Installer manual

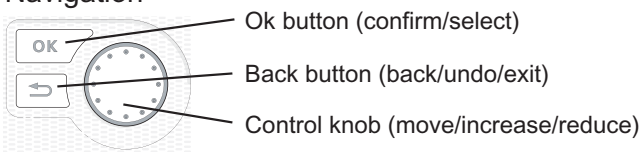
NIBE™ F750

Exhaust air heat pump

IHB GB 1301-1
231236

Quick guide

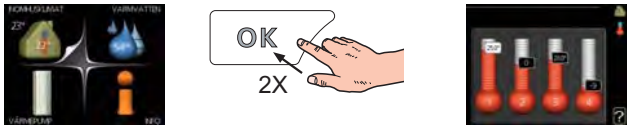
Navigation



A detailed explanation of the button functions can be found on page 34.

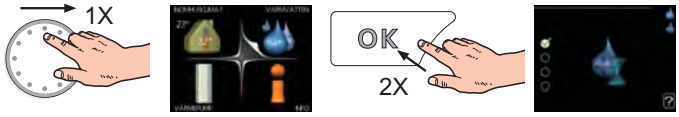
How to scroll through menus and make different settings is described on page 36.

Set the indoor climate



The mode for setting the indoor temperature is reached, when in the start mode in the main menu, by pressing the OK button twice. Read more about the settings on page 38.

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 44.

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 60 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.

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

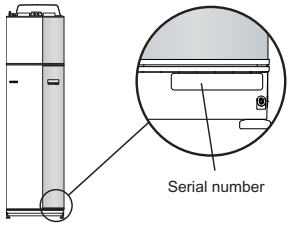
F750 is CE marked and fulfils IP21.

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

Serial number

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



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 20)				
	Setting the ventilation flow			
Heating medium (page 17)				
	System flushed			
	System vented			
	Circulation pump setting			
	Setting heating medium flow			
	Boiler pressure			
Hot water				
	Mixing valve			
Electricity (page 21)				
	Fuses heat pump			
	Fuses property			
	Outside sensor			
	Room sensor			
	Current sensor (does not apply to enamel)			
	Safety breaker			
	Earth circuit-breaker			

Contact information

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Puh: 09-274 697 0 Fax: 09-274 697 40

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Tel : 03 88 06 24 10 Fax : 03 88 06 90 15

GB **NIBE Energy Systems Ltd**, 3C Broom Business Park, Bridge Way, Chesterfield S41 9QG
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PL **NIBE-BIAWAR Sp. z o. o.** Aleja Jana Pawła II 57, 15-703 BIAŁYSTOK
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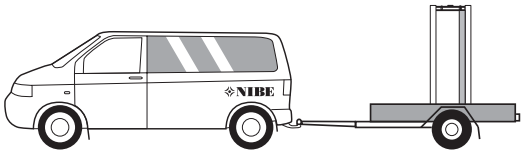
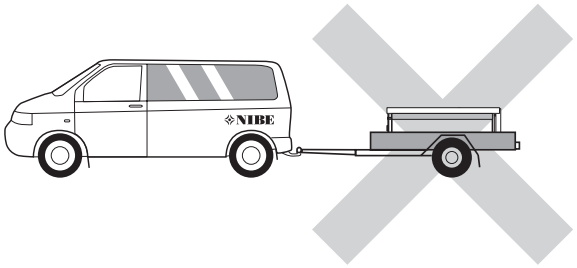
For countries not mention in this list, please contact Nibe Sweden

2 Delivery and handling

Transport

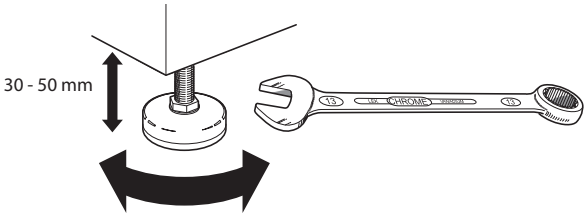
F750 should be transported and stored vertically in a dry place. The F750 may, however, be carefully laid on its back when being moved into a building. The centre of gravity is in the upper part.





Assembly

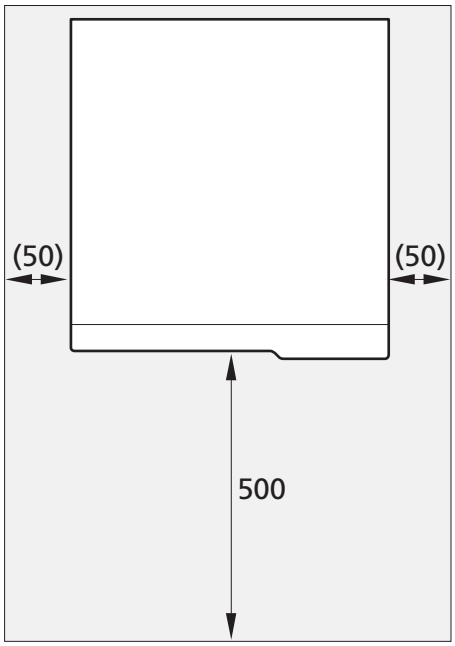
- Position F750 on a firm base that can take the weight, preferably on a concrete floor or foundation. Use the product's adjustable feet to obtain a horizontal and stable set-up.



- 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 installation area should always have a temperature of at least 10 °C and max 30 °C.

Installation area

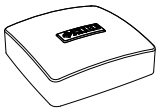
Leave a space of 500 mm in front of the product. Approx 50 mm free space is required in order to open the side hatches. The hatches do not need to be opened during service, all service on F750 can be carried out from the front. Leave space between the heat pump and wall behind (and any routing of supply cables and pipes) to reduce the risk reproduction of any vibration.



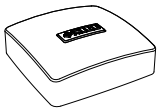
NOTE

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

Supplied components

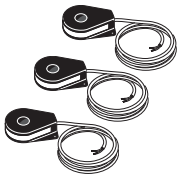


Outside sensor

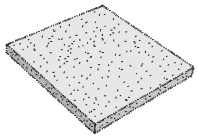


Room sensor

Vent hose
(length 4 m)



Current sensor (not enamel)



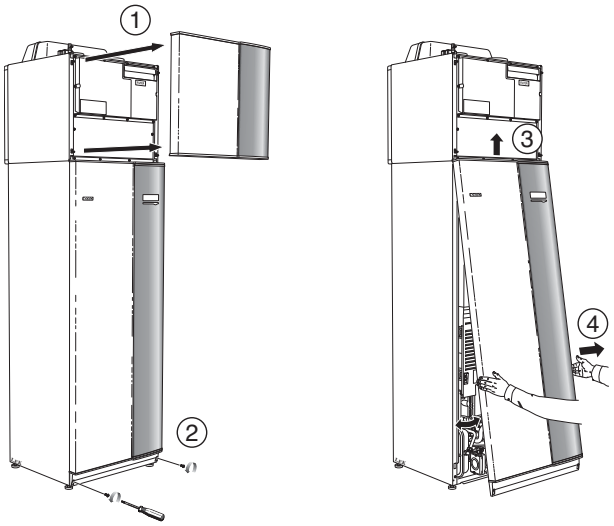
Extra air filter

Location

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

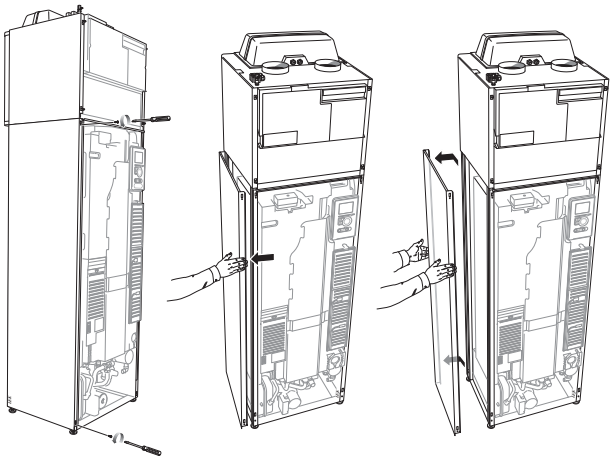
Removing the covers

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.

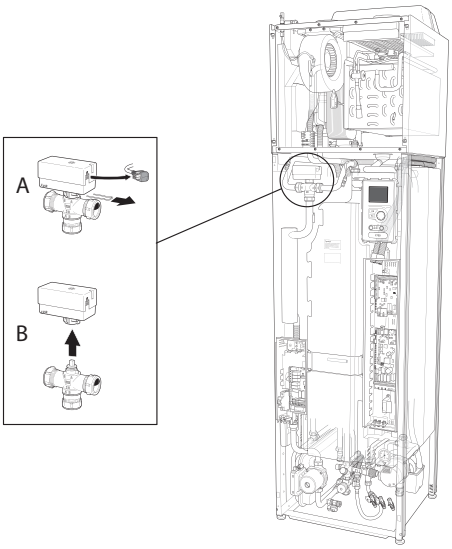
1. Remove the screws from the upper and lower edges.
2. Twist the cover slightly outward.
3. Move the cover backwards and slightly to the side.
4. Pull the cover to one side.
5. Pull the cover forwards.

Removing parts of the insulation

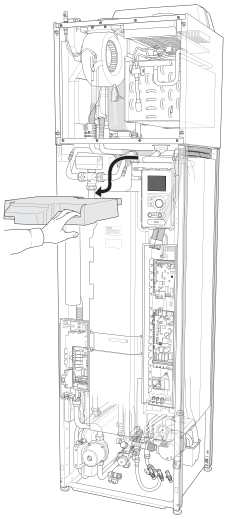
Parts of the insulation can be removed to facilitate the installation.

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.

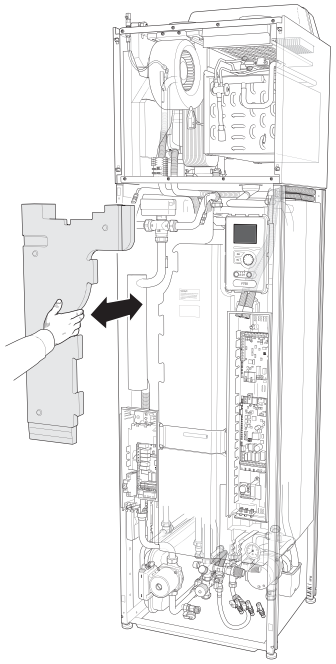


Insulation, immersion heater

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 22.
2. Grip the handle and pull the insulation carefully towards you as illustrated.

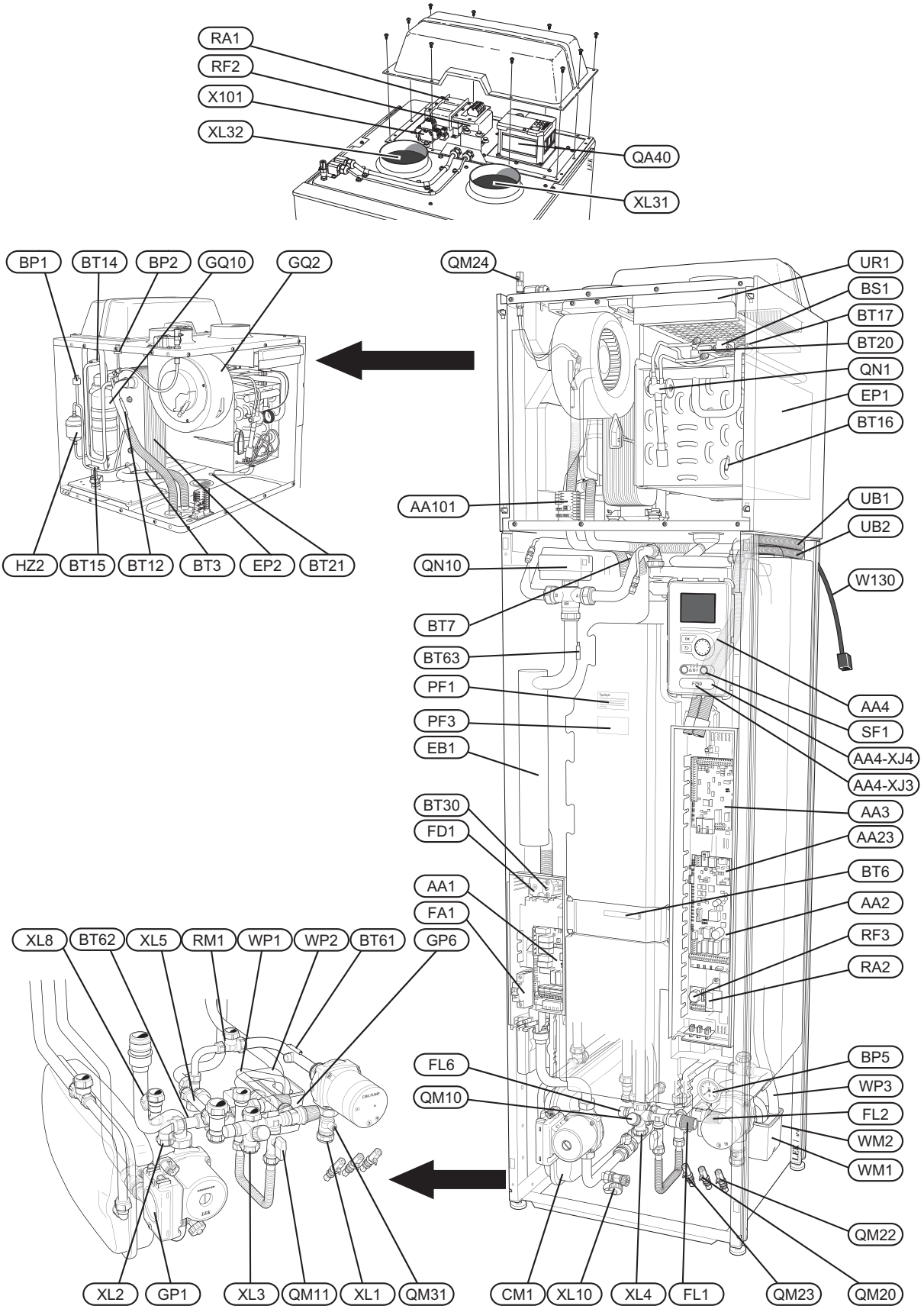


TIP

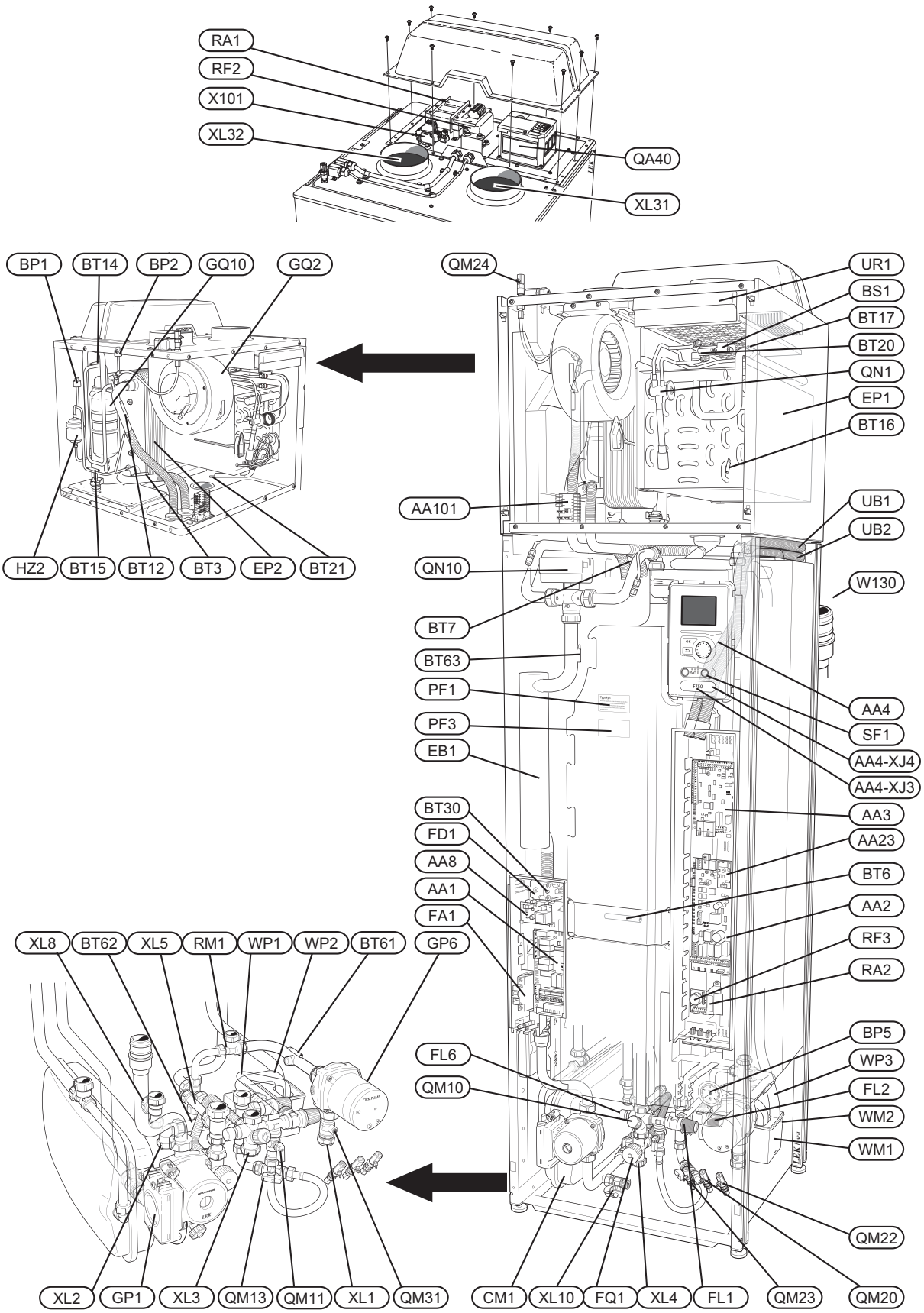
Remove the hatch for the immersion heater card so that it is easier to remove the insulation (see page 22).

3 The heat pump design

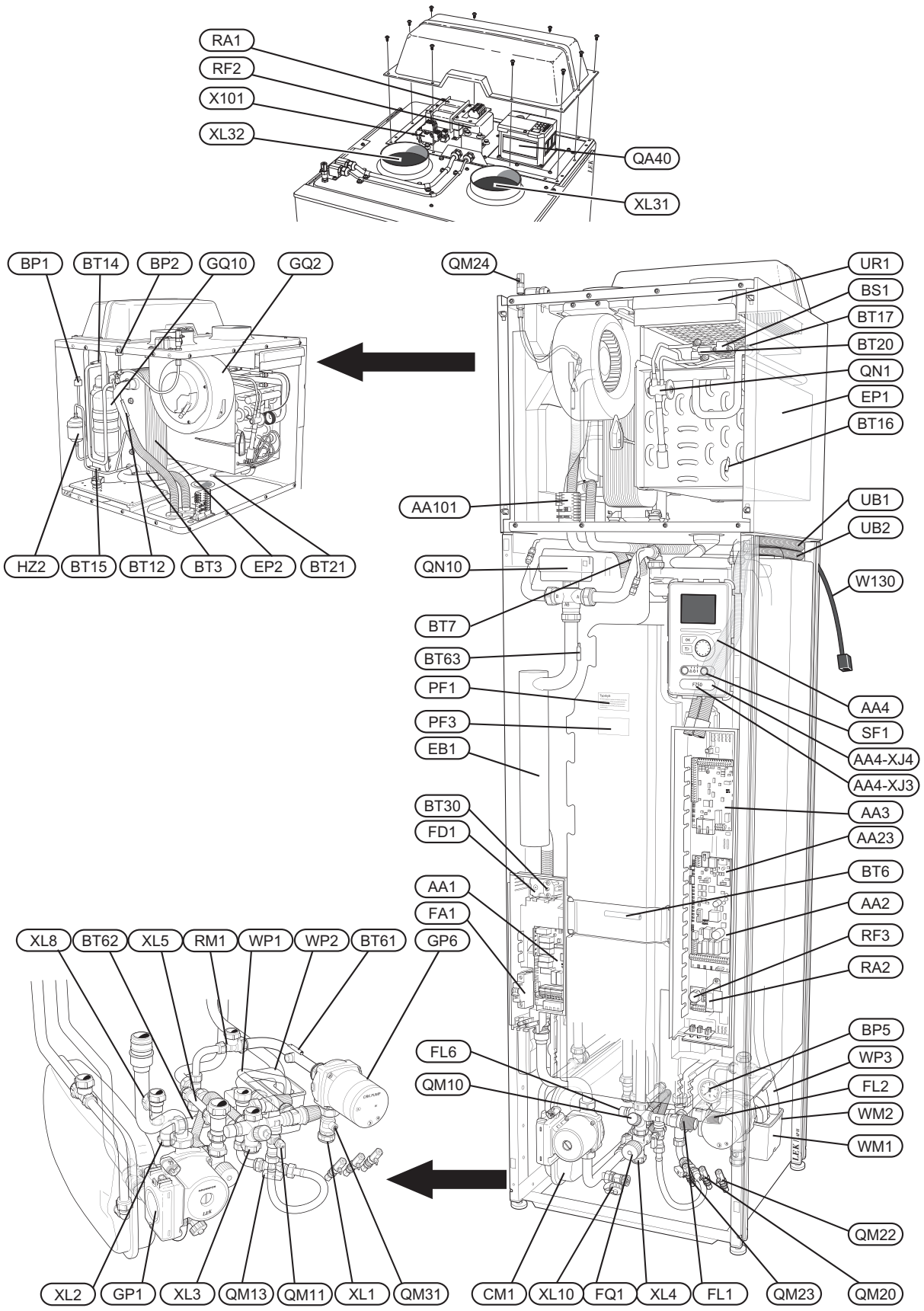
F750, copper



F750, enamel


RA1
RF2
X101
XL32
QA40
XL31
BP1
BT14
BP2
GQ10
GQ2
HZ2
BT15
BT12
BT3
EP2
BT21
QM24
UR1
BS1
BT17
BT20
QN1
EP1
BT16
AA101
UB1
UB2
QN10
W130
BT7
BT63
PF1
PF3
EB1
AA4
SF1
AA4-XJ4
AA4-XJ3
BT30
FD1
AA8
AA1
FA1
GP6
AA3
AA23
BT6
AA2
RF3
RA2
XL8
BT62
XL5
RM1
WP1
WP2
BT61
BP5
WP3
FL6
FL2
QM10
WM2
WM1
QM22
XL2
GP1
XL3
QM13
QM11
XL1
QM31
CM1
XL10
FQ1
XL4
FL1
QM23
QM20

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 8 Connection, docking in
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[3, 4]
GP 1 Circulation pump
GP 6 Heating medium pump2
QM 10 Filler valve, hot water heater
QM 11 Filler valve, climate system
QM 13 Filler valve 2, climate system[3,4]
QM 20 Venting, climate system
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 Condensation lead off, fan box

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 Outdoor 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
AA 8 Sacrificial anode card[4]
AA23 Communication board
AA101 Connection card sensor
EB 1 Immersion heater
FA 1 Miniature circuit-breaker
FD 1 Temperature limiter
QA 40 Inverter
RA 1 Choke, inverter
RA 2 Choke
RF 2 EMC-filter, inverter
RF 3 EMC-filter
SF 1 Switch
W130 Network cable for NIBE Uplink™
X101 Terminal fuse, inverter

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.

[4]Only heat pump with enamelled 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 (DUT) the highest recommended temperatures are 55 °C on the flow line and 45 °C on the return line.

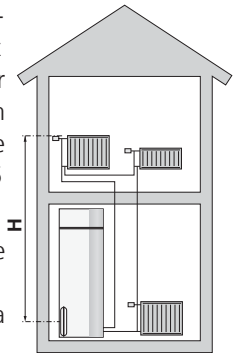
Overflow water from the evaporator collection tray and safety valves goes via non-pressurised collecting pipes to a drain so that hot water splashes cannot cause injury. The entire length of the overflow water pipe must be inclined to prevent water pockets and must also be frost proof.

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.

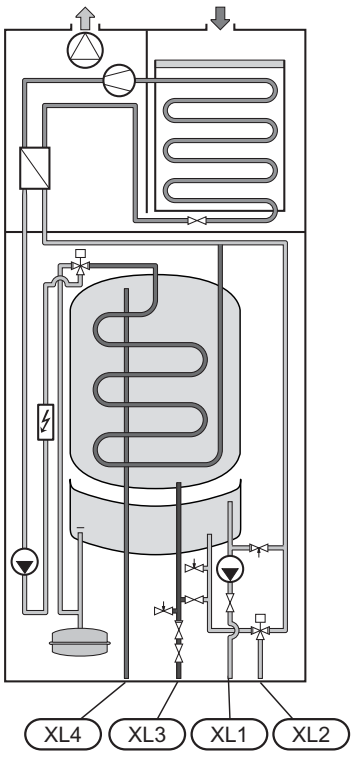
When the exhaust air at room temperature passes through the evaporator, the refrigerant evaporates because of its low boiling point. In this way the energy in the room air is transferred to the refrigerant.

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.

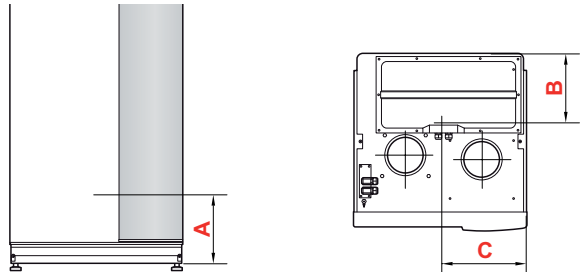
The refrigerant then goes via filters to the expansion valve, where the pressure and temperature are reduced.

The refrigerant has now completed its circulation and returns to the evaporator.

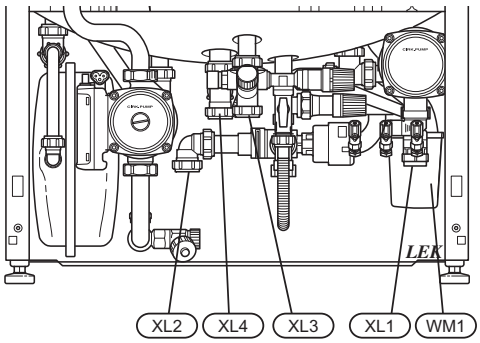


XL 1	Connection, heating medium flow
XL 2	Connection, heating medium return
XL 3	Connection, cold water
XL 4	Connection, hot water

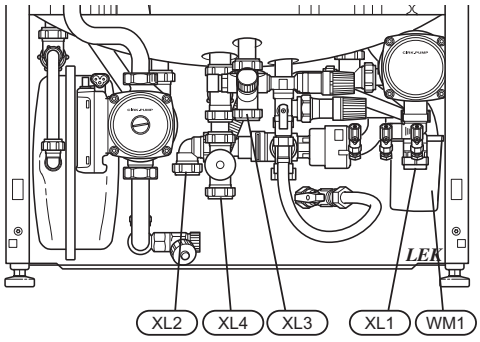
Dimensions and pipe connections



Copper



Enamel and stainless steel



Setting out dimensions

Connection, copper		A	B	C
XL 1 Heating medium flow	(mm)	170	400	70
XL 2 Heating medium return	(mm)	165	270	360
XL 3 Cold water	(mm)	230	470	280
XL 4 Hot water	(mm)	225	410	315
WM 1 Overflow cup	(mm)	160	110	65

Connection, enamel and stainless steel		A	B	C
XL 1 Heating medium flow	(mm)	170	400	70
XL 2 Heating medium return	(mm)	165	270	360
XL 3 Cold water	(mm)	230	470	280
XL 4 Hot water	(mm)	130	410	315
WM 1 Overflow cup	(mm)	160	110	65

Pipe dimensions

Connection		
Heating medium ext Ø	(mm)	22
Cold water ext Ø	(mm)	22
Hot water ext Ø	(mm)	22
Docking ext Ø	(mm)	22
Overflow water discharge	(mm)	32

Connection		
CM1 Expansion tank (connection) Ø	G20	int.
XL1 Heating medium, flow line Ø	G25	int.
XL2 Heating medium, return line Ø	G25	int.
XL3 Cold water Ø	G25	int.
XL4 Hot water Ø	G25	int.
XL8 Docking connection, flow line Ø	G25	int.
XL9 Docking connection, return line Ø	G25	int.

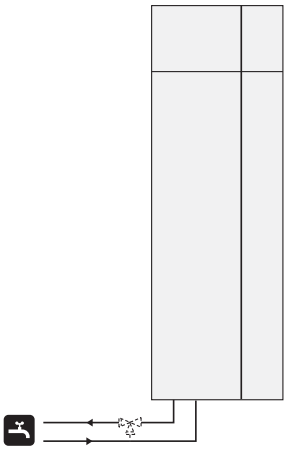
Symbol key

Symbol	Meaning
	Venting valve
	Shut-off valve
	Non-return valve
	Shunt / shuttle valve
	Safety valve
	Trim valve
	Temperature sensor
	Expansion vessel
Ⓟ	Pressure gauge
	Circulation pump
	Particle filter
	Compressor
	Heat exchanger

Cold and hot water

Connecting cold and hot water

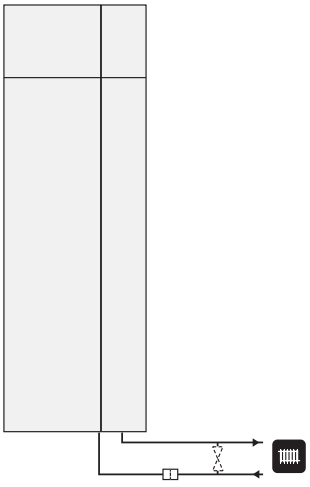
A mixing valve must also be installed if the factory setting for hot water is changed. National regulations must be observed. The setting is made in menu 5.1.1 (page 52).



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 connected in several different ways, some of which are shown below.

Further option information is available at
and in the respective assembly instructions for the accessories used. See page 62 for a list of the accessories that can be used with F750.

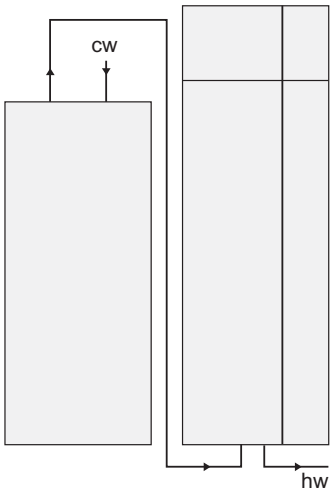
Extra hot water heaters

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

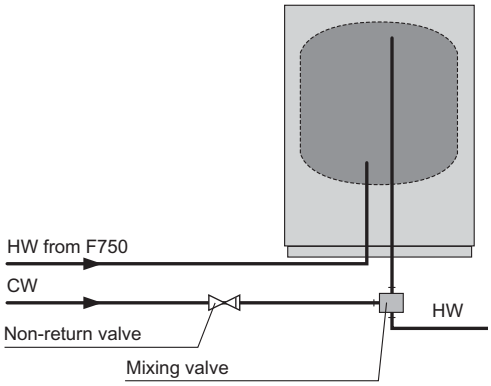
If there is a need for an additional hot water heater a NIBE VPB 200 type heater or VPBS 300 (prepared for solar docking) are used. The docking kit accessory is needed. VPB 200 is best placed to the left of F750. VPBS 300 requires pipe routing behind the apparatus, which requires 60 mm free space to 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.

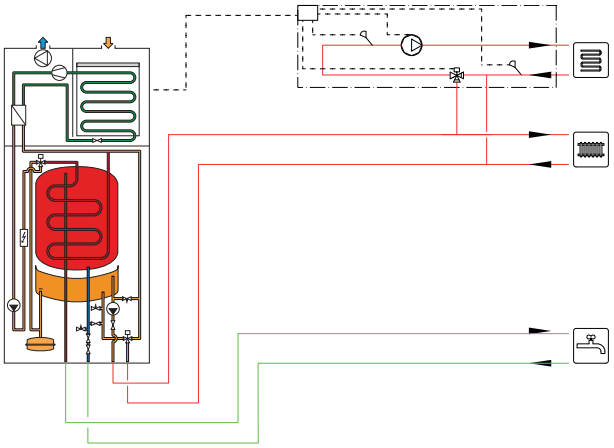
If the heater is equipped with a valve connector Ø 15 mm this should be replaced with a corresponding Ø 22 mm.



Two or more climate systems

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

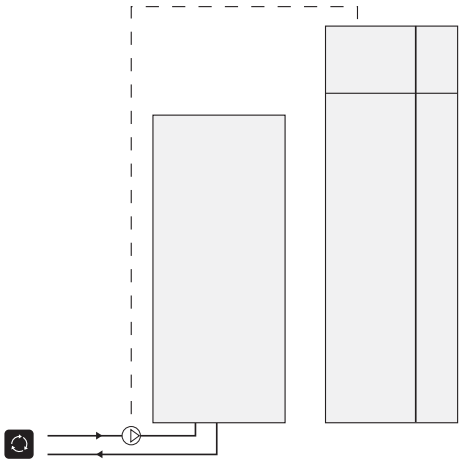
The ECS 40/ECS 41. accessory is required for this connection.



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 ends 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 VVC 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 bedrooms.

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 creases, 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 house, 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 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

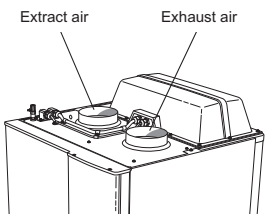
Exhaust air duct (kitchen fan) must not be connected to F750.

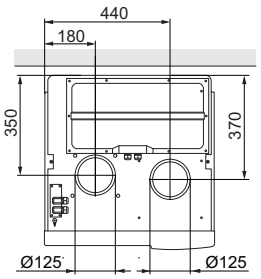
To prevent cooking odours being led to the F750 the distance between the kitchen fan and the exhaust air valve must be observed. The distance must not be below 1.5 m, but may vary between different installations.

Always use a kitchen fan when cooking.

NOTE

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





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 should be according to current 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.

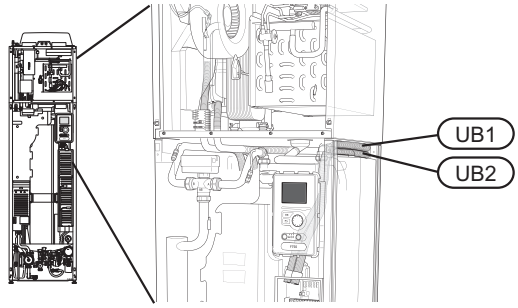
The factory setting for the ventilation on the heat pump is low and you should therefore adjust the ventilation immediately after installation so that it is set according to the projected value for the house.

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 reconnectable 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 66.
- 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 UB1and UB2, (marked in image) must be used. In UB1 and UB2 the cables are inserted through the heat pump from the back to the front. For dimensions diagram see page 23.

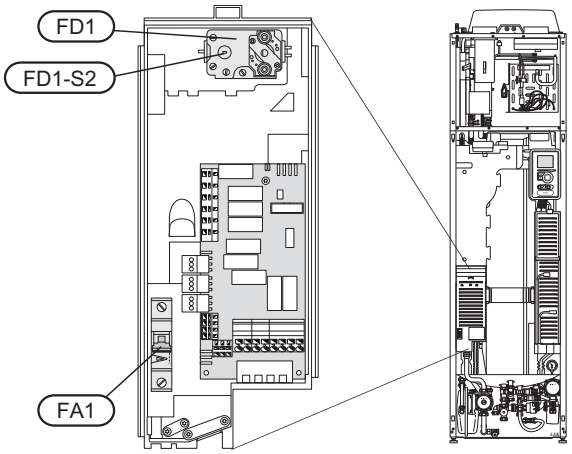


NOTE

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

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

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

Temperature limiter

The temperature limiter (FD1) cuts the current supply to the electrical addition 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 pressing the button (FD1-SF2) using a small screwdriver.

Caution

Check the temperature limiter and miniature circuit-breaker. They may have tripped during transportation.

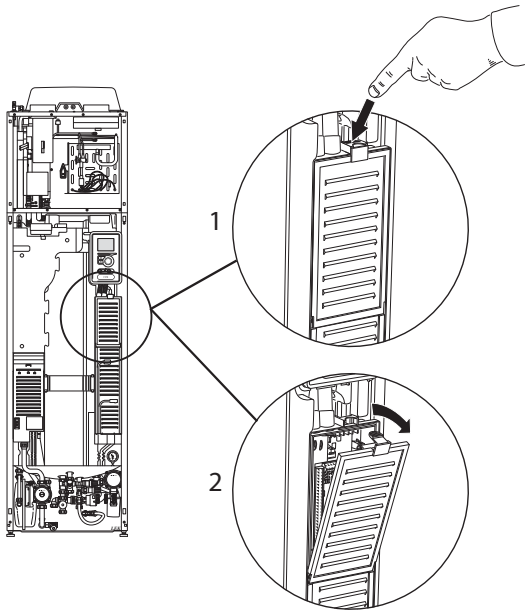
Accessibility, electrical connection

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

NOTE

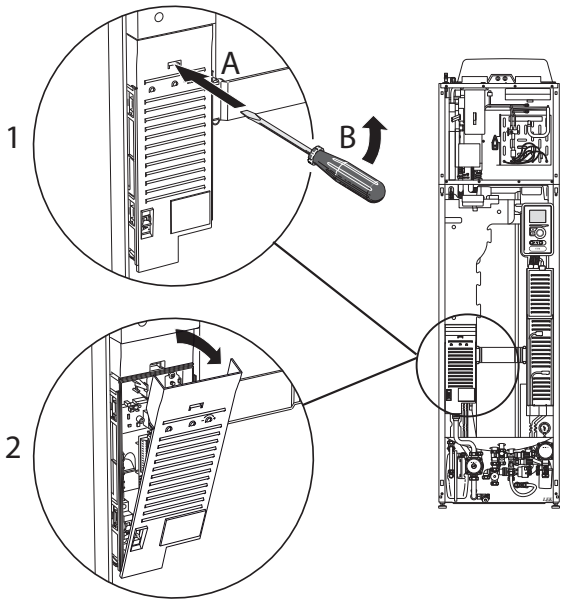
The cover for the input card is opened without a tool.

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

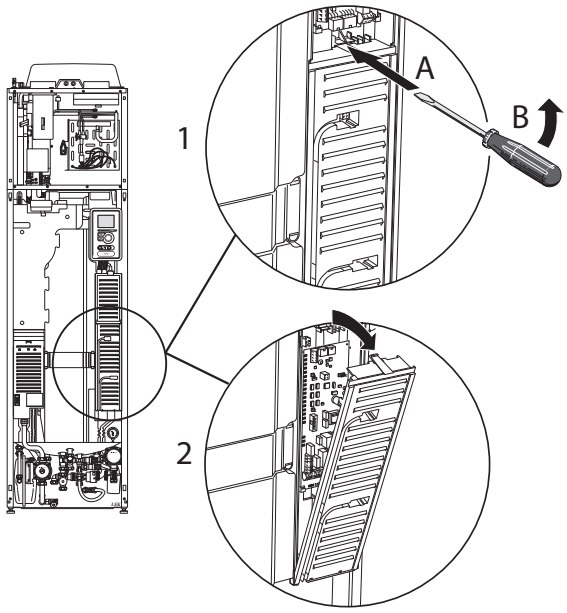


1. Insert the screwdriver (A) and pry the catch carefully downwards (B).
2. Angle out the cover and remove it.

Removing the cover, base board

Caution

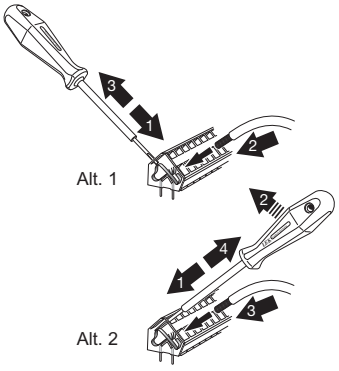
To remove the cover for the base board, the cover for the input circuit board must first be removed.



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.



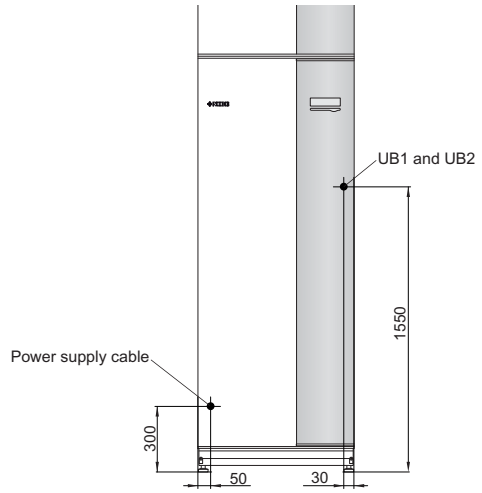
Connections

NOTE

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

Power connection

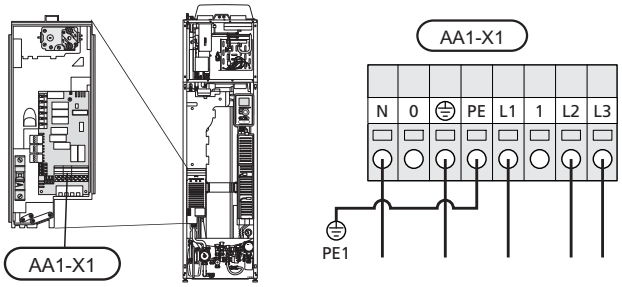
F750 must be installed via an isolator switch with a minimum breaking gap of 3mm. Minimum cable area must be dimensioned according to the fuse rating used. Supplied cable (length approx 2 m) for incoming electricity is connected to terminal block X1 on the immersion heater card (AA1). The connection cable can be found on the reverse of F750 (see dimensions diagram below).



NOTE

F750 is not reconnectable between 3x230V and 3x400V.

Connection 3x400V



Tariff control

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

Connecting external operating voltage for the control system

NOTE

Only applies to power connection of 3x400V.

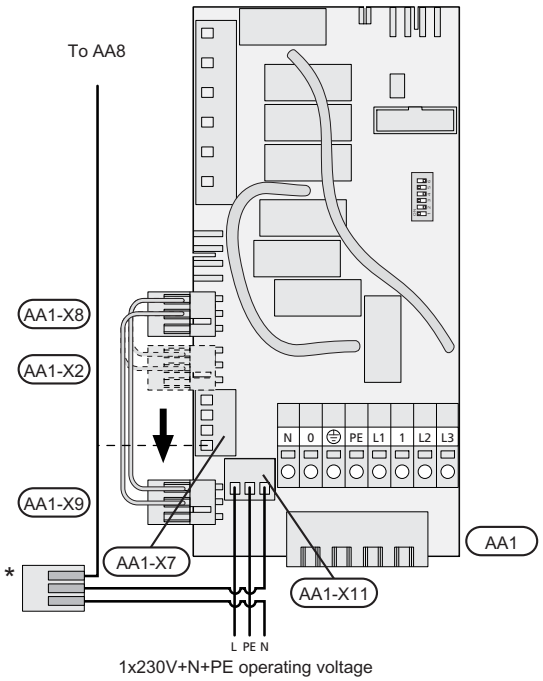
NOTE

Mark up any junction boxes with warnings for external voltage.

If you wish to connect external operating voltage for the control system to F750 on the immersion heater circuit board (AA1) the edge connector at AA1:X2 must be moved toAA1:X9 (as illustrated).

When connecting external operating voltage for the control system with separate earth-fault breaker, disconnect the blue cable from terminal block X7:24 on the immersion heater circuit board (AA1) and connect in the enclosed top clamp together with the incoming operating zero. Connect a blue cable (min 0.75 mm²) between the top clamp and X11:N on the immersion heater circuit board (as illustrated).

Operating voltage (1x230V+N+PE) is connected to AA1:X11 (as illustrated).



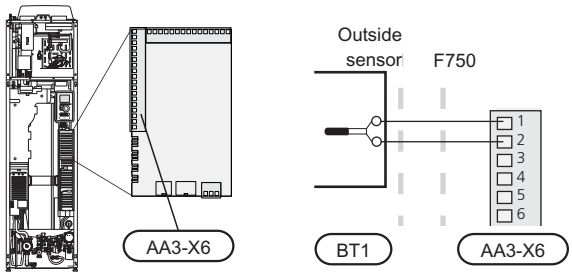
* Only with separate earth-fault breaker.

Outside sensor

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

Connect the sensor to terminal block X6:1 and X6:2 on the input card (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 delivered with a room sensor supplied (BT50). The room temperature sensor has up to three functions:

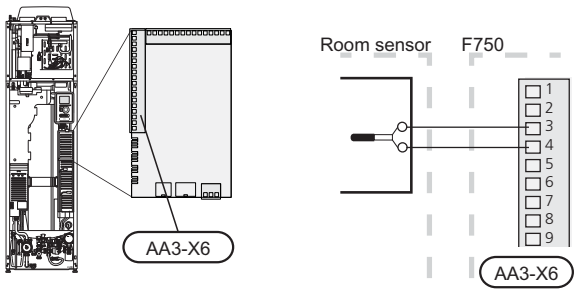
1. Show current room temperature in F750's display.
2. Option of changing the room temperature in °C.
3. Makes it possible to change/stabilise the room temperature.

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 circuit 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.

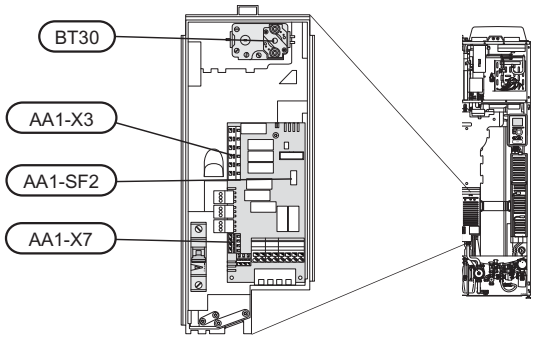
If the room sensor is used in a room with under floor heating it should only have an indicatory function, not control of the room temperature.



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 factory setting is 6.5 kW. 2, 5 or 6.5 kW can be selected as maximum output.

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

Setting maximum output in the electrical addition is done in menu 5.1.12.

Power steps of the immersion heater

Electrical addition (kW)	Max (A) (L1)	Max (A) L2	Max (A) L3
0	2	-	-
0.5	4.2	-	-
1	2	4.3	-
1.5	4.2	4.3	-
2	**2**	**-**	**8.7**
2.5	4.2	-	8.7
3	9.5	7.5	-
3.5	11.7	7.5	-
4	9.5	11.8	-
4.5	11.7	11.8	-
5	**9.5**	**7.5**	**8.7**
5.5	11.7	7.5	8.7
6	9.5	11.8	8.7
6.5	**11.7**	**11.8**	**8.7**

The outputs written in bold are those that can be selected.

The table shows maximum phase current (operating 230 V, electrical addition, fan and circulation pumps) at the different power steps for the heat pump.

In addition to this there is the current for the compressor, which may amount to 4.3 A on all phases, depending on operation.

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.

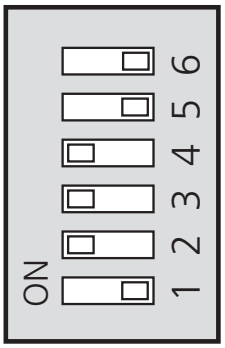
NOTE

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 can be damaged.

Power in emergency mode

The immersion heater's output in emergency mode is set with the dipswitch (S2) on the immersion heater circuit board (AA1) according to the table below. Factory setting is 4 kW.

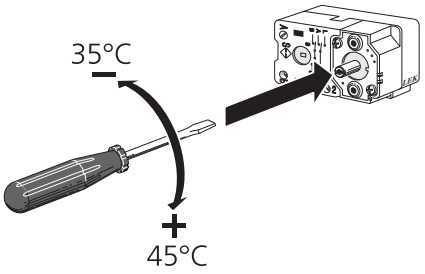
kW	1	2	3	4	5	6
0.5	**on**	off	off	off	off	off
1	off	off	**on**	off	off	off
1.5	**on**	off	**on**	off	off	off
2	off	off	off	off	**on**	off
2.5	**on**	off	off	off	**on**	off
3	off	**on**	off	**on**	off	off
3.5	**on**	**on**	off	**on**	off	off
4	off	**on**	**on**	**on**	off	off
4.5	**on**	**on**	**on**	**on**	off	off
5	off	**on**	off	**on**	**on**	off
5.5	**on**	**on**	off	**on**	**on**	off
6	off	**on**	**on**	**on**	**on**	off
6.5	**on**	**on**	**on**	**on**	**on**	off



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

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 underfloor heating) or 45 °C (for example radiators).



Optional connections

Load monitor

NOTE

Does not apply to heat pumps with enamelled vessel.

When many power consumers are connected in the property at the same time as the electric addition 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.

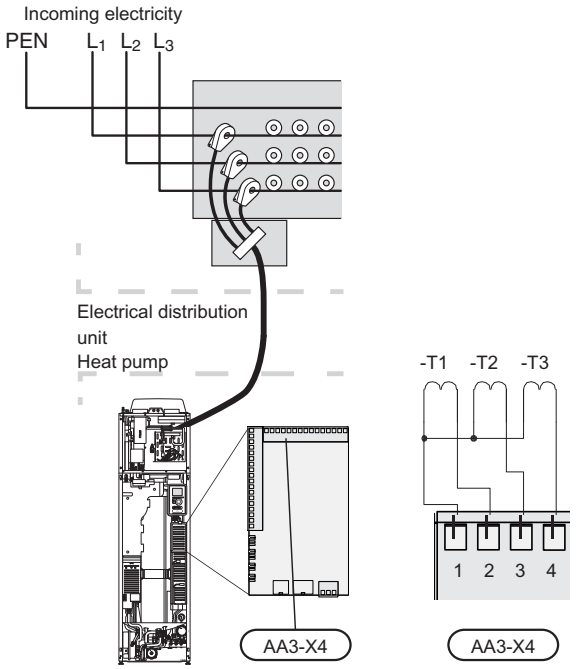
Connecting current sensors

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 distribution box. Use a multi-core cable of at least 0.5 mm2 from the enclosure to the heat pump.

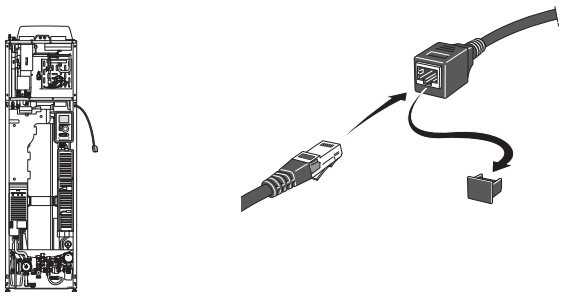
Connect the cable to the input card (AA3) on terminal block X4:1-4 where X4:1 is the common terminal block for the three current sensors.

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



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.



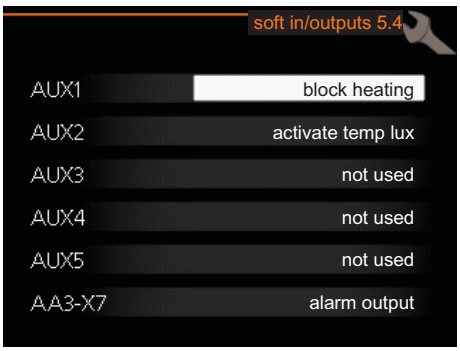
External connection options

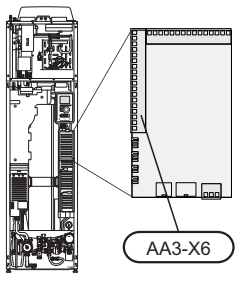
F750 has software controlled inputs and outputs on the input card (AA3), for connecting the extern switch function or sensor. This means that when an external switch function or sensor is connected to one of six special connections, the correct function must be selected to the correct connection in the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

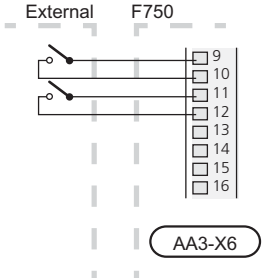
Caution

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 54.

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.







The example above uses the inputs AUX1 (X6:9-10) andAUX2 (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

In those cases external blocking of addition and/or compressor is wanted, this can be connected to terminal block X6 on the input card (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 54.

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 external tariff blocking is used, this can be connected to terminal block X6 on the input card (AA3), which is positioned behind the front cover.

Tariff blocking means that the additional heat, the compressor and heating are disconnected by connecting a potential free switch function to the input selected in menu 5.4, see page 54.

A closed contact results in the electrical output being disconnected.

Switch for external blocking of heating

In those cases external blocking of heat is used, this can be connected to terminal block X6 on the input card (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 54.

A closed switch results in blocked heating operation.

Contact for activation of "temporary lux"

An external contact 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 54) on terminal block X6 on the input circuit 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 not activated, the desired offset of "temperature" (heating curve offset) is set with the number of steps selected. 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 54) on terminal block X6 on the input circuit 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 require accessories (ECS 40).

  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 54) 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:

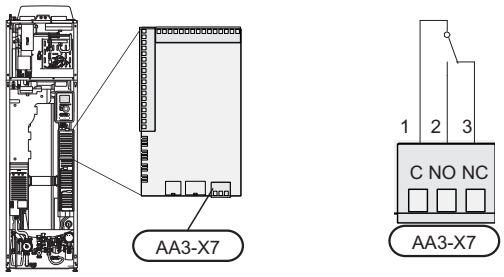
- Indication of buzzer alarm.
- Control of circulation pump for hot water circulation.
- External circulation pump, for example external pump and shunt group.

If any of the above is installed to terminal block X7 it must be selected in menu 5.4, see page 54.

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 62).



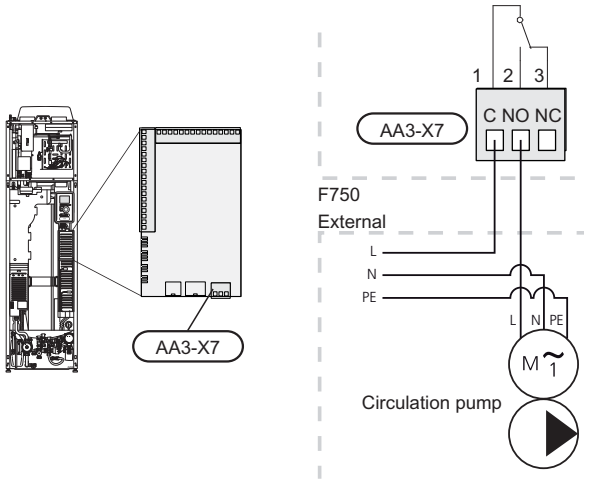
The picture shows the relay in the alarm position.

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.



Connecting accessories

Instructions for connecting accessories are provided in the manual accompanying the accessory. See page 62 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 and that the temperature limiter (FD1) has not deployed.

Caution

Check the temperature limiter (FD1) and miniature circuit-breaker (FA1) in the heat pump. They 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, enamel or stainless steel: Connect the flexi hose supplied between (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, enamel or stainless steel: Open the filler valves (QM11) and (QM13). The boiler section 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.

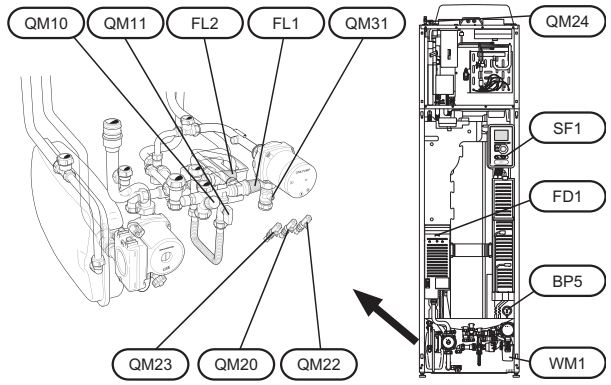
Venting the climate system

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.

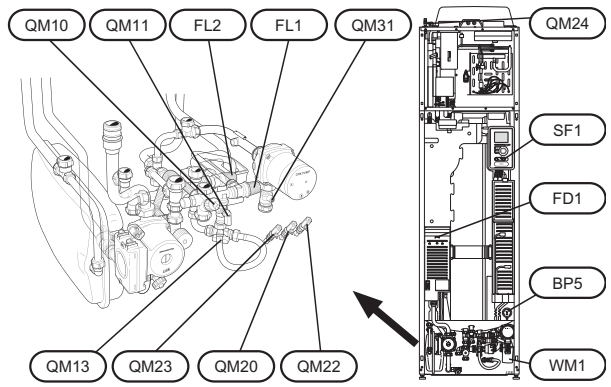
NOTE

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, enamel and stainless steel



Start-up and inspection

Start guide

NOTE

There must be water in the climate system before the switch is set to "I".

1. Turn the heat pump's switch (SF1) 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 34 for a more in-depth introduction to the heat pump's control system (operation, menus etc.).

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.

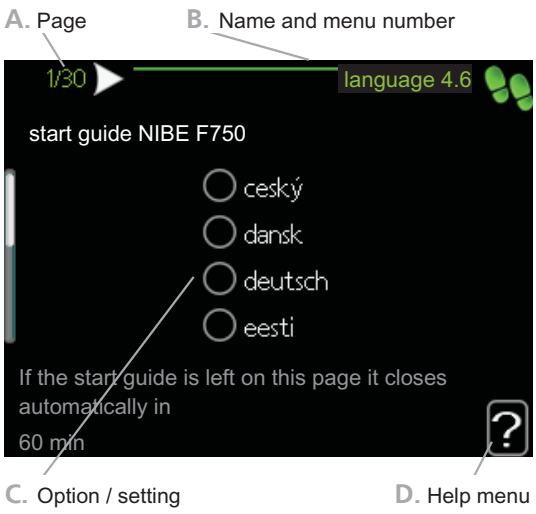
The start guide ensures that the start-up is carried out correctly and cannot be bypassed. The start guide can be started later in menu 5.7.

Caution

As long as the start guide is active, no function in the heat pump will start automatically.

The guide will appear at each heat pump restart until it is deselected on the last page.

Operation in the start guide



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 38.

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.

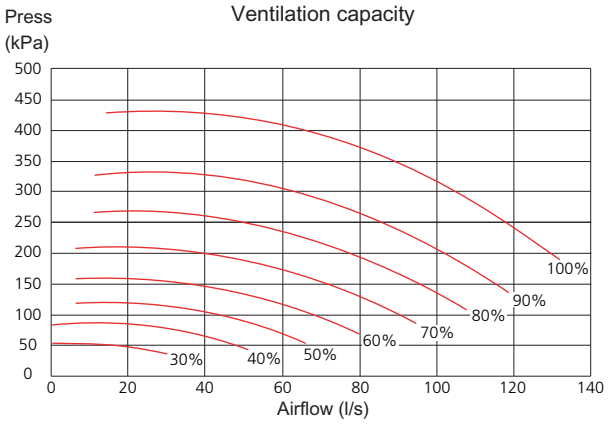
Setting the ventilation

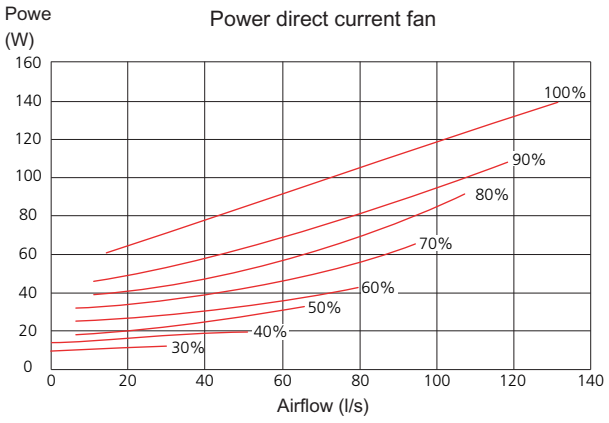
The factory setting for ventilation on the heat pump is high (75%). Ventilation must be set according to applicable norms. The setting is made in menu 5.1.5.

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.





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".

Then 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

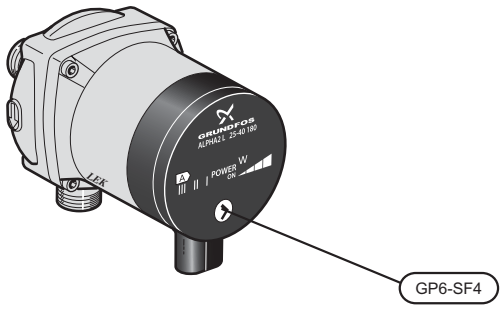
Pump capacity diagrams, heating medium side

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.

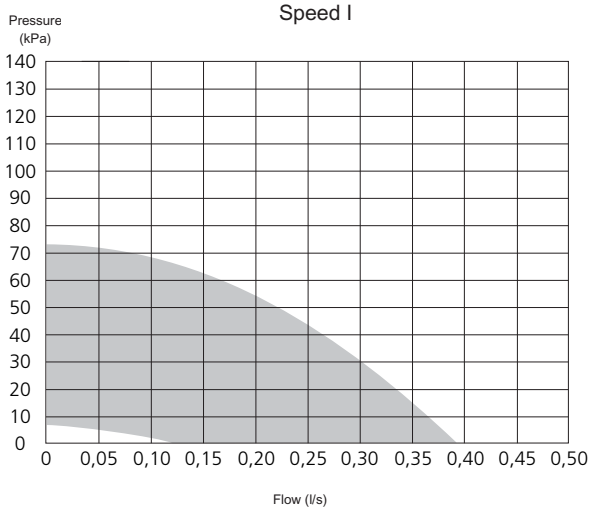
Set the speed on the heating medium pump 2 (GP6) using the switch (GP6-SF4) on the pump. Select speed I, II or III. You see the speed selected on the left, above the switch. The display to the right, above the switch must not be illuminated at all.

It is also important that you set the correct temperature difference on the heating medium pump (GP1). The is done in menu 5.1.14.

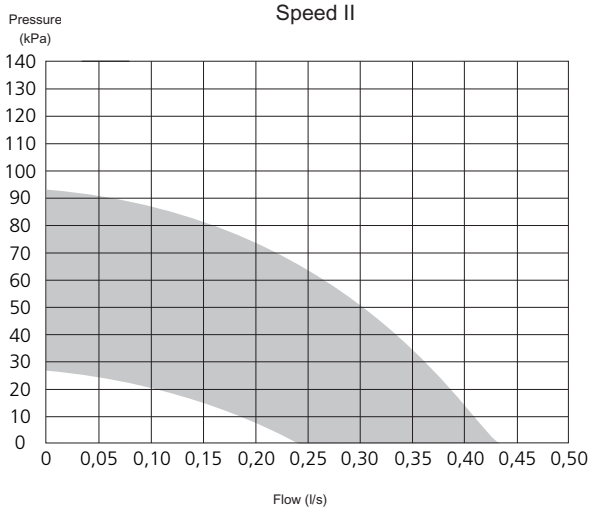


Heating medium pump (GP1) can adjust the total capacity for heating medium pump 2 (GP6) dependent on the operation, which explains the large working range for each curve in the above diagram.

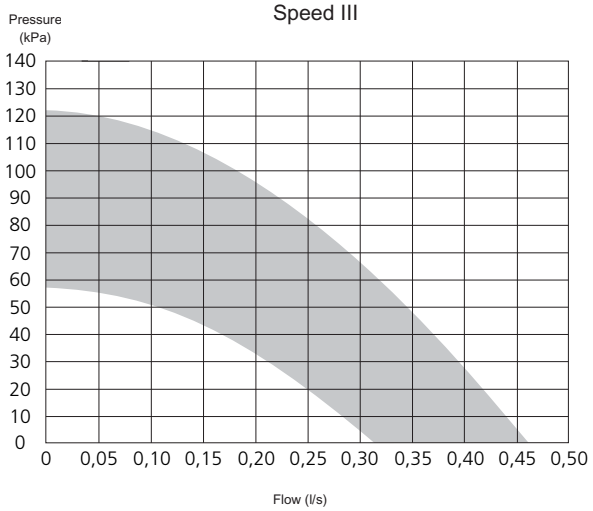
Available external pressure, climate system
Speed I



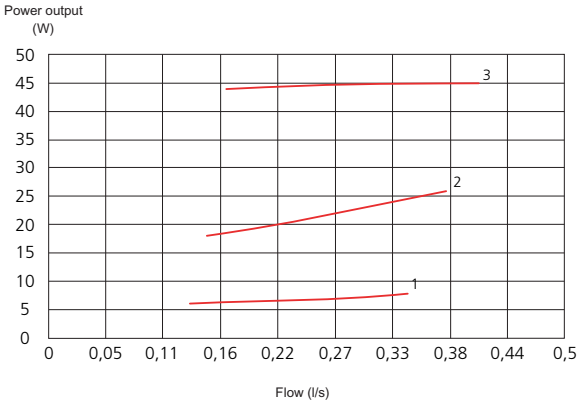
Available external pressure, climate system
Speed II



Available external pressure, climate system
Speed III



Output, heating medium pump 2 (GP6)

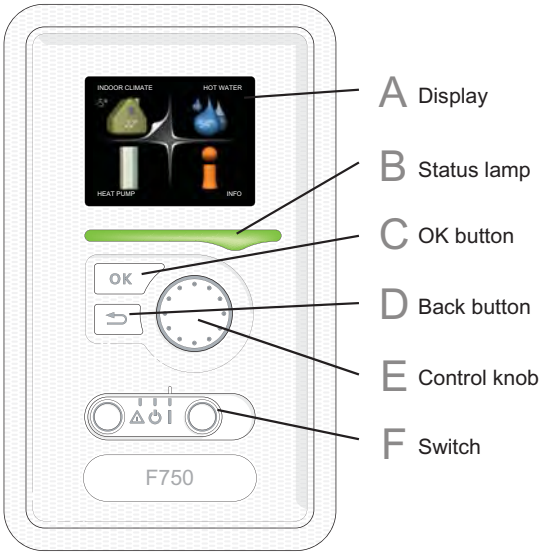


Post-adjustment, venting

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

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)

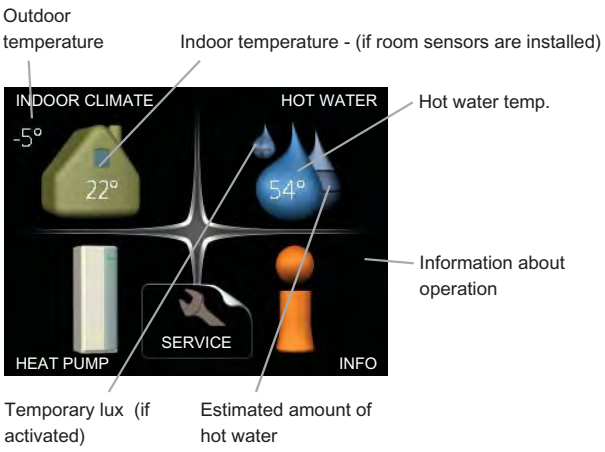
The switch assumes three positions:

- On (I)
- Standby (⏻)
- Emergency mode (⚠) (see page 56)

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.

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.



Menu 1 - INDOOR CLIMATE

Setting and scheduling the indoor climate. See page 38.

Menu 2 - HOT WATER

Setting and scheduling hot water production. See page 44.

Menu 3 - INFO

Display of temperature and other operating information and access to the alarm log. See page 46.

Menu 4 - HEAT PUMP

Setting time, date, language, display, operating mode etc. See page 47.

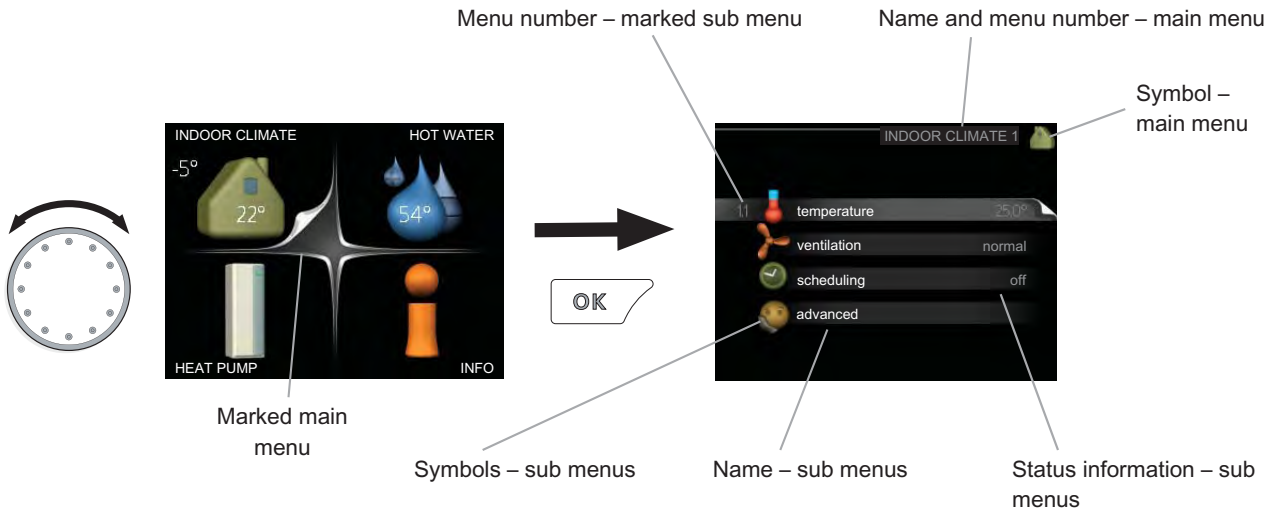
Menu 5 - SERVICE

Advanced settings. These settings are not available to the end user. The menu is visible by pressing the Back button for 7 seconds. See page 52.

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 lux mode for the hot water is activated.
	This symbol indicates the actual speed of the fan if the speed has changed from the normal setting.
	This symbol indicates whether F750 has contact with NIBE Uplink™.
	This symbol indicates whether solar heating is active. Accessory needed.
	This symbol indicates whether "holiday setting" is activated in menu 4.7.



Operation

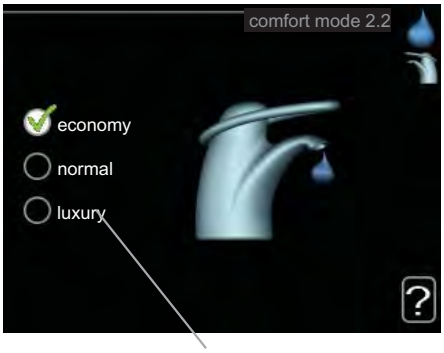
To move the cursor, turn the control knob to the left or the right. The marked position is brighter and/or has a turned up tab.

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



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

To set a value:

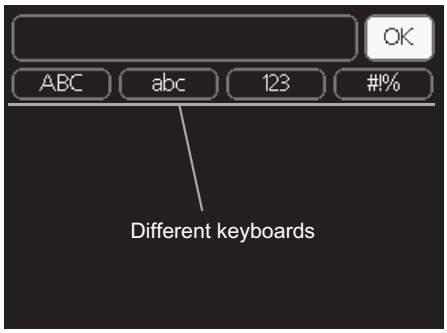
1. Mark the value you want to set using the control knob.

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

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

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

Use the virtual keyboard



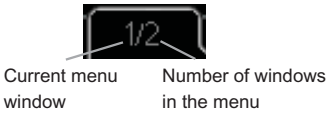
In some menus where text may require entering, a virtual keyboard is available.

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.

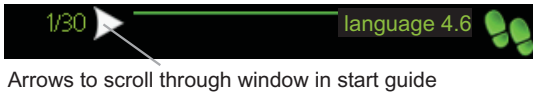
When you have finished writing, mark "OK" and press the OK button.

Scroll through the windows

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



Scroll through the windows in the 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 - 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

If the house has several climate systems, this is indicated on the display by a thermometer for each system.

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

Setting range: 5 - 30 °C

Default value: 20

The value in the display appears as a temperature in °C if the heating system is controlled by a 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 unit. One step for under floor heating whilst radiators may require three.

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 the electrical addition is permitted to intervene. When the compressor is blocked heat is not recovered from the exhaust air.

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 in menu 1.9.1 by one increment.

If it is cold outdoors and the room temperature is too high, lower the curve slope menu 1.9.1 by one increment.

If it is warm outdoors and the room temperature is too low, increase the value in menu 1.1 by one increment.

If it is warm outdoors and the room temperature is too high, reduce the value in menu 1.1 by one increment.

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 a new speed has been selected a countdown is initiated. When the time has counted down the ventilation speed returns to the normal setting. After 4 hours 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.

TIP

If longer time changes are required use the holiday function or scheduling.

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). A one degree change in room temperature requires one increment for underfloor heating and approximately two to three increments for the radiator system.

If two settings conflict with each other a red exclamation mark is displayed at the end of the line.

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.

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.

Caution

If the stop time is before the start time it means that the period extends past midnight. Scheduling always starts on the date that the start time is set for.

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 the electrical addition is permitted to intervene. 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.

If two settings conflict with each other a red exclamation mark is displayed at the end of the line.

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.

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.

Caution

If the stop time is before the start time it means that the period extends past midnight. Scheduling always starts on the date that the start time is set for.

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.

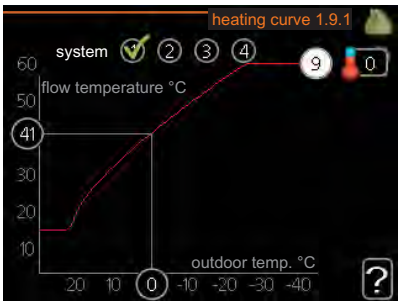
fan return time Fan return time settings in the event of temporary ventilation speed change.

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

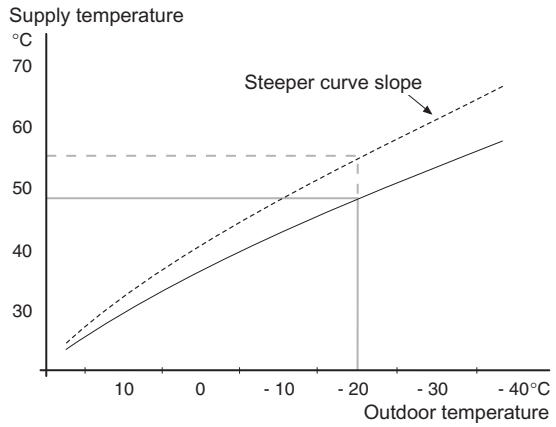
Setting range: 0 - 15

Default value: 5

In the menu heating curve the so-called heating curve for your house can be viewed. 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, flow line temperature, and therefore the indoor temperature. You can select heating curve and read off how the flow line 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.

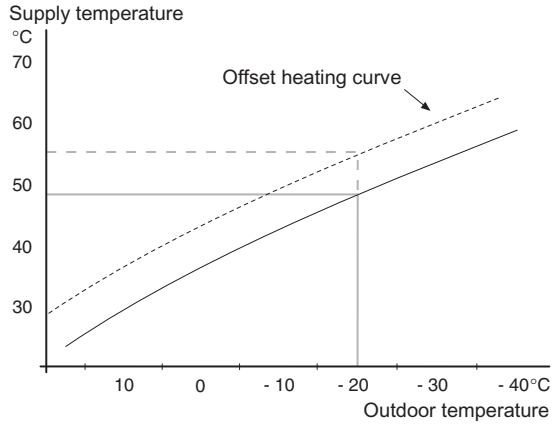
The optimum slope depends on the climate conditions in your location, if the house has radiators or under floor heating and how well insulated the house is.

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

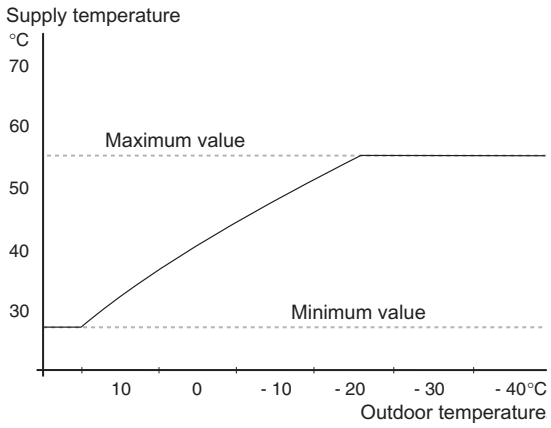
In the event of making fine adjustments for the indoor temperature, the heat curve must be offset up or down instead, this is done in menu 1.1 temperature.

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 heat curves are numbered from 0 to 15, the greater the number, the steeper the slope and the greater the supply temper-

ature. 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. When the contact is on, the heat 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.

climate system

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

Setting range: 0.0 - 6.0

Default value: 2.0

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

Here you can set a factor that determines how much the supply temperature is to be affected by the difference between the desired room temperature and the actual room temperature. A higher value gives a greater change of the heating curve's set offset.

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

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 this 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. A one degree change in room temperature requires one increment for underfloor heating and approximately two to three increments for the radiator system.

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 increases
		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. Status information "set" displays if any part of the schedule is active at present, "holiday setting" displays if vacation setting is in progress (menu 4.7), otherwise it displays "off".

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 other, 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.

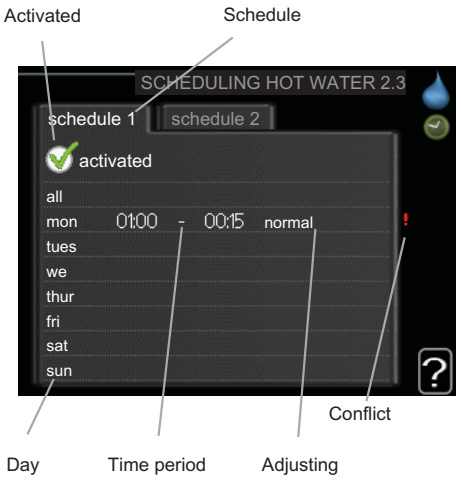
luxury: Lux mode gives the greatest possible amount of hot water. In this mode, the immersion heater, as well as the compressor, is used to heat hot water, which may increase operating costs.

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.

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



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.

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

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.

Caution

If the stop time is earlier in the day than the start time it means that the period extends past midnight.

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 increases

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. Untick "activated" to switch off the function.

Menu 2.9.2 - hot water recirc.

operating time

Setting range: 1 - 60 min

Default value: 3 min

downtime

Setting range: 0 - 60 min

Default value: 12 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 heat pump.

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

add. heat info displays information about the addition'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


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 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.

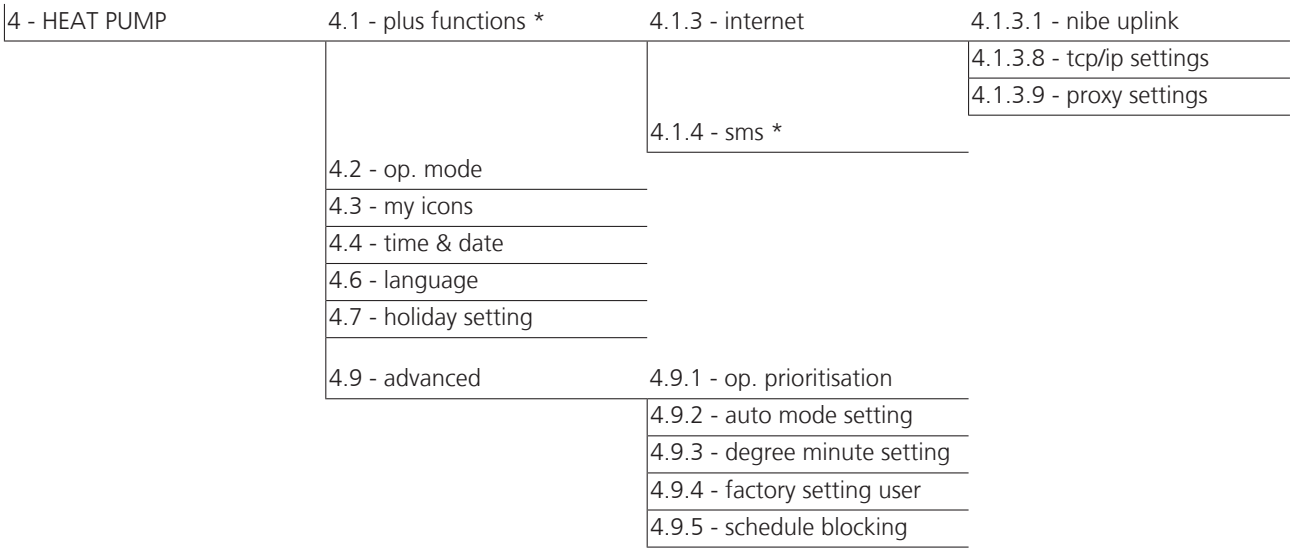
The average outdoor temperature is only shown if a room temperature sensor/room unit is installed. Otherwise, the exhaust air temperature is shown.

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



* 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 and ventilation. Status information "set" is displayed if you set a Vacation schedule but it is not active now, "active" displays 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™ 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 use the preset settings or 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

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 4.2 - 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 in the heat pump is permitted (crossed out = not permitted) and selectable alternatives to the right. To select selectable functions that are permitted or not you 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

Caution

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

In this operating mode the compressor is not active and only additional heating is used.

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 icon 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.

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 heat curve is set. This setting applies to all climate systems without room sensors. A one degree change in room temperature requires one increment for under floor heating and approximately two to three increments for the radiator system.

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 increases" (preventing bacterial growth) are blocked during this time. "periodic increases" 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: 20 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: -20 – 40 °C

Default values: 5

filtering time

Setting range: 0 – 48 h

Default value: 24 h

When 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 addition

Setting range: -2000 – -30

Default value: -700

diff. between additional steps

Setting range: 0 – 1000

Default value: 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 increases wear in 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.

Caution

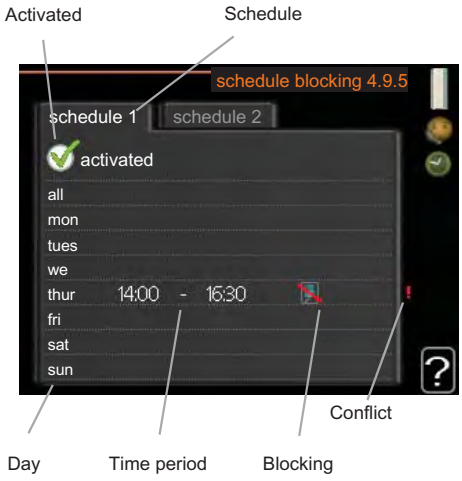
After factory setting, personal settings such as heating curves, ventilation etc must be reset.

Menu 4.9.5 - schedule blocking

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

If two settings conflict with each other a red exclamation mark is displayed at the end of the line.

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.

 Blocking the compressor.

 Blocking additional heat.

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.

Caution

If the stop time is before the start time it means that the period extends past midnight.

Scheduling always starts on the date that the start time is set for.

Caution

Long term blocking can cause reduced comfort and operating economy.

Menu 5 - SERVICE

Overview

5 - SERVICE	5.1 - operating settings	5.1.1 - hot water settings
		5.1.2 - max flow line temperature
		5.1.4 - alarm actions
		5.1.5 - fan sp. exhaust air
		5.1.12 - internal electrical addition
		5.1.14 - flow set. climate system
		5.1.99 - other settings
	5.2 - system settings	
	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	

* Accessory needed.

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

Default values: 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.

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 flow temperatures can be set for each system.

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 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 calculated flow temperature **exceeds** the calculated flow with set value, the degree minute value is set to 0. The compressor stops when there is only a heating requirement.

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 5.1.12 - internal electrical addition

set max electrical add.

0 - 6.5 kW

Default values: 6.5 kW

fuse size

Setting range: 1 - 200 A

Default values: 16 A

Here you set the max. electrical output of the internal electrical addition in F750 and the fuse size for the installation.

Menu 5.1.14 - flow set. climate system

presettings

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

Default value: radiator

Setting range DOT: -40,0 - 20,0 °C

Factory setting DOT: -18,0 °C

own setting

Setting range dT at DOT: 0,0-25,0

Factory setting dT at DOT: 10,0

Setting range DOT: -40,0 - 20,0 °C

Factory setting DOT: -18,0 °C

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

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

Menu 5.1.99 - 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.

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

Set the shunt amplification and shunt waiting time for the different extra climate systems that are installed.

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 27) 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.

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 31 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 in succession over a short period of time as this may damage the compressor and its ancillary 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 under floor 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.

9 Service

Service actions

NOTE

Servicing should only be carried out by persons with the necessary expertise.

When replacing components on F750 only replacement parts from NIBE may be used.

Emergency mode

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

Emergency mode is activated by setting switch (SF1) to "⚠". 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 off and only the fan, heating medium pump 2 and the electrical addition are active. The electrical addition power in emergency mode is set in the immersion heater card (AA1). See page 26 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.

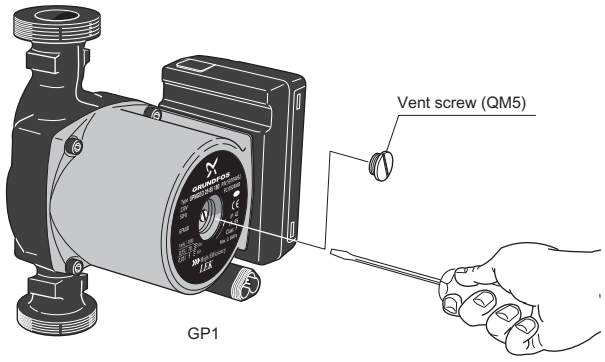
NOTE

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. Open the service 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 "I" and check whether the circulation pump works.

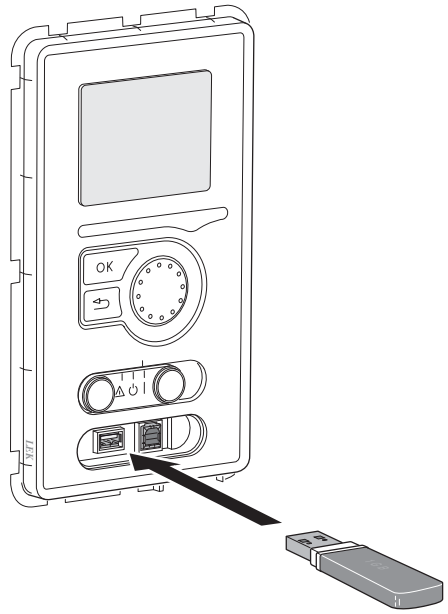
It is usually easier to start the circulation pump with F750 running, switch (SF1) set to "I". Helping the circulation pump to start is performed with F750 running, be prepared for the screwdriver to jerk when the pump starts.



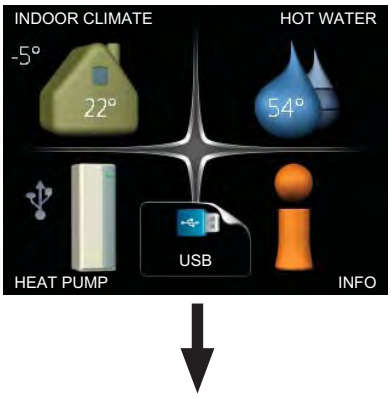
Temperature sensor data

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

USB service outlet

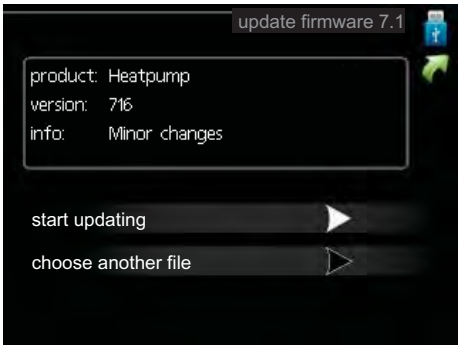


F750 is equipped with a USB socket in the display unit. This USB socket can be used to connect a USB memory to update the software, save logged information and handle the settings in F750.



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.

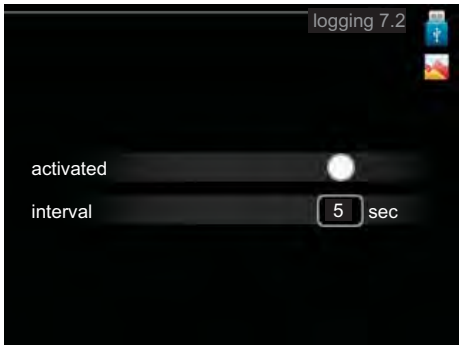
NOTE

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

Default setting range: 5 s

Set whether the present measurement values from F750 are to be saved in a log on the USB memory.

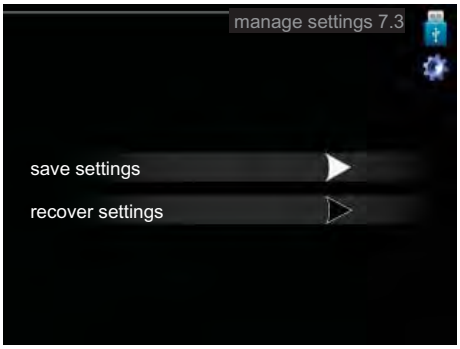
Log for longer periods

1. Set the desired interval between loggings.
2. Tick "activated".
3. Mark "read log settings" and press the OK button.
4. The present values from F750 are saved in a file in the USB memory at the set interval until "activated" is unticked.

Caution

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.

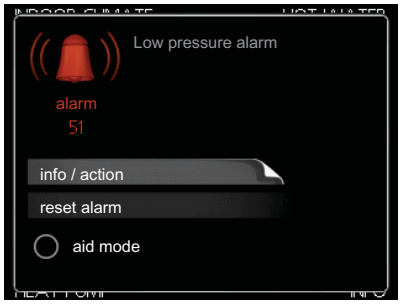
10 Disturbances in comfort

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 46 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 60).

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.

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 of the heating curve. 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 1.3.4.
  - Enter menu 1.3.4 and select "Off".
- External switch for changing the room heating activated.
  - Check any external switches.
- Circulation pump(s) (GP1 and/or GP6) have stopped.
  - See section "Helping the circulation pump to start" on page 57.
- Air in the heating system.
  - Vent the heating system (see page 30).
- 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 adjust the heat curve offset downwards. If the room temperature is only high in cold weather the curve slope in menu 1.9.1 (heating curve) needs to be adjusted 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 30).

Low or a lack of ventilation

- 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 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

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

Hot water heater

In the event of wanting greater amounts of hot water.

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

Hot water heater with charge coil

Copper Part no. 083 230

Eminent

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

35 litres

Part no. 072 310

55 litres

Part no. 072 340

100 litres

Part no. 072 370

Compact

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

100 litres

Part no. 076 515

200 litres

Part no. 077 500

300 litres

Part no. 078 500

SCA 40

SCA 40 means that F750 can be connected to solar heating.

Part no. 067 137

Supply air module SAM 40

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

SAM 40

Part no. 067 147

Top cabinet

Top cabinet with soundproofing to room height 2400, 2500, 2550-2800 mm, conceals the ventilation ducts and reduces noise to the installation room by 1-2 dB(A).

2400 mm

Part no. 089 756

2500 mm

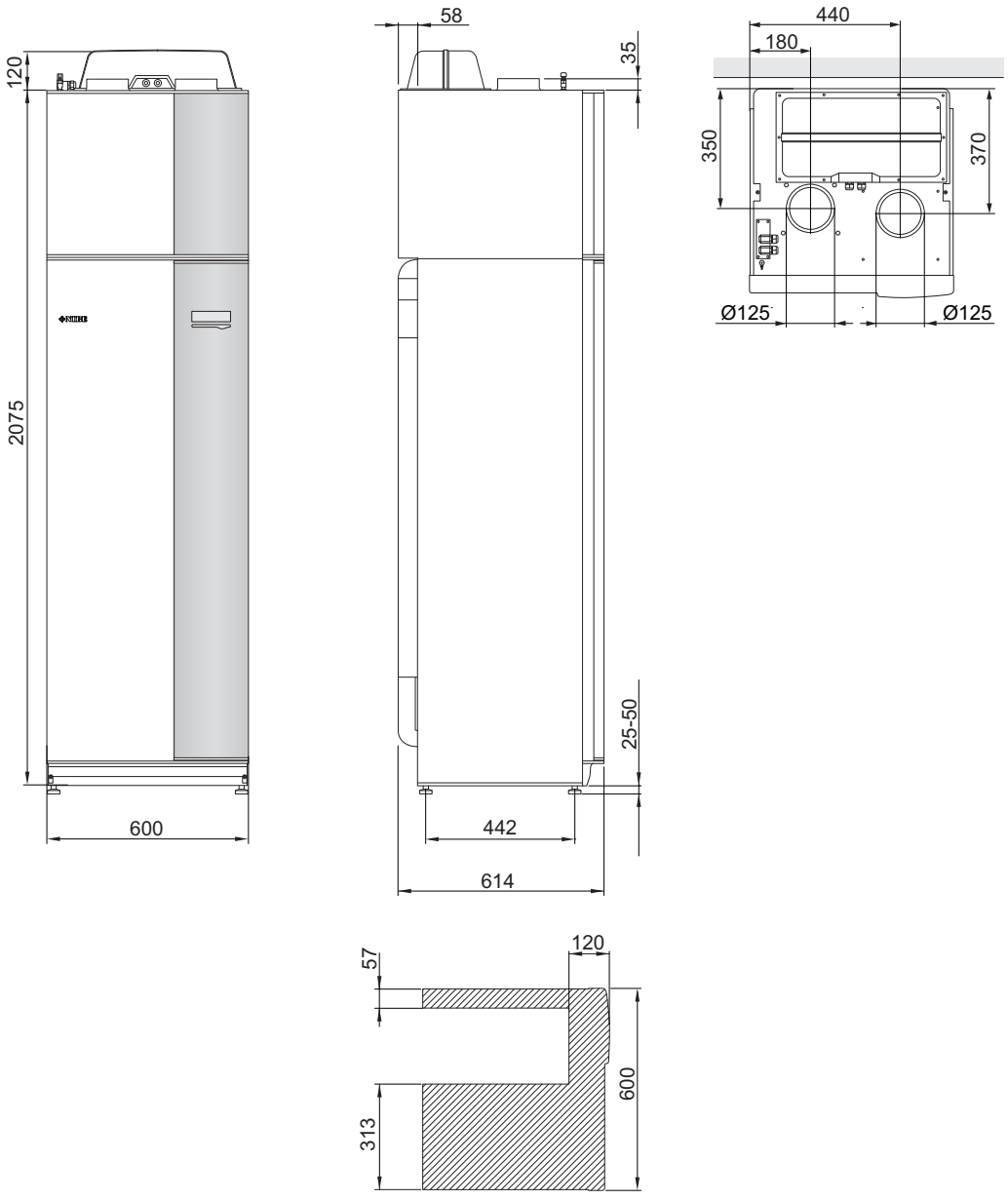
Part no. 089 757

2550-2800 mm

Part no. 089 758

12 Technical data

Dimensions and setting-out coordinates



Avoid routing pipes through the marked area

Technical specifications

CE IP 21

3x400V		Copper	Enamel	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~PE 50 Hz		
Max operating current	A	16.1		
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 power 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 house ($L_{P(A)}$)[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		

Miscellaneous		Copper	Enamel	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	Enamel	Stainless
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	235		
Part No.		066 015	066 063	066 061

[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

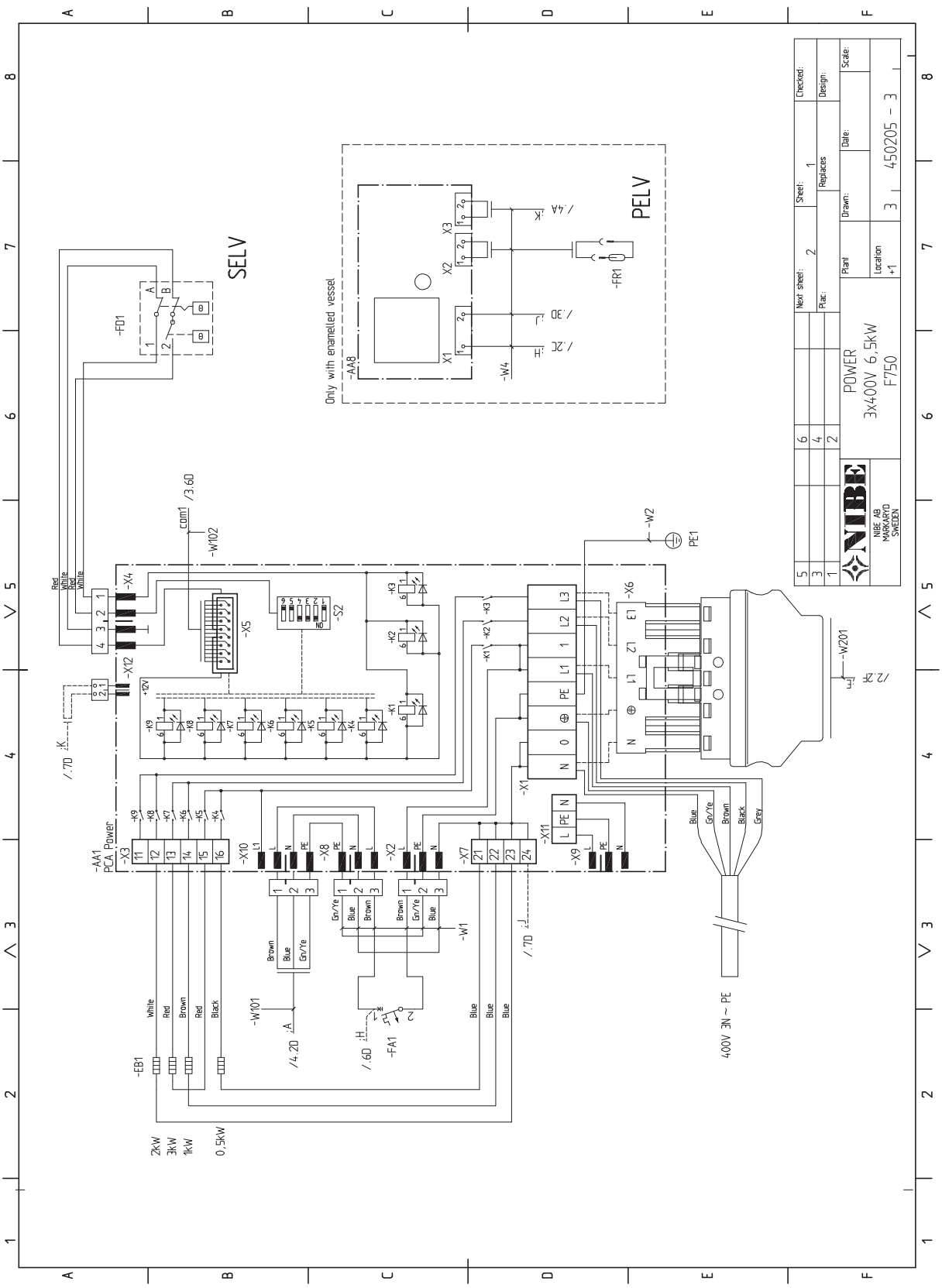
[3]A20(12)W45, exhaust air flow 252 m³/h (70 l/s) max compressor frequency

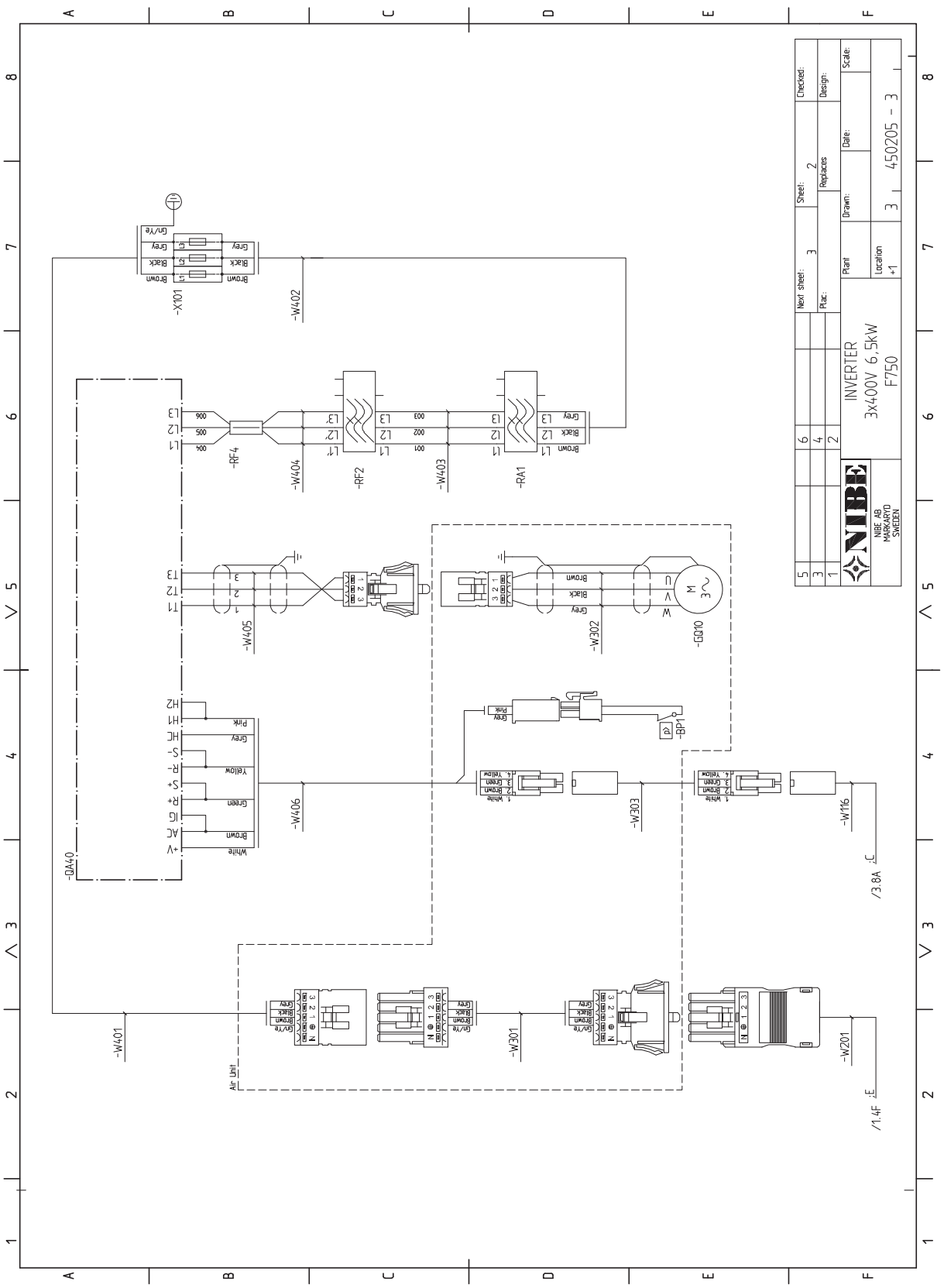
[4]The value varies with the selected fan curve. For more extensive sound data including sound to channels visit

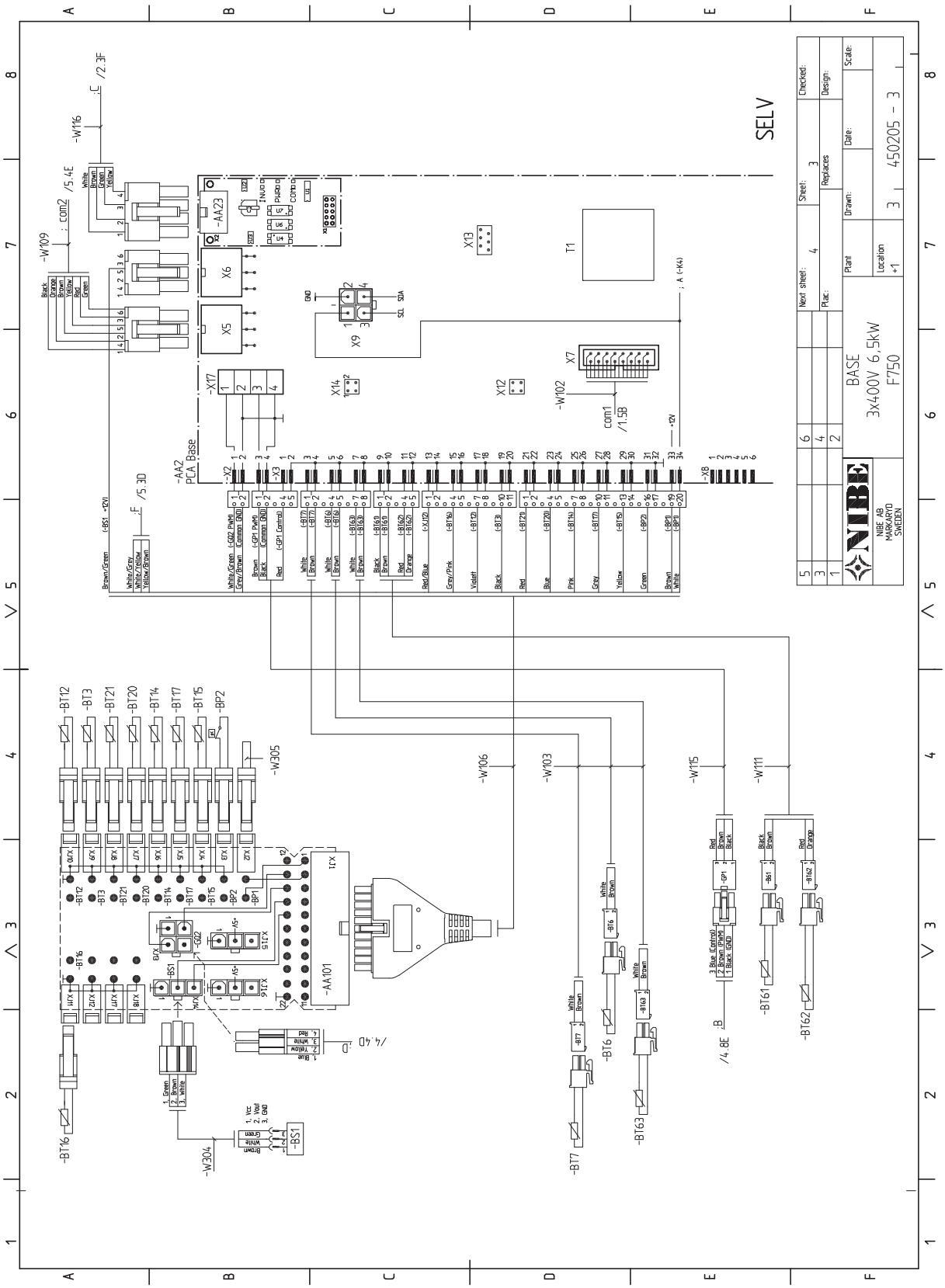
[5]The value can vary with the room's damping capacity. These values apply with a damping of 4 dB.

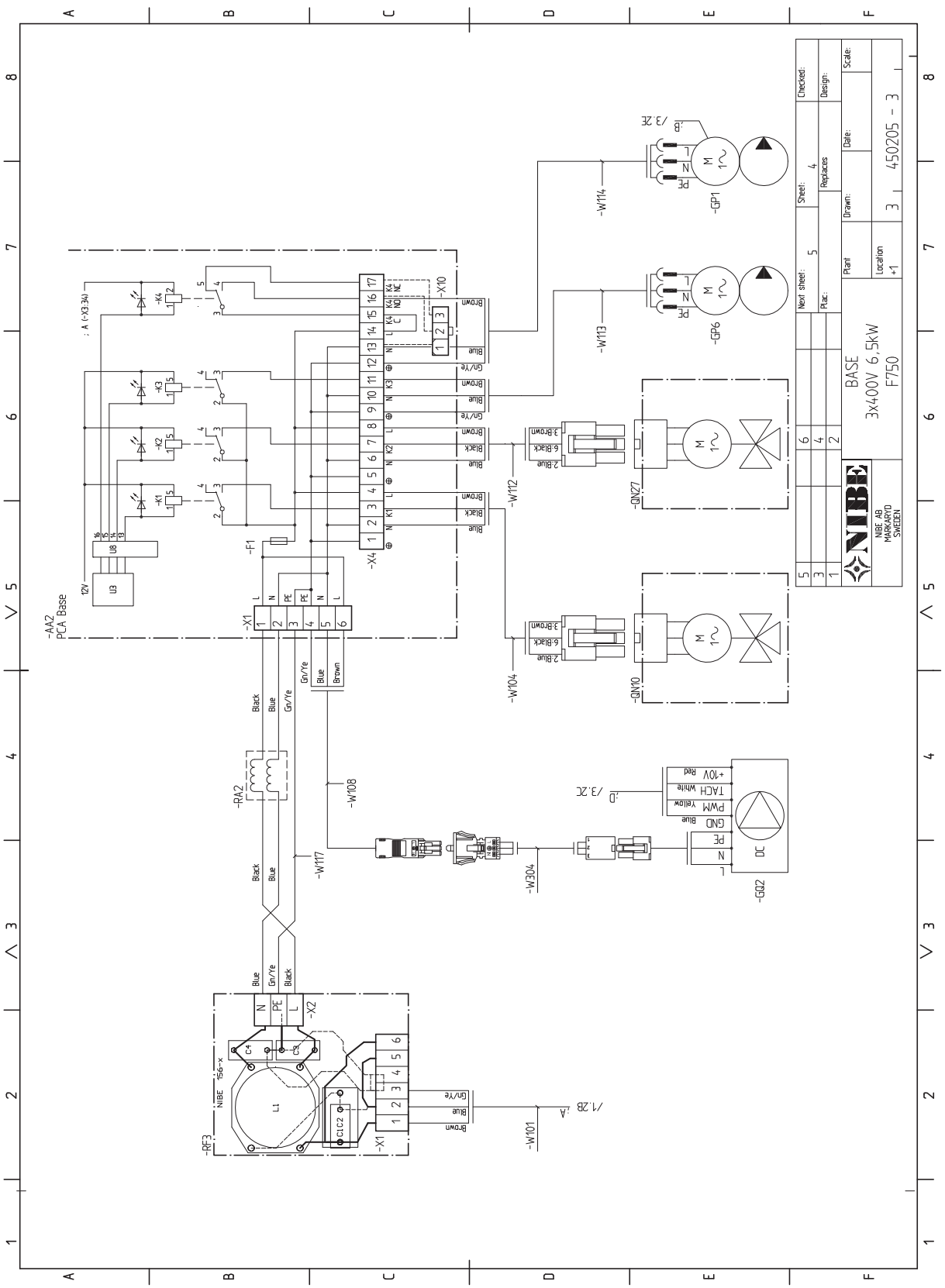
[6]A20(12) exhaust air flow 150 m³/h (42 l/s)

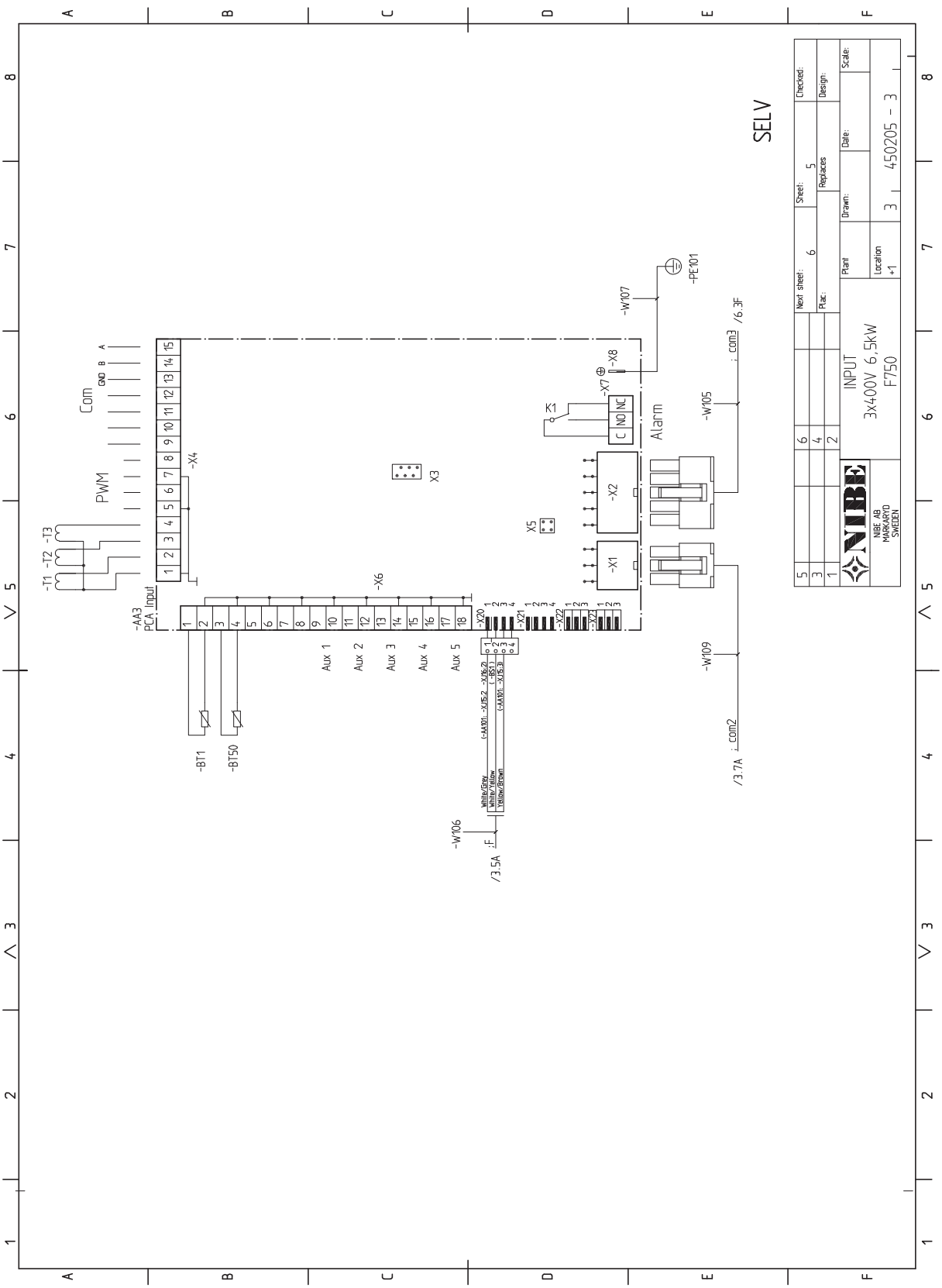
Electrical circuit diagram

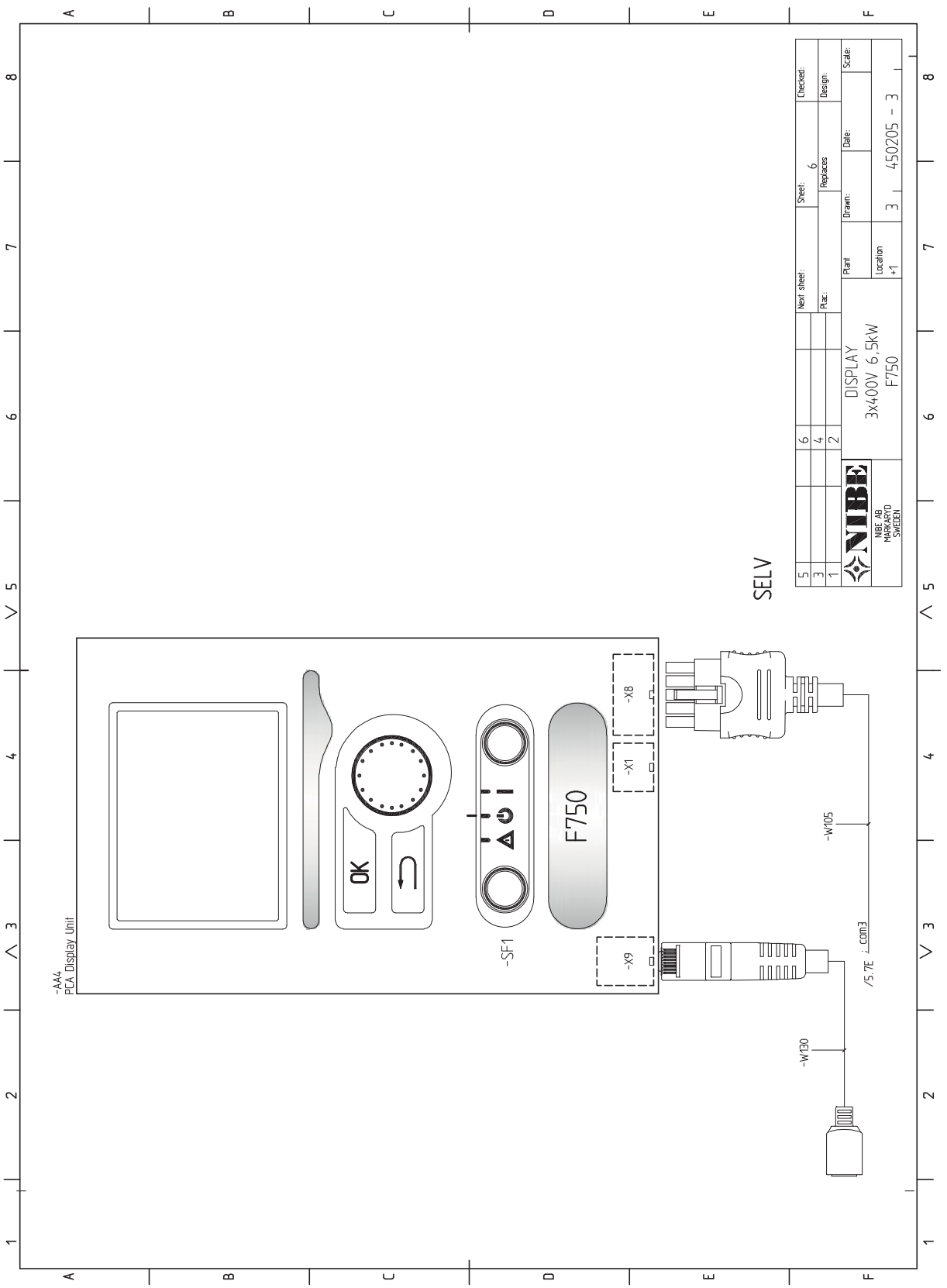



INVERTER
3x400V 6,5kW
F750
NIBE AB
MARKARYD
SWEDEN
Next sheet: 3
Sheet: 2
Replaces
Plant
Drawn:
Date:
Checked:
Design:
Scale:
Location +1
3 | 450205 - 3
-X101
-W402
-RF4
-W404
-RF2
-W403
-RA1
-W405
-W302
-GQ10
-BP1
-BA40
-W406
-W303
-W116
-W401
-W301
-W201
Air Unit


SELV
BASE
3x400V 6,5kW
F750
NIBE AB
MARKARYD
SWEDEN
450205 - 3
-AA2
PCA Base
-AA23
-AA101
-W109
-W116
-W305
-W304
-W106
-W103
-W115
-W111
-W102
-BT12
-BT3
-BT21
-BT20
-BT14
-BT17
-BT15
-BP2
-BT16
-BT6
-BT63
-BT17
-BT61
-BT62
-BS1
T1
X1
X2
X3
X5
X6
X7
X9
X12
X13
X14
X17
X8


BASE
3x400V 6,5kW
F750
450205 - 3
NIBE AB
MARKARYD
SWEDEN
-AA2
PCA Base
-X1
-X2
-X4
-X10
-F1
-RA2
-RF3
-GP1
-GP6
-GN27
-GN10
-GQ2
-W101
-W104
-W108
-W112
-W113
-W114
-W117
-W304
DC
GND
PWM
TACH
+10V
Blue
Yellow
White
Red
Black
Brown
Gn/Ye


SELV
INPUT
3x400V 6,5kW
F750
NIBE AB
MARKARYD
SWEDEN
450205 - 3
-AA3
PCA Input
-X4
-X6
-X20
-X21
-X22
-X23
-X2
-X1
X3
X5
-X7
-X8
K1
C NO NC
Alarm
Com
PWM
GND B A
-T1 -T2 -T3
-BT11
-BT50
Aux 1
Aux 2
Aux 3
Aux 4
Aux 5
-W106
/3.5A
-W107
-PE101
-W105
/6.3F
-W109
/3.7A
Plant
Location
+1
Drawn:
Date:
Checked:
Design:
Scale:
Sheet: 5
Replaces
Next sheet: 6
Place:


SELV
NIBE AB
MARKARYD
SWEDEN
DISPLAY
3x400V 6,5kW
F750
Next sheet:
Place:
Sheet:
6
Replaces
Plant
Drawn:
Date:
Checked:
Design:
Scale:
Location
+1
3 | 450205 - 3
-AA4
PCA Display Unit
-SF1
F750
-X8
-X1
-X9
-W105
-W130
/5:7E com3

13 Item register

Item register


231236