor

Vent hose
(length 4 m)

Extra air filter
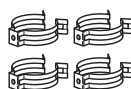
Clips

Screw

O-rings

Front hatch,
air treatment section
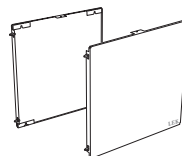
Side panels,
air treatment unit

LOCATION

The kit of supplied items is placed on top of the product.

Removing the covers

FRONT COVER
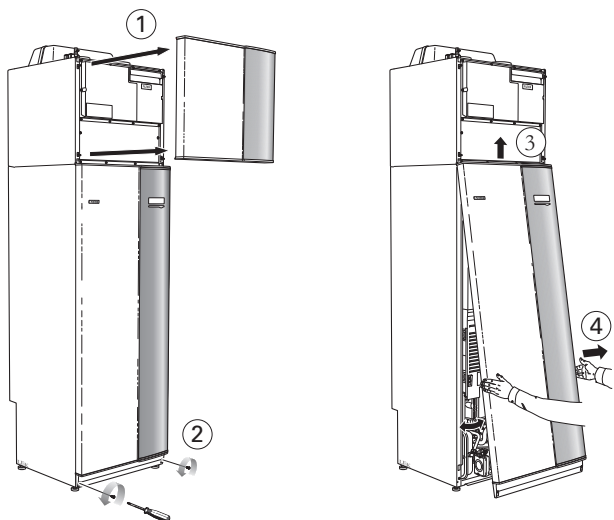
1. Remove the upper panel by pulling it straight out.
2. Remove the screws from the lower edge of the front panel.
3. Lift the panel out at the bottom edge and up.
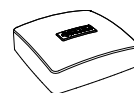4. Pull the panel towards yourself.

SIDE COVERS
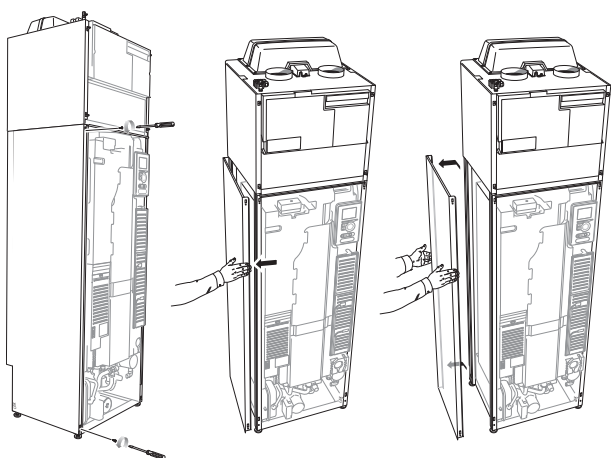
The side covers can be removed to facilitate the installation.

1. Remove the screws from the upper and lower edges.
2. Twist the cover slightly outward.
3. Move the hatch backwards and slightly to the side.
4. Pull the cover to one side.
5. Pull the hatch forwards.

Removing parts of the insulation

Parts of the insulation can be removed to facilitate the installation.

INSULATION, TOP

1. Disconnect the cable from the motor and remove the motor from the shuttle valve as illustrated.
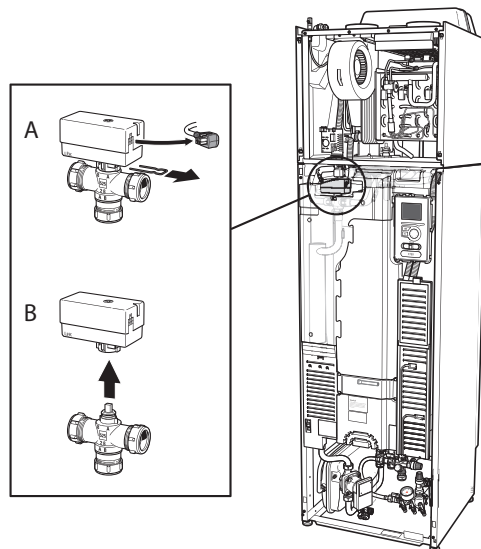
2. Grip the handle and pull straight out as illustrated.
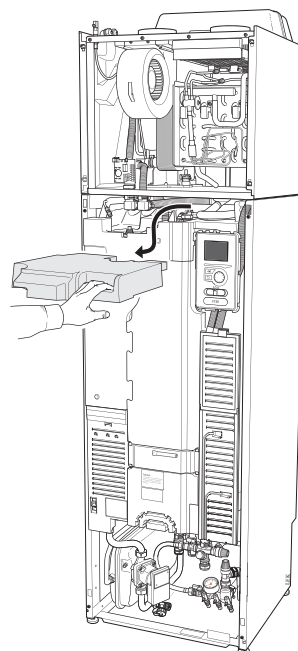
INSULATION, IMMERSION HEATER

> ⚠ **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.

1. Remove the cover for the junction box according to the description on page 24.

2. Grip the handle and pull the insulation carefully towards you as illustrated.
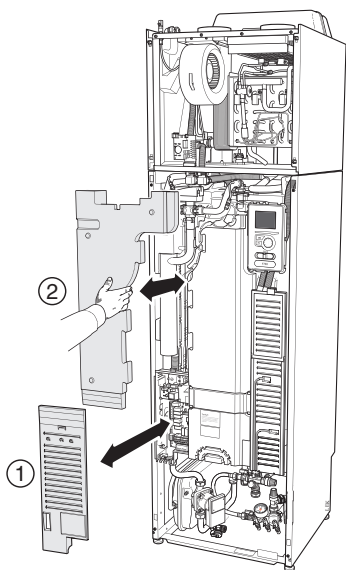
> 🔆 **TIP**
>
> Remove the hatch for the immersion heater card so that it is easier to remove the insulation (see page 24).

3 The heat pump design

General

UB1
UB2
W130
QN10
BT7
BT2
AA4
SF1
AA4-XF4
AA4-XF3
XL2 RM1 QZ2 QM11 FL1 FL2 EB1
AA3
BT30
AA23
FQ10
BT6
AA1
AA2
PZ1
RF3
PZ3
WP3
FC1
WP1
WM6
WP2
WM2
WM1
BP5
GP1 XL4 XL3 QM13 XL1
CM1 XL10 QM10 QM26 QM20 QM22

PIPE CONNECTIONS

XL1   Connection, heating medium flow line
XL2   Connection, heating medium return line
XL3   Connection, cold water
XL4   Connection, hot water
XL10   Connection, draining heating medium

HVAC COMPONENTS

CM1   Expansion vessel
FL1   Safety valve, water heater
FL2   Safety valve, climate system
GP1   Circulation pump
QM10   Filler valve, hot water heater
QM11   Filler valve, climate system
QM13   Filler valve 2, climate system
QM20   Venting, heating medium
QM22   Venting, coil
QM26   Venting, heating medium 2
QN10   Shuttle valve, climate system/water heater
QZ2   Filterball
RM1   Non-return valve
WM1   Overflow cup
WM2   Overflow water discharge
WM6   Water seal
WP1   Overflow pipe, safety valve hot water heater
WP2   Overflow pipe, safety valve climate system
WP3   Overflow pipe, condensation
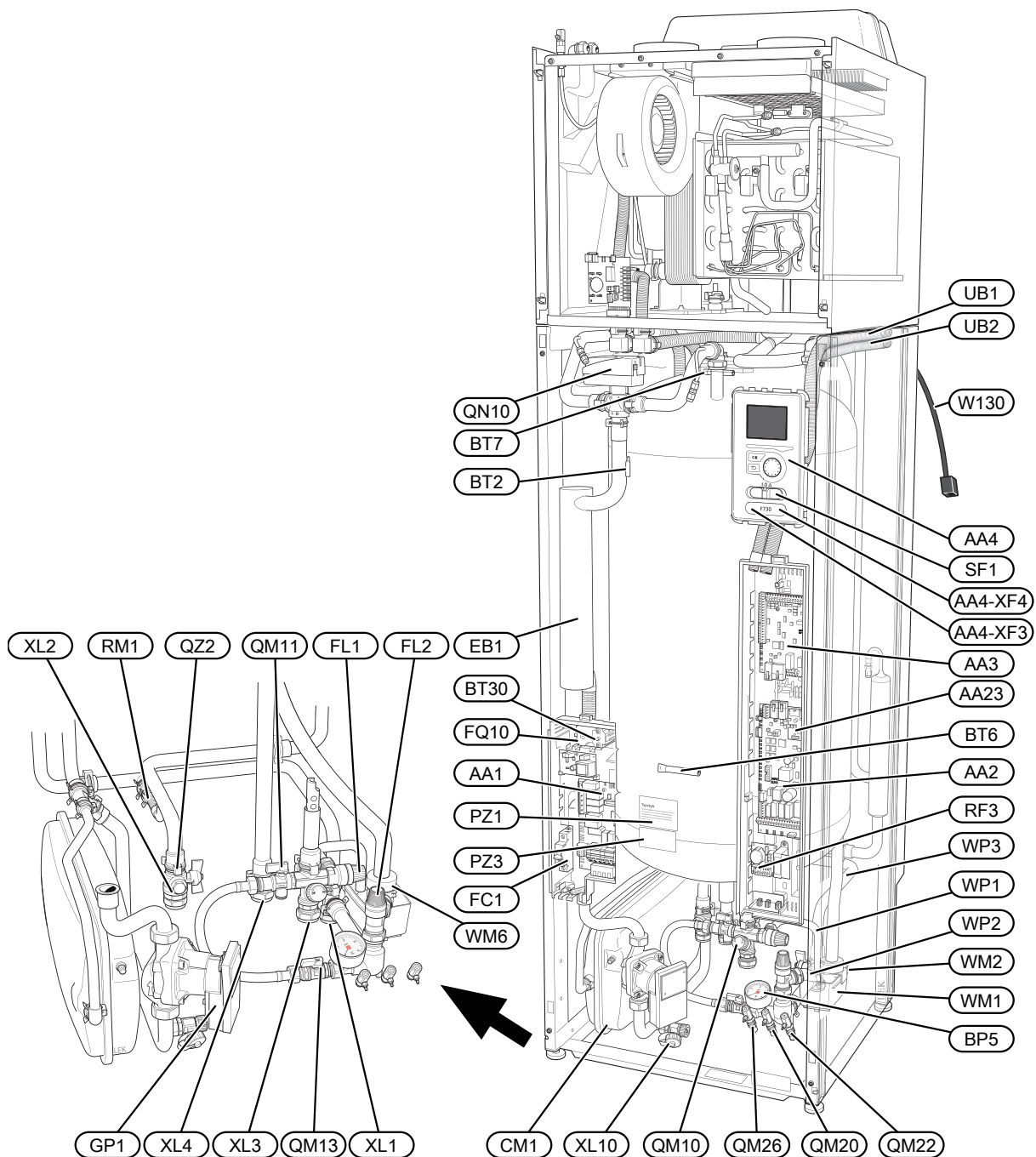
SENSORS ETC.

BF1   Flow sensor (located on the rear of the machine)
BP5   Pressure gauge, heating system
BT1   Outside sensor[1]
BT2   Temperature sensors, heating medium flow
BT6   Temperature sensor, hot water, control
BT7   Temperature sensor, hot water, display
BT30   Thermostat, backup heating
BT50   Room sensor[1]

ELECTRICAL COMPONENTS

AA1   Immersion heater card
AA2   Base card
AA3   Input circuit board
AA4   Display unit
        AA4-XF3 USB socket
        AA4-XF4 Service socket
AA23   Communication board
EB1   Immersion heater
FC1   Miniature circuit-breaker
FQ10   Temperature limiter
RF3   EMC card
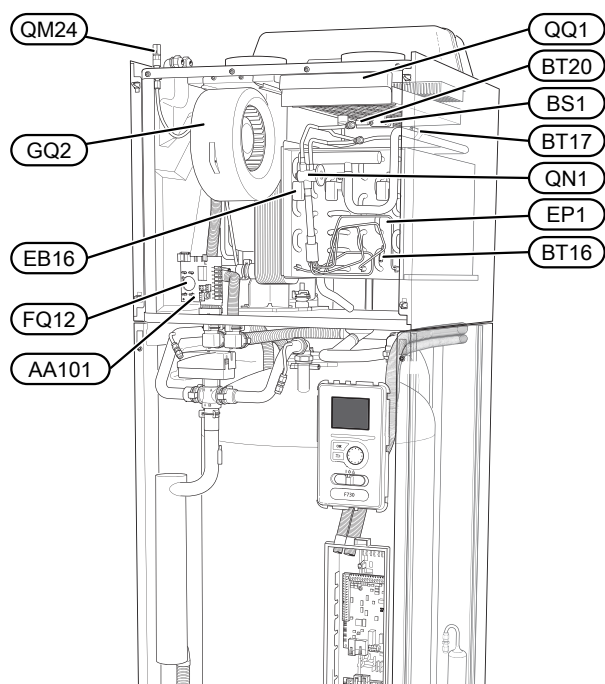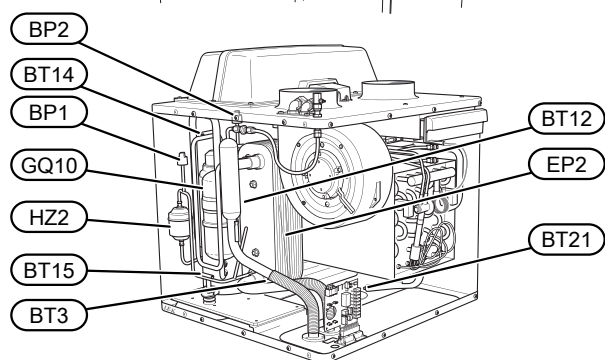SF1   Switch
W130   Network cable for NIBE Uplink[TM]

MISCELLANEOUS

PZ1   Rating plate
PZ3   Serial number plate
UB1-2   Cable gland

[1]Not visible in the image

Designations in component locations according to standard IEC 81346-2.

Air treatment unit
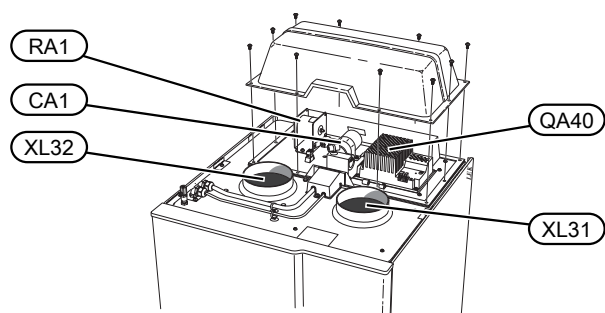
PIPE CONNECTIONS

XL31   Ventilation connection, exhaust air
XL32   Ventilation connection, extract air

HVAC COMPONENTS

QM24   Venting, heat exchanger

SENSORS ETC.

BP1   High pressure pressostat
BP2   Low pressure pressostat
BS1   Air speed sensor
BT3   Temperature sensors, heating medium return
BT12   Temperature sensor, heating medium flow after condenser
BT14   Temperature sensor, hot gas
BT15   Temperature sensor, fluid pipe
BT16   Temperature sensor, evaporator[1]
BT17   Temperature sensor, suction gas
BT20   Temperature sensor, exhaust air
BT21   Temperature sensor, extract air

ELECTRICAL COMPONENTS

AA101   Connection card sensor
CA1   Capacitor
EB16   Defrosting element
FQ12   Temperature limiter, defrosting element
QA40   Inverter
RA1   Choke

COOLING COMPONENTS

EP1   Evaporator
EP2   Condenser
GQ10   Compressor
HZ2   Drying filter
QN1   Expansion valve

VENTILATION

GQ2   Exhaust air fan
HQ10   Exhaust air filter[1]
QQ1   Filter cover, exhaust air

[1]Not visible in the image

Designations in component locations according to standard IEC 81346-2.

4 Pipe and ventilation connections

General pipe connections

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

The system requires the radiator circuit to be designed for a low temperature heating medium. At the lowest dimensioned outdoor temperature (DOT) the highest recommended temperatures are 55 °C on the supply line and 45 °C on the return line.

Overflow water from the evaporator collection tray and safety valves passes via a non-pressurised pipe to an overflow cup, and from there to a drain, so that hot water splashes cannot cause injury. The entire length of the overflow water pipe must be inclined to prevent water pockets and must also be frost-proof.

> ⚠️ **NOTE**
>
> The pipe system needs to be flushed out before the heat pump is connected so that any debris cannot damage component parts.

> ☞ **Caution**
>
> Ensure that incoming water is clean. When using a private well, it may be necessary to supplement with an extra water filter.

MAX. VOLUME IN THE HEATING SECTION AND THE CLIMATE SYSTEM

The volume of the pressure expansion vessel (CM1) is 10 litres and it is pre-pressurised as standard to 0.5 bar (5 mvp). As a result, the maximum permitted height "H" between the expansion vessel and the highest installed radiator is 5 m, see figure.

If the pre-pressure is not high enough, it can be increased by adding air via the valve in the expansion vessel. The expansion vessel's pre-pressure must be stated in the inspection document. Any change in the pre-pressure affects the ability of the expansion vessel to handle the expansion of the water.

The maximum system volume, excluding the heating section, is 285 litres at the above pre-pressure.
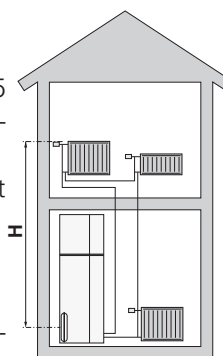
SYSTEM DIAGRAM

When the room temperature exhaust air, and in certain cases outdoor air, passes through the evaporator, the refrigerant evaporates because of its low boiling point. In this way the energy in the room air is transferred to the refrigerant.

The refrigerant is then compressed in a compressor, causing the temperature to rise considerably.

The warm refrigerant is led to the condenser. Here the refrigerant gives off its energy to the heating system water, whereupon the refrigerant changes state from gas to liquid.

The refrigerant then goes via filters to the expansion valve, where the pressure and temperature are reduced.

The refrigerant has now completed its circulation and returns to the evaporator.
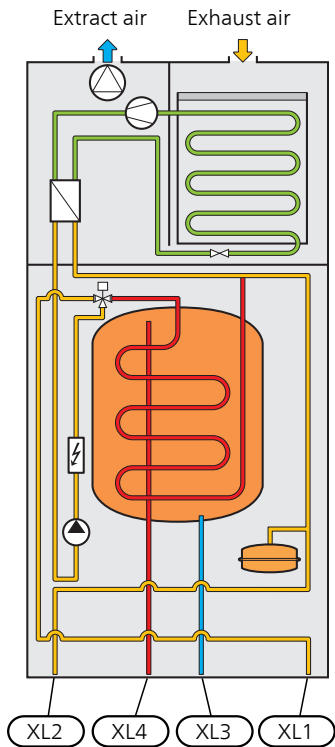
XL1	Connection, heating medium flow
XL2	Connection, heating medium return
XL3	Connection, cold water
XL4	Connection, hot water

> ☞ *Caution*
>
> This is a principle of operation, differences may occur in the installation in question.

Dimensions and pipe connections
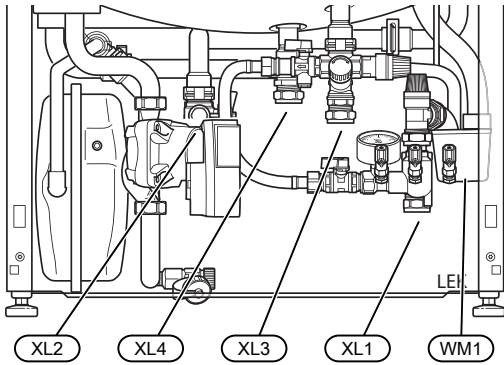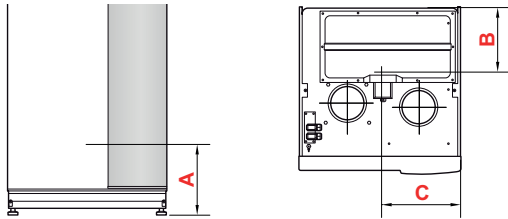
The overflow cup (WM1) can be turned, so that the pipe can be directed forwards or backwards to simplify connection of the hose to the drain.

SETTING OUT DIMENSIONS

Connection		A	B	C
XL1 Heating medium supply	(mm)	150	285	105
XL2 Heating medium return	(mm)	220	285	365
XL3 Cold water	(mm)	255	445	195
XL4 Hot water	(mm)	280	405	260
WM1 Overflow cup	(mm)	190	280	50

PIPE DIMENSIONS

Connection		
XL1-XL2 Heating medium ext Ø	(mm)	22
XL3 Cold water ext Ø	(mm)	22
XL4 Hot water ext Ø	(mm)	22
WM2 Overflow water discharge	(mm)	32

Symbol key

Symbol	Meaning
⋈	Shut-off valve
⋈	Non-return valve
⋈	Mixing valve
⋈	Shunt / shuttle valve
⋈	Safety valve
🔍	Temperature sensor
⊙	Circulation pump
▦	Radiator system
🚰	Domestic hot water
▤	Under floor heating systems

Cold and hot water

CONNECTING COLD AND HOT WATER

• A mixer valve must also be installed, if the factory setting for hot water is changed. National regulations must be observed.

• The setting for hot water is made in menu 5.1.1 (page 43).
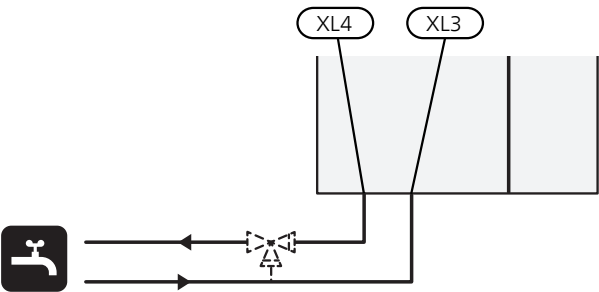
Heating medium side

CONNECTING THE CLIMATE SYSTEM

A climate system is a system that regulates indoor comfort with the help of the control system in F730 and for example radiators, under floor heating/cooling, fan coils etc.

• When connecting to a system with thermostats on all radiators, a relief valve must be fitted, or some of the thermostats must be removed to ensure sufficient flow.
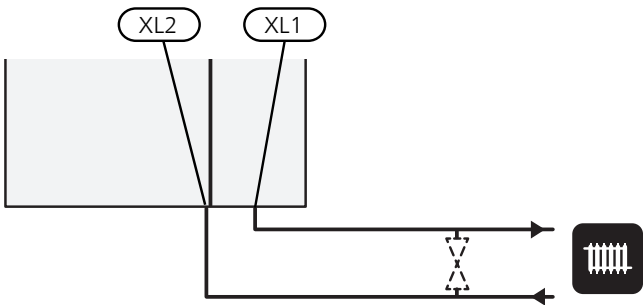
Installation alternative

F730 can be installed in several different ways, some of which are shown below.

Further option information is available at nibe.eu and in the respective assembly instructions for the accessories used. See page 55 for a list of the accessories that can be used with F730.

SEPARATED/ONE UNIT

F730 is delivered separated and can be installed separated or as one unit. For separate installation the accessory DKI 10 is required. Clips, o-rings and screws are supplied for both types of installation.

The images in this manual show F730 installed as one unit.

One unit   Separated installation

One unit

1. Remove the heater unit front hatch (see page 10).

2. Remove the insulation at the immersion heater (see page 11).

3. Remove the motor for the reversing valve for the climate system/water heater (QN10) (see page 10).

4. Remove the top insulation (see page 10).

5. Place the air treatment unit above the water heater unit by sliding the rear part of the air treatment unit into the water heater unit.

6. Then lower the front part of the air treatment unit. The locking tabs are then located in grooves in the heater unit.
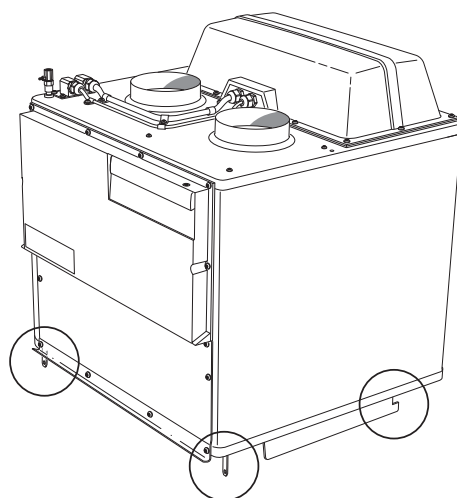
7. Secure condensation hoses in the air treatment unit.
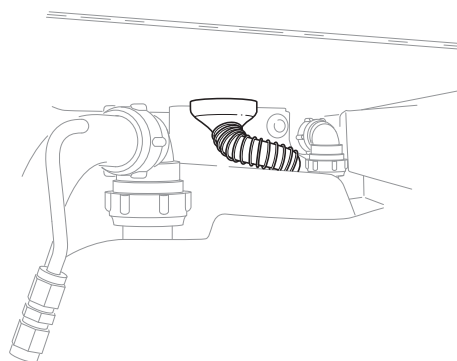
> ☀ **TIP**
>
> Lift the air treatment unit slightly at the front edge so that it is easier to access.

8. Install an overflow cup and route the condensation hose to it.

9. Connect the air treatment unit flexible pipes to the heater unit. Use the o-rings and clips supplied.
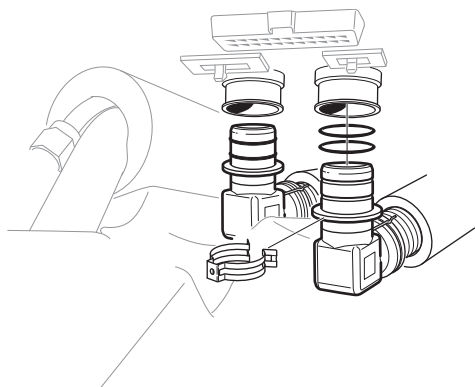
10. Connect the air treatment unit wiring to the heater unit.
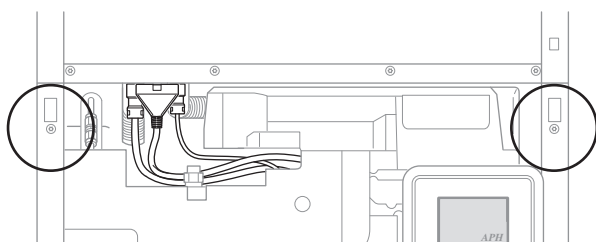
11. Secure the air treatment unit lock tabs in the water heater unit with 2 of the screws supplied.

12. Install the reversing valve motor and the heater unit insulation.

13. Secure the side panels on the air treatment unit with 2 of the remaining screws supplied. The side panels mounting points may need to be adjusted slightly.
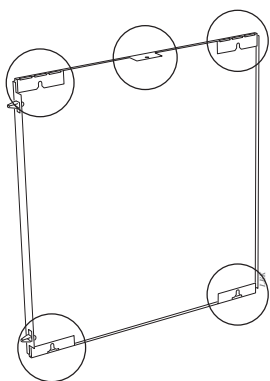
Side hatches mounting points

14. Install the front panels on the air treatment and heater units.

EXTRA HOT WATER HEATERS

The heat pump should be supplemented with an extra water heater, if a large bath tub or other significant consumer of hot water is installed.

Water heater without immersion heater

In water heaters without an immersion heater the water is heated by the heat pump's compressor.
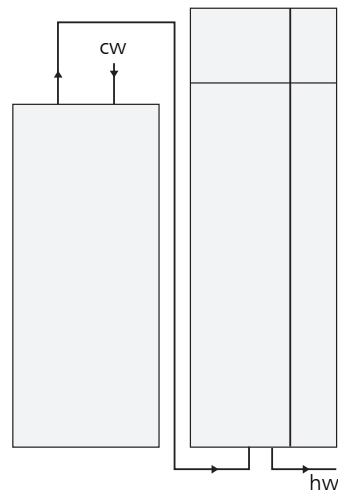
Water heater with immersion heater

If it is possible to use a water heater with an immersion heater, connect it as illustrated below.
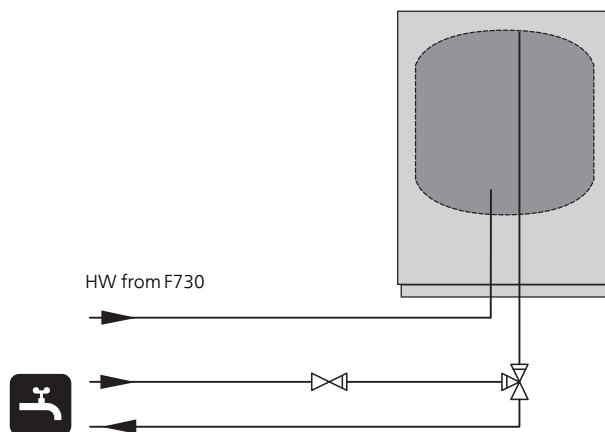
HOT WATER CIRCULATION (VVC)

To reduce the risk of bacterial growth in systems with hot water circulation, the temperature of the circulating water should not fall below 50°C. Nor should there be any hot water pipes containing stationary water. Adjust the hot water system so that the temperature does not fall below 50°C at the extremities of the system.

The circulation pump for hot water circulation can be controlled by F730. The HWC return is connected to a freestanding water heater.
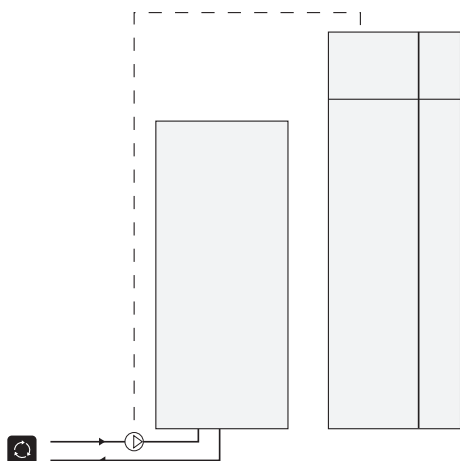
EXTRA CLIMATE SYSTEM

In buildings with several climate systems that require different supply temperatures, the accessory ECS 40/ECS 41 can be connected. A shunt valve then lowers the temperature to the underfloor heating system, for example.
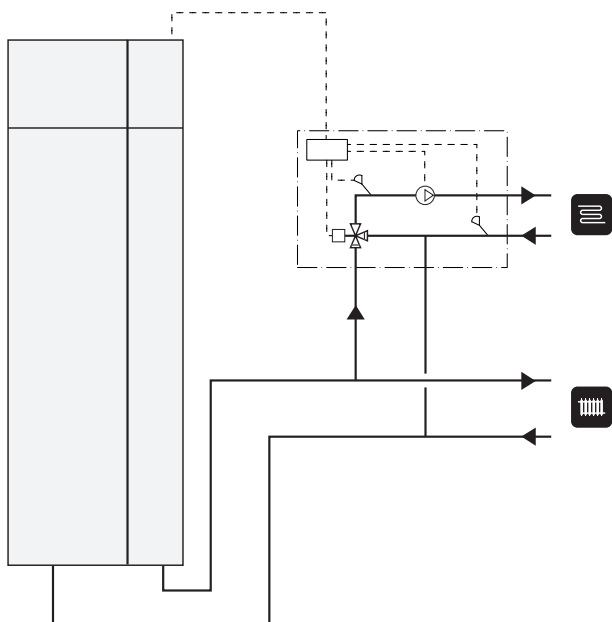
General ventilation connection

- 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 has to be insulated using diffusion-proof material (at least PE30 or equivalent) along its entire length.

- Ensure that the condensation insulation is fully sealed at any joints and/or at lead-in nipples, silencers, roof cowls or similar.

- The extract air duct should, if possible, be routed up through the roof. If the duct is to be routed out through an external wall, avoid having an immediate 90° bend backwards, as this can cause noise and reduced capacity.

- The ventilation ducts should be installed in such a way that it is easy to open the inverter box.

- A duct in a masonry chimney stack must not be used for extract air.

> ⚠ **NOTE**
>
> F730 occasionally has a very low extract air temperature. To avoid damaging the product and/or the building, it is therefore important that the extract air duct is insulated with diffusion-proof material (at least PE30 or equivalent) along its entire length.

> 💡 **TIP**
>
> If additional condensation insulation (at least PE30 or equivalent) dimension Ø 200 is installed on the outside of the existing exhaust line between the heat pump and the inner roof, the noise in the installation room is reduced by 1-2 dB(A).

EXHAUST AIR DUCT /KITCHEN FAN

Exhaust air duct (kitchen fan) must not be connected to F730.

To prevent cooking odours from being led to the F730, the distance between the kitchen fan and the exhaust air valve must be observed. The distance should not be less than 1.5 m.

Always use a kitchen fan when cooking.

Ventilation flow

Connect F730 so that all the exhaust air, except kitchen duct air (kitchen fan), passes through the evaporator (EP1) in the heat pump.

The ventilation flow must comply with the applicable national standards.

For optimum heat pump performance, the ventilation flow should not be less than 21 l/s (75 m³/h).

Set the ventilation capacity in the heat pump's menu system (menu 5.1.5).

If the exhaust air temperature falls below 6°C, the compressor is blocked and electric additional heat is permitted. No energy is recovered from the exhaust air when the compressor is blocked.

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 heat pump 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
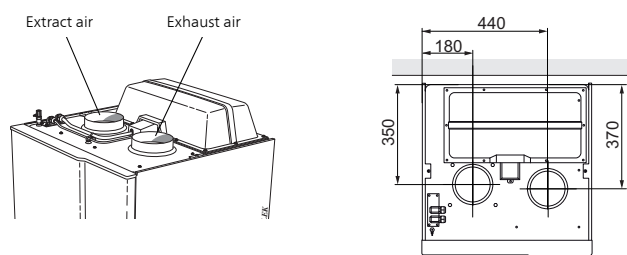
5 Electrical connections

General

All electrical equipment, except the outdoor temperature sensors and room temperature sensors are ready connected at the factory.

- Disconnect the heat pump before insulation testing the house wiring.

- F730 should be equipped with a separate RCD (30 mA).

- If a miniature circuit breaker is used, this should have at least motor characteristic "C". See page 59 for fuse size.

- For the heat pump wiring diagram, see page 63.

- Communication and sensor cables to external connections must not be laid close to high current cables.

- The minimum area of communication and sensor cables to external connections must be 0.5 mm² up to 50 m, for example EKKX or LiYY or equivalent.

- When cable routing in F730, cable grommets UB1and UB2, (marked in image) must be used. In UB1 and UB2 the cables are inserted through the heat pump from the back to the front. For dimensions diagram see page 25.
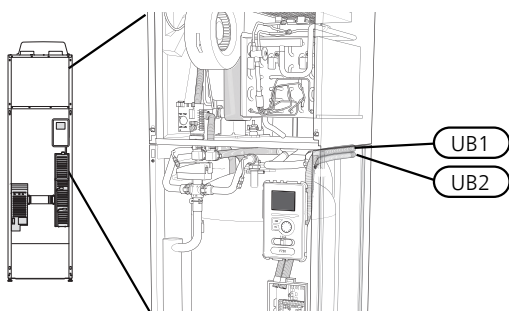
> ⚠️ **NOTE**
>
> Switch (SF1) must not be moved to "❙" or "⚠" until F730 has been filled with water. Otherwise the temperature limiter, thermostat and the immersion heater may be damaged.

> ⚠️ **NOTE**
>
> Check the connections, main voltage and phase voltage before the machine is started, to prevent damage to the heat pump electronics.

> ⚠️ **NOTE**
>
> 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. Cut the current with the circuit breaker before carrying out any servicing. Electrical installation and wiring must be carried out in accordance with the stipulations in force.
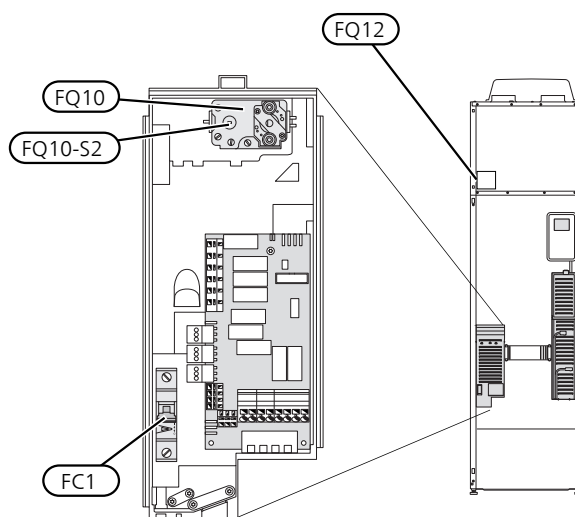
MINIATURE CIRCUIT BREAKER (FC1)

Operation (230V), fan, circulation pumps etc. are internally fused by a miniature circuit breaker (FC1).

<table>
</table>

> **Caution**
>
> Check the miniature circuit-breaker (FC1). It may have tripped during transportation.

TEMPERATURE LIMITER (FQ10)

The temperature limiter (FQ10) cuts the current supply to the electric additional heat if the temperature rises between 90 and 100°C and can be manually reset.

Resetting

The temperature limiter (FQ10) is accessible behind the front cover. Reset the temperature limiter by carefully pressing the button (FQ10-SF2) using a small screwdriver.

TEMPERATURE LIMITER, DEFROSTING ELEMENT (FQ12)

The temperature limiter for the defrosting element (FQ12) cuts the current supply to the defrosting element if the temperature rises above 75 °C and is manually reset.

Resetting

The temperature limiter for the defrosting element (FQ12) is accessible behind the air treatment cover. Remove the cover and then the panel secured with screws. Reset the temperature limiter by carefully pressing the button (FQ12-SF2) using a small screwdriver.

ACCESSIBILITY, ELECTRICAL CONNECTION

The plastic cap of the electrical boxes is opened using a screwdriver.

> **NOTE**
>
> The cover for the input card is opened without a tool.

Removing the cover, input board
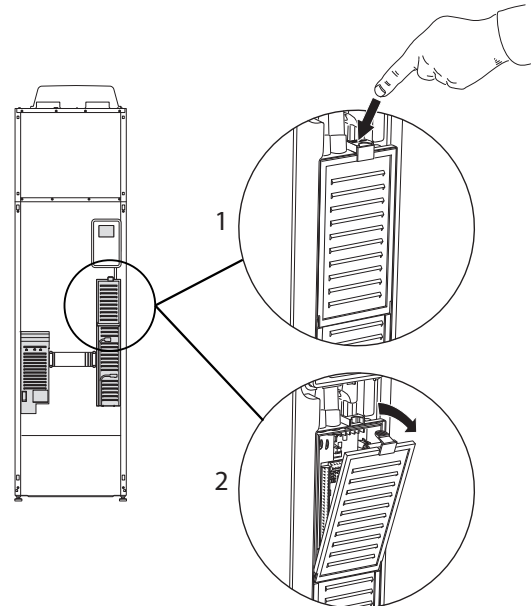
1. Push the catch down.
2. Angle out the cover and remove it.

Removing the cover, immersion heater board
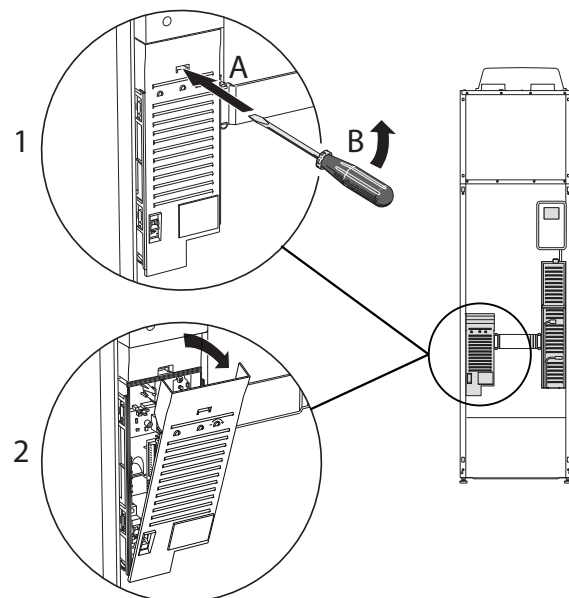
1. Insert the screwdriver (A) and pry the catch carefully downwards (B).
2. Angle out the cover and remove it.

Removing the cover, base circuit board

☞ **Caution**

To remove the cover for the base board, the cover for the input circuit board must first be removed.
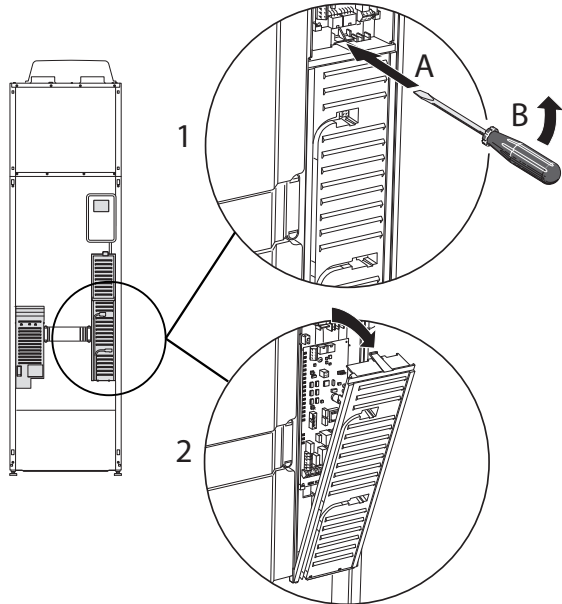
1. Insert the screwdriver (A) and pry the catch carefully downwards (B).

2. Angle out the cover and remove it.

CABLE LOCK

Use a suitable tool to release/lock cables in the heat pump terminal blocks.
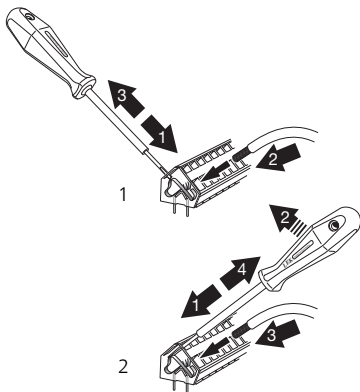
Connections

⚠ **NOTE**

To prevent interference, unscreened communication and/or sensor cables to external connections must not be laid closer than 20 cm from high voltage cables.

POWER CONNECTION

F730 must be installed via an isolator switch with a minimum breaking gap of 3mm. Minimum cable area must be sized according to the fuse rating used. Supplied cable (length approx. 2 m) for incoming supply electricity is connected to terminal block X1 on the immersion heater board (AA1). The connection cable can be found on the back of F730 (see dimensions diagram below).
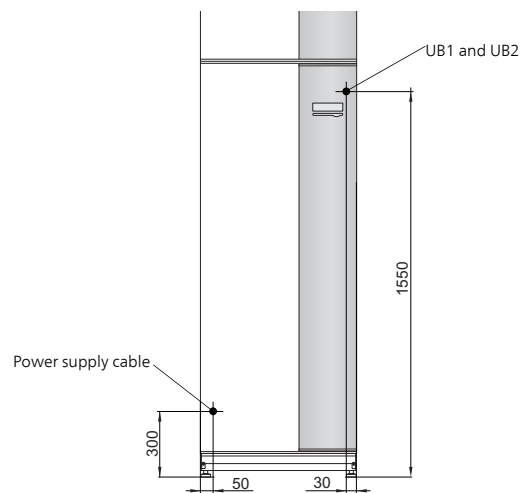
Connection 1x230V
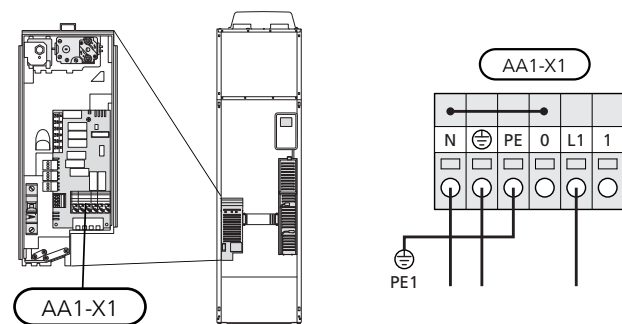
TARIFF CONTROL

If the voltage to the immersion heater and/or the compressor disappears for a certain period, there must also be blocking via the AUX-input at the same time, see "Possible selection for AUX inputs".

OUTSIDE SENSOR

Install the outdoor temperature sensor (BT1) in the shade on a wall facing north or north-west, so it is unaffected by the morning sun for example.

Connect the sensor to terminal block X6:1 and X6:2 on the input board (AA3). Use a twin core cable of at least 0.5 mm² cable area.

If a conduit is used it must be sealed to prevent condensation in the sensor capsule.
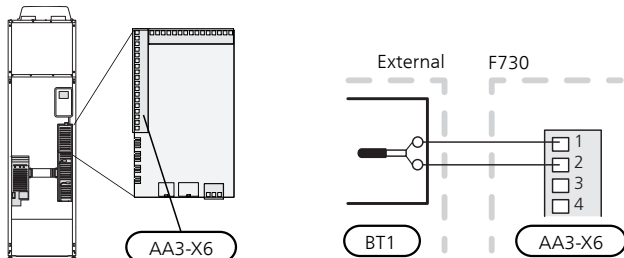
ROOM SENSOR

F730 is supplied with a room sensor enclosed (BT50). The room sensor has a number of functions:

1. Shows current room temperature in the display on F730.

2. Option of changing the room temperature in °C.

3. Provides the option of fine-tuning the room temperature.

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

The heat pump operates without the sensor, but if one wishes to read off the accommodation's indoor temperature in F730's display, the sensor must be installed. Connect the room sensor to X6:3 and X6:4 on the input board (AA3).

If the sensor is to be used to change the room temperature in °C and/or to fine-tune the room temperature, the sensor must be activated in menu 1.9.4.

If the room sensor is used in a room with underfloor heating, it should only have an indicatory function, not control of the room temperature.
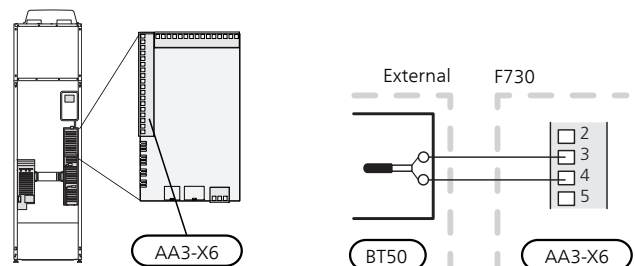
> ☞ *Caution*
>
> Changes of temperature in accommodation take time. For example, short time periods in combination with underfloor heating will not give a noticeable difference in room temperature.

Settings
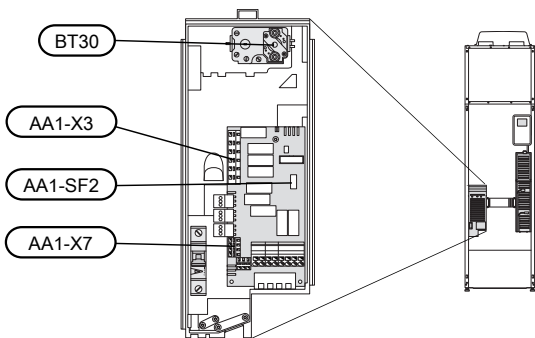
ELECTRICAL ADDITION - MAXIMUM OUTPUT

The immersion heater can be set up to a maximum of 6.5 kW. Delivery setting is 3.5 kW.

The immersion heater output is divided into steps, according to the table.

Setting maximum output in the electric additional heat is done in menu 5.1.12.

Power steps of the immersion heater

Electrical addition (kW)	Max (A)
0.0	1.2
0.5	3.4
1.0	5.5
1.5	7.7
2.0	9.9
2.5	12.1
3.0	14.2
3.5*	16.4
4.0	18.5
4.5	20.7
5.0	22.9
5.5	25.1
6.0	27.3
6.5	29.4

*Default value

The table displays the maximum phase current at each electrical step for the heat pump (without compressor operation).

In addition to this, there is the current for compressor operation, which, depending on the operating conditions, can amount to approx. 13A.

The heat pump is fused to at least 16 A.

EMERGENCY MODE

When the heat pump is set to emergency mode (SF1 is set to ⚠), only the most necessary functions are activated.

- The compressor is off and heating is managed by the immersion heater.

- Hot water is not produced.

Power in emergency mode

The immersion heater's output in emergency mode is set with the dipswitch (S2) on the immersion heater circuit board (AA1) according to the table below.

kW	1	2	3	4	5	6
0.5	**on**	off	off	off	off	off
1.0	off	off	**on**	off	off	off
1.5	**on**	off	**on**	off	off	off
2.0	off	off	off	off	**on**	off
2.5	**on**	off	off	off	**on**	off
3.0	off	off	**on**	off	**on**	off
3.5*	**on**	off	**on**	off	**on**	off
4.0	off	off	**on**	off	off	**on**
4.5	**on**	off	**on**	off	off	**on**
5.0	off	off	off	off	**on**	**on**
5.5	**on**	off	off	off	**on**	**on**
6.0	off	off	**on**	off	**on**	**on**
6.5	**on**	off	**on**	off	**on**	**on**

*Default value
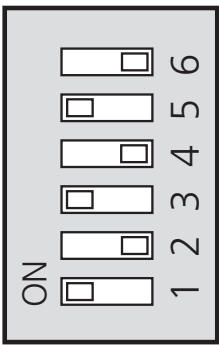
The image shows the dip-switch (AA1-S2) in the factory setting.

Emergency mode thermostat

The supply temperature in emergency mode is set using a thermostat (FQ10-BT30). It can be set to 35°C (preset, e.g. underfloor heating) or 45°C (e.g. radiators).
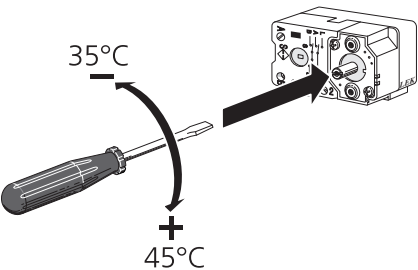
Optional connections

LOAD MONITOR

Integrated load monitor

F730 is equipped with a simple form of integrated load monitor, which limits the power steps for the electric additional heat by calculating whether future power steps can be connected to the relevant phase without the specified main fuse being exceeded. In those cases where the current would exceed the specified main fuse, the power step is not permitted. The size of the property's main fuse is specified in menu 5.1.12.

CONNECTING EXTERNAL ENERGY METER

> ⚠ **NOTE**
>
> Connection of external energy meter requires version 35 or later on the input board (AA3) as well as "display version" 8874 or later.

One or two energy meters (BE6, BE7) are connected to terminal block X22 and/or X23 on input board (AA3).

Activate the energy meter(s) in menu 5.2.4 and then set the desired value (energy per pulse) in menu 5.3.21.

NIBE UPLINK

Connect the network connected cable (straight, Cat.5e UTP) with RJ45-contact (male) to RJ45 contact (female) on the rear of the heat pump.

EXTERNAL CONNECTION OPTIONS

F730 has software-controlled AUX inputs and outputs on the input board (AA3), for connecting the external switch function or sensor. This means that when an external switch function (the switch must be potential-free) or sensor is connected to one of six special connections, this function must be selected for the correct connection in menu 5.4.
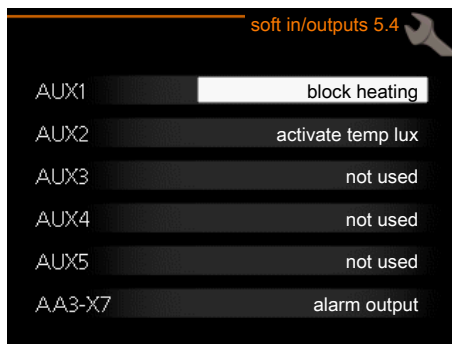
For certain functions, accessories may be required.

Selectable inputs

Selectable inputs on the input board for these functions are:

AUX1	AA3-X6:9-10
AUX2	AA3-X6:11-12
AUX3	AA3-X6:13-14
AUX4	AA3-X6:15-16
AUX5	AA3-X6:17-18

The example above uses the inputs AUX1 (X6:9-10) and AUX2 (X6:11-12) on the input board (AA3).

Selectable output

A selectable output is AA3-X7.

> ☞ **Caution**
>
> Some of the following functions can also be activated and scheduled via menu settings.

POSSIBLE SELECTION FOR AUX INPUTS

Temperature sensor

Temperature sensor can be connected to F730. Use a 2-core cable of at least 0.5 mm² cable area.

Available options are:

• room sensor (RTS 40)

• ambient sensor (BT28) for outdoor air function (accessory OEK 20 required)

Monitor

Available options are:

- external level monitor for the overflow cup (NO)

- pressure switch for climate system (NC).

- alarm from external units. The alarm is connected to the control, which means that the malfunction is presented as an info-alarm in the display. Potential-free signal of type NO or NC.

External blocking of functions

An external switch function can be connected to F730 for blocking various functions. The switch must be potential-free and a closed switch results in blocking.

> ☞ *Caution*
>
> Blocking entails a risk of freezing.

Functions that can be blocked:

- hot water (hot water production)

- heating (blocking of heating demand)

- additional heat (additional heat is blocked)

- compressor

- tariff blocking (additional heat, compressor, heating and hot water are disconnected)

External activation of functions

An external switch function can be connected to F730 to activate various functions. The function is activated during the time the switch is closed.

Possible functions that can be activated:

- hot water comfort mode "temporary lux"

- hot water comfort mode "economy"

- "external adjustment"

  An external contact function can be connected to F730 to change the supply temperature and the room temperature.

  When the switch is closed, the temperature changes in °C (if the room sensor is connected and activated). If a room sensor is not connected or not activated, the desired change of "temperature" (heating curve offset) is set with the number of steps selected. The value is adjustable between -10 and +10. External adjustment of climate systems 2 to 8 requires accessories.

  – *climate system 1 to 8*

    The value for the change is set in menu 1.9.2, "external adjustment".

- activation of one of four fan speeds.

  The following five options are available:

  – 1-4 is normally open (NO)

  – 1 normally closed (NC)

  The fan speed is activated during the time the switch is closed. Normal speed is resumed when the switch is opened again.

- SG ready

> ☞ *Caution*
>
> This function can only be used in mains networks that support the "SG Ready" standard.
>
> "SG Ready" requires two AUX inputs.

"SG Ready" is a smart form of tariff control where your electricity supplier can affect the indoor and hot water temperatures or simply block the additional heat and/or the compressor in the heat pump at certain times of the day (can be selected in menu 4.1.5 after the function is activated). Activate the function by connecting potential-free switch functions to two inputs selected in menu 5.4 (SG Ready A and SG Ready B).

Closed or open switch means one of the following:

– *Blocking (A: Closed, B: Open)*

  "SG Ready" is active. The compressor in the heat pump and additional heat is blocked like the day's tariff blocking.

– *Normal mode (A: Open, B: Open)*

  "SG Ready" is not active. No effect on the system.

– *Low price mode (A: Open, B: Closed)*

  "SG Ready" is active. The system focuses on costs savings and can for example exploit a low tariff from the electricity supplier or over-capacity from any own power source (effect on the system can be adjusted in the menu 4.1.5).

– *Overcapacity mode (A: Closed, B: Closed)*

  "SG Ready" is active. The system is permitted to run at full capacity at over capacity (very low price) with the electricity supplier (effect on the system is settable in menu 4.1.5).

(A = SG Ready A and B = SG Ready B)

- +Adjust

    Using +Adjust, the installation communicates with the underfloor heating's control centre* and adjusts the heating curve and calculated supply temperature according to the underfloor heating system's reconnection.

    Activate the climate system you want +Adjust to affect by highlighting the function and pressing the OK button.

    *Support for +Adjust required

> ☞ **Caution**
>
> This accessory may require a software update in your F730. The version can be checked in the "Service info" menu 3.1. Visit nibeuplink.com and click on the "Software" tab to download the latest software to your installation.

> ☞ **Caution**
>
> In systems with both under floor heating and radiators, NIBE ECS 40/41 should be used for optimum operation.

POSSIBLE SELECTIONS FOR AUX OUTPUT

It is possible to have an external connection through the relay function via a potential-free switching relay (max. 2 A) on the input board (AA3), terminal block X7. The function must be activated in menu 5.4.
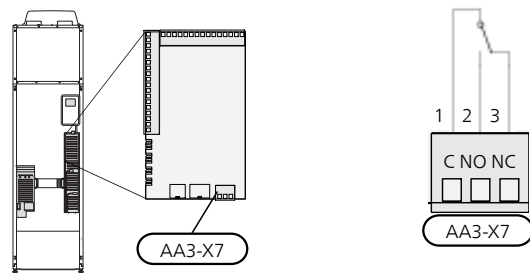
The picture shows the relay in the alarm position.

When switch (SF1) is in the "⏻" or "⚠" position the relay is in the alarm position.

> ☞ **Caution**
>
> The relay outputs may be subjected to a max load of 2 A at resistive load (230V AC).

> 💡 **TIP**
>
> The AXC accessory is required if more than one function is to be connected to the AUX output.

Optional functions for external connection:

INDICATION

- alarm indication
- holiday indication

CONTROL

- control of circulation pump for hot water circulation
- control of external circulation pump (for heating medium)

ACTIVATION

- activation of damper (QN38) for outdoor air function (accessory OEK 20 required)
- activation of away mode for smart home (complement to the functions in menu 4.1.7)

> ☞ **Caution**
>
> The relevant distribution box must be marked with a warning about external voltage.

An external circulation pump is connected to the AUX output, as illustrated below.
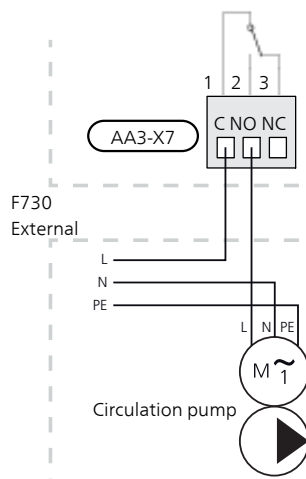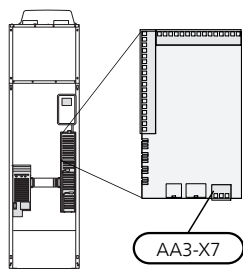
Connecting accessories

Instructions for connecting accessories are provided in the manual accompanying the accessory. See page 55 for the list of the accessories that can be used with F730.

6 Commissioning and adjusting

Preparations

1. Check that the switch (SF1) is in position " ⏻ ".

2. Check that the filling valves (QM10) and (QM11) are fully closed.

☞ *Caution*

Check the miniature circuit-breaker (FC1) in the heat pump. It may have tripped during transportation.

Filling and venting

FILLING THE HOT WATER HEATER

1. Open a hot water tap in the house.

2. Open the filling valve (QM10). This valve should then be fully open during operations.

3. When water comes out of the hot water tap, the hot water heater is full and the tap can be closed.

FILLING THE CLIMATE SYSTEM

1. Open the vent valves (QM20), (QM22), (QM24) and (QM26).

2. Open the filling valves (QM11), (QM13). The heating unit and the rest of the climate system fill with water.

3. When the water exiting the vent valves (QM20), (QM22), (QM24) and (QM26) is no longer mixed with air, close the valves. After a while, the pressure begins to rise on the pressure gauge (BP5). When the pressure reaches 2.5 bar (0.25 MPa), the safety valve (FL2) starts to release water. Close the filling valves.

4. Reduce the pressure in the climate system to the normal working range (approx. 1 bar) by opening the vent valves (QM20), (QM22), (QM24) and (QM26) or the safety valve (FL2).

5. Check that there is water in the overflow cup (WM1).

6. Start the heat pump and allow it to run in both heating and hot water modes.

7. Vent the climate system (see section "Venting the climate system").

If the overflow cup requires topping up:

1. Turn the safety valve for hot water (FL1) anticlockwise carefully.

VENTING THE CLIMATE SYSTEM

1. Turn off the power supply to the heat pump.

2. Vent the heat pump via the vent valves (QM20), (QM22), (QM24), (QM26) and the rest of the climate system via its respective vent valves.

3. Keep topping up and venting until all air has been removed and the pressure is correct.

⚠ *NOTE*

The vent hoses from the container must be drained of water before air can be released. This means that the system is not necessarily vented despite the flow of water when the vent valves (QM20), (QM22), (QM24), (QM26) are opened.
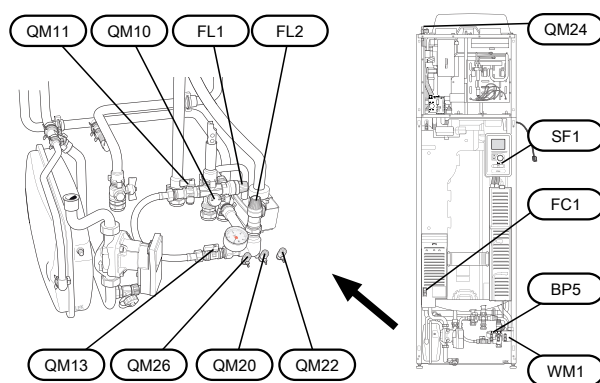
Start-up and inspection

> ⚠️ **WARNING!**
>
> Do not start the heat pump, if there is a risk that the water in the system has frozen.

START GUIDE

> ⚠️ **NOTE**
>
> There must be water in the climate system before the switch is set to " Ɩ".

1. Set switch (SF1) on F730 to position "Ɩ".
2. Follow the instructions in the display's start guide. If the start guide does not start when you start the F730, start it manually in menu 5.7.

> 💡 **TIP**
>
> See page 36 for a more in-depth introduction to the heat pump's control system (operation, menus etc.).

If the building is cooled when F730 starts, the compressor may not be able to meet the entire demand without having to use additional heating.

Commissioning

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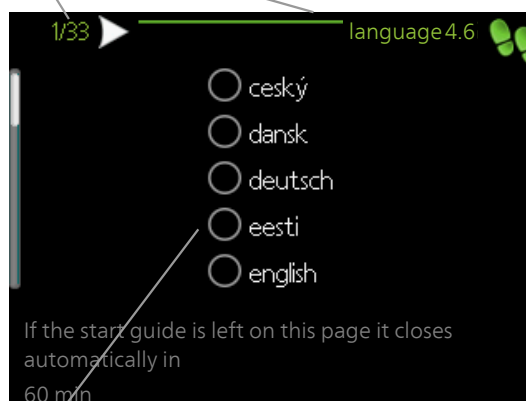
> ☞ **Caution**
>
> As long as the start guide is active, no function in the installation will start automatically.
>
> The guide will appear at each installation restart until it is deselected on the last page.

Operation in the start guide

A. Page   **B.** Name and menu number

C. Option / setting

A. Page

Here you can see how far you have come in the start guide.

Scroll between the pages of the start guide as follows:

1. Turn the control knob until one of the arrows in the top left corner (at the page number) has been marked.
2. Press the OK button to skip between the pages in the start guide.

B. Name and menu number

Read what menu in the control system this page of the start guide is based on. The digits in brackets refer to the menu number in the control system.

If you want to read more about affected menus either consult the help menu or read the user manual.

C. Option / setting

Make settings for the system here.

D. Help menu

In many menus there is a symbol that indicates that extra help is available.

To access the help text:

1. Use the control knob to select the help symbol.
2. Press the OK button.

The help text often consists of several windows that you can scroll between using the control knob.

SETTING THE VENTILATION

Ventilation must be set according to applicable standards. Set the fan speed in menu 5.1.5.
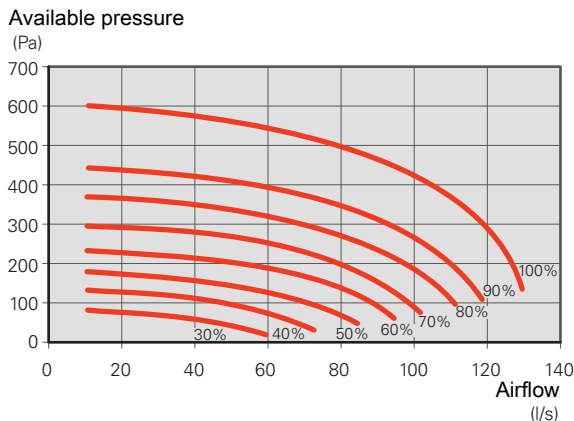
Even if ventilation is roughly set at installation it is important that a ventilation adjustment is ordered and permitted.
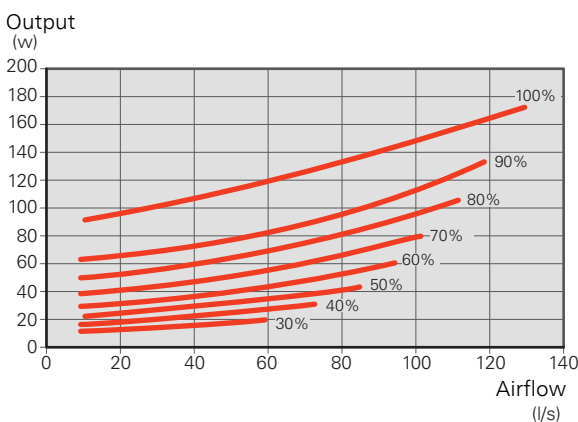
> ⚠ **NOTE**
>
> Order a ventilation adjustment to complete the setting.

Ventilation capacity

Available pressure
(Pa)

Fan rating

Output
(w)

ADJUSTING THE EXHAUST AIR FLOW

1. Enter menu 5.1.5 "fan sp. exhaust air".
2. Select "adjusting ventilation".
3. You now come to menu 5.1.5.1 "adjusting ventilation".
4. Tick "adjusting ventilation".
5. Measure the airflow at the ventilation device.
6. Adjust the fan speed to achieve desired ventilation.
7. Enter the metered air flow.
8. Back to menu 5.1.5.
9. The value for fan speed that you entered in the menu 5.1.5.1 is now copied to "normal".

COMMISSIONING WITHOUT FAN

The heat pump can be run without recovery, as only an electric boiler, to produce heat and hot water, for example before the ventilation installation is complete.

Enter menu 4.2 - "op. mode" and select "add. heat only"

Enter menu 5.1.5 - "fan sp. exhaust air" and reduce the fan speed to 0%.

> ⚠ **NOTE**
>
> Select operating mode "auto" or "manual" when the heat pump is to run on recovery again.

SETTING PUMP SPEED

The heat pump (GP1) is automatically controlled and sets itself using the controls and based on the heating demand.
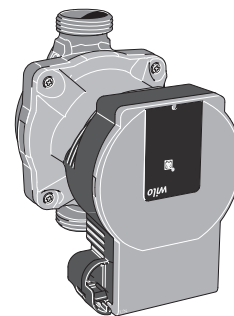
Capacity, heating medium pump

Pressure
(kPa)
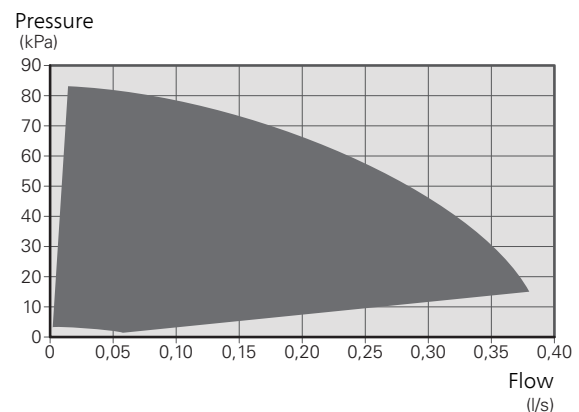
Output, heating medium pump

Output
(W)
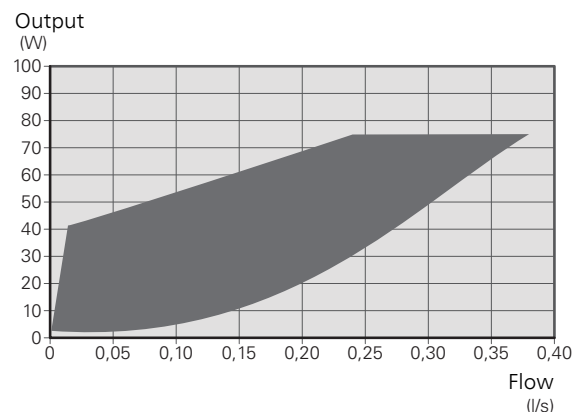
POST-ADJUSTMENT, VENTING

Initially, air is released from the hot water and venting may be necessary. If gurgling sounds can be heard from the heat pump or climate system, the entire system requires additional venting. See section "Venting the climate system" on page 32 for information about venting the heat pump.

7 Control - Introduction

Display unit

A Display

B Status lamp

C OK button

D Back button

E Control knob

F Switch

G USB port

A   DISPLAY

Instructions, settings and operational information are shown on the display. You can easily navigate between the different menus and options to set the comfort or obtain the information you require.

B   STATUS LAMP

The status lamp indicates the status of the heat pump. It:

• lights green during normal operation.
• lights yellow in emergency mode.
• lights red in the event of a deployed alarm.

C   OK BUTTON

The OK button is used to:

• confirm selections of sub menus/options/set values/page in the start guide.

D   BACK BUTTON

The back button is used to:

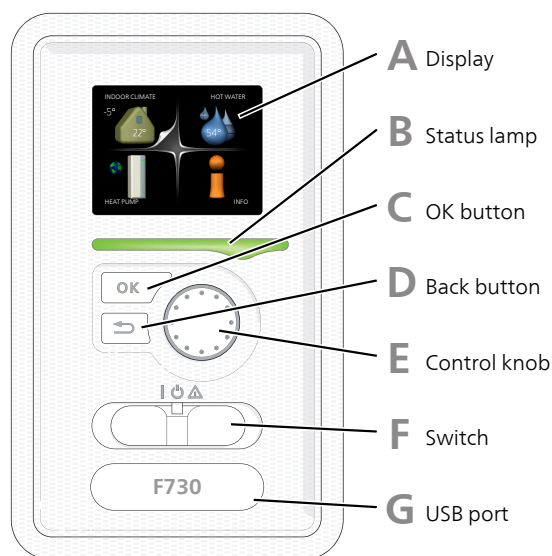• go back to the previous menu.
• change a setting that has not been confirmed.

E   CONTROL KNOB

The control knob can be turned to the right or left. You can:

• scroll in menus and between options.
• increase and decrease the values.
• change page in multiple page instructions (for example help text and service info).

F   SWITCH (SF1)

The switch assumes three positions:

• On (❙)
• Standby (⏻)
• Emergency mode (⚠) (see page 48)

Emergency mode must only be used in the event of a fault on the heat pump. In this mode, the compressor switches off and the immersion heater engages. The heat pump display is not illuminated and the status lamp illuminates yellow.

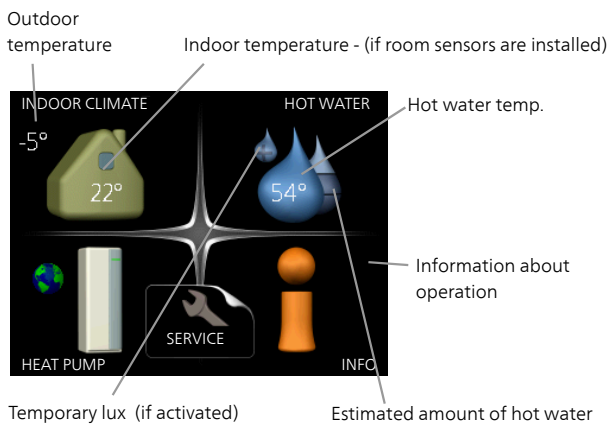### G   USB PORT

The USB port is hidden beneath the plastic badge with the product name on it.

The USB port is used to update the software.

Visit nibeuplink.com and click the "Software" tab to download the latest software for your installation.

Menu system

Outdoor temperature

Indoor temperature - (if room sensors are installed)

Hot water temp.

Information about operation

Temporary lux (if activated)

Estimated amount of hot water

MENU 1 - INDOOR CLIMATE

Setting and scheduling the indoor climate. See information in the help menu or user manual.

MENU 2 - HOT WATER

Setting and scheduling hot water production. See information in the help menu or user manual.

MENU 3 - INFO

Display of temperature and other operating information and access to the alarm log. See information in the help menu or user manual.

MENU 4 - HEAT PUMP

Setting time, date, language, display, operating mode etc. See information in the help menu or user manual.
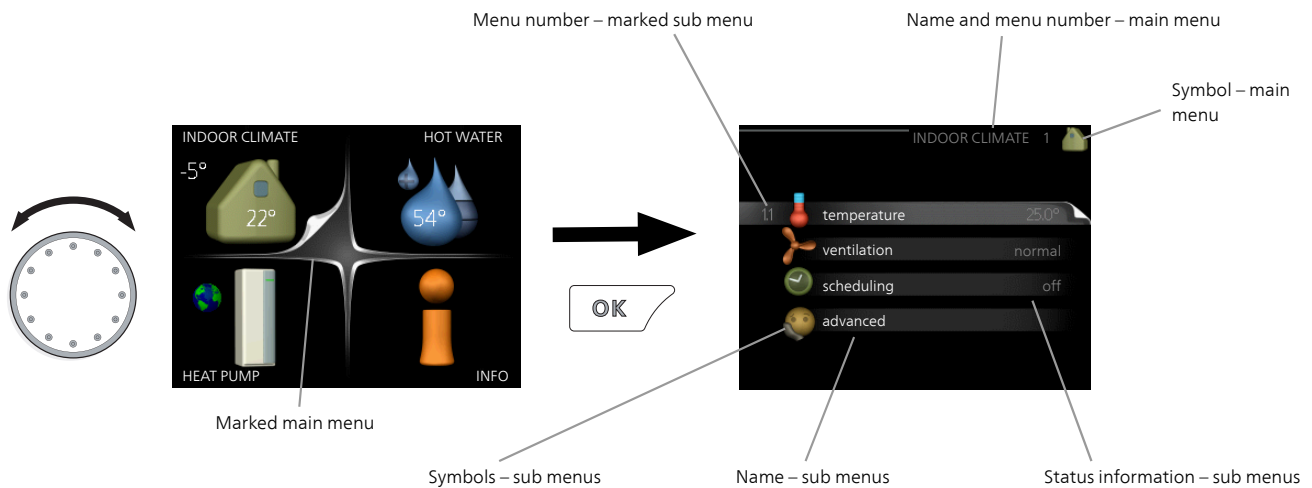
MENU 5 - SERVICE

Advanced settings. These settings are not available to the end user. The menu is visible when the Back button is pressed for 7 seconds when you are in the start menu.

SYMBOLS IN THE DISPLAY

The following symbols can appear in the display during operation.

Symbol	Description
	This symbol appears by the information sign if there is information in menu 3.1 that you should note.
	These two symbols indicate whether the compressor or addition is blocked in F730. These can, for example, be blocked depending on which operating mode is selected in menu 4.2, if blocking is scheduled in menu 4.9.5 or if an alarm has occurred that blocks one of them. Blocking the compressor. Blocking additional heat.
	This symbol appears if periodic increase or lux mode for the hot water is activated.
	This symbol indicates whether "holiday setting" is active in 4.7.
	This symbol indicates whether F730 has contact with NIBE Uplink.
	This symbol indicates the actual speed of the fan if the speed has changed from the normal setting.
	This symbol is visible in installations with active solar accessories.

Menu number – marked sub menu

Name and menu number – main menu

Symbol – main menu

Marked main menu

Symbols – sub menus

Name – sub menus

Status information – sub menus

OPERATION

To move the cursor, turn the control knob to the left or the right. The marked position is white and/or has a turned up tab.
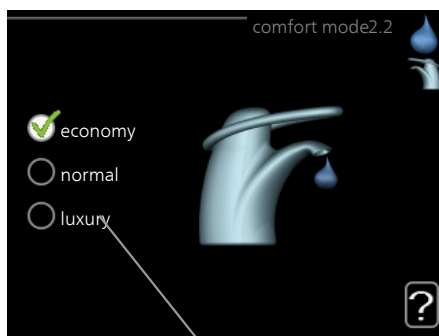
SELECTING MENU

To advance in the menu system select a main menu by marking it and then pressing the OK button. A new window then opens with sub menus.

Select one of the sub menus by marking it and then pressing the OK button.

SELECTING OPTIONS

Alternative

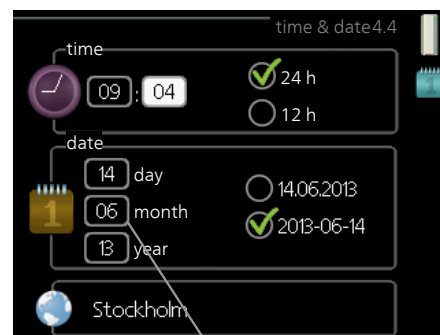In an options menu the current selected option is indicated by a green tick.

To select another option:

1. Mark the applicable option. One of the options is pre-selected (white).

2. Press the OK button to confirm the selected option. The selected option has a green tick.

SETTING A VALUE

Values to be changed

To set a value:

1. Mark the value you want to set using the control knob.

2. Press the OK button. The background of the value becomes green, which means that you have accessed the setting mode.

3. Turn the control knob to the right to increase the value and to the left to reduce the value.

4. Press the OK button to confirm the value you have set. To change and return to the original value, press the Back button.

USE THE VIRTUAL KEYBOARD

Different keyboards
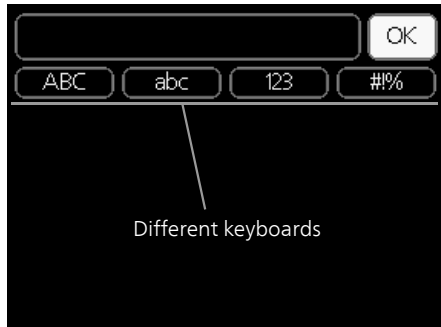
In some menus where text may require entering, a virtual keyboard is available.
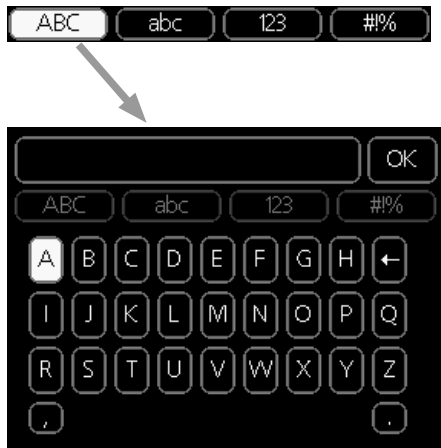
Depending on the menu, you can gain access to different character sets which you can select using the control knob. To change character table, press the Back button. If a menu only has one character set the keyboard is displayed directly.

When you have finished writing, mark "OK" and press the OK button.

SCROLL THROUGH THE WINDOWS

A menu can consist of several windows. Turn the control knob to scroll between the windows.

Current menu window   Number of windows in the menu
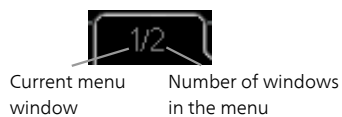
Scroll through the windows in the start guide

Arrows to scroll through window in start guide

1. Turn the control knob until one of the arrows in the top left corner (at the page number) has been marked.

2. Press the OK button to skip between the steps in the start guide.

HELP MENU

In many menus there is a symbol that indicates that extra help is available.

To access the help text:

1. Use the control knob to select the help symbol.

2. Press the OK button.

The help text often consists of several windows that you can scroll between using the control knob.

8 Control - Menus

Menu 1 - INDOOR CLIMATE

OVERVIEW

1 - INDOOR CLIMATE	1.1 - temperature	
	1.2 - ventilation	
	1.3 - scheduling	1.3.1 - heating
		1.3.3 - ventilation
	1.9 - advanced	1.9.1.1 - heating curve
		1.9.2 - external adjustment
		1.9.3 - min. flow line temp.
		1.9.4 - room sensor settings
		1.9.6 - fan return time
		1.9.7 - own curve
		1.9.8 - point offset
		1.9.9 - night cooling

Menu 2 - HOT WATER

OVERVIEW

2 - HOT WATER	2.1 - temporary lux	
	2.2 - comfort mode	
	2.3 - scheduling	
	2.9 - advanced	2.9.1 - periodic increase
		2.9.2 - hot water recirc. *

* Accessory needed.

Menu 3 - INFO

OVERVIEW

3 - INFO	3.1 - service info
	3.2 - compressor info
	3.3 - add. heat info
	3.4 - alarm log
	3.5 - indoor temp. log

Menu 4 - HEAT PUMP

OVERVIEW

4 - HEAT PUMP	4.1 - plus functions *	4.1.3 - internet	4.1.3.1 - NIBE Uplink
			4.1.3.8 - tcp/ip settings
			4.1.3.9 - proxy settings
		4.1.4 - sms *	
		4.1.5 - SG Ready	
		4.1.6 - smart price adaption™	
		4.1.7 - smart home	
	4.2 - op. mode		
	4.3 - my icons		
	4.4 - time & date		
	4.6 - language		
	4.7 - holiday setting		
	4.9 - advanced	4.9.1 - op. prioritisation	
		4.9.2 - auto mode setting	
		4.9.3 - degree minute setting	
		4.9.4 - factory setting user	
		4.9.5 - schedule blocking	

* Accessory needed.

Menu 5 - SERVICE

OVERVIEW

5 - SERVICE	5.1 - operating settings	5.1.1 - hot water settings	
		5.1.2 - max flow line temperature	
		5.1.3 - max diff flow line temp.	
		5.1.4 - alarm actions	
		5.1.5 - fan sp. exhaust air	5.1.5.1 - adjusting ventilation
		5.1.10 - op. mod heat med pump	
		5.1.11 - pump speed heating medium	
		5.1.12 - internal electrical addition	
		5.1.14 - flow set. climate system	
		5.1.24 - blockFreq	
		5.1.25 - time filter alarm	
	5.2 - system settings		
	5.3 - accessory settings	5.3.3 - extra climate system *	
		5.3.11 - modbus *	
		5.3.17 - outdoor air mixing	
		5.3.21 - flow sensor/energy meter*	
	5.4 - soft in/outputs		
	5.5 - factory setting service		
	5.6 - forced control		
	5.7 - start guide		
	5.8 - quick start		
	5.9 - floor drying function		
	5.10 - change log		
	5.12 - country		

* Accessory needed.

Go to the main menu and hold the Back button in for 7 seconds to access the Service menu.

Sub-menus

Menu SERVICE has orange text and is intended for the advanced user. This menu has several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

operating settings Operating settings for the heat pump.

system settings System settings for the heat pump, activating accessories etc.

accessory settings Operational settings for different accessories.

soft in/outputs Setting software controlled in and outputs on the input circuit board (AA3).

factory setting service Total reset of all settings (including settings available to the user) to default values.

forced control Forced control of the different components in the heat pump.

start guide Manual start of the start guide which is run the first time the heat pump is started.

quick start Quick starting the compressor.

> ⚠ *NOTE*
>
> Incorrect settings in the service menus can damage the heat pump.

MENU 5.1 - OPERATING SETTINGS

Operating settings can be made for the heat pump in the sub menus.

MENU 5.1.1 - HOT WATER SETTINGS

economy

Setting range start temp. economy: 5 - 55 °C

Factory setting start temp. economy : 42 °C

Setting range stop temp. economy: 5 - 60 °C

Factory setting stop temp. economy : 46 °C

normal

Setting range start temp. normal: 5 - 60 °C

Factory setting start temp. normal : 46 °C

Setting range stop temp. normal: 5 - 65 °C

Factory setting stop temp. normal : 50 °C

luxury

Setting range start temp. lux: 5 - 70 °C

Factory setting start temp. lux : 49 °C

Setting range stop temp. lux: 5 - 70 °C

Factory setting stop temp. lux : 53 °C

stop temp. per. increase

Setting range: 55 – 70 °C

Factory setting: 55 °C

Here you set the start and stop temperature of the hot water for the different comfort options in menu 2.2 as well as the stop temperature for periodic increase in menu 2.9.1.

With "high power" activated, the hot water is charged with greater power than standard mode and therefore has a faster recharging time.

MENU 5.1.2 - MAX FLOW LINE TEMPERATURE

climate system

Setting range: 20-70 °C

Default value: 60 °C

Set the maximum supply temperature for the climate system here. If the installation has more than one climate system, individual maximum supply temperatures can be set for each system. Climate systems 2 - 8 cannot be set to a higher max supply temperature than climate system 1.

☞ *Caution*

Underfloor heating systems are normally max flow line temperature set between 35 and 45 °C.

Check the max floor temperature with your floor supplier.

MENU 5.1.3 - MAX DIFF FLOW LINE TEMP.

max diff compressor

Setting range: 1 – 25 °C

Default value: 10 °C

max diff addition

Setting range: 1 – 24 °C

Default value: 7 °C

Here you set the maximum permitted difference between the calculated and actual supply temperature during compressor respectively add. heat mode. Max diff. additional heat can never exceed max diff. compressor

max diff compressor

If the current supply temperature *exceeds* the calculated supply by set value, the degree minute value is set to 0. The compressor in the heat pump stops if there is only a heating demand.

max diff addition

If "addition" is selected and activated in menu 4.2 and the current supply temperature *exceeds* the calculated temperature by the set value, the additional heat is forced to stop.

MENU 5.1.4 - ALARM ACTIONS

Select how you want the heat pump to alert you that there is an alarm in the display here.

The different alternatives are that the heat pump stops producing hot water (default setting) and/or reduces the room temperature.

☞ *Caution*

If no alarm action is selected, it can result in higher energy consumption in the event of an alarm.

MENU 5.1.5 - FAN SP. EXHAUST AIR

normal and speed 1-4

Setting range: 0 – 100 %

Set the speed for the five different selectable speeds for the fan here. You can also select "adjusting ventilation" and "fan synch. operation".

adjusting ventilation

Tick "adjusting ventilation" in conjunction with ventilation adjustment. The selection is active for as long as you remain in the menu but deactivates when you leave the menu.

fan synch. operation

Select whether the fan is to maintain the same speed, regardless of whether the compressor is operating or not, or alternatively run at different speeds. If the function is activated, fan speed 2 applies when the compressor is not in operation, and normal fan speed applies when the compressor is in operation.

☞ **Caution**

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

For optimum heat pump performance, the ventilation flow should not be less than 21 l/s (75 m³/h).

MENU 5.1.5.1 - ADJUSTING VENTILATION

actual air flow

Setting range: 1 – 400 m³/h

Factory setting: 0 m³/h

fan speed

Setting range: 0-100 %

Factory setting: the value selected in "normal" in menu 5.1.5.

Here, you set the air flow and adjust the fan speed at ventilation adjustment.

"**adjusting ventilation**": Activate this function while the ventilation is being adjusted.

"**actual air flow**": Here, you set the real air flow as measured during the ventilation adjustment.

⚠ **NOTE**

When this setting is made, it is important that the ventilation flow is in a stable condition.

"**fan speed**": Here you can adjust the fan speed while "adjusting ventilation" is activated.

⚠ **NOTE**

If the fan speed is too high during adjustment, information that it needs to be reduced is given at the bottom of the page.

The function is deactivated when you exit the menu.

MENU 5.1.10 - OP. MOD HEAT MED PUMP

op. mode

Setting range: auto, intermittent

Default value: auto

Default value: intermittent

Set the operating mode of the heating medium pump here.

auto: The heating medium pump runs according to the current operating mode for F730.

intermittent: The heating medium pump starts approx. 20 seconds before, and stops at the same time as, the compressor.

MENU 5.1.11 - PUMP SPEED HEATING MEDIUM

heating

Setting range: 1 - 100 %

Factory setting: 70 %

hot water

Setting range: 1 - 100 %

Factory setting: 70 %

wait mode

Setting range: 1 - 100 %

Default values: 30 %

max. allowed speed

Setting range: 50 - 100 %

Default values: 100 %

Here you set whether the heating medium pump's speed is to be regulated automatically or manually during heating and hot water. Select "auto" if the speed of the heating medium pump is to be regulated automatically (factory setting) for optimal operation. Select manual if you want to set the heating medium pump speed yourself, during heating and hot water.

If "auto" is activated for heating operation or hot water you can also make the setting "max. allowed speed", which restricts the heating medium pump and does not allow it to run at a higher speed than the set value.

"*wait mode*" means operating mode heating for the heating medium pump, but when the heat pump neither has a need for compressor operation nor electric additional heat and slows down.

MENU 5.1.12 - INTERNAL ELECTRICAL ADDITION

max. set electrical output (SG Ready)

Setting range: 0 - 6.5 kW

Default values: 6.5 kW

fuse size

Setting range: 1 - 200 A

Factory setting: 16 A

transformation ratio

Setting range: 300 - 3000

Factory setting: 300

Here you set the max. electrical output of the internal electric additional heat in F730 during normal operation and overcapacity mode (SG Ready), as well as the fuse size and transformer ratio for the installation. The transformer ratio is the factor that is used to convert the metered voltage to current.

MENU 5.1.14 - FLOW SET. CLIMATE SYSTEM

presettings

Setting range: radiator, floor heat., rad. + floor heat., DOT °C

Default value: radiator

Setting range DOT: -40.0 – 20.0 °C

Factory setting DOT: -18.0 °C

own setting

Setting range dT at DOT: 0.0 – 25.0

Factory setting dT at DOT: 10.0

Setting range DOT: -40.0 – 20.0 °C

Factory setting DOT: -18.0 °C

The type of heating distribution system the heating medium pump (GP1) works towards is set here.

dT at DOT is the difference in degrees between flow and return temperatures at dimensioned outdoor temperature.

MENU 5.1.24 - BLOCKFREQ

from frequency

Setting range: 20 - 115 Hz

Factory setting: 20 Hz

Maximum setting range: 50 Hz.

to frequency

Setting range: 25 - 120 Hz

Factory setting: 25 Hz

Maximum setting range: 50 Hz.

Here you can set frequencies that are not to be permitted for the compressor. It is possible to restrict two different frequencies. Each frequency is restricted to between 3 and 50 Hz.

⚠ **NOTE**

A large blocked frequency range can cause the compressor to run jerkily.

⚠ **NOTE**

Blocking peak output in F730 can lead to reduced savings.

MENU 5.1.25 - TIME FILTER ALARM

months btwn filter alarms

Setting range: 1 – 24

Factory setting: 3

Here you set the number of months between alarms for a reminder to clean the filter in F730.

MENU 5.2 - SYSTEM SETTINGS

Inform the heat pump which accessories are installed here.

There are two ways of activating connected accessories. You can either mark the alternative in the list or use the automatic function "search installed acc.".

search installed acc.

Mark "search installed acc." and press the OK button to automatically find connected accessories for F730.

MENU 5.3 - ACCESSORY SETTINGS

The operating settings for accessories that are installed and activated are made in the sub-menus for this.

This is also where you activate the outdoor air damper.

MENU 5.3.3 - EXTRA CLIMATE SYSTEM

mixing valve amplifier

Setting range: 0.1 – 10.0

Default value: 1.0

mixing valve step delay

Setting range: 10 – 300 s

Default values: 30 s

The shunt amplification and shunt waiting time for the different extra climate systems that are installed are also set here.

See the accessory installation instructions for function description.

MENU 5.3.11 - MODBUS

address

Factory setting: address 1

word swap

Factory setting: not activated

As from Modbus 40 version 10, the address can be set between 1 - 247. Earlier versions have a fixed address (address 1).

If you select "word swap", you will get "word swap" instead of the preset standard "big endian".

See the accessory installation instructions for function description.

MENU 5.3.17 - OUTDOOR AIR MIXING

max. outdoor air temp.

Setting range: 0 - 40 °C

Factory setting: 10 °C

fan speed outdoor air

Setting range: 50 - 100 %

Factory setting: 100 %

Activate adjusting the ventilation for the outdoor air mixture here. During the time that the adjustment is active the fan runs according to the set value "fan speed outdoor air" and the outdoor air damper is open.

max. outdoor air temp.: Maximum limit for when outdoor mixing function can be active.

fan speed outdoor air: The speed the fan runs at when the outdoor air mixing function is active.

MENU 5.3.21 - FLOW SENSOR / ENERGY METER

flow sensor / energy meter X22

set mode

Setting range: energy per pulse / pulses per kWh / EMK150 / EMK300/310 /EMK500

Factory setting: energy per pulse (For products with a built-in energy meter, this is the default.)

energy per pulse

Setting range: 0 – 10000 Wh

Factory setting: 1000 Wh

pulses per kWh

Setting range: 1 – 10000

Factory setting: 500

EMK

Setting range: EMK 150, EMK 310/310 eller EMK 500

flow sensor / energy meter X23

set mode

Setting range: energy per pulse / pulses per kWh / EMK150 / EMK300/310 /EMK500

Factory setting: energy per pulse (For products with a built-in energy meter, this is the default.)

energy per pulse

Setting range: 0 – 10000 Wh

Factory setting: 1000 Wh

pulses per kWh

Setting range: 1 – 10000

Factory setting: 500

EMK

Setting range: EMK 150, EMK 310/310 eller EMK 500

The energy meter(s) is used to send pulse signals every time a certain amount of energy has been consumed.

energy per pulse: Here you set the amount of energy to which each pulse will correspond.

pulses per kWh: Here you set the number of pulses per kWh that are sent to F730.

MENU 5.4 - SOFT IN/OUTPUTS

Here you can select the input/output on the input board (AA3) to which the external switch function (page 28) is to be connected.

Selectable inputs on terminal block AUX 1-5 (AA3-X6:9-18) and output AA3-X7 on the input board.

MENU 5.5 - FACTORY SETTING SERVICE

All settings can be reset (including settings available to the user) to default values here.

> ⚠️ **NOTE**
>
> When resetting, the start guide is displayed the next time the heat pump is restarted.

MENU 5.6 - FORCED CONTROL

You can force control the different components in the heat pump and any connected accessories here.

MENU 5.7 - START GUIDE

When the heat pump is started for the first time the start guide starts automatically. Start it manually here.

See page 33 for more information about the start guide.

MENU 5.8 - QUICK START

It is possible to start the compressor from here.

> 👉 **Caution**
>
> There must be a heating or hot water demand to start the compressor.

> 👉 **Caution**
>
> Do not quick start the compressor too many times over a short period of time as this may damage the compressor and its surrounding equipment.

MENU 5.9 - FLOOR DRYING FUNCTION

---

length of period 1 – 7

Setting range: 0 – 30 days

Factory setting, period 1 – 3, 5 – 7: 2 days

Factory setting, period 4: 3 days

temp. period 1 – 7

Setting range: 15 – 70 °C

Default value:

temp. period 1	20 °C
temp. period 2	30 °C
temp. period 3	40 °C
temp. period 4	45 C
temp. period 5	40 °C
temp. period 6	30 °C
temp. period 7	20 °C

Set the function for under floor drying here.

You can set up to seven period times with different calculated flow temperatures. If less than seven periods are to be used, set the remaining period times to 0 days.

Mark the active window to activate the underfloor drying function. A counter at the bottom shows the number of days the function has been active.

> 💡 **TIP**
>
> If operating mode "add. heat only" is to be used, select it in menu 4.2.

> 💡 **TIP**
>
> It is possible to save a floor drying log that shows when the concrete slab has reached the correct temperature. See section "Logging floor drying" on page 51.

MENU 5.10 - CHANGE LOG

Read off any previous changes to the control system here.

The date, time and ID no. (unique to certain settings) and the new set value is shown for every change.

> ⚠️ **NOTE**
>
> The change log is saved at restart and remains unchanged after factory setting.

5.12 - COUNTRY

Select here where the product was installed. This allows access to country specific settings in your product.

Language settings can be made regardless of this selection.

> ⚠️ **NOTE**
>
> This option locks after 24 hours, restart of display or program updating.

9 Service

> **NOTE**
>
> Servicing and maintenance should only be carried out by persons with the necessary expertise.
>
> When replacing components on F730 only replacement parts from NIBE may be used.

Maintenance

Inform the user of necessary maintenance action.

CLEANING THE OVERFLOW CUP/FLOOR DRAIN

Regularly check that the overflow cup and any floor drains are not blocked; water must be able to run through freely. Clean, if necessary.

> **NOTE**
>
> If the overflow cup or floor drain is blocked, water can run over onto the floor of the installation area. To prevent damage to the building the floor coating must be considered. A waterproof floor or floor membrane is recommended.

Service actions

EMERGENCY MODE

Emergency mode is used in event of operational interference and in conjunction with service.

Emergency mode is activated by setting switch (SF1) in mode "⚠". This means that:

- The status lamp illuminates yellow.
- The display is not lit and the control computer is not connected.
- The temperature at the immersion heater is controlled by the thermostat (FQ10-BT30). It can be set either to 35 or 45 °C.

- The compressor is off and only the fan, heating medium pump and the electric additional heat are active. The additional heat power in emergency mode is set in the immersion heater card (AA1). See page 27 for instructions.

DRAINING THE WATER HEATER

The water heater can be drained via the safety valve (FL1) or via the overflow cup (WM1).

1. Disconnect the overflow pipe from the safety valve (FL1) and connect a hose to a draining pump instead. If a draining pump is not available, the water can be released into the overflow cup (WM1).
2. Open the safety valve (FL1).
3. Open a hot water tap to let air into the system. If this is not sufficient, detach the pipe connection (XL4) on the hot water side and ensure that air is entering.

DRAINING THE CLIMATE SYSTEM

In order to carry out service on the climate system, it may be easier to drain the system first.

> **NOTE**
>
> There may be some hot water when draining the heating medium side/climate system. There is a risk of scalding.

The hot water can be drained through the safety valve (FL2) via the overflow cup (WM1) or through a hose that is connected to the safety valve's (FL2) or the drain valve's (XL10) outlet.

1. Open the safety valve (FL2) or the drain valve (XL10).
2. Set the vent valves for the climate system (QM20), (QM22), (QM24), (QM26) in the open position for air supply.

> **NOTE**
>
> The heat pump should not, after draining, be exposed to risk of freezing because a certain of water remains in the coil.

TEMPERATURE SENSOR DATA

Temperature (°C)	Resistance (kOhm)	Voltage (VDC)
-40	351.0	3.256
-35	251.6	3.240
-30	182.5	3.218
-25	133.8	3.189
-20	99.22	3.150
-15	74.32	3.105
-10	56.20	3.047
-5	42.89	2.976
0	33.02	2.889
5	25.61	2.789
10	20.02	2.673
15	15.77	2.541
20	12.51	2.399
25	10.00	2.245
30	8.045	2.083
35	6.514	1.916
40	5.306	1.752
45	4.348	1.587
50	3.583	1.426
55	2.968	1.278
60	2.467	1.136
65	2.068	1.007
70	1.739	0.891
75	1.469	0.785
80	1.246	0.691
85	1.061	0.607
90	0.908	0.533
95	0.779	0.469
100	0.672	0.414

USB SERVICE OUTLET
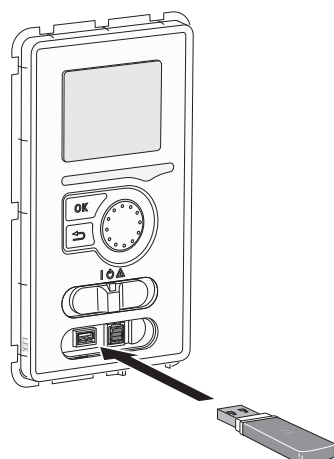
The display unit is equipped with a USB socket that can be used to update the software and save logged information in F730.
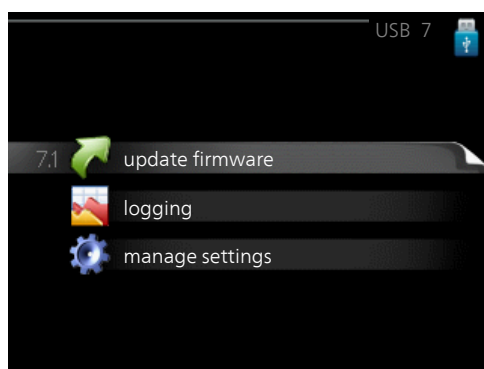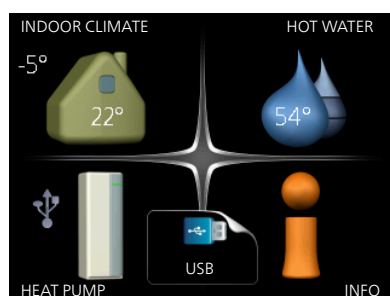
When a USB memory is connected a new menu (menu 7) appears in the display.

Menu 7.1 - update firmware
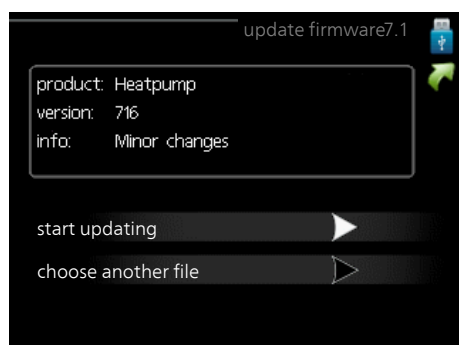
This allows you to update the software in F730.

⚠️ **NOTE**

For the following functions to work the USB memory must contain files with software for F730 from NIBE.

The fact box at the top of the display shows information (always in English) of the most probable update that the update software has selected form the USB memory.

This information states which product the software is intended for, the software version and general information about them. If you wish to select another file than the one selected, the correct file can be selected by "choose another file".

start updating

Select "start updating" if you want to start the update. You are asked whether you really want to update the software. Respond "yes" to continue or "no" to undo.

If you responded"yes" to the previous question the update starts and you can now follow the progress of the update on the display. When the update is complete F730 restarts.

💡 **TIP**

A software update does not reset the menu settings in F730.

⚠️ **NOTE**

If the update is interrupted before it is complete (for example power cut etc.), the software can be reset to the previous version if the OK button is held in during start up until the green lamp starts to illuminate (takes about 10 seconds).

choose another file
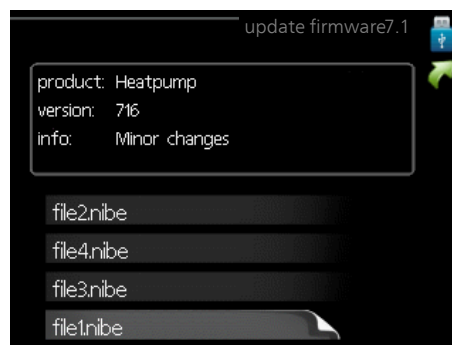
Select "choose another file" if you do not want to use the suggested software. When you scroll through the files, information about the marked software is shown in a fact box just as before. When you have selected a file with the OK button you will return to the previous page (menu 7.1) where you can choose to start the update.

Menu 7.2 - logging
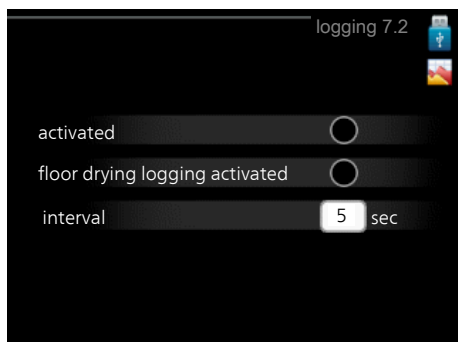
Setting range: 1 s – 60 min

Factory setting range: 5 s

Here you can choose how current measurement values from F730 should be saved onto a log file on the USB memory.

1. Set the desired interval between loggings.

2. Tick "activated".

3. The present values from F730 are saved in a file in the USB memory at the set interval until "activated" is unticked.

> ⚠ **NOTE**
>
> Untick "activated" before removing the USB memory.

Logging floor drying

Here you can save a floor drying log on the USB memory and in this way see when the concrete slab reached the correct temperature.

• Make sure that "floor drying function" is activated in menu 5.9.

• Select "logging floor drying activated".

• A log file is now created, where the temperature and the immersion heater output can be read off. Logging continues until "logging floor drying activated" is deselected or until "floor drying function" is stopped.

> ⚠ **NOTE**
>
> Deselect "logging floor drying activated" before you remove the USB memory.

Menu 7.3 - manage settings
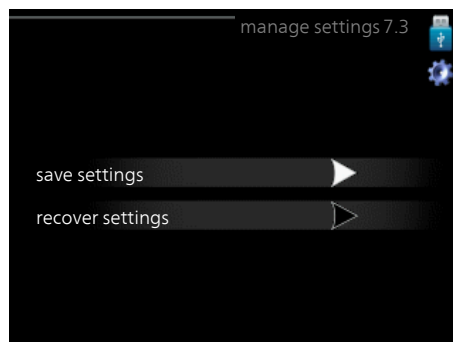
Here you can manage (save as or retrieve from) all the menu settings (user and service menus) in F730 with a USB memory.

Via "save settings" you save the menu settings to the USB memory in order to restore them later or to copy the settings to another F730.

> ⚠ **NOTE**
>
> When you save the menu settings to the USB memory you replace any previously saved settings on the USB memory.

Via "recover settings" you reset all menu settings from the USB memory.

> ⚠ **NOTE**
>
> Reset of the menu settings from the USB memory cannot be undone.

10 Disturbances in comfort

In most cases, the heat pump 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

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 source of the fault. See help menu or user manual for more information about menu 3.1.

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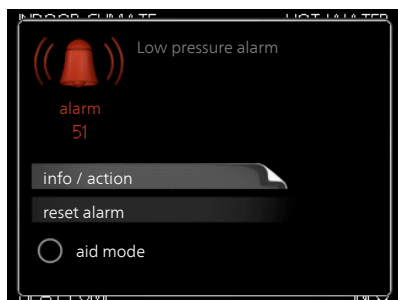
In the event of an alarm, some kind of malfunction has occurred, which is indicated by the status lamp changing from green continuously to red continuously. In addition, an alarm bell appears in the information window.

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 many cases, it is sufficient to select "reset alarm" to correct the problem that caused the alarm. If a green light comes on 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 causing the alarm still remains. If the alarm initially disappears and then returns, see section "Troubleshooting".

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

> ⚠ **NOTE**
>
> To select aid mode an alarm action must be selected in the menu 5.1.4.

> ☞ *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 operational interference is not shown in the display the following tips can be used:

BASIC ACTIONS

Start by checking the following possible fault sources:

• The switch's (SF1) position.

• Group and main fuses of the accommodation.

• Earth-fault breaker.

• The heat pump's miniature circuit breaker (FC1).

• The heat pump's temperature limiter (FQ10).

LOW HOT WATER TEMPERATURE OR A LACK OF HOT WATER

• Closed or choked filling valve (QM10) for the hot water heater.

  – Open the valve.

• Heat pump in incorrect operating mode.

  – Enter menu 4.2. If mode "auto" is selected, select a higher value on "stop additional heat" in menu 4.9.2.

– If mode "manual" is selected, select "addition".

- Large hot water consumption.
  – Wait until the hot water has heated up. Temporarily increased hot water capacity (temporary lux) can be activated in menu 2.1.

- Too low hot water setting.
  – Enter menu 2.2 and select a higher comfort mode.

- Too low or no operating prioritisation of hot water.
  – Enter menu 4.9.1 and increase the time for when hot water is to be prioritised. Note that if the time for hot water is increased, the time for heating production is reduced, which can give lower/uneven room temperatures.

LOW ROOM TEMPERATURE

- Closed thermostats in several rooms.
  – See the "Saving tips" section in the User manual for more detailed information about how to best set the thermostats.

- Heat pump in incorrect operating mode.
  – Enter menu 4.2. If mode "auto" is selected, select a higher value on "stop heating" in menu 4.9.2.
  – If mode "manual" is selected, select "heating". If this is not enough, select "addition".

- Too low set value on the automatic heating control.
  – Enter menu 1.1 "temperature" and adjust the offset heating curve up. If the room temperature is only low in cold weather the curve slope in menu 1.9.1 "heating curve" needs adjusting up.

- Too low or no operating prioritisation of heat.
  – Enter menu 4.9.1 and increase the time for when heating is to be prioritised. Note that if the time for heating is increased the time for hot water production is reduced, which can give smaller amounts of hot water.

- "comfort mode" "luxury" selected in combination with large hot water outlet.
  – Enter menu 2.2 and select "economy" or "normal".

- "Holiday mode" activated in menu 4.7.
  – Enter menu 4.7 and select "Off".

- External switch for changing the room heating activated.
  – Check any external switches.

- The heating medium pump (GP1 has stopped.

- Air in the heating system.
  – Vent the heating system (see page 32).

- Incorrect value set in menu 5.1.12.

– Enter menu 5.1.12 and increase the value on "set max electrical add.".

HIGH ROOM TEMPERATURE

- Too high set value on the automatic heating control.
  – Enter menu 1.1 (temperature) and reduce the offset heating curve. If the room temperature is only high in cold weather the curve slope in menu 1.9.1 "heating curve" needs adjusting down.

- External switch for changing the room heating activated.
  – Check any external switches.

LOW SYSTEM PRESSURE

- Not enough water in the heating system.
  – Top up the water in the heating system (see page 32).

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.
  – Enter menu 1.2 and select "normal".

- 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.
  – Enter menu 1.2 and select "normal".

- External switch for changing the fan speed activated.
  – Check any external switches.

THE COMPRESSOR DOES NOT START

- There is no heating requirement.
  - The heat pump does not call on heating nor hot water.
  - The heat pump defrosts.

- Compressor blocked due to the temperature conditions.
  - Wait until the temperature is within the product's working range.

- Minimum time between compressor starts has not been reached.
  - Wait for at least 30 minutes and then check if the compressor has started.

- Alarm tripped.
  - Follow the display instructions.

11 Accessories

Not all accessories are available on all markets.

COMMUNICATIONS MODULE MODBUS 40

MODBUS 40 enables F730 to be controlled and monitored using a DUC (computer sub-centre) in the building. Communication is then performed using MODBUS-RTU.

Part no 067 144

COMMUNICATIONS MODULE SMS 40

When there is no internet connection, you can use the accessory SMS 40 to control F730 via SMS.

Part no 067 073

DOCKING KIT DEW 41

DEW 41 means that F730 can be connected to water heater VPB 200.

Part no. 067 537

DOCKING KITS SCA 43

SCA 43 means that F730 can be connected to the tanks AHPS/AHPH/VPB 300.

Part no. 067 540

EXTRA SHUNT GROUP ECS 40/ECS 41

This accessory is used when F730 is installed in houses with two or more different heating systems that require different supply temperatures.

ECS 40 (Max 80 m²)

Part no 067 287

ECS 41 (approx. 80-250 m²)

Part no 067 288

OUTDOOR AIR MIXING OEK 20-160

OEK 20-160 is an accessory that enables F730 to operate with both exhaust air and outdoor air.

Part no. 067 535

ROOM UNIT RMU 40

RMU 40 means that control and monitoring of F730 can be carried out in a different part of your home to where it is located.

Part no 067 064

SPLITTER KIT DKI 10

For split installation of F730.

Part no. 089 777

TOP CABINET

Top cabinet that conceals the ventilation ducts and reduces the sound to the installation room by 1-2 dB(A).

Height 245 mm

Part no. 089 756

Height 345 mm

Part no. 089 757

Height 445 mm

Part no. 067 522

Height 385-635 mm

Part no. 089 758

WATER HEATER/ACCUMULATOR TANK

AHPS

Accumulator tank without an immersion heater with solar coil (copper) and a hot water coil (stainless steel).

Requires that the entire installation (F730 and AHPS) is positioned at a distance of 60 mm from the rear wall. Requires docking kit.

Part no. 056 283

AHPH

Accumulator tank without an immersion heater with integrated hot water coil (stainless steel).

Requires that the entire installation (F730 and AHPH) is positioned at a distance of 60 mm from the rear wall. Requires docking kit.

Part no. 081 036

VPB

Water heater without immersion heater with charge coil.
Requires docking kit.

VPB 200

Copper	Part no. 088 515
Enamel	Part no. 088 517
Stainless steel	Part no. 088 518

VPB 300

Copper	Part no. 083 009
Enamel	Part no. 083 011
Stainless steel	Part no. 083 010

12 Technical data

Dimensions and setting-out coordinates

F730 installed as one unit.

Avoid routing pipes through the marked area

F730 at separated installation.

Ø 125   Ø 125

Avoid routing pipes through the marked area
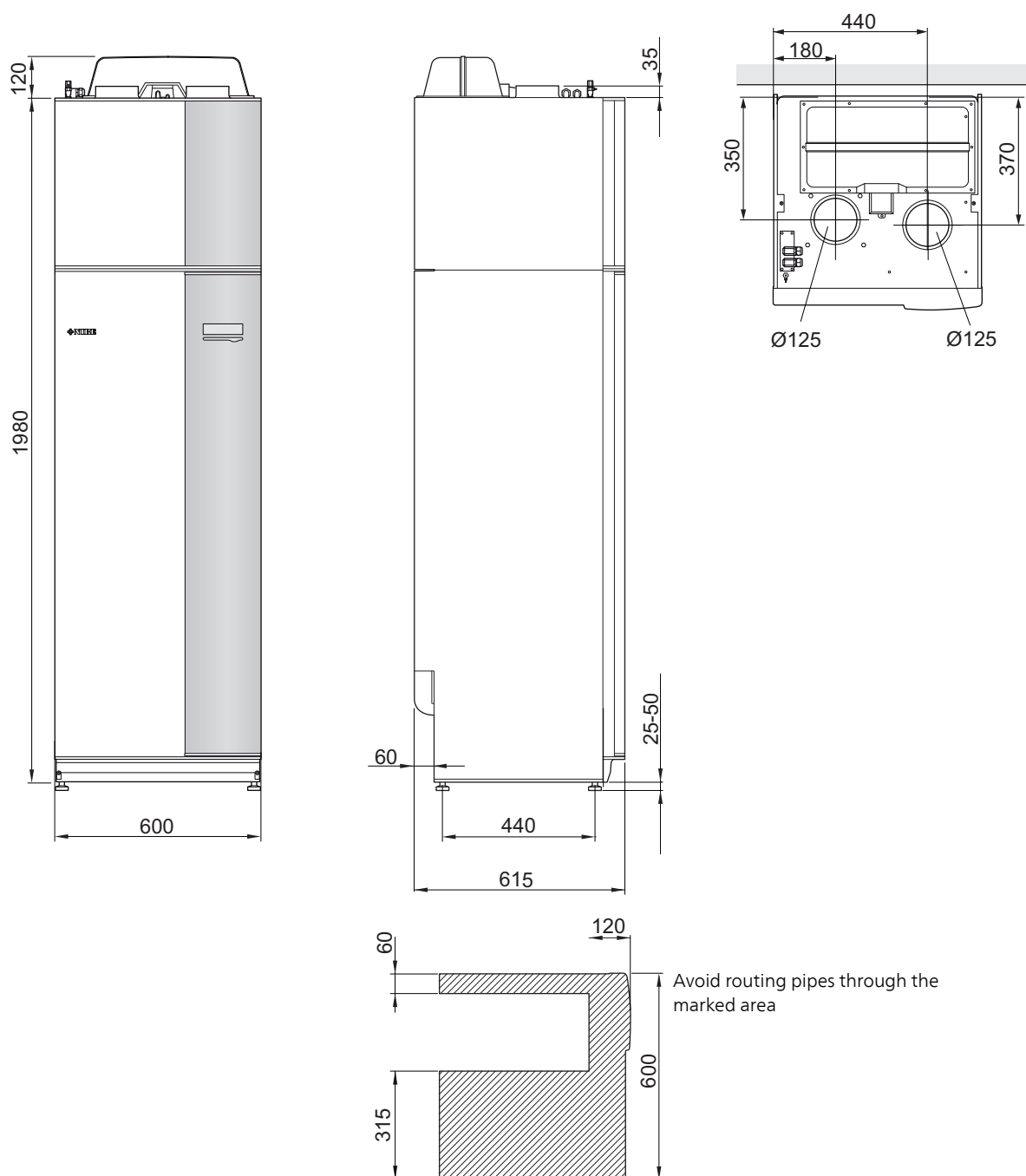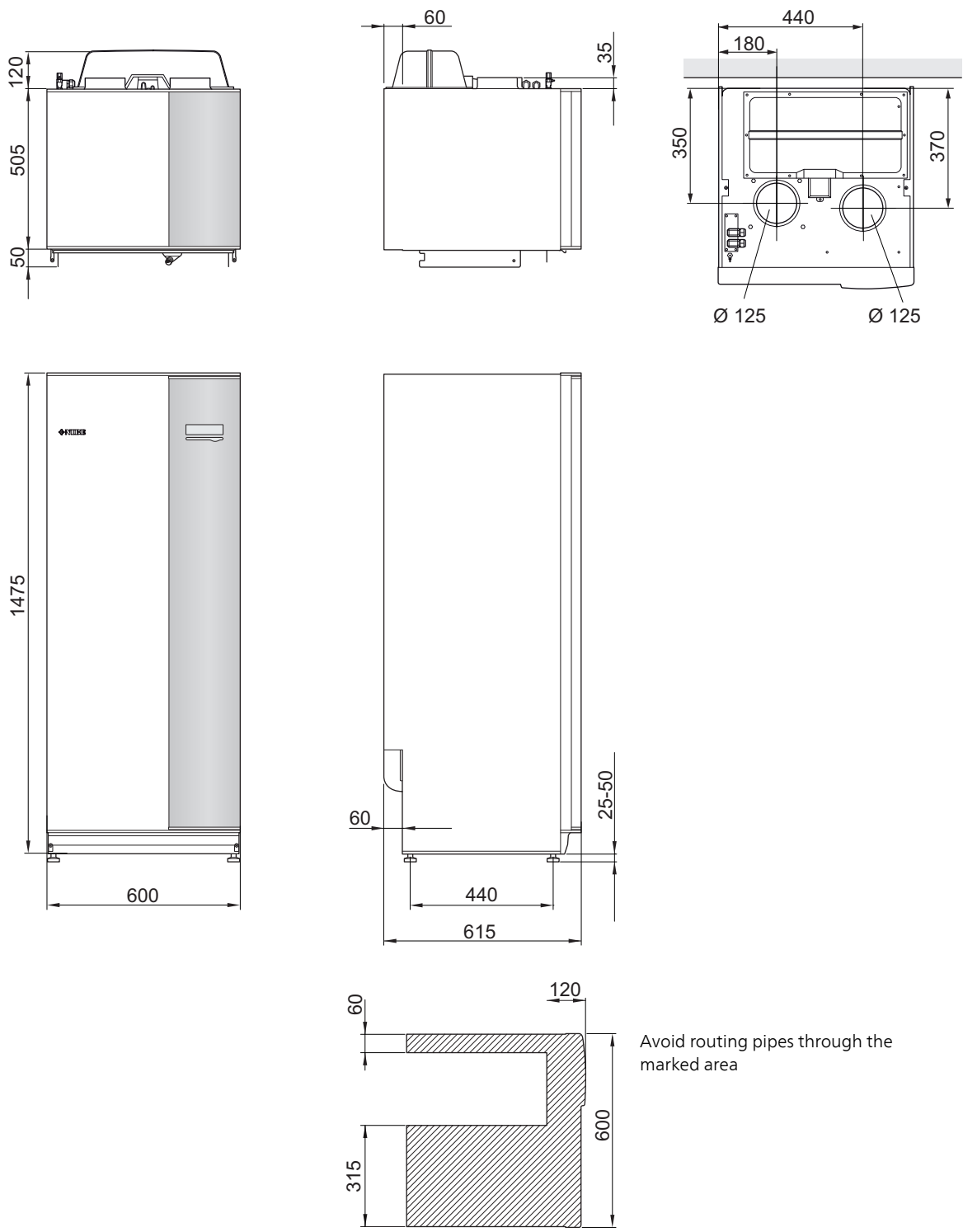
Technical specifications

1x230 V		Stainless
Output data according to EN 14 511		
Heating capacity (P_H)/COP [1]	kW/-	1.27 / 4.79
Heating capacity (P_H)/COP [2]	kW/-	1.53 / 5.32
Heating capacity (P_H)/COP [3]	kW/-	5.35 / 2.43
Output data according to EN 14 825		
Rated heating output ($P_{designh}$)	kW	5
SCOP cold climate, 35°C / 55 °C		4.65 / 3.57
SCOP average climate, 35 °C / 55 °C		4.35 / 3.38
SCOP warm climate, 35°C / 55°C		4.44 / 3.40
Additional power		
Max power, immersion heater (factory setting)	kW	6.5 (3.5)
Energy rating, average climate		
The product's efficiency class room heating, average climate 35 / 55 °C [4]		A++ / A++
The system's efficiency class room heating, average climate 35 / 55 °C [5]		A+++ / A++
Declared tap profile/efficiency class hot water heating [6]		XL/A
Electrical data		
Rated voltage	V	230 V ~ 50 Hz
Max operating current	A	42.4
Min. fuse rating	A	16
Drive output heating medium pump	W	10-75
Driving power exhaust air fan	W	25-140
Enclosure class		IP 21
Equipment Compliant with IEC 61000-3-12		
For Connection Design Purposes, Compliant with IEC 61000-3-3 technical requirements		
Refrigerant circuit		
Type of refrigerant		R407C
GWP refrigerant		1774
Volume	kg	0.74
CO_2 equivalent	ton	1.312
Cut-out value pressostat HP	MPa/bar	2.9 / 29.0
Cut-out value pressostat LP	MPa/bar	0.05 / 0.5
Heating medium circuit		
Opening pressure, safety valve	MPa/bar	0.25 / 2.5
Max temperature, supply line (factory setting)	°C	70 (60)
Ventilation		
Min. airflow	l/s	21
Sound effect level according to EN 12 102		
Noise		
Sound effect level according to EN 12 102 ($L_{W(A)}$) [7]	dB(A)	40-55
Sound levels		
Sound pressure level in the installation room ($L_{P(A)}$) [8]	dB(A)	36-51
Pipe connections		
Heating medium ext Ø	mm	22
Hot water ext Ø	mm	22
Cold water ext Ø	mm	22
Ventilation Ø	mm	125

[1] A20(12)W35, exhaust air flow 25 l/s (90 m³/h) min. compressor frequency

[2] A20(12)W35, exhaust air flow 70 l/s ((252 m³/h) min. compressor frequency

[3] A20(12)W45, exhaust air flow 70 l/s (252 m³/h) max. compressor frequency

[4] Scale for the product's efficiency class room heating: A+++ to D.

[5] Scale for the system's efficiency class room heating: A+++ to G. Reported efficiency for the system takes the product's temperature regulator into account.

[6] Scale for efficiency class hot water: A+ to F.

[7] The value varies with the selected fan curve. For more detailed sound data, including sound to channels, visit nibe.eu.

[8] The value can vary with the room's damping capacity. These values apply at a damping of 4 dB.

Other 1x230 V		Stainless
Water heater and heating section		
Volume heating section	litre	10
Volume, hot water heater	litre	180
Max pressure in hot water heater	MPa/bar	1.0/10
Capacity, hot water		
Tap volume 40°C according to EN 255-3($V_{max.}$) [1]	litre	213 - 273
Tap volume 40°C according to EN 16 147($V_{max.}$) [2]	litre	177 - 227
COP at Normal comfort (COP_t)		2.28
Idle loss at Normal comfort (P_{es})	W	50
Dimensions and weight		
Width	mm	600
Depth	mm	610
Height excl. inverter box, incl. feet	mm	2,000 - 2,025
Required ceiling height	mm	2,170
Weight	kg	185
Part No.		066 158

[1] A20(12) exhaust air flow 50 l/s (180 m³/h). The value varies depending on the choice of comfort mode (economy, normal and lux)

[2] A20(12) exhaust air flow 50 l/s (180 m³/h). The value varies depending on the choice of comfort mode (economy, normal and lux)

Energy labelling

INFORMATION SHEET

Supplier		NIBE
Model		F730
Temperature application	°C	35 / 55
Declared load profile for water heating		XL
Seasonal space heating energy efficiency class, average climate		A++ / A++
Water heating energy efficiency class, average climate		A
Rated heat output ($P_{designh}$), average climate	kW	4,5 / 4,5
Annual energy consumption space heating, average climate	kWh	2112 / 2681
Annual energy consumption water heating, average climate	kWh	1529
Seasonal space heating energy efficiency, average climate	%	173 / 136
Water heating energy efficiency, average climate	%	110
Sound power level L_{WA} indoors	dB	44
Rated heat output ($P_{designh}$), cold climate	kW	4,5 / 4,5
Rated heat output ($P_{designh}$), warm climate	kW	4,5 / 4,5
Annual energy consumption space heating, cold climate	kWh	2384 / 3106
Annual energy consumption water heating, cold climate	kWh	1529
Annual energy consumption space heating, warm climate	kWh	1348 / 1766
Annual energy consumption water heating, warm climate	kWh	1123
Seasonal space heating energy efficiency, cold climate	%	183 / 140
Water heating energy efficiency, cold climate	%	110
Seasonal space heating energy efficiency, warm climate	%	175 / 133
Water heating energy efficiency, warm climate	%	110
Sound power level L_{WA} outdoors	dB	-

DATA FOR ENERGY EFFICIENCY OF THE PACKAGE

Model		F730
Temperature application	°C	35 / 55
Controller, class		VI
Controller, contribution to efficiency	%	4
Seasonal space heating energy efficiency of the package, average climate	%	177 / 140
Seasonal space heating energy efficiency class of the package, average climate		**A+++ / A++**
Seasonal space heating energy efficiency of the package, cold climate	%	187 / 144
Seasonal space heating energy efficiency of the package, warm climate	%	179 / 137

The reported efficiency of the package also takes the controller into account. If an external supplementary boiler or solar heating is added to the package, the overall efficiency of the package should be recalculated.

TECHNICAL DOCUMENTATION

Model				F730			
Type of heat pump			☐ Air-water ☒ Exhaust-water ☐ Brine-water ☐ Water-water				
Low-temperature heat pump			☐ Yes ☒ No				
Integrated immersion heater for additional heat			☒ Yes ☐ No				
Heat pump combination heater			☒ Yes ☐ No				
Climate			☒ Average ☐ Cold ☐ Warm				
Temperature application			☒ Medium (55°C) ☐ Low (35°C)				
Applied standards			EN14825, EN14511, EN16147, EN12102				
Rated heat output	Prated	4,5	kW	Seasonal space heating energy efficiency	η_s	132	%
Declared capacity for space heating at part load and at outdoor temperature Tj				Declared coefficient of performance for space heating at part load and at outdoor temperature Tj			
Tj = -7 °C	Pdh	4.0	kW	Tj = -7 °C	COPd	2.29	-
Tj = +2 °C	Pdh	2.5	kW	Tj = +2 °C	COPd	3.53	-
Tj = +7 °C	Pdh	1.6	kW	Tj = +7 °C	COPd	4.36	-
Tj = +12 °C	Pdh	1.7	kW	Tj = +12 °C	COPd	4.60	-
Tj = biv	Pdh	4.0	kW	Tj = biv	COPd	2.29	-
Tj = TOL	Pdh	3.6	kW	Tj = TOL	COPd	2.34	-
Tj = -15 °C (if TOL < -20 °C)	Pdh		kW	Tj = -15 °C (if TOL < -20 °C)	COPd		-
Bivalent temperature	T_{biv}	-7	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	Pcych		kW	Cycling interval efficiency	COPcyc		-
Degradation coefficient	Cdh	0.94	-	Max supply temperature	WTOL	60	°C
Power consumption in modes other than active mode				Additional heat			
Off mode	P_{OFF}	0.003	kW	Rated heat output	Psup	0.9	kW
Thermostat-off mode	P_{TO}	0.023	kW				
Standby mode	P_{SB}	0.01	kW	Type of energy input		Electric	
Crankcase heater mode	P_{CK}	0.00	kW				
Other items							
Capacity control		Variable		Rated airflow (air-water)		180	m³/h
Sound power level, indoors/outdoors	L_{WA}	44 / -	dB	Nominal heating medium flow			m³/h
Annual energy consumption	Q_{HE}	2,681	kWh	Brine flow brine-water or water-water heat pumps			m³/h
For heat pump combination heater							
Declared load profile for water heating		XL		Water heating energy efficiency	η_{wh}	110	%
Daily energy consumption	Q_{elec}	7.25	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	1,529	kWh	Annual fuel consumption	AFC		GJ
Contact information		NIBE Energy Systems – Box 14 – Hannabadsvägen 5 – 285 21 Markaryd – Sweden					

Electrical circuit diagram

WIRING DIAGRAM F730
WIRING DIAGRAM F730
POWER

051227   0

Inverter module

Air Unit

Base

230V~ 50Hz 6,5 kW

WIRING DIAGRAM F730
WIRING DIAGRAM F730
BASE

Dimension
230V~ 50Hz 6,5 kW

051227 0

WIRING DIAGRAM F730
WIRING DIAGRAM F730
DISPLAY

SELV

Dimension
230V~ 50Hz 6,5 kW

-AA4
PCA Display Unit

F730

-SF1

-X8
-X1
-X9

-W105
-W130

/5.7E : com3

Item register

Contact information

For countries not mentioned in this list, contact NIBE Sweden or check nibe.eu for more information.

531379