◆NIBE

Installer manual
NIBE™ F750
Exhaust air heat pump

Quick guide

Navigation
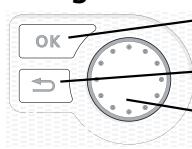
Ok button (confirm/select)

Back button (back/undo/exit)

Control knob (move/increase/reduce)

A detailed explanation of the button functions can be found on page 32.

How to scroll through menus and make different settings is described on page 34.

Set the indoor climate
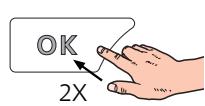
The mode for setting the indoor temperature is accessed by pressing the OK button twice, when in the start mode in the main menu. Read more about the settings on page 36.

Increase hot water volume
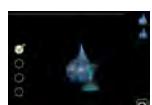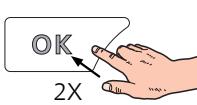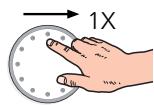
To temporarily increase the amount of hot water, first turn the control knob to mark menu 2 (water droplet) and then press the OK button twice. Read more about the settings on page 42.

In event of disturbances in comfort

If a disturbance in comfort of any type occurs there are some measures that can be taken before you need to contact your installer. See page 59 for instructions.

Table of Contents

1 Important information

Safety information

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

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

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Symbols

! **NOTE**
This symbol indicates danger to machine or person.

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

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

Marking

F750 is CE marked and fulfils IP21.

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

IP21 means that objects with a diameter larger than or equivalent to 12.5 mm cannot penetrate and cause damage and that the product is protected against vertically falling drops of water.

Serial number

Serial number

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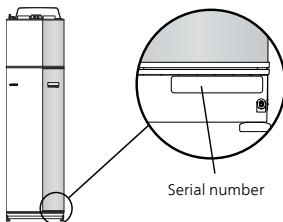
Serial number

☞ **Caution**

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

Country specific information

Installer manual

This installer manual must be left with the customer.

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. Fill in the page for information about installation data in the User manual.

| ✔	Description	Notes	Signature	Date
	Ventilation (page 18)			
	Setting the ventilation flow			
	Heating medium (page 15)			
	System flushed			
	System vented			
	Circulation pump setting			
	Setting heating medium flow			
	Boiler pressure			
	Hot water (page 15)			
	Mixing valve			
	Electricity (page 19)			
	Fuses heat pump			
	Fuses property			
	Outside sensor			
	Room sensor			
	Current sensor			
	Safety breaker			
	Earth circuit-breaker			
	Warranty			

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

2 Delivery and handling

Transport

F750 should be transported and stored vertically in a dry place. However. the F750 may be carefully laid on its back when being moved into a building. The centre of gravity is in the upper part.
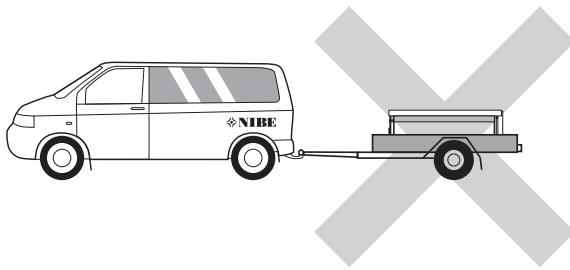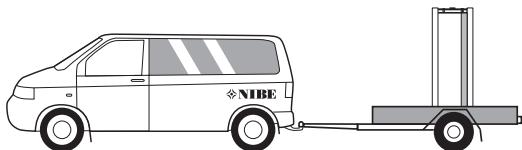

Assembly

- Position F750 on a firm base that can take the weight, preferably on a concrete floor or foundation. Use the product's adjustable feet to obtain a horizontal and stable set-up.

30 - 50 mm
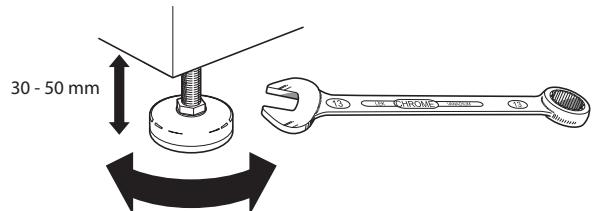
- The area where F750 is located must be equipped with floor drainage.
- Install with its back to an outside wall, ideally in a room where noise does not matter, in order to eliminate noise problems. If this is not possible, avoid placing it against a wall behind a bedroom or other room where noise may 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 boiler room 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. Approx. 50 mm free space is required on each side, to remove the side panels. The panels do not need to be removed during service, all service on F750 can be carried out from the front. Leave space between the heat pump and wall behind (and any routing of supply cables and pipes), to reduce the risk of any transmission of vibrations.
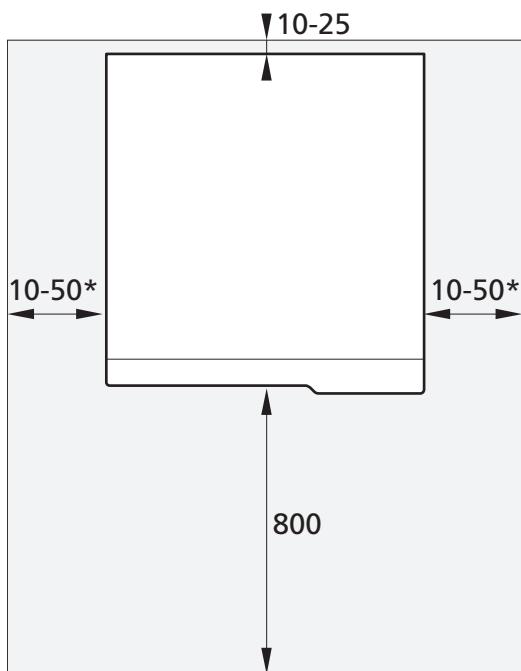
* Depending on whether the panels can be removed or not.

!	**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)


Current sensor
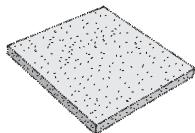
Extra air filter
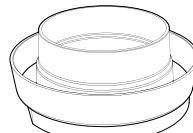
Venting connector (only F750 copper)

Location

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

Removing the covers

Front cover
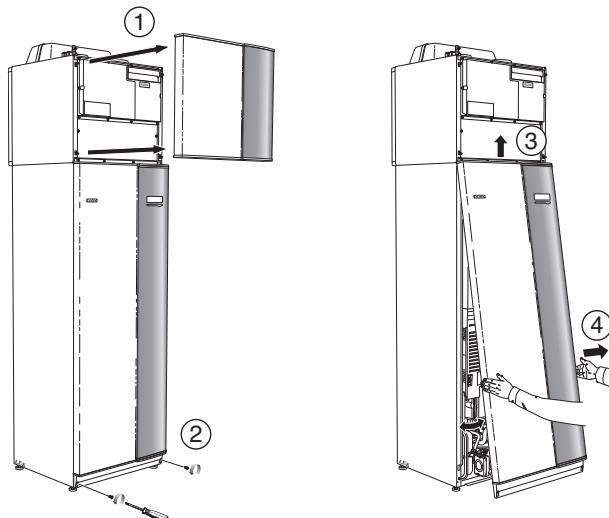
1. Remove the air treatment hatch by pulling it straight out.
2. Remove the screws from the lower edge of the front cover.
3. Lift the cover out at the bottom edge and up.
4. Pull the hatch towards yourself.

Side covers
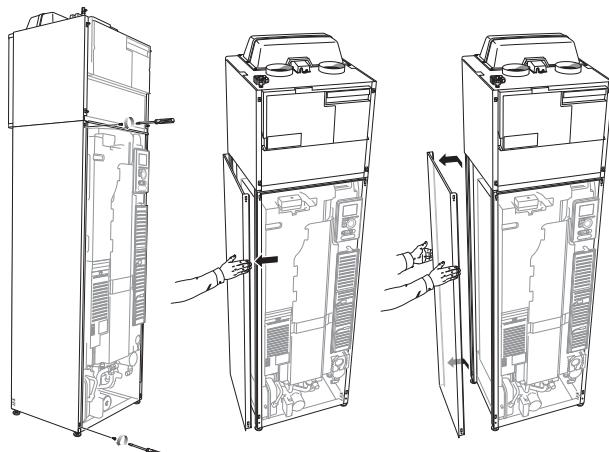
The side covers can be removed to facilitate the installation.

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.
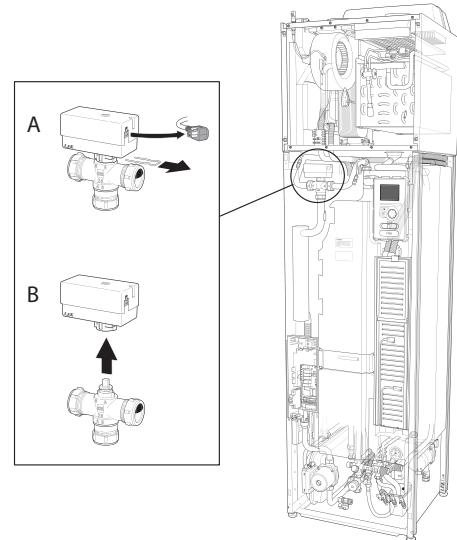
2. Grip the handle and pull straight out as illustrated.
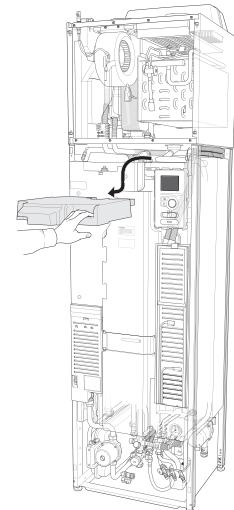
Insulation, immersion heater

> **!** **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 20.
2. Grip the handle and pull the insulation carefully towards you as illustrated.
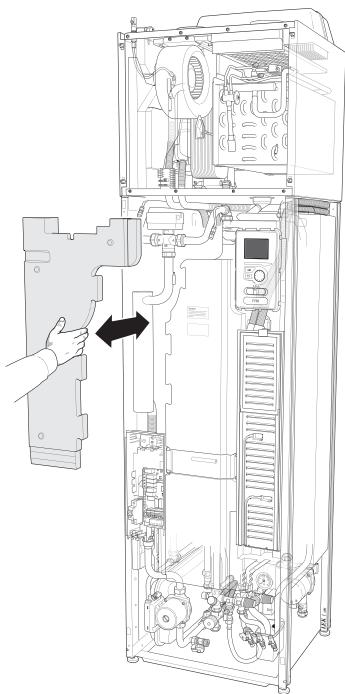
> **TIP**
>
> Remove the hatch for the immersion heater card so that it is easier to remove the insulation (see page 20).

3 The heat pump design

F750, copper

RA1
CA1
XL32
QA40
XL31

BP1 BT14 BP2 GQ10 GQ2
QM24
UR1
BS1
BT17
BT20
QN1
EP1
BT16

AA101

UB1
UB2
W130

QN10
BT7
BT63
PF1
PF3
EB1

AA4
SF1
AA4-XJ4
AA4-XJ3
AA3
AA23
BT6
AA2
RF3
RA2
WP3
BP5
BT61
FL2
QM31
XL1
WM2
WM1

HZ2 BT15 BT12 BT3 EP2 BT21

BT30
FD1

AA1
FA1

BT62 XL5 RM1 GP6

FL1
FL6
QM10

XL2 GP1 XL4 XL3 QM11 QM23 QM20 QM22 CM1 XL10 WP1 WP2
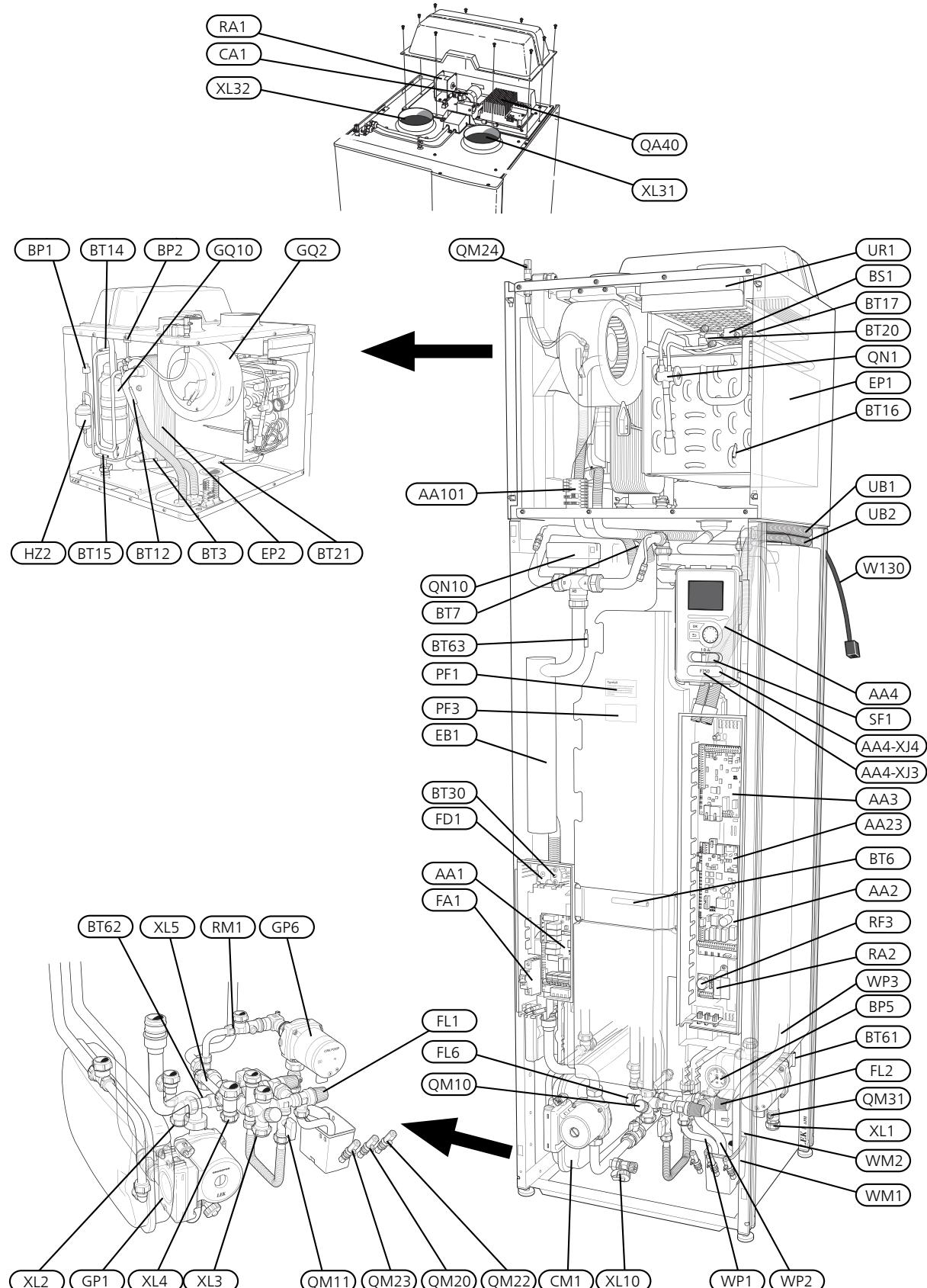
F750, stainless steel
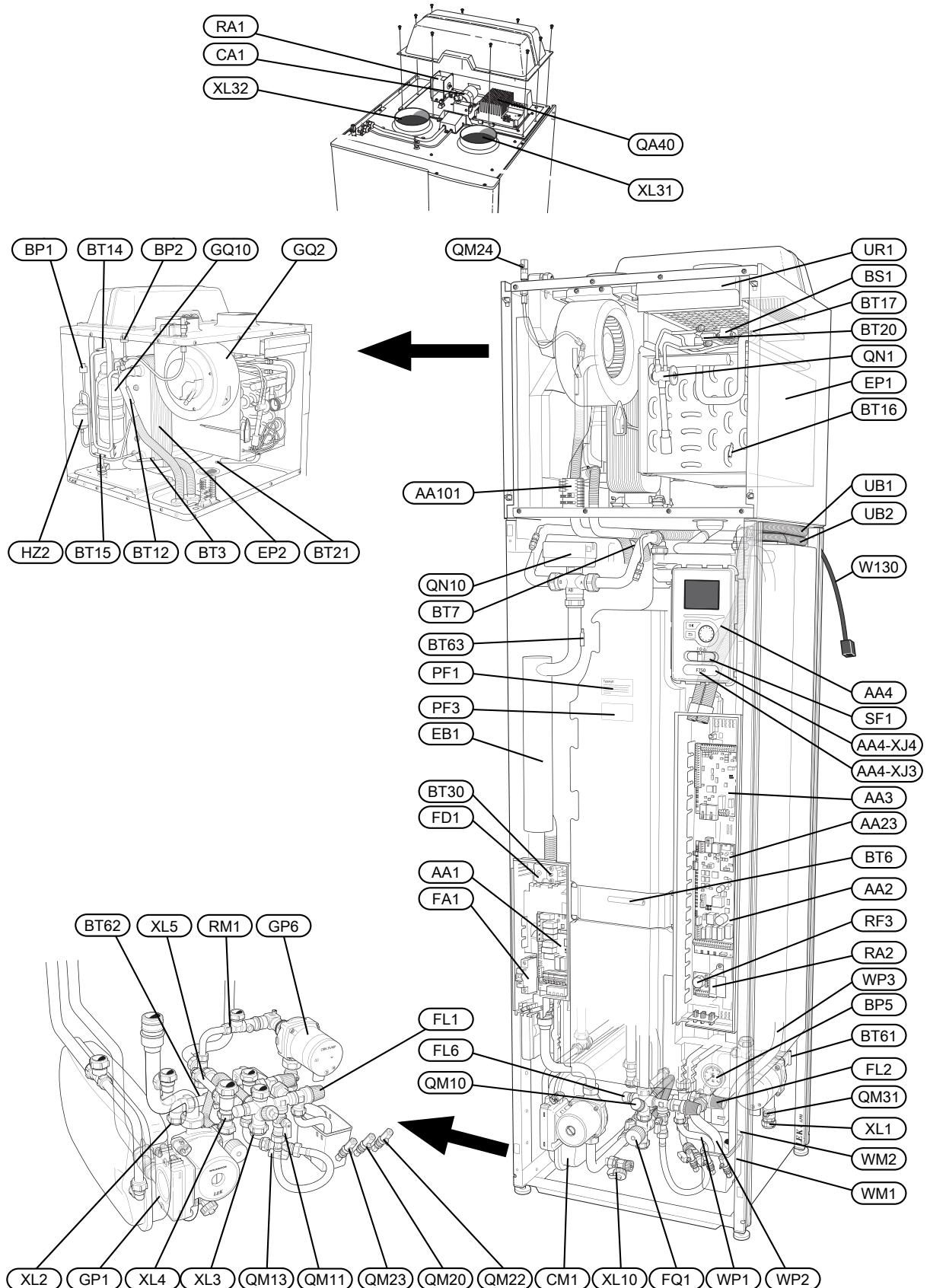
Pipe connections

XL 1	Connection, heating medium flow line
XL 2	Connection, heating medium return line
XL 3	Connection, cold water
XL 4	Connection, hot water
XL 5	Connection, hot water circulation
XL 10	Connection, draining heating medium
XL 31	Ventilation connection, exhaust air
XL 32	Ventilation connection, extract air

HVAC components

CM 1	Expansion vessel
FL 1	Safety valve, water heater
FL 2	Safety valve, climate system
FL 6	Vacuum valve
FQ 1	Mixer valve, hot water[2]
GP 1	Circulation pump
GP 6	Heating medium pump[2]
QM 10	Filler valve, hot water heater
QM 11	Filler valve, climate system
QM 13	Filler valve 2, climate system[2]
QM 20	Venting, heating medium
QM 22	Venting, coil
QM 23	Venting, buffer tank
QM 24	Venting, heat exchanger
QM 31	Shut-off valve, heating medium flow
QN 10	Shuttle valve, climate system/water heater
QN 27	Reversing valve, circulation climate system[1]
RM 1	Non-return valve
WM 1	Tundish
WM 2	Overflow water discharge
WP 1	Overflow pipe, safety valve hot water heater
WP 2	Overflow pipe, safety valve climate system
WP 3	Overflow pipe, condensation

Sensors etc.

BP 1	High pressure pressostat
BP 2	Low pressure pressostat
BP 5	Pressure gauge, heating system
BS 1	Air speed sensor
BT 1	Outside sensor[1]
BT 3	Temperature sensors, heating medium return
BT 6	Temperature sensor, hot water, control
BT 7	Temperature sensor, hot water, display
BT 12	Temperature sensor, heating medium flow after condenser
BT 14	Temperature sensor, hot gas
BT 15	Temperature sensor, fluid pipe
BT 16	Temperature sensor, evaporator[1]
BT 17	Temperature sensor, suction gas
BT 20	Temperature sensor, exhaust air
BT 21	Temperature sensor, extract air
BT 30	Thermostat, backup heating
BT 50	Room sensor[1]
BT 61	Temperature sensor, heating medium flow after buffer vessel
BT 62	Temperature sensor, heating medium return after buffer vessel
BT 63	Temperature sensor, heating medium supply after immersion heater

Electrical components

AA 1	Immersion heater card
AA 2	Base card
AA 3	Input circuit board
AA 4	Display unit
	AA4-XJ3 USB socket
	AA4-XJ4 Service socket
AA23	Communication board
AA101	Connection card sensor
CA 1	Capacitor
EB 1	Immersion heater
FA 1	Miniature circuit-breaker
FD 1	Temperature limiter
QA 40	Inverter
RA 1	Choke
RA 2	Choke
RF 3	EMC card
SF 1	Switch
W130	Network cable for NIBE Uplink[TM]

Cooling components

EP 1	Evaporator
EP 2	Condenser
GQ 10	Compressor
HZ 2	Drying filter
QN 1	Expansion valve

Ventilation

GQ 2	Exhaust air fan
HQ 10	Exhaust air filter[1]
UR 1	Filter cover, exhaust air

Miscellaneous

PF 1	Rating plate
PF 3	Serial number plate
UB1	Cable gland
UB2	Cable gland

[1]Not visible in the image

[3]Only heat pumps with stainless steel vessel.

Designations in component locations according to standard IEC 81346-1 and 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 a low-temperature design of the radiator circuit. At 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 goes via non-pressurised collecting pipes 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.

Maximum boiler and radiator volumes

The volume of the pressure expansion vessel (CM1) is 10 litres and it is pressurised as standard to 0.5 bar ((5 mvp). As a result, the maximum permitted height "H" between the vessel and the highest radiator is 5 metres; see figure.
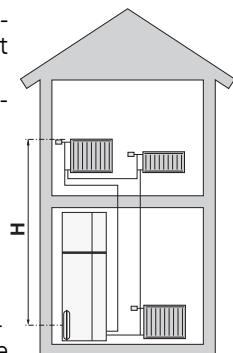
If the standard initial pressure in the pressure vessel is not high enough it can be increased by adding air via the valve in the expansion vessel. The initial pressure of the expansion vessel must be stated in the inspection document. Any change in the initial pressure affects the ability of the expansion vessel to handle the expansion of the water.

The maximum system volume excluding the boiler is 260 litres at the above pre-pressure.

System diagram

F750 consists of a heat pump, water heater, buffer vessel, immersion heater, fan, circulation pump and control system.F750 is connected to the ventilation system and heating medium circuits.

When the exhaust air at room temperature 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 boiler 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.
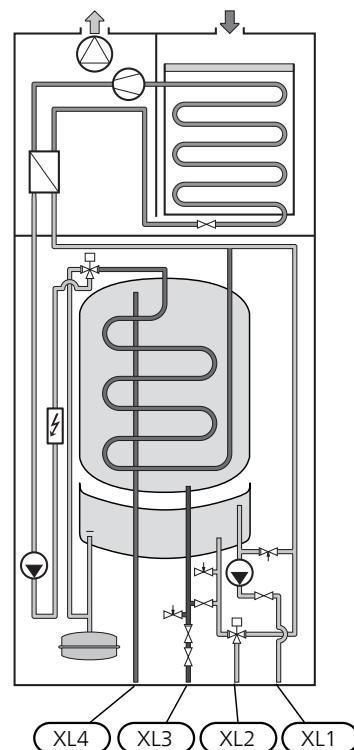
| XL 1 | Connection, heating medium flow |
XL 2	Connection, heating medium return
XL 3	Connection, cold water
XL 4	Connection, hot water

Dimensions and pipe connections
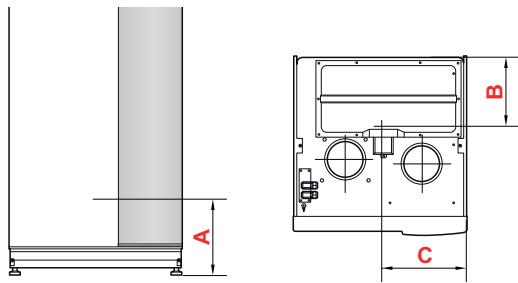
Copper
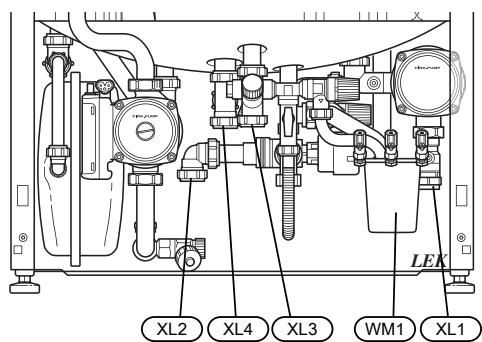
Stainless steel
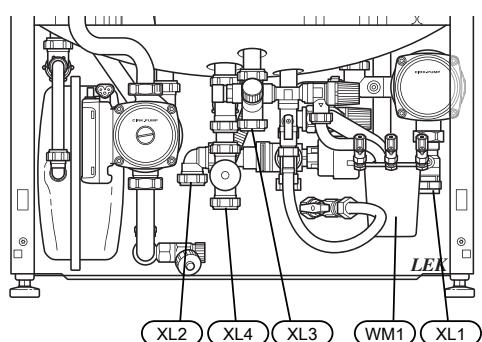
The drip tray (WM1) can be turned so that the pipe can be directed forwards or backwards to simplify connection of the hose to the drain.

Setting out dimensions

Connection, copper		A	B	C
XL1 Heating medium supply	(mm)	150	235	55
XL2 Heating medium return	(mm)	165	270	360
XL3 Cold water	(mm)	230	470	280
XL4 Hot water	(mm)	225	410	315
WM1 Drip tray	(mm)	140	340	100

Connection, stainless steel		A	B	C
XL1 Heating medium supply	(mm)	150	235	55
XL2 Heating medium return	(mm)	165	270	360
XL3 Cold water	(mm)	230	470	280
XL4 Hot water	(mm)	130	410	315
WM1 Drip tray	(mm)	140	340	100

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
↑	Venting valve
✕	Shut-off valve
✕	Trim valve
⟐	Shunt / shuttle valve
✕←	Safety valve
⌐	Temperature sensor
⊖	Expansion vessel
Ⓟ	Pressure gauge
� Ⓓ	Circulation pump
⊞	Particle filter
⊘	Compressor
▱	Heat exchanger

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 is made in menu 5.1.1 (page 51).

Heating medium side

Connecting the climate system

When connecting to a system with thermostats on all radiators/underfloor heating coils, a relief valve must be fitted, or a thermostat must be removed to ensure sufficient flow. A filter must be installed on the return line.
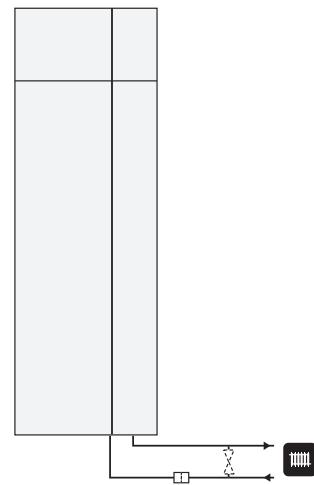
Installation alternative

F750 can be installed in several different ways, some of which are shown below.

Further option information is available at www.nibe.eu and in the respective assembly instructions for the accessories used. See page 61 for a list of the accessories that can be used with F750.

Extra hot water heaters

Extra hot water heaters

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

Water heater without immersion heater

If there is a need for an additional water heater, type NIBE VPB 200 or VPBS 300 or AHPS water heater is used (prepared for solar docking). The docking kit accessory is required. VPB 200 is best placed to the left of F750. VPBS 300 and AHPS require pipe routing behind the units, which requires 60-150 mm of free space to the wall.
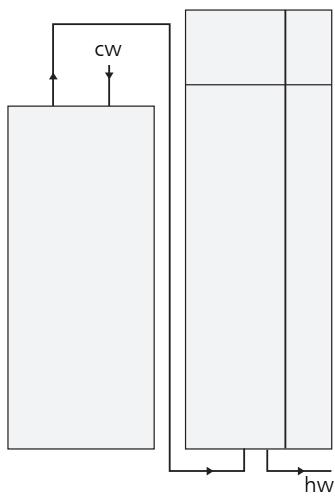
Water heater with immersion heater

If it is possible to use a water heater with an immersion heater, NIBE COMPACT or EMINENT type water heaters can be used.

If the valve connector is to be installed externally, moved out or separated, it must be replaced with a separable connector Ø 22 mm.
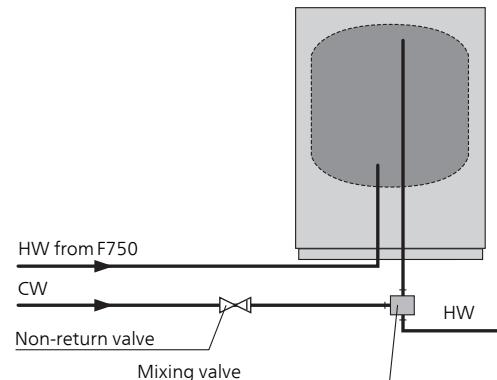
Two or more climate systems

When more than one climate system is to be heated, the following connection can be used.

The ECS 40/ECS 41 accessory is required for this connection.
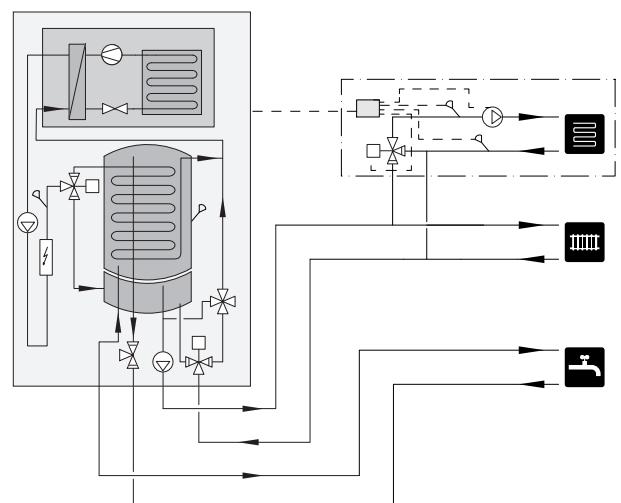
Connecting hot water circulation

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. There should not be any non-circulatory hot water pipes. 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 the heat pump. The HWC return can be connected to XL5 or a freestanding water heater. If an electric water heater is connected after the heat pump, the HWC return must be connected to the water heater.
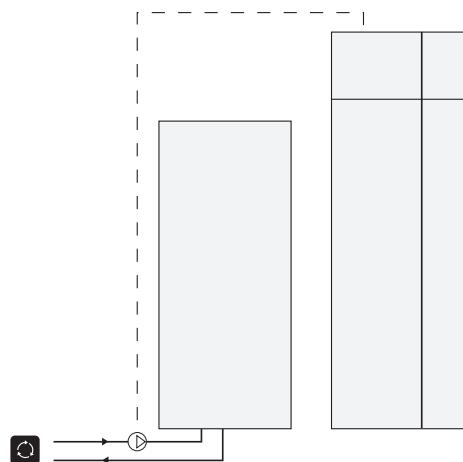
General ventilation connection

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

To prevent fan noise being transferred to the ventilation devices, it may be a good idea to install a silencer in the duct. This is especially important if there are ventilation devices in noise sensitive rooms.

Connections must be made via flexible hoses, which must be installed so that they are easy to replace. The extract air duct must be provided with diffusion-tight insulation (PE30) over its entire length. Ensure that the condensation insulation is sealed at any joints and/or at lead-in nipples, silencers, roof cowls or similar. 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 kinks, tight bends etc., since this will reduce the ventilation capacity. The air duct system must be a minimum of air tightness class B. The ventilation ducts should be installed in such a way that one can easily open the inverter box. The extract air duct should, if possible, be routed up through the roof. If the duct is to be routed out through the roof, avoid having a 90 degree bend backward, as this can cause noise and poorer capacity.

> **! NOTE**
>
> F750 has a very low extract air temperature. To avoid damaging the product and/or the building, it is therefore important that the extract air ducts are insulated with diffusion-proof material (PE30) along their entire length.

> **TIP**
>
> If additional condensation insulation (PE30) 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 area is reduced by 1-2 dB(A).

Exhaust air duct /kitchen fan

Exhaust air duct (kitchen fan) must not be connected to F750.

To prevent food vapour being transferred to F750 the distance between the kitchen fan and the exhaust air device must be considered. The distance should not be less than 1.5 m, but this can vary between different installations.

Always use a kitchen fan when cooking.

> **! NOTE**
>
> A duct in a masonry chimney stack must not be used for extract air.

Extract air   Exhaust air

440
180
350
370
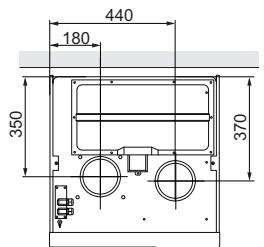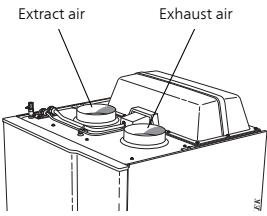
Ventilation flow

Connect F750 so that all exhaust air except exhaust air duct air (kitchen fan) passes the evaporator (EP1) in the heat pump. The lowest ventilation flow must comply with the applicable national standards. For optimum heat pump performance, the ventilation flow should not be less than 31 l/s (110 m³/h).

Ensure that the ventilation openings are not blocked. Set the ventilation capacity in the heat pump's menu system (menu 5.1.5).

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.

A defective ventilation installation may lead to reduced installation efficiency and thus poorer operating economy, and may result in moisture damage to the house.

5 Electrical connections

General

- Disconnect the heat pump before insulation testing the house wiring.
- F750 is not switchable between 3x230V and 3x400V.
- If the building is equipped with an earth-fault breaker, F750 should be equipped with a separate one.
- If a miniature circuit breaker is used it should have at least motor characteristic "C". See page 64 for fuse size.
- For the heat pump wiring diagram, see page 70.
- 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 F750, cable grommets UB1 and 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 21.
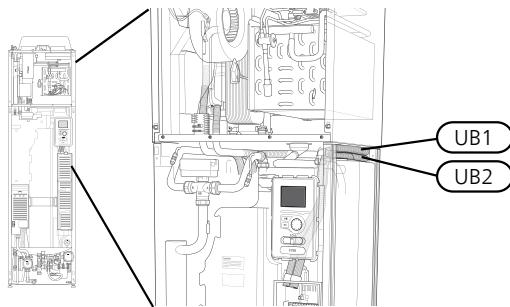

> **!** **NOTE**
>
> The switch (SF1) must not be moved to "I" or "⚠" until the boiler has been filled with water. Otherwise the temperature limiter, thermostat and the immersion heater can be damaged.

> **!** **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.
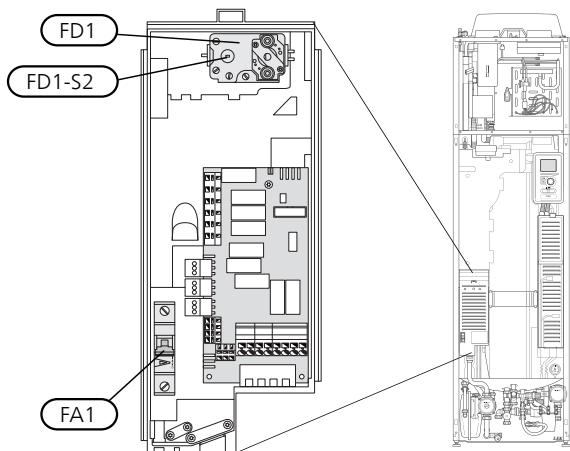
Miniature circuit breaker (FA1)

Operation (230V), fan, circulation pumps etc. are internally fused by a miniature circuit breaker (FA1).

> ☞ **Caution**
>
> Check the miniature circuit-breaker (FA1). It may have tripped during transportation.

Temperature limiter (FD1)

The temperature limiter (FD1) 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 (FD1) is accessible behind the front cover. Reset the temperature limiter by carefully pressing the button (FD1-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 circuit board
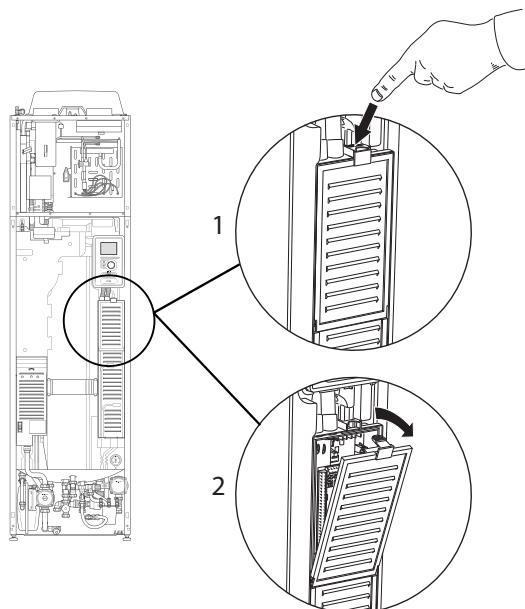
1. Push the catch down.
2. Angle out the cover and remove it.

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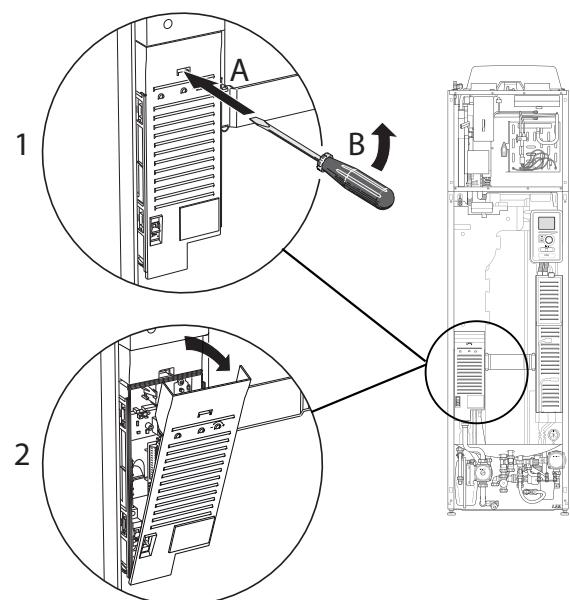
1. Insert the screwdriver (A) and pry the catch carefully downwards (B).
2. Angle out the cover and remove it.

Removing the cover, base board

> **☞ Caution**
>
> To remove the cover for the base board, the cover for the input circuit board must first be removed.
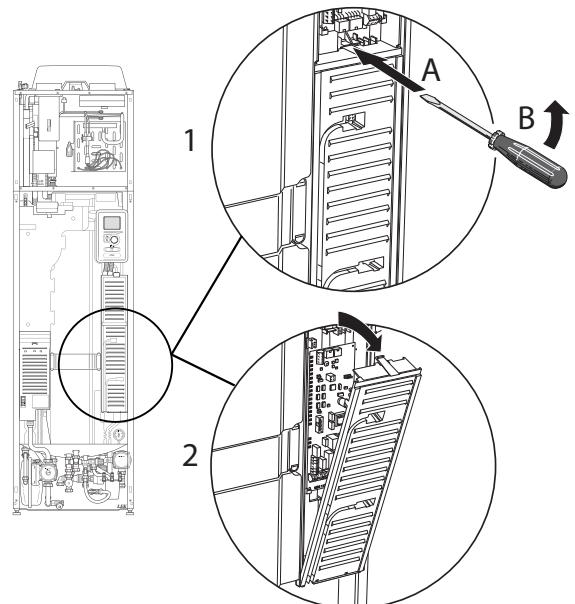
1. Insert the screwdriver (A) and pry the catch carefully downwards (B).
2. Angle out the cover and remove it.

Cable lock

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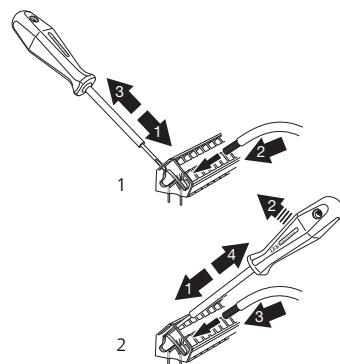
Connections

> **! 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

F750 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 F750 (see dimensions diagram below).
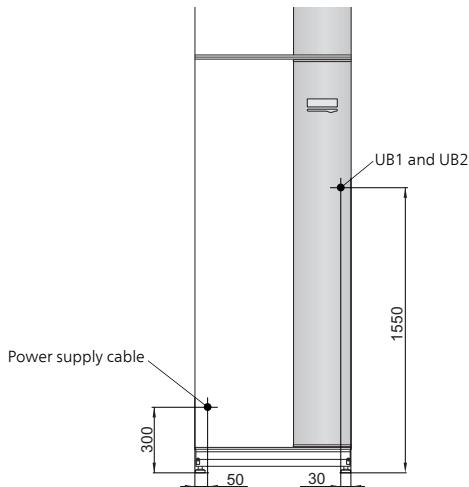
> **! NOTE**
>
> F750 is not switchable between 3x230V and 3x400V.

Connection 3x400V
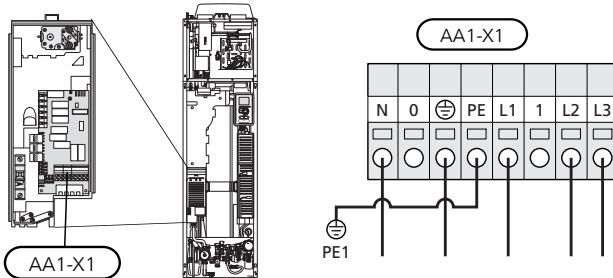
Connection 3x230V
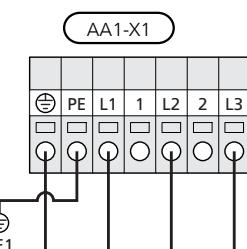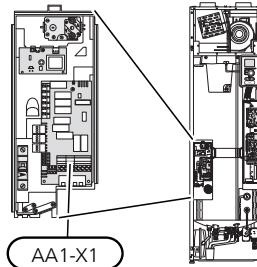
Tariff control

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.
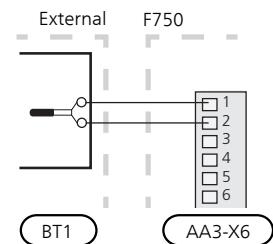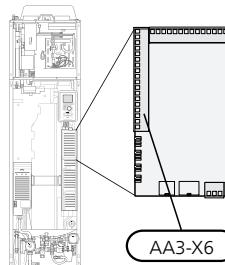
Room sensor

F750 is supplied with a room sensor enclosed (BT50). The room sensor has up to three functions:

1. Show current room temperature in F750's display.

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

3. Makes it possible to change/stabilise 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 F750'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 change/stabilise the room temperature, the sensor must be activated in menu 1.9.4.

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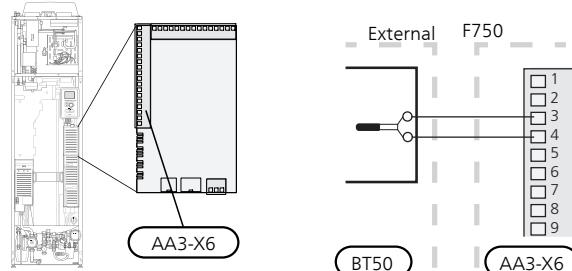
> ☞ **Caution**
>
> Changes of temperature in accommodation take time. For example, short time periods in combination with underfloor heating will not give a noticeable difference in room temperature.

Settings
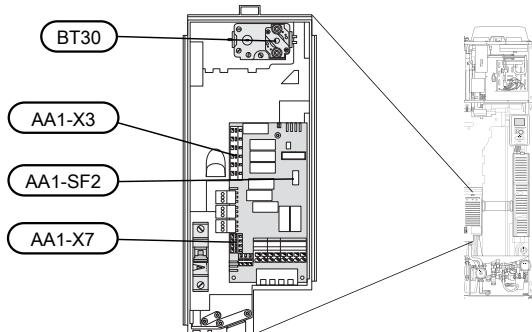
Electrical addition - maximum output

The immersion heater can be set to a maximum of 6.5 kW (7 kW at 3x230V), which is also the delivery setting.

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.

Immersion heater power step

3x400V

Electrical addition (kW)	Max (A) (L1)	Max (A) L2	Max (A) L3
0.0	1.8	-	-
2.5	4.0	-	8.7
6.5	11.1	4.3	15.7

3x230V

Electrical addition (kW)	Max (A) (L1)	Max (A) L2	Max (A) L3
0.0	1.0	1.0	-
3.0	8.8	4.7	11.3
7.0	17.1	13.1	25.7

The table shows maximum phase current (operating 230 V, electric additional heat, fan and circulation pumps) at the different settings.

In addition to this, there is the current for the compressor, which depending on operation may amount to 12A on L2 (10A on L1 and L2 and 1A on L3 at 3x230V).

If the current sensors are connected, the heat pump monitors the phase currents and allocates the electrical steps automatically to the least loaded phase.

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.
- The load monitor is not connected.

> **!** **NOTE**
>
> Switch (SF1) must not be moved to "Ⅰ" or "⚠" until F750 has been filled with water. Otherwise the temperature limiter, thermostat and the immersion heater may be damaged.

Power in emergency mode

The immersion heater's power in emergency mode is set with the dip switch (S2) on the immersion heater board (AA1) according to the table below. The factory setting is 4 kW (5 kW at 3x230V).

3x400V

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	**on**	off	off	off	**on**
3.5	**on**	**on**	off	off	off	**on**
4.0	off	**on**	**on**	off	off	**on**
4.5	**on**	**on**	**on**	off	off	**on**
5.0	off	**on**	off	off	**on**	**on**
5.5	**on**	**on**	off	off	**on**	**on**
6.0	off	**on**	**on**	off	**on**	**on**
6.5	**on**	**on**	**on**	off	**on**	**on**

3x230V

kW	1	2	3	4	5	6
1.0	off	**on**	off	off	off	off
2.0	off	off	off	**on**	off	off
3.0	off	**on**	off	**on**	off	off
4.0	off	off	off	**on**	**on**	off
5.0	**on**	**on**	off	**on**	off	off
6.0	**on**	off	off	**on**	**on**	off
7.0	**on**	**on**	off	**on**	**on**	off

3x400V   3x230V
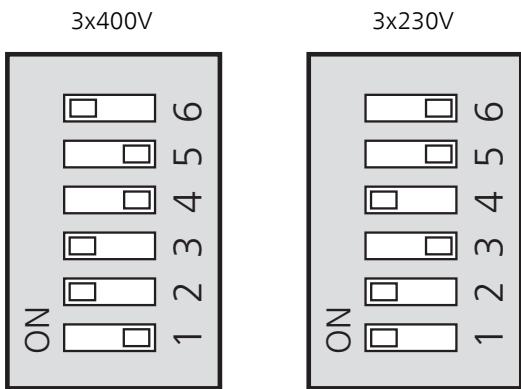
The image shows the dip-switch (AA1-S2) in the factory setting, that is 4 kW (5 kW at 3x230V).

Emergency mode thermostat

The supply temperature is set in emergency mode using a thermostat (FD1-BT30). It can be set to 35 (pre-set, for example under floor heating) or 45 °C (for example radiators).

35°C

45°C

Optional connections

Load monitor

When many electrical appliances are connected in the property at the same time as the electric additional heat is operating, there is a risk of the property's main fuse tripping. The heat pump has integrated load monitors that control the electrical steps for the electrical addition by redistributing the power between the different phases or disengaging in event of overload in a phase. Reconnection occurs when other current consumption is reduced.

Connecting current sensors

> **NOTE**
>
> The building's phases can have different loads. If the inverter is connected to a heavily loaded phase, there is a risk of the compressor shutting down and the electrical addition operating longer than expected. This means that savings will not be as expected.

A current sensor should be installed on each incoming phase conductor in to the distribution box to measure the current. The distribution box is an appropriate installation point.

Connect the current sensors to a multi-core cable in an enclosure next to the electrical distribution unit. The multi-core cable between the enclosure and the heat pump must have a cable area of at least 0.5 mm^2.

Connect the cable to the input board (AA3) on terminal X4:1-4 block - where X4:1 is the common terminal block for the three current sensors.

The size of the property's main fuse is set in menu 5.1.12.

Incoming electricity

PEN   L$_1$ L$_2$ L$_3$

Electrical distribution unit

Heat pump

-T1   -T2   -T3

1   2   3   4

AA3-X4   AA3-X4

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.
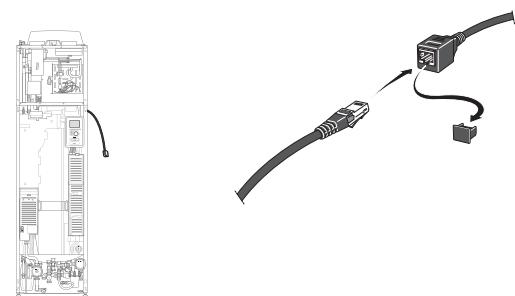
External connection options

F750 has software controlled inputs and outputs on the input card (AA3), for connecting the external switch function or sensor. This means that when an external switch function or sensor is connected to one of six special connections, the correct function must be selected to the correct connection in the software in F750.

> ☞ **Caution**
>
> If an external switch function or sensor is connected to F750, the function to use input or output must be selected in menu 5.4, see page 53.

Selectable inputs on the input card for these functions are AUX1 (X6:9-10), AUX2 (X6:11-12), AUX3 (X6:13-14), AUX4 (X6:15-16) and AUX5 (X6:17-18). Selectable outputs are AA3:X7.

soft in/outputs 5.4 🔧	
AUX1	block heating
AUX2	activate temp lux
AUX3	not used
AUX4	not used
AUX5	not used
AA3-X7	alarm output
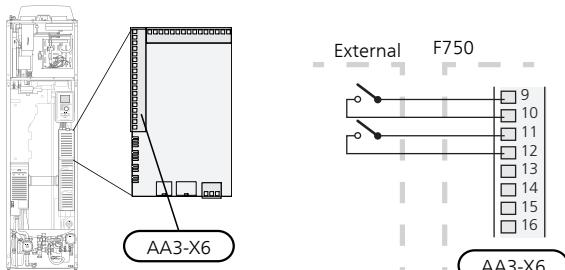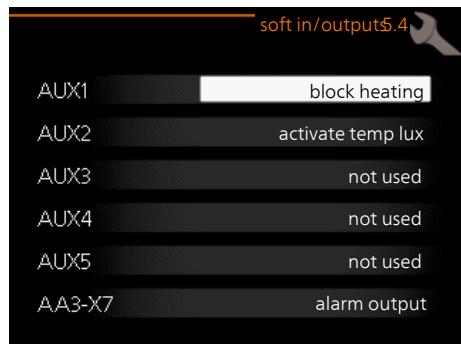
The example above uses the inputs AUX1 (X6:9-10) and AUX2 (X6:11-12) on the input circuit board (AA3).

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

Possible selection for AUX inputs

Switch for external blocking of addition and/or compressor

Blocking for addition heat and compressor is connected on two different AUX inputs.

If external blocking of additional heat and/or compressor is wanted, this can be connected to terminal block X6 on the input board (AA3), which is positioned behind the front cover.

The additional heat and/or the compressor are disconnected by connecting a potential-free switch function to the input selected in menu 5.4, see page 53.

External blocking of addition and compressor can be combined.

A closed contact results in the electrical output being disconnected.

Blocking via AUX input is required during tariff control

Contact for external tariff blocking

In those cases where external tariff blocking is used, it can be connected to terminal block X6 on the input board (AA3), which is positioned behind the front cover.

Tariff blocking means that the additional heat, the compressor, the heating and hot water are blocked by connecting a potential-free switch function to the input selected in menu 5.4, see page 53.

Closed switch means that tariff blocking is activated.

> **! NOTE**
>
> When tariff blocking is activated, the min. supply line does not apply.

Switch for "SG ready"

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

In cases where this function is required it must be connected to terminal block X6 on the input card (AA3).

"SG Ready" is a smart form of tariff control where your electricity supplier can affect the indoor, hot water and/or pool temperatures (if applicable) or simply block the additional heat and/or 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), see page 53.

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)

Switch for +Adjust

Using +Adjust, the installation communicates with the underfloor heating's control centre* and adjusts the heat 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

> **!** **NOTE**
>
> +Adjust must first be selected in menu 5.4 "soft inputs/outputs".

> **!** **NOTE**
>
> Circuit board AA3 in the installation must have at least "input version" 34 and the software version must have "display version 5539 or later for +Adjust to work. Version can be checked in menu 3.1 under "input version" respectively "display version". New software can be downloaded for free from www.nibeuplink.com.

> **!** **NOTE**
>
> In systems with both underfloor heating and radiators, NIBE ECS 40/41 should be used for optimum operation.

Switch for external blocking of heating

In those cases where external blocking of heat is used, it can be connected to terminal block X6 on the input board (AA3), which is positioned behind the front cover.

Heating operation is disconnected by connecting a potential-free switch function to the input selected in menu 5.4, see page 53.

A closed switch results in blocked heating operation.

> **!** **NOTE**
>
> When heat blocking is activated, the min. supply line does not apply.

Switch for external blocking of hot water

In cases where external blocking of hot water is used, this can be connected to terminal block X6 on the input board (AA3), which is positioned behind the front cover.

Hot water operation is disconnected by connecting a potential-free switch function to the input selected in menu 5.4, see page 53.

A closed switch results in blocked hot water operation.

Contact for activation of "temporary lux"

An external switch function can be connected to F750 for activation of the hot water function "temporary lux". The switch must be potential-free and connected to the selected input (menu 5.4, see page 53) on terminal block X6 on the input board (AA3).

"temporary lux" is activated for the time that the contact is connected.

Contact for activation of "external adjustment"

An external contact function can be connected to F750 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 activated, the desired change of "temperature" (heating curve offset) with the number of steps selected is set. The value is adjustable between -10 and +10.

- *climate system 1*

  The switch must be potential-free and connected to the selected input (menu 5.4, see page 53) on terminal block X6 on the input board (AA3).

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

- *climate system 2 to 4*

  External adjustment for climate systems 2 to 4 requires accessory (ECS 40 or ECS 41).

  See the accessory's installer handbook for installation instructions.

Contact for activation of fan speed

An external contact function can be connected to F750 for activation of one of the four fan speeds. The switch must be potential free and connected to the selected input (menu 5.4, see page 53) on terminal block X6 on the input circuit board (AA3). When the switch closes, the selected fan speed is activated. Normal speed is resumed when the contact is opened again.

Possible selection for AUX output (potential free variable relay)

It is possible to have an external connection through the relay function via a potential free variable relay (max 2 A) on the input circuit board (AA3), terminal block X7.

Optional functions for external connection:
- Indication of buzzer alarm.
- Control of circulation pump for hot water circulation.
- External circulation pump, for example external pump and shunt group.

If any of the above is installed to terminal block X7 it must be selected in menu 5.4, see page 53.

The common alarm is preselected at the factory.

> **!** **NOTE**
>
> An accessory card is required if several functions are connected to terminal block X7 at the same time that the buzzer alarm is activated (see page 61).

AA3-X7

AA3-X7
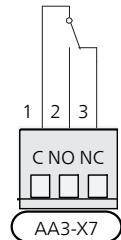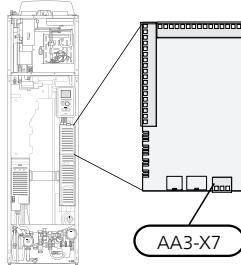
The picture shows the relay in the alarm position.

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

External circulation pump or hot water circulation pump connected to the buzzer alarm relay as illustrated below.

> **❗ NOTE**
>
> Mark up any junction boxes with warnings for external voltage.

AA3-X7

AA3-X7

F750
External

L
N
PE

L N PE

M ~₁

Circulation pump
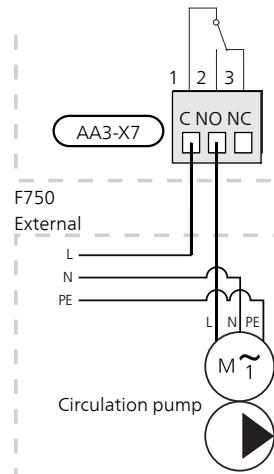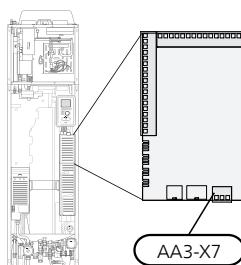
Connecting accessories

Instructions for connecting accessories are provided in the manual accompanying the accessory. See page 61 for the list of the accessories that can be used with F750.

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 (FA1) 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. Check that the shut off valve for the heating system (QM31) is open.
2. Open the vent valves (QM20), (QM22), (QM23) and (QM24).
3. For F750, stainless steel: Check if the flexi hose supplied is connected between connection (QM11) and connection (QM13). Adjust the hose if this has not been done.
4. For F750, copper: Open the filling valve (QM11). The boiler section and the rest of the climate system are filled with water.

   For F750, stainless steel: Open the filler valves (QM11) and (QM13). The boiler unit and the rest of the climate system are filled with water.
5. When the water that exits the vent valves (QM20), (QM22), (QM23) and (QM24) is not mixed with air, close the valves. After a while the pressure rises 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 filler valve(s) (QM11) and (QM13).
6. Reduce the boiler pressure to the normal working range (approx. 1 bar) by opening the vent valves (QM20), (QM22), (QM23) and (QM24) or safety valve (FL2).
7. Check that there is water in the overflow cup (WM1).
8. Start the heat pump and allow it to run in both heating and hot water modes.
9. Vent the climate system (see section "Venting the climate system").

If the overflow cup requires topping up:

1. Turn the safety valve (FL1) anticlockwise carefully.

Venting the climate system

1. Set the switch (SF1) in ⏻ mode and wait approx. 30 seconds.
2. Turn off the power supply to the heat pump.
3. Vent the heat pump via the vent valves (QM20), (QM22), (QM23), (QM24) and the rest of the climate system via the relevant vent valves.
4. 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), (QM23), (QM24) are opened.

F750, copper
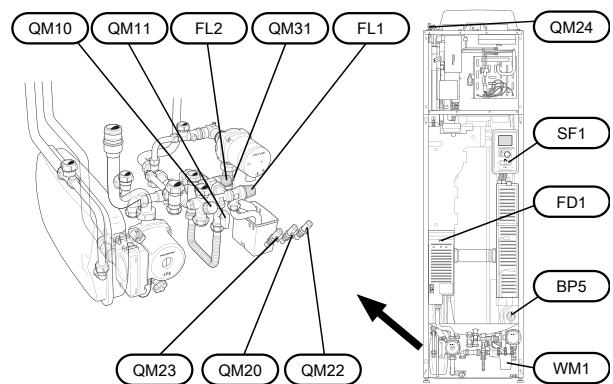
F750, stainless steel
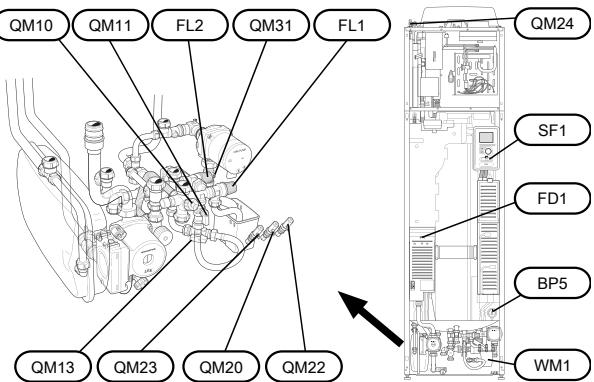
Start-up and inspection

> **! NOTE**
>
> 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 " **I**".

1. Set the heat pump's switch () to "**I**".
2. Follow the instructions in the start guide in the heat pump display. If the start guide does not start when you start the heat pump, start it manually in menu 5.7.

> **☐ TIP**
>
> See page 32 for a more in-depth introduction to the heat pump's control system (operation, menus etc.).

If the building is cooled when F750 starts, the compressor may not be able to cover 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 the start-up is carried out correctly and cannot be bypassed. The start guide can be started later in menu 5.7.

F750

> **☞ 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
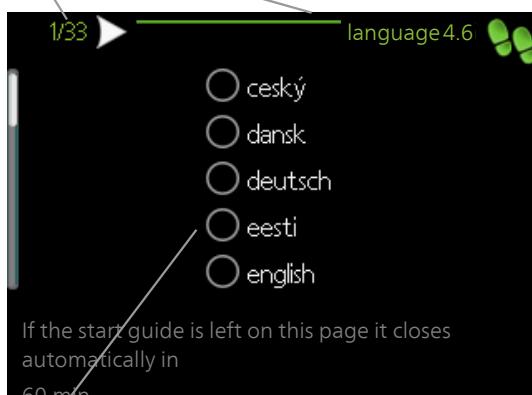
C. Option / setting

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 read off in the sub-menu or in the installation manual from page 36.

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. The setting is made 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

Power direct current fan
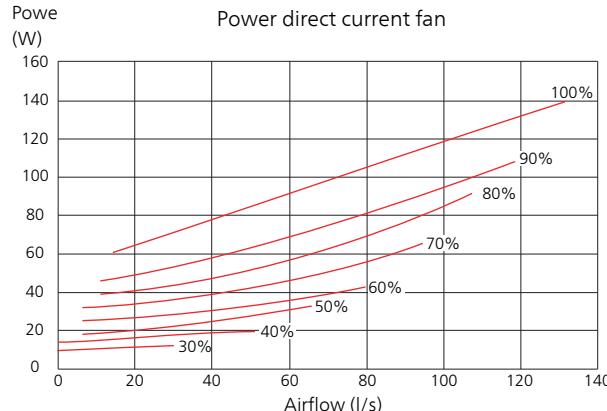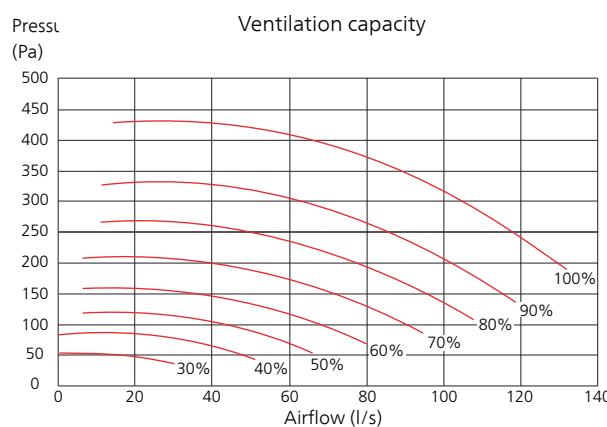
Commissioning without fan

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 the pump speed

Heating medium side

To set the correct flow in the climate system the correct speed must be set for the heating medium pump in the different operating conditions.

Compare the heating protection with the available capacity for heating medium pump 2 (GP6) and set the lowest possible pump speed.

Set the speed on the heating medium pump 2 GP6 using the switch (GP6-SF4) on the pump. Select speed I, II or III. You see the speed selected on the left, above the switch. The display to the right, above the switch, must not be illuminated at all.

It is also important that you set the correct temperature difference on the heating medium pump (GP1). This is done in menu 5.1.14.
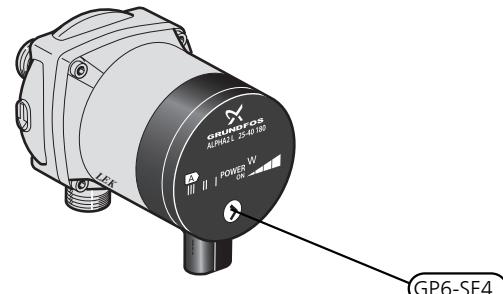
The heating medium pump (GP1) can adjust the total capacity for heating medium pump 2 (GP6) dependent on the operation, which explains the large working range for each curve in the above diagram.

Available external pressure, climate system
Speed I

Pressure (kPa) vs Flow (l/s)

Available external pressure, climate system
Speed II

Pressure (kPa) vs Flow (l/s)

Available external pressure, climate system
Speed III

Pressure (kPa) vs Flow (l/s)

Output, heating medium pump 2 (GP6)

Power output (W) vs Flow (l/s)
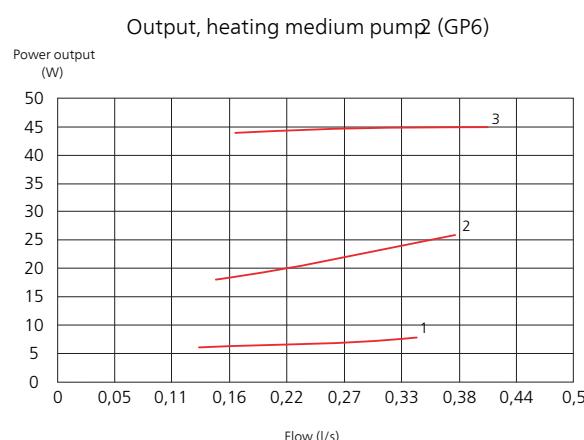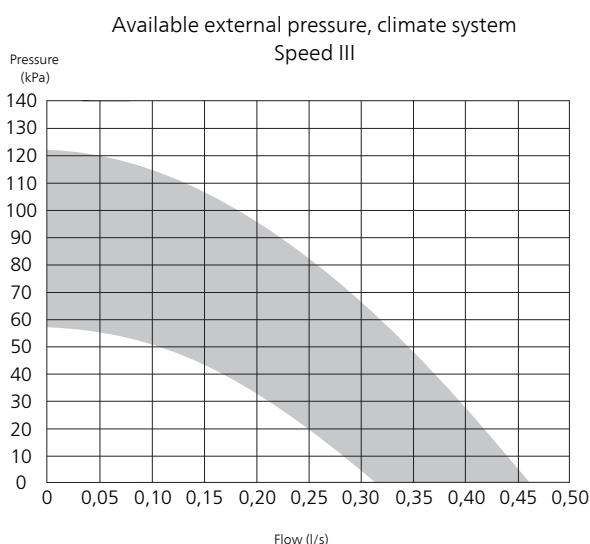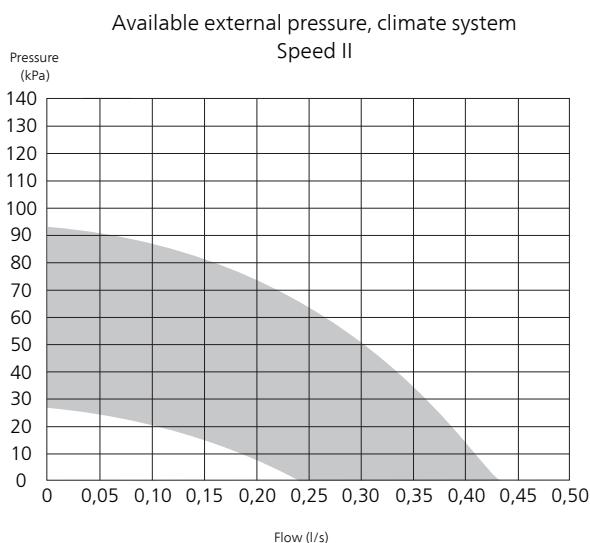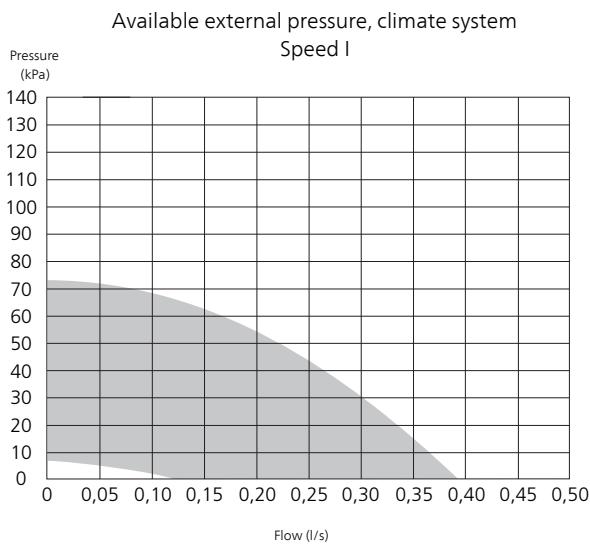
Post-adjustment, venting

Air is initially 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 will require additional venting. Vent the heat pump through venting valve (QM20), (QM22), (QM23), (QM24). When venting, F750 must be off.

7 Control - Introduction

Display unit

A Display

B Status lamp

C OK button

D Back button

E Control knob

F Switch

G USB port
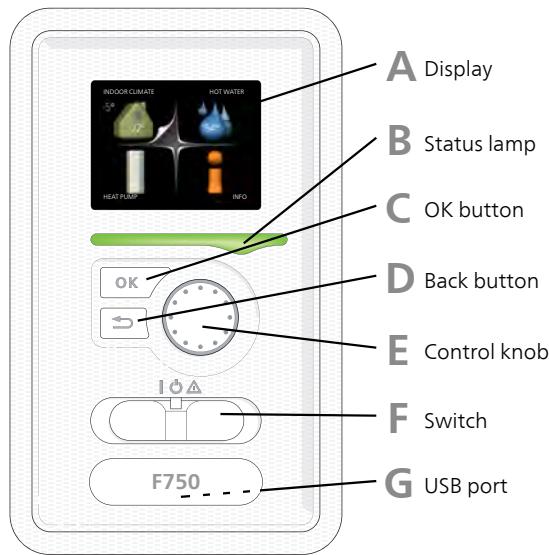
A Display

Instructions, settings and operational information are shown on the display. The easy-to-read display and menu system, facilitates navigation 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 (I)
- Standby ( )
- Emergency mode ( ) (see page 55)

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 http://www.nibeuplink.com and click the "Software" tab to download the latest software for your installation.

Menu system

When the door to the heat pump is opened, the menu system's four main menus are shown in the display as well as certain basic information.

Outdoor temperature

Indoor temperature - (if room sensors are installed)

Hot water temp.

Information about operation

Temporary lux (if activated)

Estimated amount of hot water
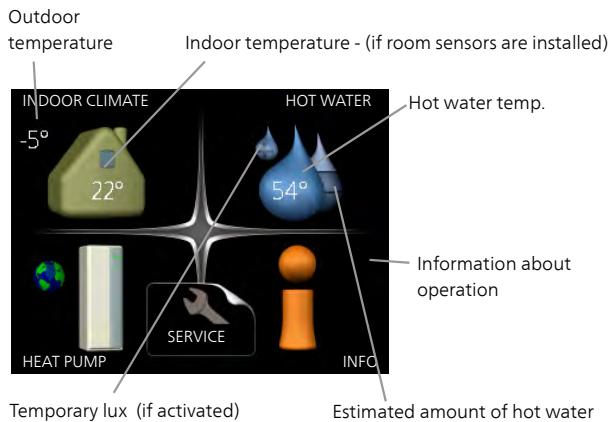
Menu 1 - INDOOR CLIMATE

Setting and scheduling the indoor climate. See page 36.

Menu 2 - HOT WATER

Setting and scheduling hot water production. See page 42.

Menu 3 - INFO

Display of temperature and other operating information and access to the alarm log. See page 44.

Menu 4 - HEAT PUMP

Setting time, date, language, display, operating mode etc. See page 45.

Menu 5 - SERVICE

Advanced settings. These settings are not available to the end user. The menu is made visible by pressing the Back button for 7 seconds when in the start menu. See page 50.

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 F750. 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 F750 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 indicates whether solar heating is active. Accessory needed.

Menu number – marked sub menu

Name and menu number – main menu

Symbol – main menu

INDOOR CLIMATE

-5°

22°

HOT WATER

54°

HEAT PUMP

INFO

OK

INDOOR CLIMATE   1

1.1   temperature   25.0°

      ventilation   normal

      scheduling   off

      advanced

Marked main menu

Symbols – sub menus

Name – sub menus

Status information – sub menus
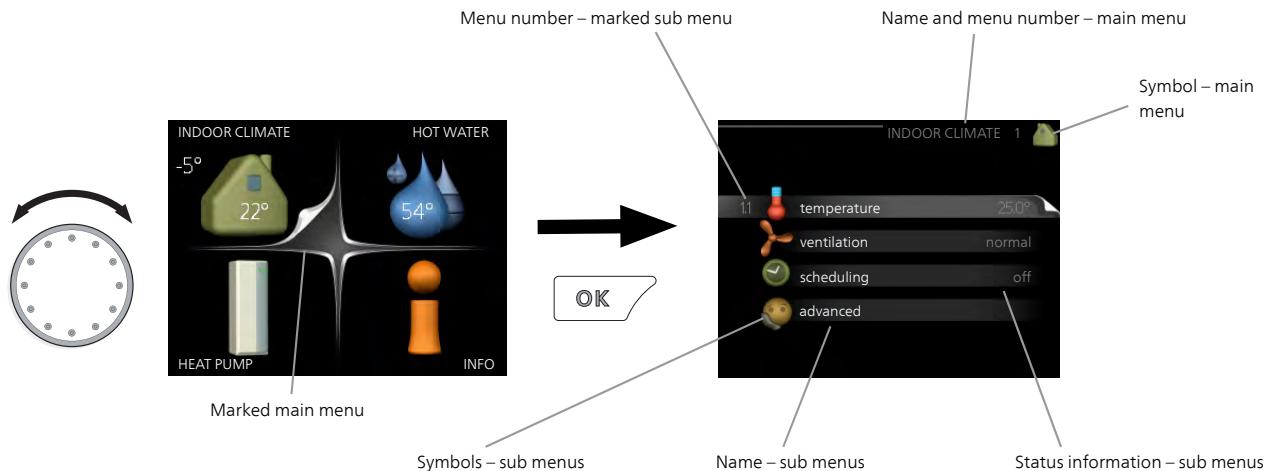
Operation

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

comfort mode2.2

economy

normal

luxury

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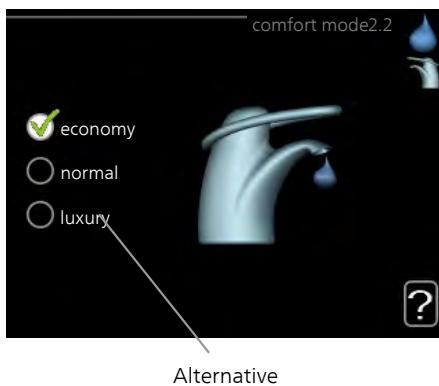
In an options menu the current selected option is indicated by a green tick.

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

time & date4.4

time

09 : 04   24 h
              12 h

date

14 day   14.06.2013
06 month   2013-06-14
13 year

Stockholm

Values to be changed

To set a value:

1. Mark the value you want to set using the control knob.   01

2. Press the OK button. The background of the value becomes green, which means that you have accessed the setting mode.   01

3. Turn the control knob to the right to increase the value and to the left to reduce the value.   04

4. Press the OK button to confirm the value you have set. To change and return to the original value, press the Back button.   04

Use the virtual keyboard

Different keyboards
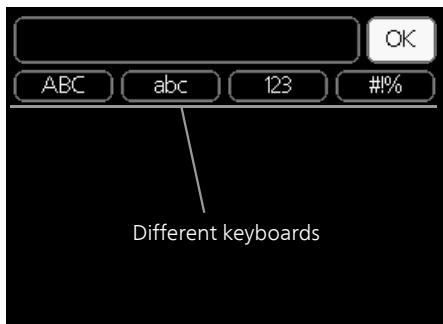
In some menus where text may require entering, a virtual keyboard is available.

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

Sub-menus

For the menu INDOOR CLIMATE there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

temperature Setting the temperature for the climate system. The status information shows the set values for the climate system.

ventilation Setting the fan speed. The status information shows the selected setting.

scheduling Scheduling heating and ventilation. Status information "set" is displayed if you set a schedule but it is not active now, "holiday setting" is displayed if the vacation schedule is active at the same time as the schedule (the vacation function is prioritised), "active" displays if any part of the schedule is active, otherwise it displays "off".

advanced Setting of heat curve, adjusting with external contact, minimum value for supply temperature, room sensor and night cooling.

Menu 1.1 - temperature

Set the temperature (with room sensors installed and activated):

> **heating**
> Setting range: 5 – 30 °C
> Default value: 20

The value in the display appears as a temperature in °C if the climate system is controlled by a room sensor.

☞ **Caution**

A slow heat-releasing heating system, such as for example, underfloor heating, may not be suitable for control using the heat pump's room sensor.

To change the room temperature, use the control knob to set the desired temperature in the display. Confirm the new setting by pressing the OK button. The new temperature is shown on the right-hand side of the symbol in the display.

Setting the temperature (without room sensors activated):

> Setting range: -10 to +10
> Default value: -1

The display shows the set values for heating (curve offset). To increase or reduce the indoor temperature, increase or reduce the value on the display.

Use the control knob to set a new value. Confirm the new setting by pressing the OK button.

The number of steps the value has to be changed to achieve a degree change of the indoor temperature depends on the heating installation. One step is usually enough but in some cases several steps may be required.

Setting the desired value. The new value is shown on the right-hand side of the symbol in the display.

☞ **Caution**

An increase in the room temperature can be slowed by the thermostats for the radiators or under floor heating. Therefore, open the thermostats fully, except in those rooms where a cooler temperature is required, e.g. bedrooms.

If the exhaust air temperature falls below 16 °C the compressor is blocked and electric additional heat is permitted. Heat is not recovered from the exhaust air when the compressor is blocked.
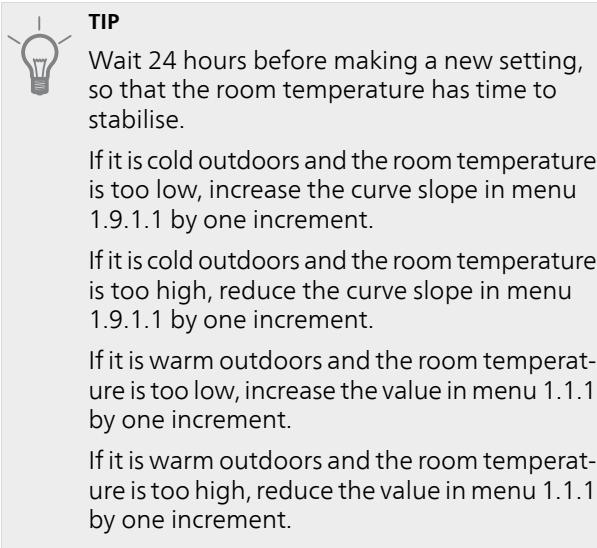
Menu 1.2 - ventilation

Setting range: normal and speed 1-4

Default value: normal

The ventilation in the accommodation can be temporarily increased or reduced here.

When you have selected a new speed a clock starts a count down. When the time has counted down the ventilation speed returns to the normal setting.

If necessary, the different return times can be changed in menu 1.9.6.

The fan speed is shown in brackets (in percent) after each speed alternative.
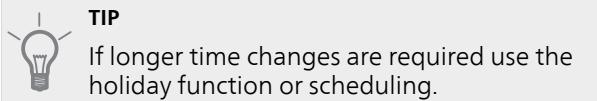
## Menu 1.3 - scheduling

In the menu scheduling indoor climate (heating/ventilation) is scheduled for each weekday.

You can also schedule a longer period during a selected period (vacation) in menu 4.7.

Menu 1.3.1 - heating

Increases or decreases in the accommodation temperature can be scheduled here for up to three time periods per day. If a room sensor is installed and activated the desired room temperature (°C) is set during the time period. Without an activated room sensor the desired change is set (of setting in menu 1.1). One step is usually enough to change the room temperature by one degree, but in some cases several steps may be required.
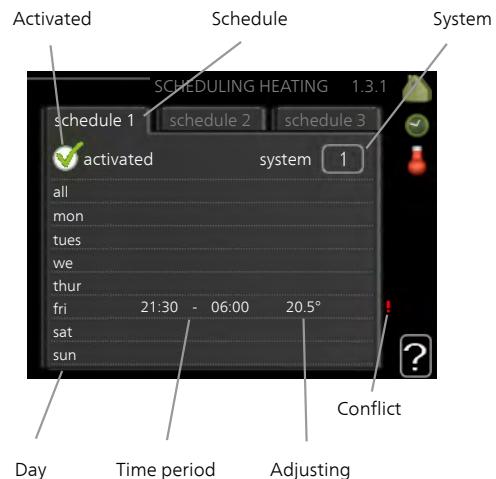
Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

System: Which climate system the schedule is for is selected here. This alternative is only displayed if more than one climate system is present.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: How much the heating curve is to be offset in relation to menu 1.1 during scheduling is set here. If the rooms sensor is installed the desired room temperature is set in °C.

Conflict: If two settings conflict with each other a red exclamation mark is displayed.
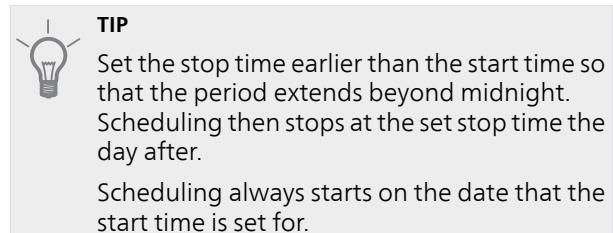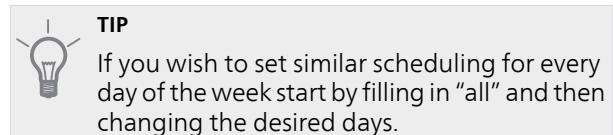
> **Caution**
>
> Changes of temperature in accommodation take time. For example, short time periods in combination with underfloor heating will not give a noticeable difference in room temperature.
>
> If the exhaust air temperature falls below 16 °C the compressor is blocked and electric additional heat is permitted. When the compressor is blocked heat is not recovered from the exhaust air.

Menu 1.3.3 - ventilation

Increases or decreases in the ventilation to the accommodation can be scheduled here for up to two time periods per day.
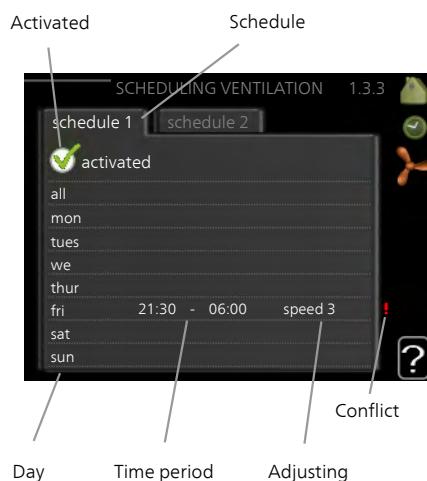
Activated · Schedule · Day · Time period · Adjusting · Conflict

Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: The desired fan speed is set here.

Conflict: If two settings conflict with each other a red exclamation mark is displayed.

> **TIP**
>
> If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

> **TIP**
>
> Set the stop time earlier than the start time so that the period extends beyond midnight. Scheduling then stops at the set stop time the day after.
>
> Scheduling always starts on the date that the start time is set for.

> **Caution**
>
> A significant change over a longer period of time may cause poor indoor environment and worse operating economy.

Menu 1.9 - advanced

Menu advanced has orange text and is intended for the advanced user. This menu has several sub-menus.

heating curve Setting the heating curve slope.

external adjustment Setting the heat curve offset when the external contact is connected.

min. flow line temp. Setting minimum permitted flow line temperature.

room sensor settings Settings regarding the room sensor.

fan return time Fan return time settings in the event of temporary ventilation speed change.

own curve Setting own heat curve.

point offset Setting the offset of the heating curve at a specific outdoor temperature.

night cooling Setting night cooling.

Menu 1.9.1 - heating curve
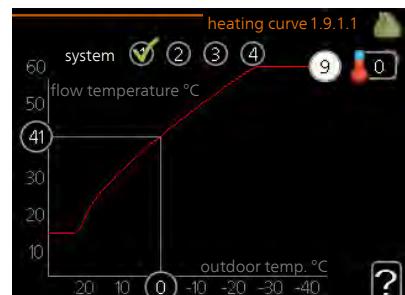
> ***heating curve***
> Setting range: 0 - 15
> Default value: 5

The prescribed heating curve for your house can be viewed in the menu heating curve . The task of the heating curve is to give an even indoor temperature, regardless of the outdoor temperature, and thereby energy efficient operation. It is from this heating curve that the heat pump's control computer determines the temperature of the water to the heating system, supply temperature, and therefore the indoor temperature. Select the heating curve and read off how the supply temperature changes at different outdoor temperatures here.

Curve coefficient

The slope of the heating curve indicates how many degrees the supply temperature is to be increased/reduced when the outdoor temperature drops/increases. A steeper slope means a higher supply temperature at a certain outdoor temperature.
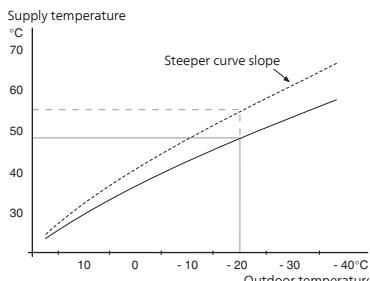
The optimum slope depends on the climate conditions in your location, if the house has radiators or under floor heating and how well insulated the house is.

The heating curve is set when the heating installation is installed, but may need adjusting later. Thereafter the heating curve should not need further adjustment.

> ☞ **Caution**
>
> In the event of making fine adjustments for the indoor temperature, the heat curve must be offset up or down instead, this is done in menu 1.1 temperature .

Curve offset

An offset of the heating curve means that the supply temperature changes as much for all the outdoor temperatures, e.g. that a curve offset of +2 steps increases the supply temperature by 5 C at all outdoor temperatures.

Flow line temperature– maximum and minimum values

Because the flow line temperature cannot be calculated higher than the set maximum value or lower than the set minimum value the heating curve flattens out at these temperatures.

> ☞ **Caution**
>
> Underfloor heating systems are normally max flow line temperature set between 35 and 45 °C.
>
> Check the max temperature for your floor with your installer/floor supplier.

The figure at the end of the curve indicates the curve slope. The figure beside the thermometer gives the curve offset. Use the control knob to set a new value. Confirm the new setting by pressing the OK button.

Curve 0 is an own heating curve created in menu 1.9.7.

To select another heat curve (slope):

> **!** **NOTE**
>
> If you only have one heating system, the number of the curve is already marked when the menu window opens.

1. Select the system (if more than one) for which the heat curve is to be changed.
2. When the system selection has been confirmed the heat curve number is marked.
3. Press the OK button to access the setting mode
4. Select a new heating curve. The heating curves are numbered from 0 to 15, the greater the number, the steeper the slope and the greater the supply temperature. Heating curve 0 means that own curve (menu 1.9.7) is used.
5. Press the OK button to exit the setting.

To read off a heating curve:

1. Turn the control knob so that the ring on the shaft with the outdoor temperature is marked.
2. Press the OK button.
3. Follow the grey line up to the heat curve and out to the left to read off the value for the supply temperature at the selected outdoor temperature.
4. You can now select to take read outs for different outdoor temperatures by turning the control knob to the right or left and read off the corresponding flow temperature.
5. Press the OK or Back button to exit read off mode.

> 💡 **TIP**
>
> Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.
>
> If it is cold outdoors and the room temperature is too low, increase the curve slope by one increment.
>
> If it is cold outdoors and the room temperature is too high, lower the curve slope by one increment.
>
> If it is warm outdoors and the room temperature is too low, increase the curve offset by one increment.
>
> If it is warm outdoors and the room temperature is too high, lower the curve offset by one increment.

Menu 1.9.2 - external adjustment

climate system

Setting range: -10 to +10 or desired room temperature if the room sensor is installed.

Default value: 0

Connecting an external contact, for example, a room thermostat or a timer allows you to temporarily or periodically raise or lower the room temperature while heating. When the contact is on, the heating curve offset is changed by the number of steps selected in the menu. If a room sensor is installed and activated the desired room temperature (°C) is set.

If there is more than one climate system the setting can be made separately for each system.

Menu 1.9.3 - min. flow line temp.

> **heating**
> Setting range: 20-70 °C
> Default value: 20 °C

Set the minimum temperature on the supply temperature to the climate system. This means that F750 never calculates a temperature lower than that set here.

If there is more than one climate system the setting can be made separately for each system.

> **TIP**
> The value can be increased if you have, for example, a cellar that you always want to heat, even in summer.
>
> You may also need to increase the value in "stop heating" menu 4.9.2 "auto mode setting".

Menu 1.9.4 - room sensor settings

> **factor system**
> **heating**
> Setting range: 0.0 - 6.0
> Default value: 2.0

Room sensors to control the room temperature can be activated here.

> **Caution**
> A slow heat-releasing heating system, such as for example, underfloor heating, may not be suitable for control using the heat pump's room sensor.

Here you can set a factor (a numerical value) that determines how much an over or sub normal temperature (the difference between the desired and actual room temperature) in the room is to affect the supply temperature to the climate system. A higher value gives a greater and faster change of the heating curve's set offset.

> **NOTE**
> Too high a set value for "factor system" can (depending on your climate system) produce an unstable room temperature.

If several climate systems are installed the above settings can be made for the relevant systems.

Menu 1.9.6 - fan return time

> **speed 1-4**
> Setting range: 1 – 99 h
> Default value: 4 h

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

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

Menu 1.9.7 - own curve

> **supply temperature**
> **heating**
> Setting range: 0 – 80 °C

You can create your own heating curve here, if there are special requirements, by setting the desired supply temperatures for different outdoor temperatures.

> **Caution**
> Curve 0 in menu 1.9.1 must be selected for own curve to apply.

Menu 1.9.8 - point offset

> **outdoor temp. point**
> Setting range: -40 – 30 °C
> Default value: 0 °C
>
> **change in curve**
> Setting range: -10 – 10 °C
> Default value: 0 °C

Select a change in the heating curve at a certain outdoor temperature here. One step is usually enough to change the room temperature by one degree, but in some cases several steps may be required.

The heat curve is affected at ± 5 °C from set outdoor temp. point.

It is important that the correct heating curve is selected so that the room temperature is experienced as even.

> **TIP**
> If it is cold in the house, at, for example -2 °C, "outdoor temp. point" is set to "-2" and "change in curve" is increased until the desired room temperature is maintained.

> **Caution**
> Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.

Menu 1.9.9 - night cooling

start temp. exhaust air
Setting range: 20 – 30 °C
Default value: 25 °C

min diff. outdoor-exhaust
Setting range: 3 – 10 °C
Default value: 6 °C

Activate night cooling here.

When the temperature in the house is high and the outdoor temperature is lower, a cooling effect can be obtained by forcing the ventilation.

If the temperature difference between the exhaust air and the outdoor air temperature is greater than the set value ("min diff. outdoor-exhaust") and the exhaust air temperature is higher than the set value ("start temp. exhaust air") run the ventilation at speed 4 until one of the conditions is no longer met.

> ☞ **Caution**
>
> Night cooling can only be activated when house heating has been deactivated. This is done in menu 4.2.

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.

Sub-menus

For the menu HOT WATER there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

 temporary lux Activation of temporary increase in the hot water temperature. Status information displays "off" or what length of time of the temporary temperature increase remains.

 comfort mode Setting hot water comfort. The status information displays what mode is selected, "economy", "normal" or "luxury".

 scheduling Scheduling hot water comfort. The status information "set" appears if you have set scheduling but it is not currently active, "holiday setting" appears if holiday setting is active at the same time as scheduling (when the holiday function is prioritised), "active" appears if any part of scheduling is active, otherwise "off" appears.

 advanced Setting periodic increase in the hot water temperature.

Menu 2.1 - temporary lux

> Setting range: 3, 6 and 12 hours and mode "off"
> Default value: "off"

When hot water requirement has temporarily increased this menu can be used to select an increase in the hot water temperature to lux mode for a selectable time.

☞ **Caution**

If comfort mode "luxury" is selected in menu 2.2 no further increase can be carried out.

The function is activated immediately when a time period is selected and confirmed using the OK button. The remaining time for the selected setting is shown to the right.

When the time has run out F750 returns to the mode set in menu 2.2.

Select "off" to switch off temporary lux .

Menu 2.2 - comfort mode

> Setting range: economy, normal, luxury
> Default value: normal

The difference between the selectable modes is the temperature of the hot tap water. Higher temperature means that the hot water lasts longer.

economy: This mode gives less hot water than the others, but is more economical. This mode can be used in smaller households with a small hot water requirement.

normal: Normal mode gives a larger amount of hot water and is suitable for most households.

luxury: Lux mode gives the greatest possible amount of hot water. In this mode, the immersion heater, as well as the compressor, is used to heat hot water, which may increase operating costs.

Menu 2.3 - scheduling

What hot water comfort the heat pump is to work with can be scheduled here for up to two different time periods per day.

Scheduling is activated/deactivated by ticking/unticking"activated". Set times are not affected at deactivation.

Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: Set the hot water comfort that is to apply during scheduling here.

Conflict: If two settings conflict with each other a red exclamation mark is displayed.

> **TIP**
>
> If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

> **TIP**
>
> Set the stop time earlier than the start time so that the period extends beyond midnight. Scheduling then stops at the set stop time the day after.
>
> Scheduling always starts on the date that the start time is set for.

Menu 2.9 - advanced

Menu advanced has orange text and is intended for the advanced user. This menu has several sub-menus.

Menu 2.9.1 - periodic increase

period
Setting range: 1 - 90 days
Default value: 14 days

start time
Setting range: 00:00 - 23:00
Default value: 00:00

To prevent bacterial growth in the water heater, the compressor and the immersion heater can increase the hot water temperature for a short time at regular intervals.

The length of time between increases can be selected here. The time can be set between 1 and 90 days. Factory setting is 14 days. Tick/untick "activated" to start/switch off the function.

Menu 2.9.2 - hot water recirc.

operating time
Setting range: 1 - 60 min
Default value: 60 min

downtime
Setting range: 0 - 60 min
Default value: 0 min

Set the hot water circulation for up to three periods per day here. During the set periods the hot water circulation pump will run according to the settings above.

"operating time" decide how long the hot water circulation pump must run per operating instance.

"downtime" decide how long the hot water circulation pump must be stationary between operating instances.

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

Sub-menus

For the menu INFO there are several sub-menus. No settings can be made in these menus, they just display information. Status information for the relevant menu can be found on the display to the right of the menus.

service info shows temperature levels and settings in the installation.

compressor info shows operating times, number of starts etc for the compressor in the heat pump.

add. heat info displays information about the additional heat's operating times etc.

alarm log displays the latest alarm and information about the heat pump when the alarm occurred.

indoor temp. log the average temperature indoors week by week during the past year.

Menu 3.1 - service info

Information about the heat pump's actual operating status (e.g. current temperatures etc.) can be obtained here. No changes can be made.

The information is on several pages. Turn the control knob to scroll between the pages.

Symbols in this menu:		
	Compressor	Heating
	Addition	Hot water
	Circulation pump, climate system	Ventilation
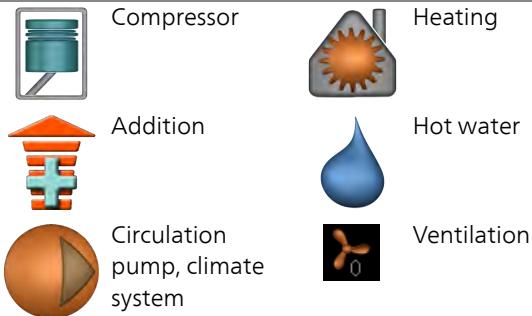
Menu 3.2 - compressor info

Information about the compressor's operating status and statistics can be obtained here. No changes can be made.

The information is on several pages. Turn the control knob to scroll between the pages.

Menu 3.3 - add. heat info

Information about the additional heat's settings, operating status and statistics can be obtained here. No changes can be made.

The information is on several pages. Turn the control knob to scroll between the pages.

Menu 3.4 - alarm log

To facilitate fault-finding the heat pump operating status at alarm alerts is stored here. You can see information for the 10 most recent alarms.

To view the run status in the event of an alarm, mark the alarm and press the OK button.

Menu 3.5 - indoor temp. log

Here you can see the average temperature indoors week by week during the past year. The dotted line indicates the annual average temperature.

The average outdoor temperature is only shown if a room temperature sensor/room unit is installed. Otherwise, the exhaust air temperature is shown.

To read off an average temperature

1. Turn the control knob so that the ring on the shaft with the week number is marked.
2. Press the OK button.
3. Follow the grey line up to the graph and out to the left to read off the average indoor temperature at the selected week.
4. You can now select to take read outs for different weeks by turning the control knob to the right or left and read off the average temperature.
5. Press the OK or Back button to exit read off mode.

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	
	4.2 - 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.

Sub-menus

For the menu HEAT PUMP there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

plus functions Settings applying to any installed extra functions in the heating system.

op. mode Activation of manual or automatic operating mode. The status information shows the selected operating mode.

my icons Settings regarding which icons in the heat pump's user interface that are to appear in the slot when the door is closed.

time & date Setting current time and date.

language Select the language for the display here. The status information shows the selected language.

holiday setting Vacation scheduling heating, hot water and ventilation. Status information "set" is displayed if you set a vacation schedule but it is not active at the moment, "active" is displayed if any part of the vacation schedule is active, otherwise it displays " off".

advanced Setting heat pump work mode.

Menu 4.1 - plus functions

Settings for any additional functions installed in F750 can be made in the sub menus.

Menu 4.1.3 - internet

Here you make settings for connecting F750 to the internet.

> **!** **NOTE**
>
> For these functions to work the network cable must be connected.

Menu 4.1.3.1 - nibe uplink

Here you can manage the installation's connection to NIBE Uplink™ (http://www.nibeuplink.com) and see the number of users connected to the installation via the internet.

A connected user has a user account in NIBE Uplink™ which have been given permission to control and/or monitor your installation.

Request new connection string

To connect a user account on NIBE Uplink™ to your installation, you must request a unique connection string.

1. Mark "request new connection string" and press the OK button.
2. The installation now communicates with NIBE Uplink™ to create a connection string.
3. When a connection string has been received, it is shown in this menu at "connection string" and is valid for 60 minutes.

Disconnect all users

1. Mark "switch off all users" and press the OK button.
2. The installation now communicates with NIBE Uplink™ to release your installation from all connected users via the internet.

> **NOTE**
>
> After disconnecting all users none of them can monitor or control your installation via NIBE Uplink™ without requesting a new connection string.

Menu 4.1.3.8 - tcp/ip settings

You can set TCP/IP settings for your installation here.

Automatic setting (DHCP)
1. Tick "automatic". The installation now receives the TCP/IP settings using DHCP.
2. Mark "confirm" and press the OK button.

Manual setting
1. Untick "automatic", you now have access to several setting options.
2. Mark "ip-address" and press the OK button.
3. Enter the correct details via the virtual keypad.
4. Mark "OK" and press the OK button.
5. Repeat 1 - 3 for "net mask", "gateway" and "dns".
6. Mark "confirm" and press the OK button.

> **Caution**
>
> The installation cannot connect to the internet without the correct TCP/IP settings. If unsure about applicable settings use the automatic mode or contact your network administrator (or similar) for further information.

> **TIP**
>
> All settings made since opening the menu can be reset by marking "reset" and pressing the OK button.

Menu 4.1.3.9 - proxy settings

You can set proxy settings for your installation here.

Proxy settings are used to give connection information to a intermediate server (proxy server) between the installation and Internet. These settings are primarily used when the installation connects to the Internet via a company network. The installation supports proxy authentication of the HTTP Basic and HTTP Digest type.

If unsure about applicable settings, contact your network administrator (or similar) for further information.

Setting
1. Tick "use proxy" if you do not want to use a proxy.
2. Mark "server" and press the OK button.
3. Enter the correct details via the virtual keypad.
4. Mark "OK" and press the OK button.
5. Repeat 1 - 3 for "port", "user name" and "password".
6. Mark "confirm" and press the OK button.

> **TIP**
>
> All settings made since opening the menu can be reset by marking "reset" and pressing the OK button.

Menu 4.1.4 - sms (accessory is required)

Make settings for the accessory SMS 40 here.

Add the mobile numbers that are to have access to change and receive status information from the heat pump. Mobile numbers must include country code e.g. +46 XXXXXXXX.

If you want to receive an SMS message in the event of the alarm mark the box to the right of the telephone number.

> **NOTE**
>
> Telephone numbers provided must be able to receive SMS messages.

Menu 4.1.5 - SG Ready

This function can only be used in mains networks that support the "SG Ready"-standard .

Make settings for the function "SG Ready" here.

Low price mode means that the electricity supplier has a low tariff and the system uses this to reduce costs.

Over capacity mode means that the electricity supplier has set the tariff very low and the system uses this to reduce the costs as much as possible.

affect room temperature

Here you set whether room temperature should be affected when activating "SG Ready".

With low price mode of "SG Ready" the parallel offset of the indoor temperature is increased by "+1". If a room sensor is installed and activated, the desired room temperature increases by 1 °C.

With over capacity mode of "SG Ready" the parallel offset for the indoor temperature is increased by"+2". If a room sensor is installed and activated, the desired room temperature increases by 2 °C.

affect hot water

Here you set whether the temperature of the hot water should be affected when activating "SG Ready".

With low price mode on "SG Ready" the stop temperature of the hot water is set as high as possible at only compressor operation (immersion heater not permitted).

With over capacity mode of "SG Ready" the hot water is set to "luxury" (immersion heater permitted).

> **NOTE**
>
> The function must be connected to two AUX inputs and activated in menu 5.4.

Menu 4.1.6 - smart price adaption

price of electricity overview

Here you can obtain information on how the electricity price varies over up to three days.

area

In this menu you state where the heat pump is located and how great a role the electricity price should play. The greater the value, the greater the effect the electricity price has and the possible savings are larger, but at the same time there is an increased risk of affecting comfort.

> **affect room temperature**
>
> Setting range: 1 - 10
>
> Factory setting: 5
>
> **affect hot water**
>
> Setting range: 1 - 4
>
> Factory setting: 2

This function can only be used if you have an hourly tariff agreement with your electricity supplier that supports Smart price adaption.

Smart price adaption moves the heat pump's consumption over 24 hours to periods with the cheapest electricity tariff, which gives savings for hourly rate based electricity contracts. The function is based on hourly rates for the next 24 hours being retrieved via NIBE Uplink™ and therefore an internet connection and an account for NIBE Uplink™ are required.

Untick "activated" to switch off smart price adaption.

Menu 4.2 - op. mode

> **op. mode**
>
> Setting range: auto, manual, add. heat only
>
> Default value: auto
>
> **functions**
>
> Setting range: compressor, addition, heating

The heat pump operating mode is usually set to "auto". It is also possible to set the heat pump to "add. heat only", but only when an addition is used, or "manual" and select yourself what functions are to be permitted.

Change the operating mode by marking the desired mode and pressing the OK button. When an operating mode is selected, it shows what is permitted in the heat pump (crossed out = not permitted) and selectable alternatives to the right. To select selectable functions that are permitted or not, mark the function using the control knob and press the OK button.

Operating mode auto

In this operating mode the heat pump automatically selects what functions are permitted.

Operating mode manual

In this operating mode you can select what functions are permitted. You cannot deselect "compressor" in manual mode.

Operating mode add. heat only

In this operating mode the compressor is not active, only additional heat is used.

> ☞ **Caution**
>
> If you choose mode "add. heat only" the compressor is deselected and there is a higher operating cost.

Functions

"**compressor**" is that which produces heating and hot water for the accommodation. If "compressor" is deselected, a symbol in the main menu on the heat pump symbol is displayed. You cannot deselect "compressor" in manual mode.

"**addition**" is what helps the compressor to heat the accommodation and/or the hot water when it cannot manage the whole requirement alone.

"**heating**" means that you get heat in the accommodation. You can deselect the function when you do not wish to have heating running.

> ☞ **Caution**
>
> If you deselect "addition" it may mean that insufficient hot water and/or heating in the accommodation is achieved.

Menu 4.3 - my icons

You can select what icons should be visible when the door to F750 is closed. You can select up to 3 icons. If you select more, the ones you selected first will disappear. The icons are displayed in the order you selected them.

Menu 4.4 - time & date

Set time and date, display mode and time zone here.

> 💡 **TIP**
>
> Time and date are set automatically if the heat pump is connected to NIBE Uplink™. To obtain the correct time, the time zone must be set.

Menu 4.6 - language

Choose the language that you want the information to be displayed in here.

Menu 4.7 - holiday setting

To reduce energy consumption during a holiday you can schedule a reduction in heating, ventilation and hot water temperature. Solar panel cooling can also be scheduled if the function is connected.

If a room sensor is installed and activated, the desired room temperature (°C) is set during the time period. This setting applies to all climate systems with room sensors.

If a room sensor is not activated, the desired offset of the heating curve is set. One step is usually enough to change the room temperature by one degree, but in some cases several steps may be required. This setting applies to all climate systems without room sensors.

Vacation scheduling starts at 00:00 on the start date and stops at 23:59 on the stop date.

> **TIP**
>
> Complete holiday setting about a day before your return so that room temperature and hot water have time to regain usual levels.

> **TIP**
>
> Set the vacation setting in advance and activate just before departure in order to maintain the comfort.

> **Caution**
>
> If you choose to switch off hot water production during the vacation "periodic increase" (preventing bacterial growth) are blocked during this time. "periodic increase" started in conjunction with the vacation setting being completed.

> **Caution**
>
> If the exhaust air temperature falls below 16 °C, the compressor is blocked and the electrical addition is permitted to intervene. When the compressor is blocked heat is not recovered from the exhaust air.

Menu 4.9 - advanced

Menu advanced has orange text and is intended for the advanced user. This menu has several sub-menus.

Menu 4.9.1 - op. prioritisation

> **op. prioritisation**
> Setting range: 0 to 180 min
> Default value: 30 min

Choose here how long the heat pump should work with each requirement if there are two requirements at the same time. If there is only one requirement the heat pump only works with that requirement.

The indicator marks where in the cycle the heat pump is.

If 0 minutes is selected it means that requirement is not prioritised, but will only be activated when there is no other requirement.

Menu 4.9.2 - auto mode setting

> **stop heating**
> Setting range: -20 – 40 °C
> Default values: 15
>
> **stop additional heat**
> Setting range: -25 – 40 °C
> Factory setting: 5
>
> **filtering time**
> Setting range: 0 – 48 h
> Default value: 24 h

When the operating mode is set to "auto", the heat pump selects when start and stop of additional heat and heat production is permitted, dependent on the average outdoor temperature.

Select the average outdoor temperatures in this menu.

You can also set the time over which (filtering time) the average temperature is calculated. If you select 0, the present outdoor temperature is used.

> **Caution**
>
> It cannot be set "stop additional heat" higher than "stop heating".

Menu 4.9.3 - degree minute setting

> **current value**
> Setting range: -3000 – 3000
>
> **start compressor**
> Setting range: -1000 – -30
> Default value: -60
>
> **start diff additional heat**
> Setting range: 100 – 1000
> Factory setting: 700
>
> **diff. between additional steps**
> Setting range: 0 – 1000
> Factory setting: 50

Degree minutes are a measurement of the current heating requirement in the house and determine when the compressor respectively additional heat will start/stop.

> **Caution**
>
> Higher value on "start compressor" gives more compressor starts, which increase wear on the compressor. Too low value can give uneven indoor temperatures.

Menu 4.9.4 - factory setting user

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

Menu 4.9.5 - schedule blocking

The compressor can be scheduled to be blocked for up to two different time periods here.

When scheduling is active the actual blocking symbol in the main menu on the heat pump symbol is displayed.
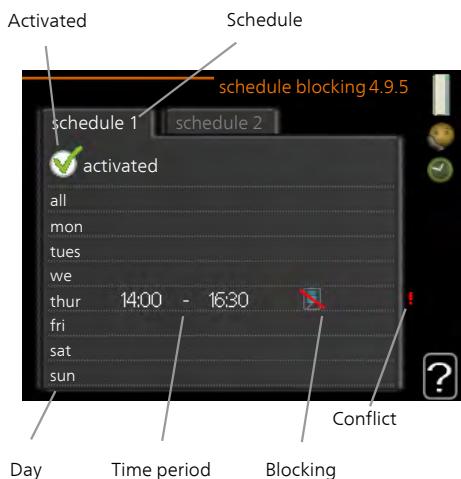
Schedule: The period to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Blocking: The desired blocking is selected here.

Conflict: If two settings conflict with each other a red exclamation mark is displayed.

Blocking the compressor.

Blocking additional heat.

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
		5.1.11 - charge pump speed
		5.1.12 - internal electrical addition
		5.1.14 - flow set. climate system
		5.1.24 - blockFreq
		5.1.99 - other settings
	5.2 - system settings	5.2.4 - accessories
	5.3 - accessory settings	5.3.3 - extra climate system *
	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: 15 - 52 °C
Factory setting start temp. economy: 40 °C
Setting range stop temp. economy: 15 - 55 °C
Factory setting stop temp. economy: 45 °C

normal
Setting range start temp. normal: 15 - 52 °C
Factory setting start temp. normal: 45 °C
Setting range stop temp. normal: 15 - 55 °C
Factory setting stop temp. normal: 50 °C

luxury
Setting range start temp. lux: 15 - 62 °C
Factory setting start temp. lux: 49 °C
Setting range stop temp. lux: 15 - 65 °C
Factory setting stop temp. lux: 54 °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 at a higher output than in the standard mode and thus gives a higher hot water capacity.

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

When the current supply temperature **deviates** from the set value compared to that calculated, the heat pump is forced to stop irrespective of the degree-minute value.

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

max diff addition

If "addition" is selected and activated in menu 4.2 and the present supply temp **exceeds** the calculated with 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.

☞ **Caution**

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

Menu 5.1.11 - charge pump speed

> **Operating status**
> Setting range: 1 - 100 %
> Default values: 70 %
>
> **max. allowed speed**
> Setting range: 50 - 100 %
> Default values: 100 %
>
> **wait mode**
> Setting range: 1 - 100 %
> Default values: 30 %

Set the speed at which the charge pump is to operate in the present operating mode. Select "auto" if the speed of the charge pump is to be regulated automatically (factory setting) for optimal operation.

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

"**heating**" means heating operating mode for the charge pump.

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

Set the speed at which the charge pump is to operate in the present operating mode.

"**hot water**" means operating mode hot water for the charge pump.

Menu 5.1.12 - internal electrical addition

> **set max electrical add.**
> Setting range 3x400 V: 0 - 6.5kW
> Setting range 3x230 V: 0 - 7kW
> Factory setting 3x400 V: 6.5 kW
> Factory setting 3x230 V: 7 kW
>
> **max. set electrical output (SG Ready)**
> Setting range 3x400 V: 0 - 6.5kW
> Setting range 3x230 V: 0 - 7kW
> Factory setting 3x400 V: 6.5 kW
> Factory setting 3x230 V: 7 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 F750 during normal operation and overcapacity mode (SG Ready) as well as the fuse size for the installation.

Here you can also check which current sensor is installed on which incoming phase to the property (this requires current sensors to be installed, see page 24). This is achieved by marking "detect phase order" and pressing the OK button.

The results of these checks appear just below where the checks were activated.

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 °C
> Factory setting DOT: -18.0 °C
>
> **own setting**
> Setting range dT at DOT: 0.0
> Factory setting dT at DOT: 10.0
> Setting range DOT: -40.0 °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.

Menu 5.1.99 - other settings

> **months btwn filter alarms**
> Setting range: 1 – 12
> Default value: 3

Set months btwn filter alarms and fan synch. operation here.

months btwn filter alarms

Here you set the number of months between alarms for a reminder to clean the filter in F750.

fan synch. operation

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

Menu 5.2 - system settings

Make different system settings for the heat pump here, e.g. which accessories are installed.

Menu 5.2.4 - accessories

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 F750.

Menu 5.3 - accessory settings

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

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

> ☞ **Caution**
> This setting option only appears if "passive/active cooling 2-pipe" or "passive cooling 2-pipe" is activated in menu 5.2.4.

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 5.4 - soft in/outputs

Here you can select which in/output on the input circuit board (AA3) the external contact function (page 24) is to be connected to.

Selectable inputs on terminal block AUX1-5 (AA3-X6:9-18) and output AA3-X7 (on the input circuit board).

Menu 5.5 - factory setting service

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

Also new parametrisation of the inverter can be done 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. The most important safety functions remain active however.

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 29 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 – 3, 5 – 7***
> Setting range: 0 – 30 days
> Default value: 2 days
>
> ***temp. period 1 – 3, 5 – 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 5 | 40 °C |
> | temp. period 6 | 30 °C |
> | temp. period 7 | 20 °C |
>
> ***length of period 4***
> Setting range: 0 – 30 days
> Default value: 3 days
>
> ***temp. period 4***
> Setting range: 15 – 70 °C
> Default value: 45 °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.

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

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 (FD1-BT30). It can be set either to 35 or 45 °C.
- The compressor is switched off and only the fan, heating medium pump 2 and the electric additional heat are active. The additional heat power in emergency mode is set in the immersion heater board (AA1). See page 23 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. Where no draining pump is 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 to see if 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 tapped through 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), (QM23), (QM24) 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.

Helping the circulation pump to start (GP1)

1. Shut off, F750 by setting the switch ((SF1)) to "⏻".
2. Remove the front cover
3. Loosen the venting screw (QM5) with a screwdriver. Hold a cloth around the screwdriver blade as a small amount of water may run out.
4. Insert a screwdriver and turn the pump motor around.
5. Screw in the venting screw (QM5).
6. Start F750 by setting the switch (SF1) to "❙" and check whether the circulation pump works.

It is usually easier to start the circulation pump with F750 running, switch (SF1) set to "❙". If the circulation pump is helped to start while F750 is running, be prepared for the screwdriver to jerk when the pump starts.

Vent screw (QM5)

GP1
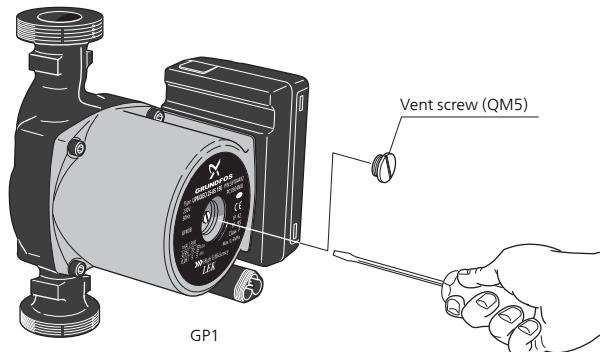
Temperature sensor data

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

Temperature (°C)	Resistance (kOhm)	Voltage (VDC)
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
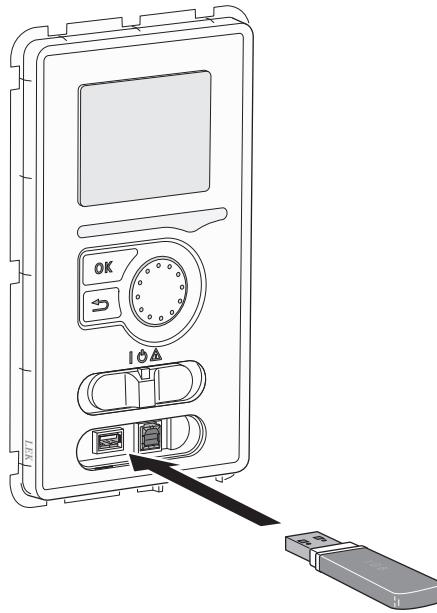
F750 is equipped with a USB socket in the display unit. This USB socket can be used to connect a USB memory to update the software, save logged information and handle the settings in F750.
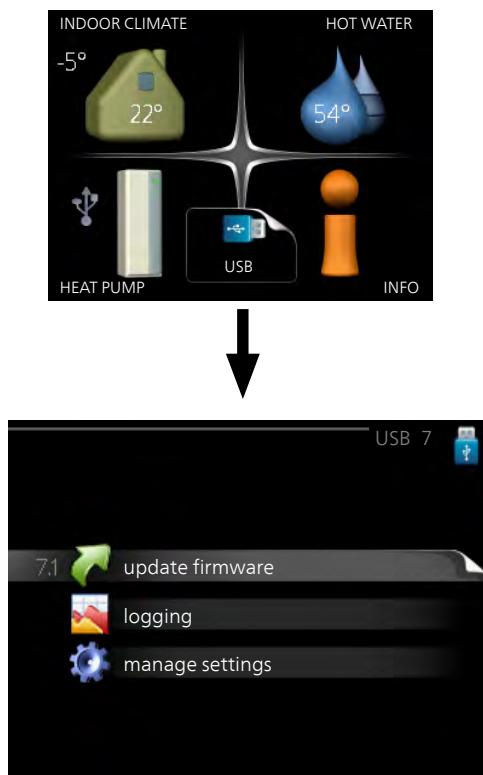
When a USB memory is connected a new menu (menu 7) appears in the display.

Menu 7.1 - update firmware
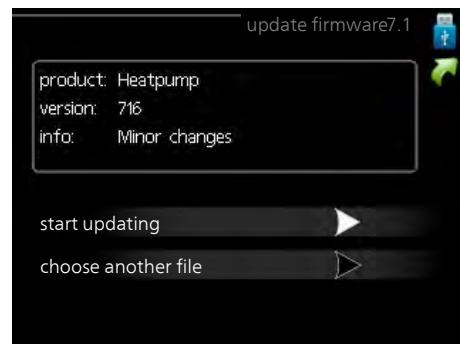
This allows you to update the software in F750.

> **NOTE**
>
> For the following functions to work the USB memory must contain files with software for F750 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 F750 restarts.

> **NOTE**
>
> A software update does not reset the menu settings in F750.

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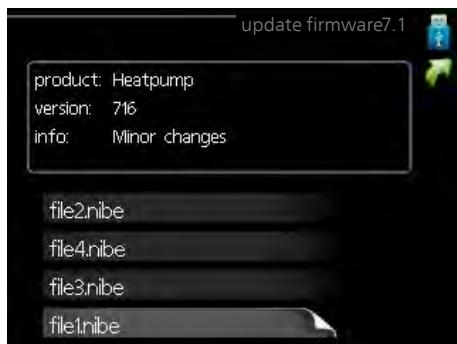
Select "choose another file" if you do not want to use the suggested software. When you scroll through the files, information about the marked software is shown in a fact box just as before. When you have selected a file with the OK button you will return to the previous page (menu 7.1) where you can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

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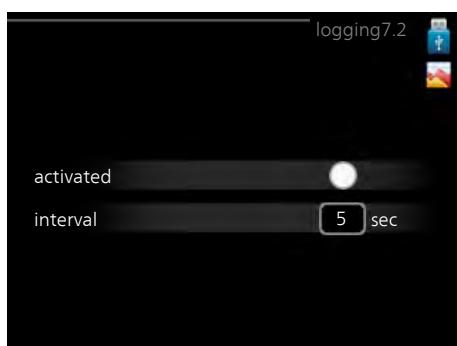
Setting range: 1 s – 60 min

Factory setting range: 5 s

Here you can choose how current measurement values from F750 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 F750 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.

Menu 7.3 - manage settings
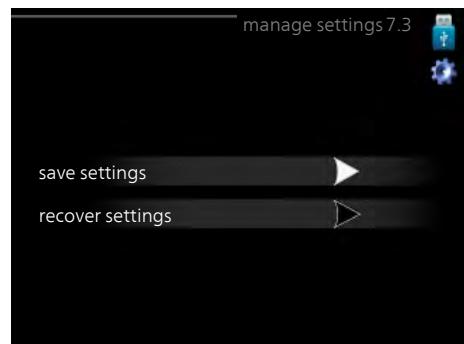
Here you can manage (save as or retrieve from) all the menu settings (user and service menus) in F750 with a USB memory.

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 F750.

> **!** **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 fault source. See page 44 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 most cases it is enough to select "reset alarm" to correct the problem that caused the alarm. If a green light illuminates after selecting "reset alarm" the alarm has been remedied. If a red light is still visible and a menu called "alarm" is visible in the display, the problem that caused the alarm remains. If the alarm disappears and then returns, see the troubleshooting section (page 59).

aid mode "aid mode" is a type of emergency mode. This means that the heat pump produces heat and/or hot water despite there being some kind of problem. This can 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.
- The property's earth circuit breaker.
- The heat pump's miniature circuit breaker (FA1).
- The heat pump's temperature limiter (FD1).
- Correctly set load monitor (if installed).

Low hot water temperature or a lack of hot water
- Closed or choked filling valve (QM10) for the hot water heater.
  - Open the valve.
- Mixing valve (if there is one installed) set too low.
  - Adjust the mixer 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.
- Circulation pump(s) (GP1 and/or GP6) have stopped.
- Air in the heating system.
  - Vent the heating system (see page 28).
- Closed valve (QM31) to the heating system.
  - Open the valve.
- Incorrect value set in menu 5.1.12.
  - Enter menu 5.1.12 and increase the value on "set max electrical add.".
- Incorrect value set in menu 5.1.13.
  - Enter menu 5.1.13 and increase the value if possible on "max installed el.pwr (only this machine)".

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 28).

Low or a lack of ventilation
- The ventilation is not adjusted.
  - Order/implement ventilation adjustment.
- Filter (HQ10) blocked.
  - Clean or replace the filter.
- 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
- 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.
- Filter (HQ10) blocked.
  - Clean or replace the filter.

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.
- Temperature conditions tripped.
  - Wait until the temperature condition has been reset.
- Minimum time between compressor starts has not been reached.
  - Wait 30 minutes and check if the compressor has started.
- Alarm tripped.
  - Follow the display instructions.

11 Accessories

Base extension EF 45

Part no. 067 152

Communications module MODBUS 40

MODBUS 40 enables F750 to be controlled and monitored using a DUC (computer sub-center) in the building. Communication occurs using MODBUS-RTU.

Part no. 067 144

Communications module SMS 40

SMS 40 enables operation and monitoring of F750, via a GSM module, using a mobile phone via SMS messages. If the mobile telephone also has the Android operating system the mobile application "NIBE Mobile App" can be used.

Part no. 067 073

Docking kit DEW 40

There are separate docking kits available for connecting water heater VPB 200 to the heat pump.

Part no. 067 163

Docking kit SCA 42

SCA 42 means that F750 can be connected to solar heating, external additional heat and/or prioritised addition when docking with SAM 40 and the accumulator tank AHPS.

Part no. 067 313

Docking kits SCA 40

SCA 40 means that F750 can be connected to solar heating when docking with water heater VPBS 300.

Part no. 067 137

Docking kits SCA 41

SCA 41 means that F750 can be connected to solar heating, external additional heat and/or prioritised additional heat when docking with accumulator tank AHPS.

Part no. 067 316

Extra shunt group ECS 40/ECS 41

This accessory is used when F750 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 (Min 80 m²) | Part no. 067 288 |

Supply air module SAM 40

SAM 40 is a supply air module specially developed for houses with supply and exhaust air systems.

Part no. 067 147

Top cabinet

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

245 mm

Part no. 089 756

345 mm

Part no. 089 757

395-645 mm

Part no. 089 758

Water heater/Accumulator tank

AHPS

Accumulator tank with a solar coil (copper) and a combined pre-heating and post-heating coil (stainless steel) for hot water production.

Part no. 056 283

AHP

Volume expansion vessel that is primarily used for expanding the volume together with AHPS.

Part no. 056 284

VPB 200

Extra water heater without immersion heater. Placed to the left of F750 for easy installation.

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

VPB 750

Copper lined water heater with charge coil

Part no. 083 230

Eminent

Eminent copper is available in three sizes: 35, 55 and 100.

35

Part no. 072 310

55

Part no. 072 340

100

Part no. 072 370

Compact

Compact copper is available in three sizes: 100, 200 and 300.

100

Part no. 076 515

200

Part no. 077 500

300

Part no. 078 500

12 Technical data

Dimensions and setting-out coordinates

Avoid routing pipes through the marked area
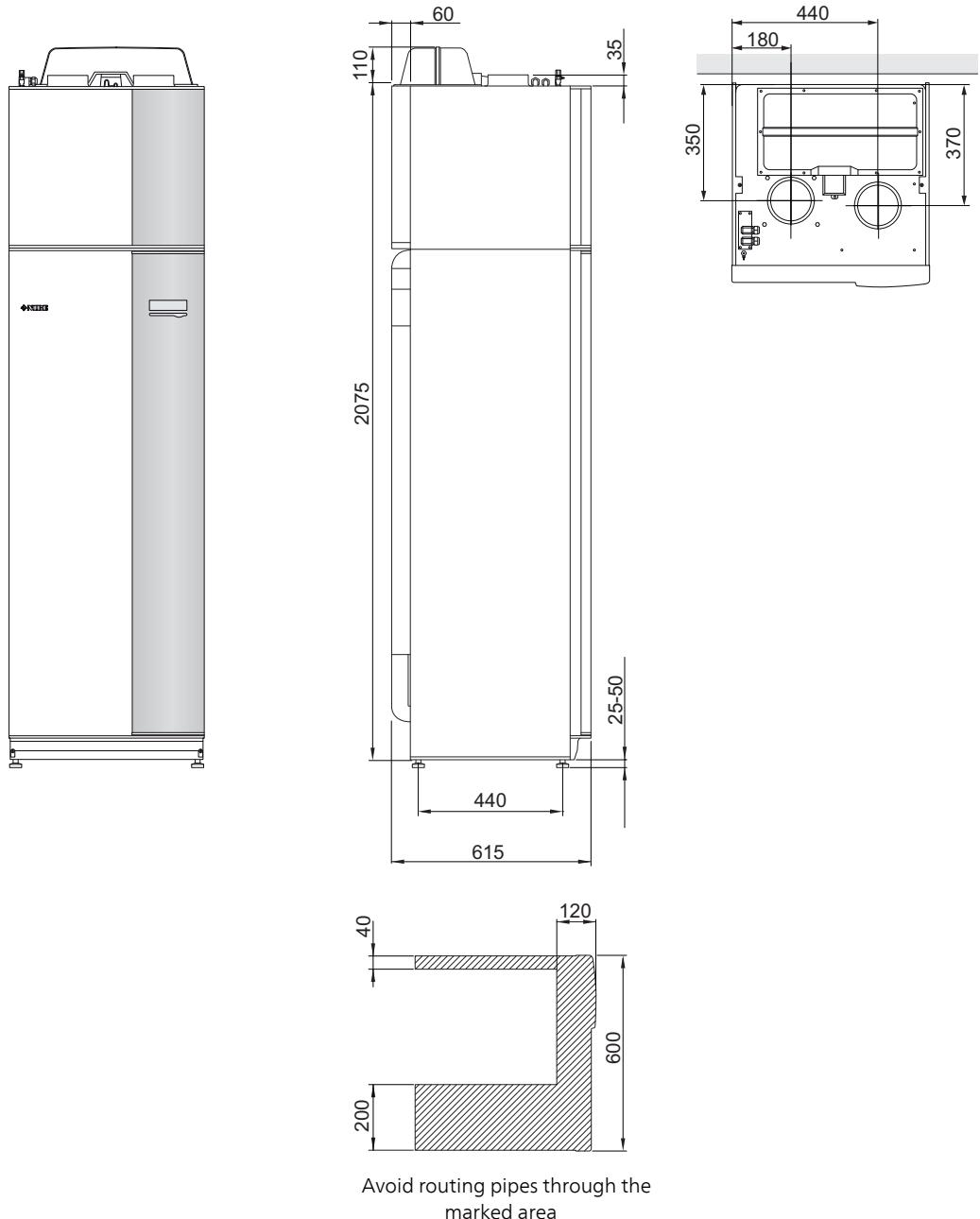
Technical specifications

CE | IP 21

3x400V		Copper	Stainless steel
Output data according to EN 14 511			
Specified heating output (P_H)[1]	kW	1.144	
COP[1]		4.2	
Specified heating output (P_H)[2]	kW	1.498	
COP[2]		4.72	
Specified heating output (P_H)[3]	kW	4.994	
COP[3]		2.43	
Additional power			
Output immersion heater	kW	0.5- 6.5	
Electrical data			
Rated voltage	V	400 V 3N~50 Hz	
Max operating current	A	16.3	
Drive output heating medium pump 2 GP6	W	5-45	
Driving power exhaust air fan	W	25-140	
Fuse	A	16	
Enclosure class		IP 21	
Refrigerant circuit			
Type of refrigerant		R407C	
Volume	kg	0.74	
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			
Max pressure in boiler section	MPa/bar	0.25/2.5	
Max temperature (flow line)	°C	70 (factory setting 60)	
Ventilation			
Min. airflow	l/s	31	
Sound effect level according to EN 12 102			
Sound power level ($L_{W(A)}$)[4]	dB(A)	40-55	
Sound pressure levels			
Sound pressure level in the boiler room ($L_{P(A)}$)[5]	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	

Other 3x400V			Copper	Stainless steel
Water heater				
Volume total	litre		215	
Volume boiler section (of which buffer vessel)	litre		35 (25)	
Volume, hot water heater	litre		180	
Volume buffer vessel	litre		25	
Max pressure in hot water heater	MPa/bar		1.0/10	
Corrosion protection			Copper	Stainless steel
Capacity hot water heating according to EN 16 147[6]				
Tap volume 40 °C at Normal comfort (V_{max})	litre		244	
COP at Normal comfort (COP_t)			2.8	
Idle loss at Normal comfort (P_{es})	W		54	
Dimensions and weight				
Width	mm		600	
Depth	mm		610	
Height excl. inverter box, incl. feet	mm		2100-2125	
Required ceiling height	mm		2270	
Weight	kg		237	205
Part No.			066 036	066 037

[1]A20(12)W35, exhaust air flow 108 m³/h (30 l/s) min compressor frequency

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

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

[4]The value varies with the selected fan curve. For more extensive sound data including sound to channels visit www.nibe.eu.

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

[6]A20(12) exhaust air flow 150 m³/h (42 l/s)

3x230V		
Output data according to EN 14 511		
Specified heating output (P_H)[1]	kW	1.144
COP[1]		4.2
Specified heating output (P_H)[2]	kW	1.498
COP[2]		4.72
Specified heating output (P_H)[3]	kW	4.994
COP[3]		2.43
Additional power		
Output immersion heater	kW	0.5-7
Electrical data		
Rated voltage	V	230 V 3~ 50 Hz
Max operating current	A	27
Drive output heating medium pump 2 GP6	W	5-45
Driving power exhaust air fan	W	25-140
Fuse	A	30
Enclosure class		IP 21
Refrigerant circuit		
Type of refrigerant		R407C
Volume	kg	0.74
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		
Max pressure in boiler section	MPa/bar	0.25/2.5
Max temperature (flow line)	°C	70 (factory setting 60)
Ventilation		
Min. airflow	l/s	31
Sound effect level according to EN 12 102		
Sound power level ($L_{W(A)}$)[4]	dB(A)	40-55
Sound pressure levels		
Sound pressure level in the boiler room ($L_{P(A)}$)[5]	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

Other 3x230V		
Water heater		
Volume total	litre	215
Volume boiler section (of which buffer vessel)	litre	35 (25)
Volume, hot water heater	litre	180
Volume buffer vessel	litre	25
Max pressure in hot water heater	MPa/bar	1.0/10
Corrosion protection		Stainless steel
Capacity hot water heating according to EN 255-3[6]		
Tap volume 40 °C at Normal comfort (V_{max})	litre	244
COP at Normal comfort (COP_t)		2.8
Idle loss at Normal comfort (P_{es})	W	54
Dimensions and weight		
Width	mm	600
Depth	mm	610
Height excl. inverter box, incl. feet	mm	2100-2125
Required ceiling height	mm	2270
Weight	kg	205
Part No.		066 049

[1]A20(12)W35, exhaust air flow 108 m³/h (30 l/s) min compressor frequency

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

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

[4]The value varies with the selected fan curve. For more extensive sound data including sound to channels visit www.nibe.eu.

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

[6]A20(12) exhaust air flow 150 m³/h (42 l/s)

Energy labelling

Information sheet

Supplier		NIBE
Model		**F750**
Temperature application	**°C**	**35 / 55**
Declared load profile for water heating		**L**
Seasonal space heating energy efficiency class, average climate		**A++ / A++**
Water heating energy efficiency class, average climate		**A**
Rated heat output (Pdesignh), average climate	kW	5 / 5
Annual energy consumption space heating, average climate	kWh	2066 / 2793
Annual energy consumption water heating, average climate	kWh	1123
Seasonal space heating energy efficiency, average climate	%	177 / 130
Water heating energy efficiency, average climate	%	91
Sound power level L_{WA} indoors	dB	44
Rated heat output (Pdesignh), cold climate	kW	5 / 5
Rated heat output (Pdesignh), warm climate	kW	5 / 5
Annual energy consumption space heating, cold climate	kWh	2361 / 3143
Annual energy consumption water heating, cold climate	kWh	1123
Annual energy consumption space heating, warm climate	kWh	1370 / 1804
Annual energy consumption water heating, warm climate	kWh	1123
Seasonal space heating energy efficiency, cold climate	%	185 / 138
Water heating energy efficiency, cold climate	%	91
Seasonal space heating energy efficiency, warm climate	%	172 / 130
Water heating energy efficiency, warm climate	%	91
Sound power level L_{WA} outdoors	dB	-

Data for energy efficiency of the package

Model		F750
Temperature application	**°C**	**35 / 55**
Controller, class		VI
Controller, contribution to efficiency	%	4
Seasonal space heating energy efficiency of the package, average climate	%	181 / 134
Seasonal space heating energy efficiency class of the package, average climate		**A+++ / A++**
Seasonal space heating energy efficiency of the package, cold climate	%	189 / 142
Seasonal space heating energy efficiency of the package, warm climate	%	176 / 134

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				F750			
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		☒ Average (55 °C) ☐ Low (35 °C)					
Applied standards		EN14825, EN16147					
Rated heat output	Prated	4,5	kW	**Seasonal space heating energy efficiency**	η_s	130	%
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	3.4	kW	Tj = -7 °C	COPd	2.5	kW
Tj = +2 °C	Pdh	2.6	kW	Tj = +2 °C	COPd	3.3	kW
Tj = +7 °C	Pdh	1.7	kW	Tj = +7 °C	COPd	4.3	kW
Tj = +12 °C	Pdh	1.7	kW	Tj = +12 °C	COPd	4.3	kW
Tj = biv	Pdh	3.3	kW	Tj = biv	COPd	2.8	kW
Tj = TOL	Pdh	3.0	kW	Tj = TOL	COPd	2.4	kW
Tj = -15 °C (if TOL < -20 °C)	Pdh		kW	Tj = -15 °C (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-3	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	Pcych		kW	Cycling interval efficiency	COPcyc		-
Degradation coefficient	Cdh	0.97	-	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	1.5	kW
Thermostat-off mode	P_{TO}	0.02	kW				
Standby mode	P_{SB}	0.02	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}	2,793	kWh	Brine flow brine-water or water-water heat pumps			m³/h
For heat pump combination heater							
Declared load profile for water heating		L		**Water heating energy efficiency**	η_{wh}	91	%
Daily energy consumption	Q_{elec}	5.11	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	1,123	kWh	Annual fuel consumption	AFC		GJ

Electrical circuit diagram

3x400V

-AA4
PCA Display Unit

OK

F750

-SF1

-X8

-X1

-X9

-W105

-W130

/5.7E ¿.com3

SELV

DISPLAY
3x400V 6,5kW
F750

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Location +1				

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| 5 | 3 | 1 |

NIBE AB
MARKARYD
SWEDEN

3x230V

INVERTER
3x230V 7KW
F750

NIBE AB
MARKARYD
SWEDEN

051128 – 1

Inverter

Air Unit

Base

BASE
3x230V 7kW
F750

051128 - 1

-AA4
PCA Display Unit

OK

F750

-SF1

-X9

-X8

-X1

-W105

/5.7E ¿.com3

-W130

SELV

	Next sheet:		Plant	Sheet:	6	Checked:	
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DISPLAY
3x230V 7kW
F750

6			
4			
2			
5			
3			
1			

NIBE
NIBE AB
MARKARYD
SWEDEN

051128 – 1

13 Item register

Item register

(SE)

Återvinning

Lämna avfallshanteringen av emballaget till den installatör som installerade produkten eller till särskilda avfallsstationer.

När produkten är uttjänt får den inte slängas bland vanligt hushållsavfall. Den ska lämnas in till särskilda avfallsstationer eller till återförsäljare som tillhandahåller denna typ av service.

Felaktig avfallshantering av produkten från användarens sida gör att administrativa påföljder tillämpas i enlighet med gällande lagstiftning.

(GB)

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.

(DE)

Recycling

Übergeben Sie den Verpackungsabfall dem Installateur, der das Produkt installiert hat, oder bringen Sie ihn zu den entsprechenden Abfallstationen.

Wenn das Produkt das Ende seiner Lebensdauer erreicht hat, darf es nicht über den normalen Hausmüll entsorgt werden. Stattdessen muss es bei speziellen Entsorgungseinrichtungen oder Händlern abgegeben werden, die diese Dienstleistung anbieten.

Eine unsachgemäße Entsorgung des Produkts durch den Benutzer zieht Verwaltungsstrafen gemäß geltendem Recht nach sich.

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