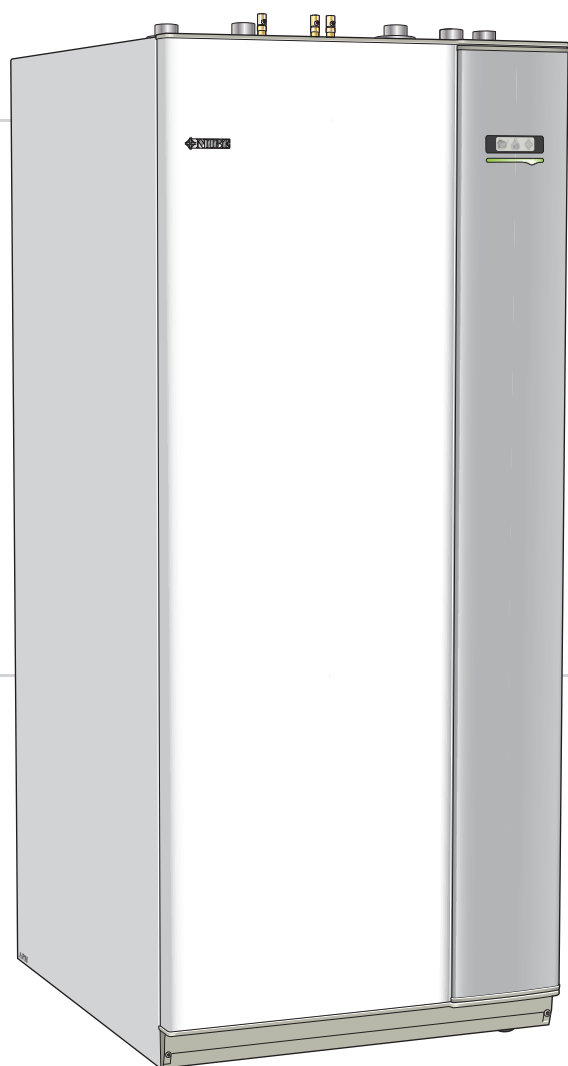




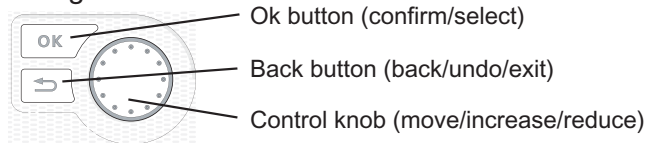
Installer manual

NIBE™ VVM 500

Indoor module

Quick guide

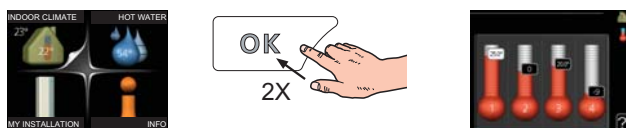
Navigation



A detailed explanation of the button functions can be found on page 27.

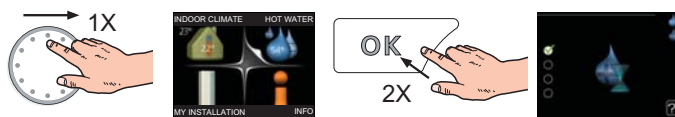
How to scroll through menus and make different settings is described on page 29.

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 31.

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 36.

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 51 for instructions.

Table of Contents

1 Important information	2		
Safety information	2		
2 Delivery and handling	5		
Transport	5		
Assembly	5		
Supplied components	6		
Removing the covers	7		
3 Indoor module's design	8		
4 Pipe connections	10		
General pipe connections	10		
Dimensions and pipe connections	11		
Heat pump	13		
Electric boiler mode	13		
Sun	13		
External heat source	13		
Cold and hot water	14		
Heating medium side	14		
Pool	14		
Two or more climate systems	14		
Installation alternative	15		
5 Electrical connections	16		
General	16		
Connections	18		
Settings	20		
Optional connections	21		
Connecting accessories	23		
6 Commissioning and adjusting	24		
		Preparations	24
		Filling and venting	24
		Start-up and inspection	25
7 Control - Introduction	27		
Display unit	27		
Menu system	28		
8 Control - Menus	31		
Menu 1 - INDOOR CLIMATE	31		
Menu 2 - HOT WATER	36		
Menu 3 - INFO	38		
Menu 4 - MY SYSTEM	39		
Menu 5 - SERVICE	43		
9 Service	48		
Service actions	48		
10 Disturbances in comfort	51		
Info-menu	51		
Manage alarm	51		
Troubleshooting	51		
11 Accessories	53		
12 Technical data	54		
Dimensions and setting-out coordinates	54		
Hot water capacity	55		
Technical specifications	56		
Electrical circuit diagram	58		
Item register	63		

1 Important information

Safety information

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

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

Rights to make any design or technical modifications are reserved.

©NIBE 2012.

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

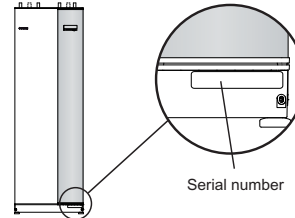
VVM 500 is CE marked and fulfils IP21.

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
	Heating medium (page 14)			
	System flushed			
	System vented			
	Expansion vessel			
	Particle filter			
	Safety valve			
	Shut off valves			
	Boiler pressure			
	Connected according to outline diagram			
	Setting trim valve, number of turns from closed position			
	Hot water (page 14)			
	Shut off valves			
	Mixing valve			
	Electricity (page 16)			
	Connected communication			
	Circuit fuses			
	Fuses, indoor module			
	Fuses property			
	Outside sensor			
	Room sensor			
	Current sensor			
	Safety breaker			
	Earth circuit-breaker			
	Setting of emergency mode thermostat			
	Miscellaneous			
	Docked to			

Contact information

AT KNV Energietechnik GmbH, Gahberggasse 11, 4861 Schörfling

Tel: +43 (0)7662 8963-0 Fax: +43 (0)7662 8963-44 E-mail: mail@knv.at www.knv.at

CH NIBE Wärmetechnik AG, Winterthurerstrasse 710, CH-8247 Flurlingen

Tel: (52) 647 00 30 Fax: (52) 647 00 31 E-mail: info@nibe.ch www.nibe.ch

CZ Druzstevni zavody Drazice s.r.o., Drazice 69, CZ - 294 71 Benatky nad Jizerou

Tel: +420 326 373 801 Fax: +420 326 373 803 E-mail: nibe@nibe.cz www.nibe.cz

DE NIBE Systemtechnik GmbH, Am Reiherpfahl 3, 29223 Celle

Tel: 05141/7546-0 Fax: 05141/7546-99 E-mail: info@nibe.de www.nibe.de

DK Vølund Varmeteknik A/S, Member of the Nibe Group, Brogårdsvej 7, 6920 Videbæk

Tel: 97 17 20 33 Fax: 97 17 29 33 E-mail: info@volundvt.dk www.volundvt.dk

FI NIBE Energy Systems OY, Juurakkotie 3, 01510 Vantaa

Puh: 09-274 697 0 Fax: 09-274 697 40 E-mail: info@nibe.fi www.nibe.fi

GB NIBE Energy Systems Ltd, 3C Broom Business Park, Bridge Way, Chesterfield S41 9QG

Tel: 0845 095 1200 Fax: 0845 095 1201 E-mail: info@nibe.co.uk www.nibe.co.uk

NL NIBE Energietechniek B.V., Postbus 2, NL-4797 ZG WILLEMSTAD (NB)

Tel: 0168 477722 Fax: 0168 476998 E-mail: info@nibenl.nl www.nibenl.nl

NO ABK AS, Brobekkveien 80, 0582 Oslo, Postadresse: Postboks 64 Vollebekk, 0516 Oslo

Tel. sentralbord: +47 02320 E-mail: post@abkklima.no www.nibeenergysystems.no

PL NIBE-BIAWAR Sp. z o. o. Aleja Jana Pawła II 57, 15-703 BIAŁYSTOK

Tel: 085 662 84 90 Fax: 085 662 84 14 E-mail: sekretariat@biawar.com.pl www.biawar.com.pl

RU © "EVAN" 17, per. Boynovskiy, Nizhny Novgorod

Tel./fax +7 831 419 57 06 E-mail: info@evan.ru www.nibe-evan.ru

SE NIBE AB Sweden, Box 14, Hannabadsvägen 5, SE-285 21 Markaryd

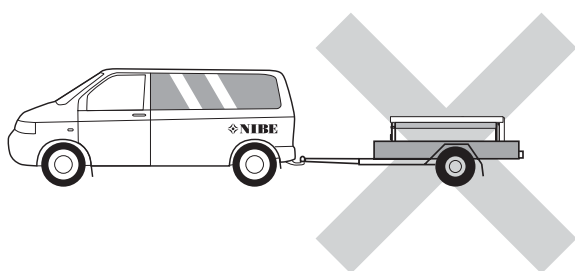
Tel: +46-(0)433-73 000 Fax: +46-(0)433-73 190 E-mail: info@nibe.se www.nibe.se

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

2 Delivery and handling

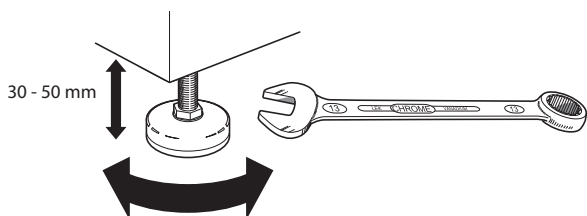
Transport

VVM 500 should be transported and stored vertically in a dry place. The VVM 500 may, however, be carefully laid on its back when being moved into a building.



Assembly

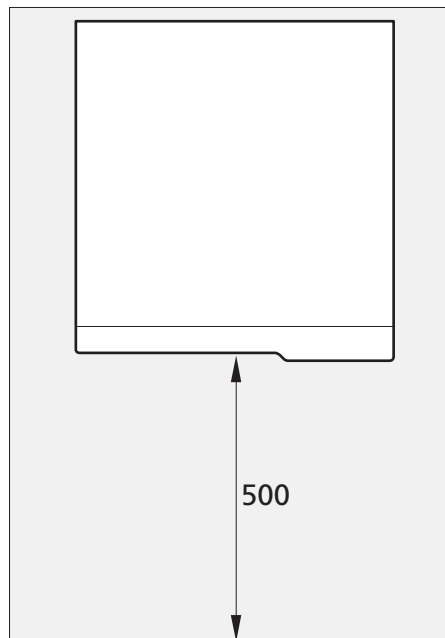
- Position VVM 500 on a firm base that can take the weight, preferably on a concrete floor or foundation. Use the product's adjustable feet to obtain a horizontal and stable set-up.



- The area where VVM 500 is located must be equipped with floor drainage.

Installation area

Leave a space of 500 mm in front of the product. All service on VVM 500 can be carried out from the front.



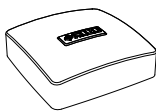
NOTE

Leave 10-25 mm free space between the indoor module and the wall behind for routing of cables and pipes.

Supplied components



Outside sensor



Room sensor



Current sensor



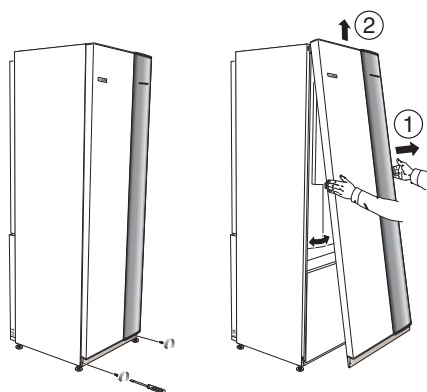
O-rings

Location

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

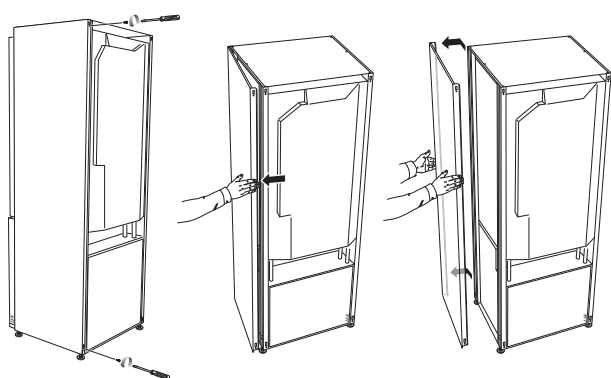
Removing the covers

Front cover



1. Remove the screws from the lower edge of the front cover.
2. Lift the cover out at the bottom edge and up.

Side covers

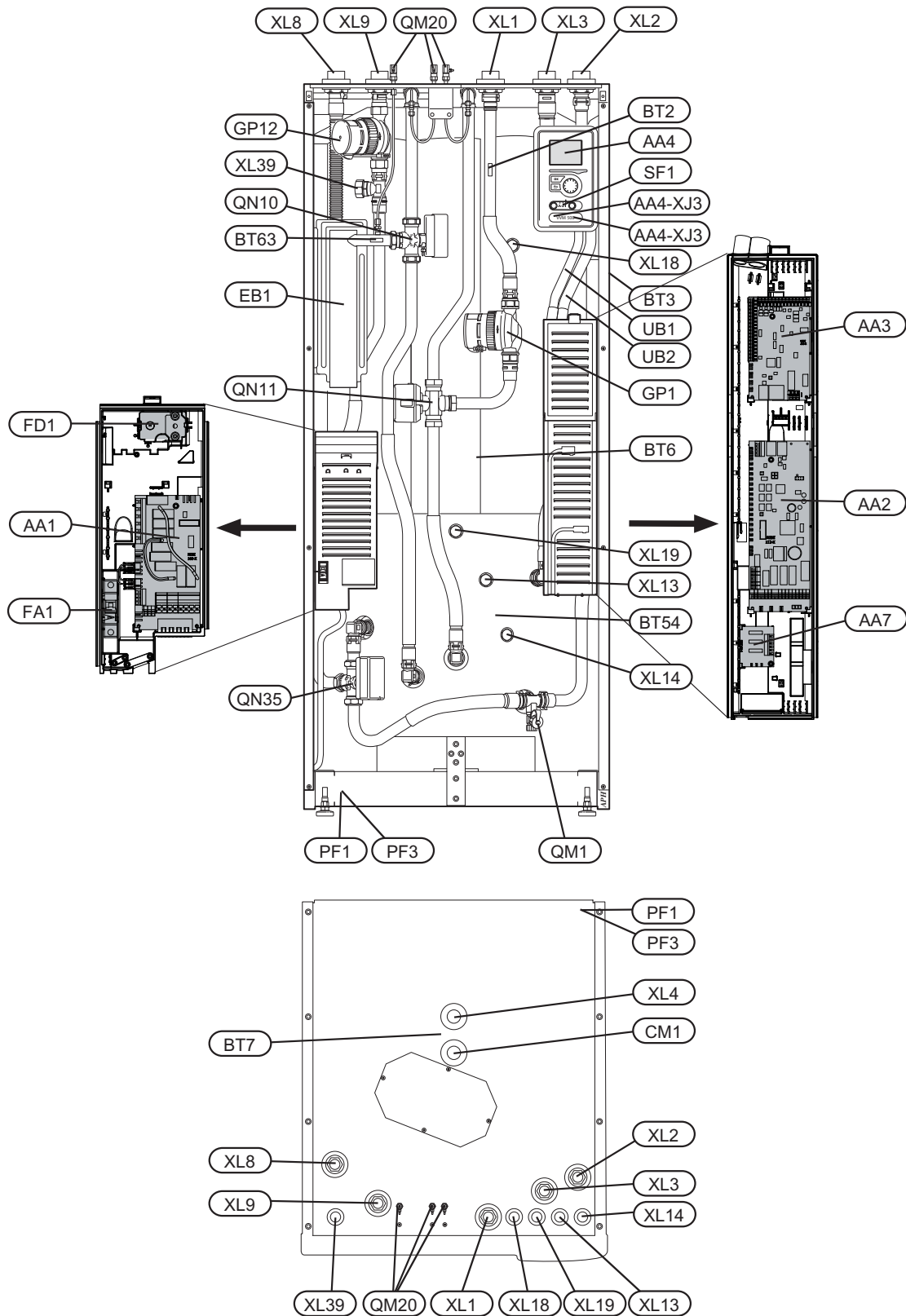


The side covers can be removed to facilitate the installation.

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.

3 Indoor module's design

VVM 500



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 8	Connection, docking in heating medium
XL 9	Connection, docking out heating medium
XL 13	Connection, solar system flow line
XL 14	Connection, solar system return line
XL 18	Connection, docking in high temp
XL 19	Connection, docking out high temp
XL 39	Connection, docking pool

* Not visible in the image

Designations in component locations according to standard IEC 81346-1 and 81346-2.

HVAC components

CM 1	Expansion tank (connection)
GP 1	Circulation pump
GP 12	Charge pump
QM 1	Drain valve, water heater
QM 20	Venting, climate system
QN 10	Shuttle valve, climate system/water heater, flow line
QN 11	Shunt valve
QN 35	Shuttle valve, climate system/water heater, return line

Sensors etc.

BT 2	Temperature sensors, heating medium flow
BT 3	Temperature sensor, heating medium return*
BT 6	Temperature sensor, hot water, control
BT 7	Temperature sensor, hot water, display*
BT 54	Temperature sensor, solar coil
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 7	Extra relay circuit board
EB 1	Immersion heater
FA 1	Miniature circuit-breaker
FD 1	Temperature limiter
SF 1	Switch

Miscellaneous

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

4 Pipe 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, but VVM 500 can handle up to 65 °C.

Overflow water from the safety valve goes via overflow cups 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.

NIBE recommends installing VVM 500 as close to the heat pump as possible for optimum comfort. For further information about the location of different components, see section "Installation alternatives" in this manual.



NOTE

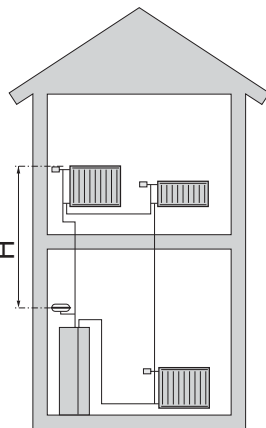
The pipe systems need to be flushed out before the indoor module is connected so that any debris cannot damage component parts.

Maximum boiler and radiator volumes

Internal volume in VVM 500 for calculating expansion vessel is 500 l. The expansion vessel's volume must be at least 5 % of the system's total volume.

Example table

Total volume (l) (indoor module and climate system)	Volume Expansion vessel (l)
500	25
700	35
1000	50



The initial pressure of the pressure expansion vessel must be dimensioned according to the maximum height (H) between the vessel and the highest positioned radiator, see figure. An initial pressure of 0.5 bar (5 mvp) means a maximum permitted height difference of 5 m.

If the standard initial pressure in the pressure vessel is not high enough it can be increased by filling via the valve in the expansion vessel. The expansion vessel's standard initial pressure must be entered in the check list on page 3.

Any change in the initial pressure affects the ability of the expansion vessel to handle the expansion of the water.

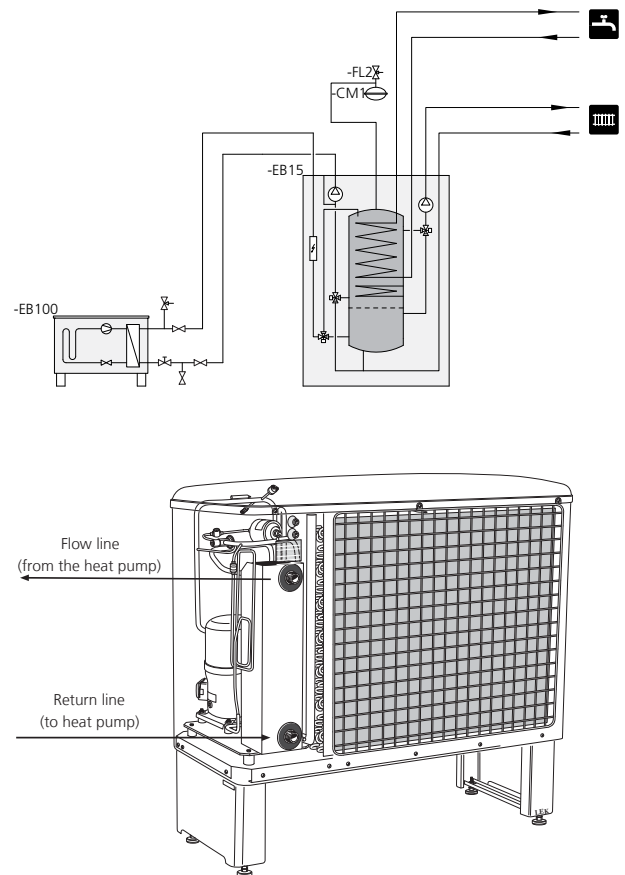
System diagram

VVM 500 consists of a hot water coil, immersion heater, circulation pumps, buffer vessel, control system and is prepared for use with solar panels. VVM 500 connects to the climate system.

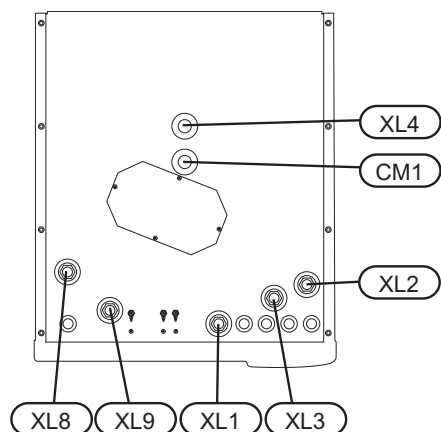
VVM 500 is designed for connection and communication with F20XX/F2300. F20XX/F2300 and VVM 500 together make up a complete heating installation.

F2300 covers most of the heating and hot water requirement down to -25 °C.

When it is cold outdoors F20XX/F2300 works with VVM 500 and if the outdoor air temperature falls below -25 °C all heating is carried out by VVM 500.



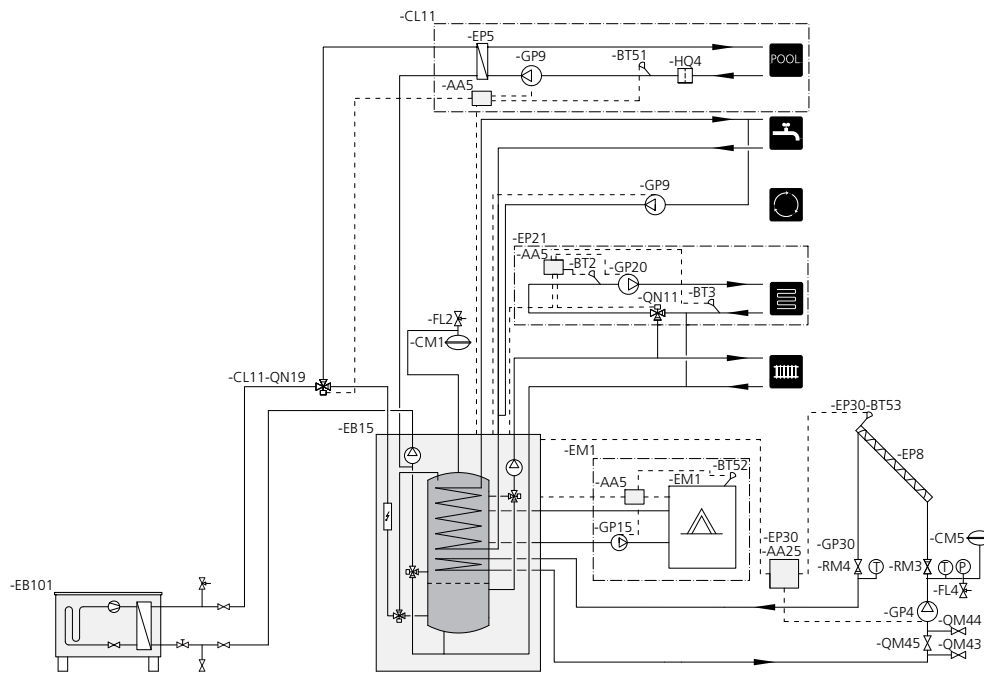
Dimensions and pipe connections



Pipe dimensions

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.

Outline diagram



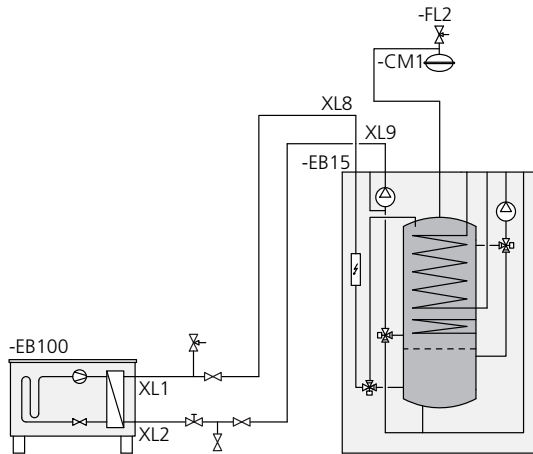
AA 5	Accessory card	EP 21	Climate system
AA 25	Control unit	EP 30	Solar kit SCA 30
BT 2	Temperature sensors, heating medium flow	FL 2	Safety valve, climate system
BT 3	Temperature sensors, heating medium return	FL 4	Safety valve, solar
BT 51	Temperature sensor, pool	GP 4	Circulation pump, solar
BT 52	Temperature sensor, boiler	GP 9	Circulation pump, pool
BT 53	Temperature sensor, solar panel	GP 15	Circulation pump, external heat source
CL 11	Pool kit POOL 500	GP 20	Circulation pump
CM 1	Expansion vessel, heating medium	GP 30	Pump station SPS 10, SPS 20
CM 5	Expansion vessel, solar	HQ 4	Particle filter
EB 15	VVM 500	QM 4X	Shut-off valve
EB 100	F20XX/F2300	QN 11	Shunt valve
EM 1	Oil, gas, or electric boiler	QN 19	Three way valve, pool
EP 5	Exchanger, pool	RM X	Non-return valve
EP 8	Solar panel		

Heat pump

Connecting to heat pump

All outdoor pipes must be thermally insulated with at least 19mm thick pipe insulation.

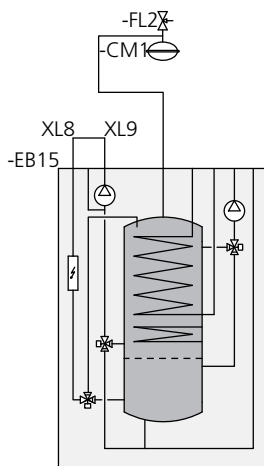
VVM 500 is not equipped with shut off valves; these must be installed outside the indoor module to facilitate any future servicing.



Electric boiler mode

Connection as electric boiler

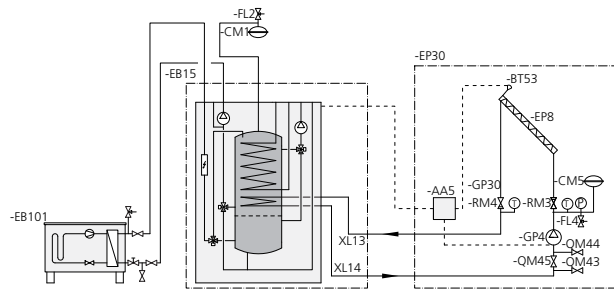
Connect the pipe for docking in from the heat pump (XL8) with the pipe out to the heat pump (XL9).



Sun

Connecting to solar installation

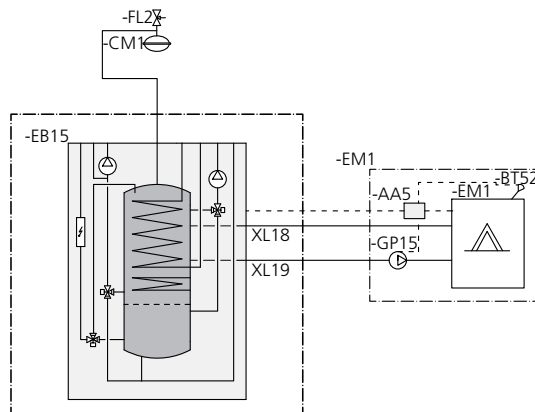
For connection to solar installation, the SCA 30 accessory is required, see "Accessories" on page 52.



External heat source

Connection of external heat source

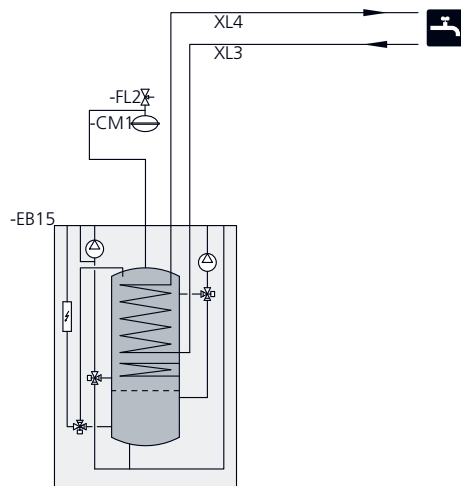
For connection to gas/ electric/ oil boiler the DEH 500 accessory is required, see "Accessories" on page 52.



Cold and hot water

Connecting cold and hot water

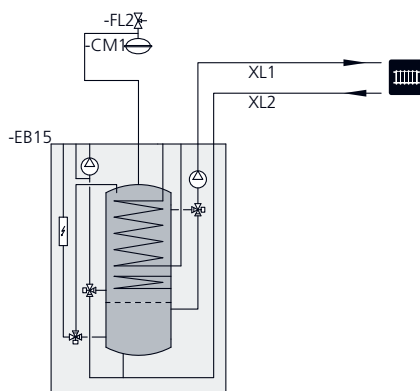
The mixing valve must be installed if the factory setting is changed so that the temperature can exceed 60 °C. If the factory setting is changed, national regulations must be observed. The setting is made in menu 5.1.1 (page 43).



Heating medium side

Connecting the climate system

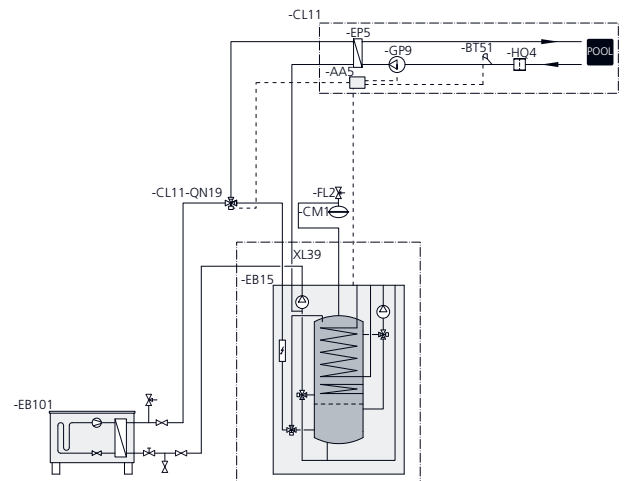
When connecting to a system with thermostats on all radiators/underfloor heating coils, a relief valve must be fitted, or a thermostat must be removed to ensure sufficient flow.



Pool

Connecting pool

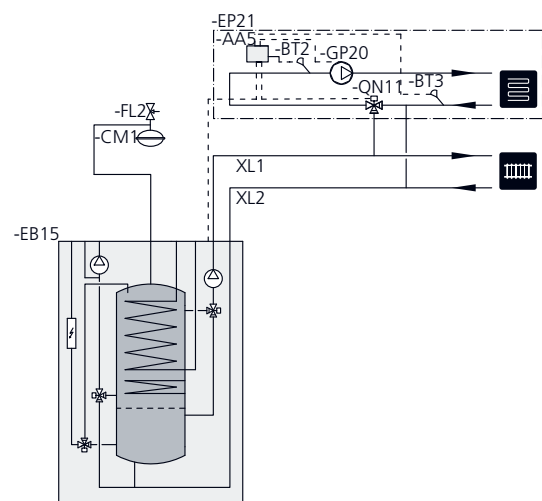
Charging of the pool is controlled by the pool sensor. In the case of low pool temperatures, the shuttle valve reverses direction and opens towards the pool exchanger. The POOL 500 accessory is required for this connection.



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.



Installation alternative

VVM 500 can be connected in several different ways, some of which are shown below.

Further option information is available at www.nibe.eu and in the respective assembly instructions for the accessories used. See page 53 for a list of the accessories that can be used with VVM 500.

Extra hot water heaters

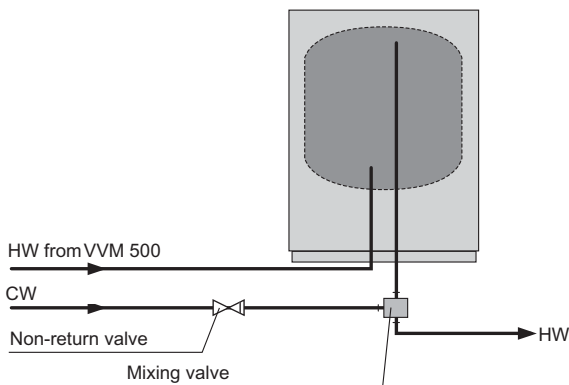
Extra hot water heaters

The indoor module can be supplemented with an electric water heater, if a hot tub or other significant consumer of hot water is installed. A mixing valve is then installed on outgoing hot water from the heater.

Water heater with immersion heater

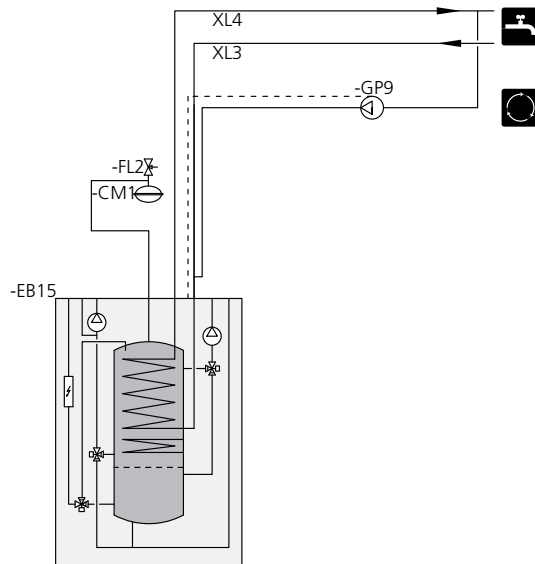
Appropriate heater is COMPACT 100-300 for floor mounting and EMINENT 35-100 for wall mounting.

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



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.

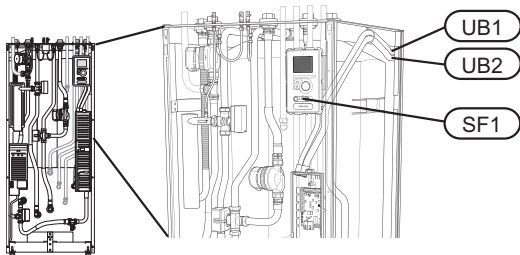


5 Electrical connections

General

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

- Disconnect the indoor module before insulation testing the house wiring.
- If the building is equipped with an earth-fault breaker, VVM 500 should be equipped with a separate one.
- For the indoor module wiring diagram, see page 58.
- 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 VVM 500, cable grommets UB1 and UB2, (marked in image) must be used. In UB1 and UB2 the cables are inserted through the indoor module from the back to the front.



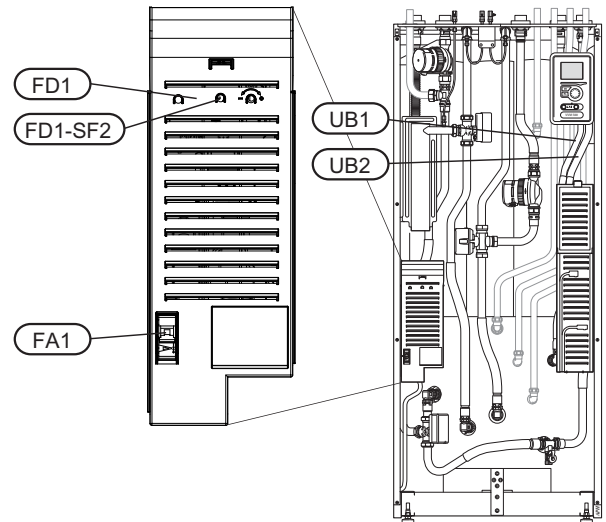
NOTE

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

The indoor module and a large proportion of its internal components 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

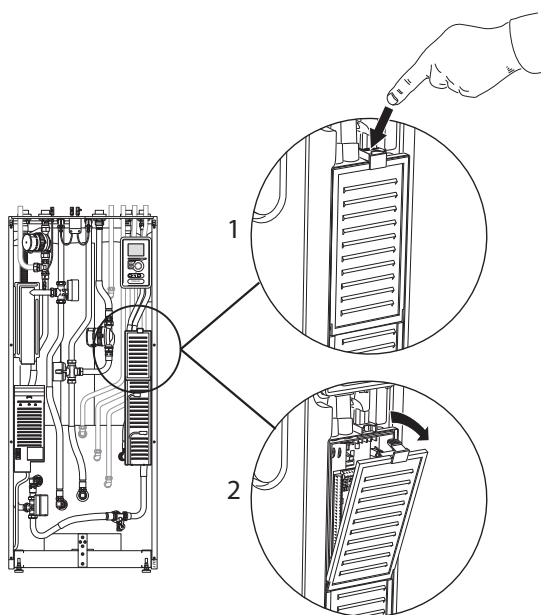
The plastic cap of the electrical boxes is opened using a screwdriver.



NOTE

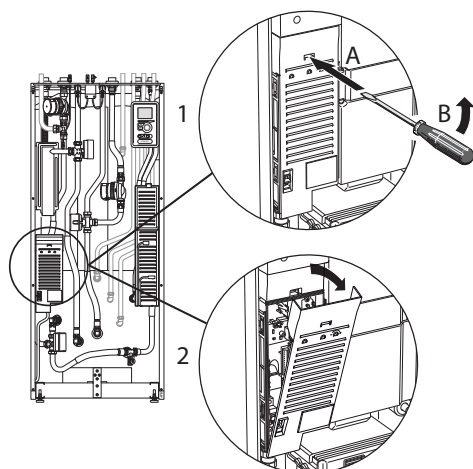
The cover for the input card is opened without a tool.

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



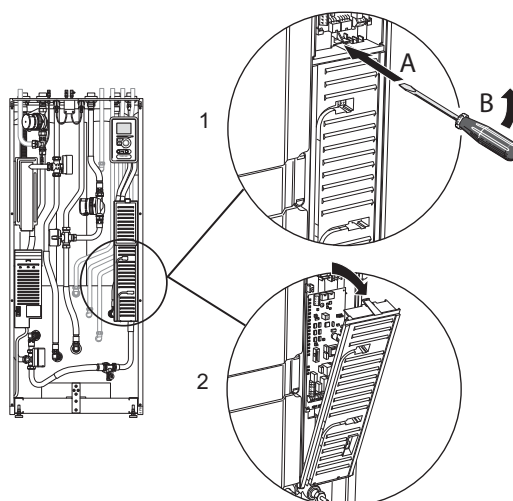
1. Insert the screwdriver (A) and pry the catch carefully downwards (B).
2. Angle out the cover and remove it.

Removing the cover, base board



Caution

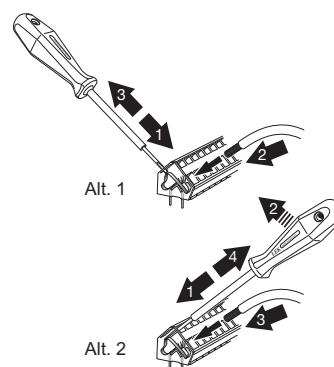
To remove the cover for the base board, the cover for the input circuit board must first be removed.



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 indoor module terminal blocks.



Connections

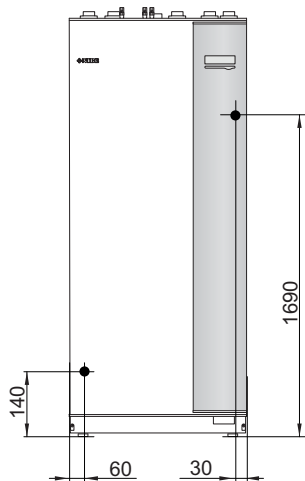


NOTE

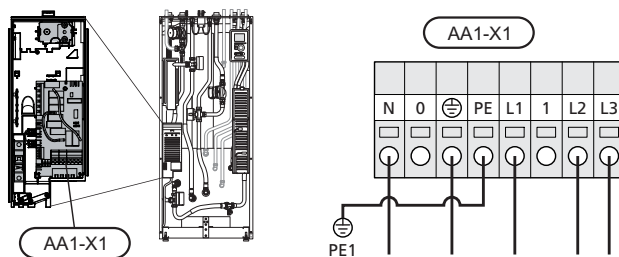
To prevent interference, unscreened communication and/or sensor to external connections cables must not be laid closer than 20 cm to high voltage cable when cable routing.

Power connection

VVM 500 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 VVM 500 (see dimensions diagram below).



Connection



Tariff control

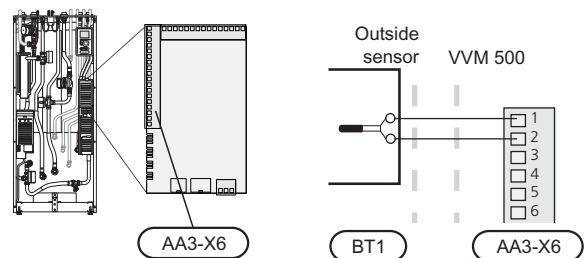
If the voltage to the immersion heater disappears during a certain period, there must also be blocking via the AU-input, see "Connection options- Possible selection for AU inputs".

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

VVM 500 is delivered with a room sensor supplied (BT50). The room temperature sensor has up to three functions:

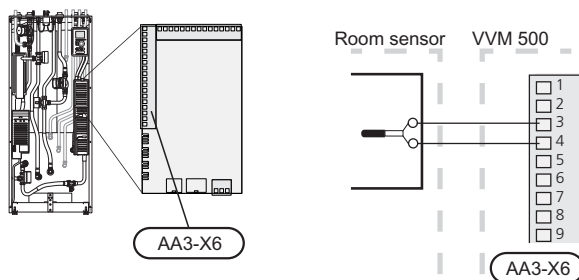
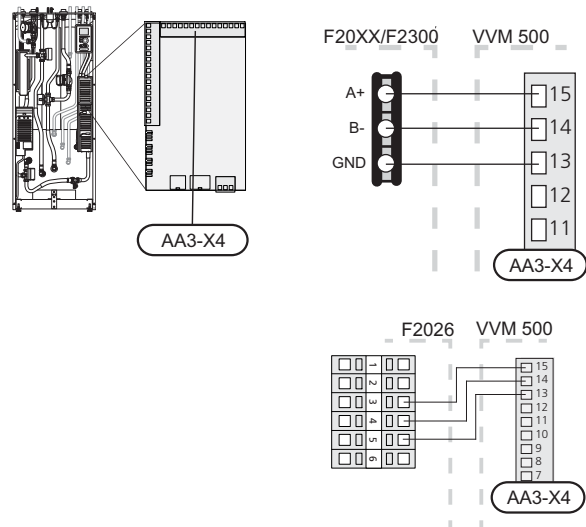
1. Show current room temperature in VVM 500's display.
2. Option of changing the room temperature in °C.
3. Makes it possible to change/stabilise the room temperature.

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 indoor module operates without the sensor, but if one wishes to read off the accommodation's indoor temperature in VVM 500'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 indicative function, not control of the room temperature.



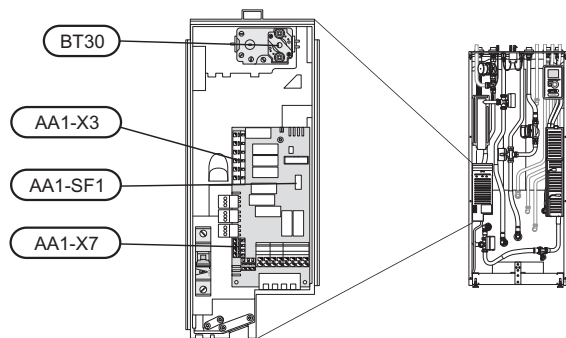
Caution

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.

Communication

If VVM 500 is to be connected to the heat pump, it is connected to terminals X4:13, X4:14 and X4:15 on the input card (AA3).

Settings



Electrical addition - maximum output

The immersion heater can be set up to a maximum of 9 kW. Delivery setting is 9 kW.

The immersion heater output is divided into 4 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	0.0	0.0	0.0
2	0.0	8.7	0.0
4	0.0	8.7	8.7
6	8.7	8.7	8.7
9	8.7	16.2	16.2

The table displays the maximum phase current for the relevant electrical step for the indoor module.

If the current sensors are connected, the indoor module monitors the phase currents. In the event of a phase overload, the power is reconnected to another/other phases.

Emergency mode

When the indoor module is set to emergency mode (SF1 is set to Δ) only the most necessary functions are activated.

- The hot water capacity is reduced.
- The load monitor is not connected.
- Fixed temperature in the flow line.



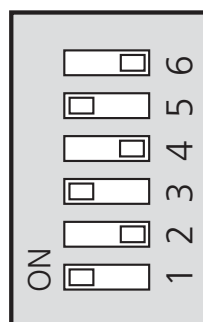
NOTE

Switch (SF1) must not be moved to "I" or " Δ " until VVM 500 has been filled with water. Otherwise the temperature limiter, thermostat and the immersion heater etc can be damaged.

Power in emergency mode

The immersion heater's output in emergency mode is set with the dipswitch (SF1) on the immersion heater circuit board (AA1) according to the table below. Factory setting is 6 kW.

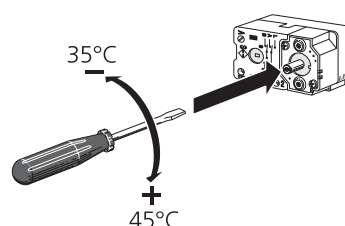
kW	1	2	3	4	5	6
2	off	off	off	off	on	off
4	off	off	on	off	on	off
6	on	off	on	off	on	off
9	on	off	on	on	on	on



The image shows the dip-switch (AA1-SF1) in the factory setting, that is 6 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

When many power consumers are connected in the property at the same time as the electric additional heat is operating, there is a risk of the property's main fuse tripping. The indoor module 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.

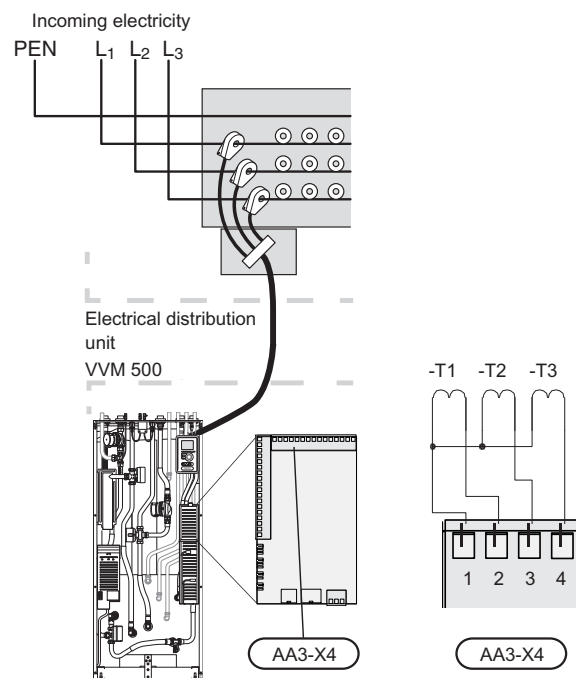
Connecting current sensors

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 indoor module.

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.



External connection options

VVM 500 has software controlled inputs and outputs on the input card (AA3), for connecting the external switch function or sensor. This means that when an external switch function or sensor is connected to one of six spe-

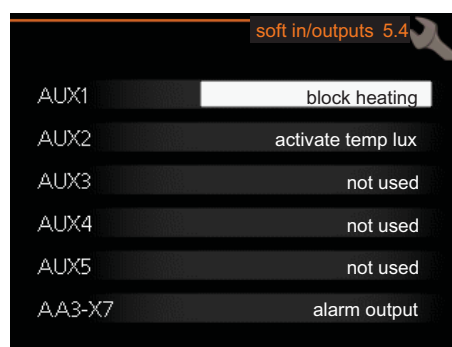
cial connections, the correct function must be selected to the correct connection in the software in VVM 500.



Caution

If an external switch function or sensor is connected to VVM 500, the function to use input or output must be selected in menu 5.4, see page 46.

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) and AUX2 (X6:11-12) on the input circuit board (AA3).



Caution

Some of the following functions can also be activated and scheduled via menu settings.

Possible selection for AUX inputs

Switch for external blocking of additional heat

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

The additional heat is disconnected by connecting a potential free switch function to the input selected in menu 5.4, see page 46.

External blocking of addition and compressor can be combined.

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 46.

A closed switch results in blocked heating operation.

Contact for activation of "temporary lux"

An external contact function can be connected to VVM 500 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 46) 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 VVM 500 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 46) 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.

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.
- Cooling mode indication (only applies if accessories for cooling are present or if the heat pump has the integrated cooling function).
- Control of circulation pump for hot water circulation.
- External circulation pump (for heating medium).
- External, reversing valve for hot water.
- External circulation pump, for example external pump and shunt group.

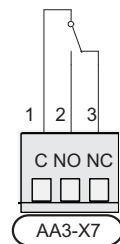
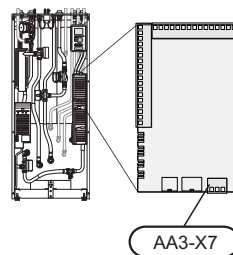
If any of the above is installed to terminal block X7 it must be selected in menu 5.4, see page 46.

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 53).



The picture shows the relay in the alarm position.

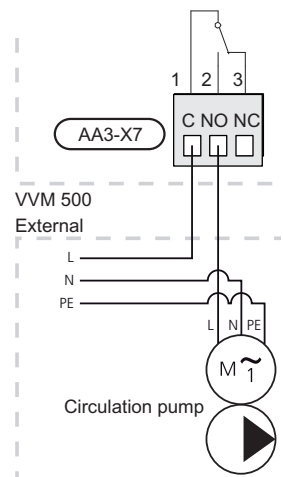
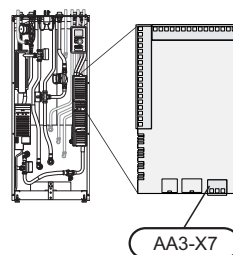
When switch (SF1) is in the "⏻" or "⚠" position the relay is in the alarm position.

External circulation pump, ground water 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.



Caution

The relay outputs can have a max load of 2 A (230 V AC) in total.

Connecting accessories

Instructions for connecting accessories are provided in the manual accompanying the accessory. See page 53 for the list of the accessories that can be used with VVM 500.

6 Commissioning and adjusting

Preparations

1. Check that the switch (SF1) is in position " ⏻ ".
2. Check that the drain valve is fully closed and that the temperature limiter (FD1) has not deployed.



Caution

Check the temperature limiter (FD1) and miniature circuit-breaker (FA1) in VVM 500. They may have tripped during transportation.

Filling and venting

Filling the hot water coil

1. Open a hot water tap in the house.
2. Open the externally mounted shut-off valve. This valve should then be fully open during operations.
3. When water comes out of the hot water tap, the hot water coil is full and the tap can be closed.

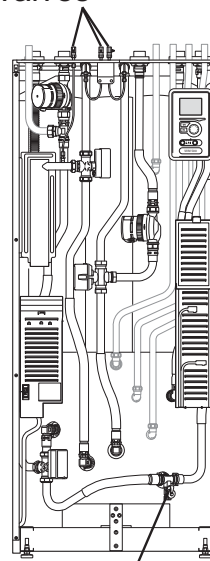
Filling the climate system

1. Open the vent valves (QM20).
2. Open the externally mounted filler valve. The boiler section and the rest of the climate system are filled with water.
3. When the water that exits the vent valves (QM20) is not mixed with air, close the vent valves. After a while the pressure rises on the externally mounted pressure gauge. When the pressure for the externally mounted safety valve has been reached, it starts to release water. Close the filler valve.
4. Open the externally mounted safety valve until the boiler pressure falls to the normal working range (approx. 1 bar) and check that there is not air in the system by turning the vent valves (QM20).

Venting the climate system

1. Turn off the power supply to the indoor module.
2. Vent the indoor module via the vent valves (QM20) and the rest of the climate system via the relevant vent valves.
3. Keep topping up and venting until all air has been removed and the pressure is correct.

Bleed valves



Tapping valve

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 installation's switch (SF1) to "I".
2. Follow the instructions in the start guide in the installation display. If the start guide does not start when you start the installation, start it manually in menu 5.7.



TIP

See page 27 for a more in-depth introduction to the installation's control system (operation, menus etc.).

Commissioning

The first time the installation is started a start guide is started. The start guide instructions state what needs to be carried out at the first start together with a run through of the installation'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

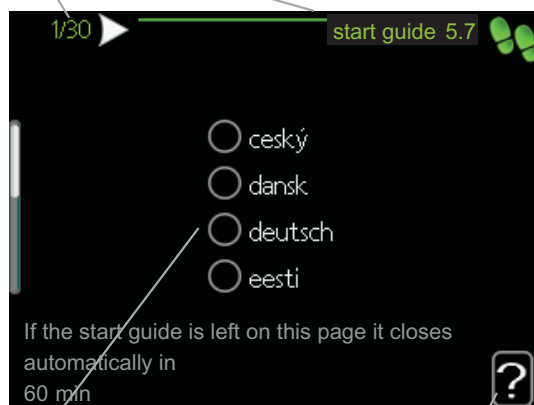
As long as the start guide is active, no function in the installation will start automatically.

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

Operation in the start guide

A. Page

B. Name and menu number



C. Option / setting

D. Help menu

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 31.

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.

Commissioning without heat pump

The indoor module can be run without heat pump, as only an electric boiler, to produce heat and hot water, for example before the heat pump is installed.

Connect the pipe for docking in from the heat pump (XL8) with the pipe out from the heat pump (XL9).

Enter menu 5.2.4 System settings and deactivate the heat pump.

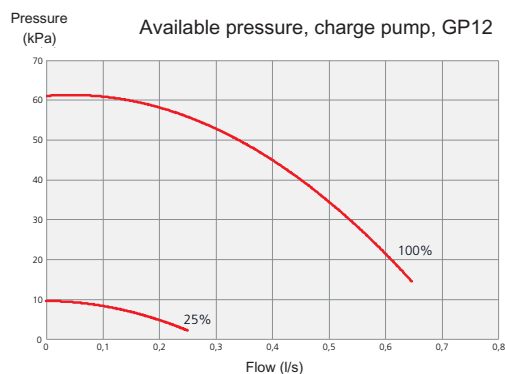
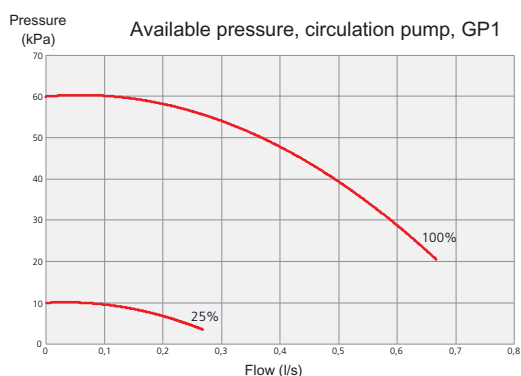
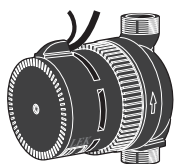


NOTE

Select operating mode auto or manual when the indoor module is to run with the heat pump.

Pump speed

Both the circulation pumps in VVM 500 are frequency controlled and set themselves using control and external heating requirement. In the menu there are two operating modes for the circulation pumps, continuous and auto. If auto is selected the circulation pumps are controlled automatically by heating and hot water demands.

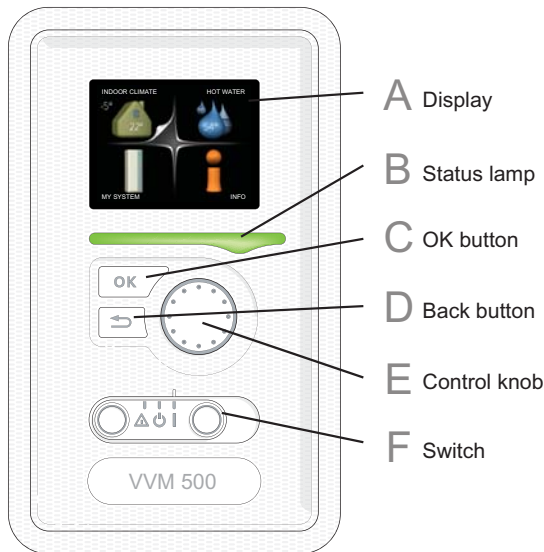


Post-adjustment, venting

Air is initially released from the hot water and venting may be necessary. If gurgling sounds can be heard from the climate system, the entire system will require additional venting. Vent the installation through the venting valves (QM20). When venting, VVM 500 must be off.

7 Control - Introduction

Display unit



F

Switch (SF1)

The switch assumes three positions:

- On (I)
- Standby (⏻)
- Emergency mode (⚠)

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

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 indoor module. 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

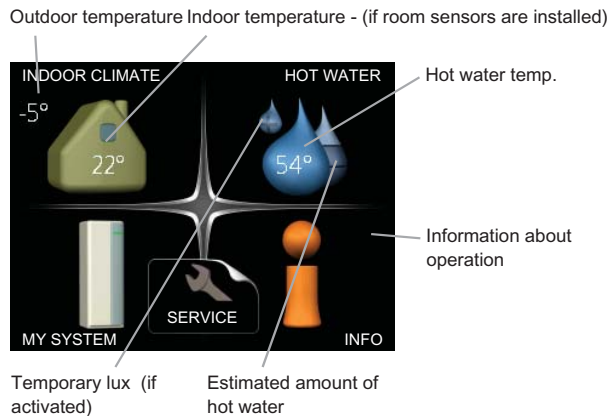
Control knob

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).

Menu system

When the door to the indoor module 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 31.

Menu 2 - HOT WATER

Setting and scheduling hot water production. See page 36.

Menu 3 - INFO

Display of temperature and other operating information and access to the alarm log. See page 38.

Menu 4 - MY SYSTEM

Setting time, date, language, display, operating mode etc. See page 39.

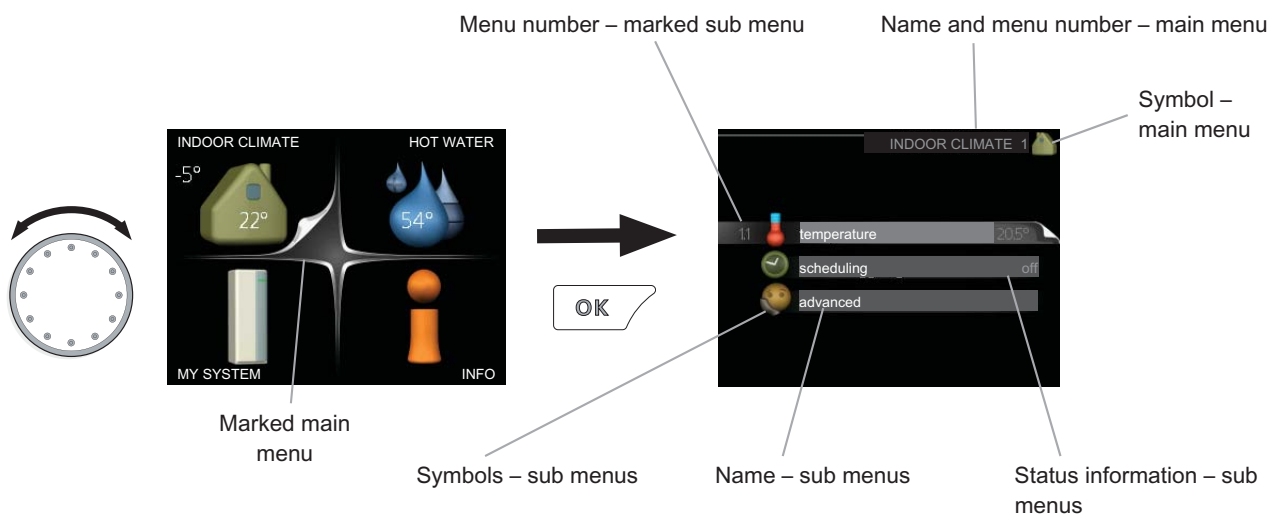
Menu 5 - SERVICE

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 43.

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 VVM 500. 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 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



Alternative

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



To select another option:

1. Mark the applicable option. One of the options is pre-selected (white). 
2. Press the OK button to confirm the selected option. The selected option has a green tick. 

Setting a value



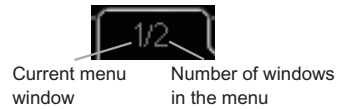
Values to be changed

To set a value:

1. Mark the value you want to set using the control knob. 
2. Press the OK button. The background of the value becomes green, which means that you have accessed the setting mode. 
3. Turn the control knob to the right to increase the value and to the left to reduce the value. 
4. Press the OK button to confirm the value you have set. To change and return to the original value, press the Back button. 

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



Arrows to scroll through window in start guide

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

Help menu

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

To access the help text:

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

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

8 Control - Menus

Menu 1 - INDOOR CLIMATE

Overview

1 - INDOOR CLIMATE	1.1 - temperature
	1.3 - scheduling
	1.9 - advanced
	1.3.1 - heating
	1.9.1 - heating curve
	1.9.2 - external adjustment
	1.9.3 - min. flow line temp.
	1.9.4 - room sensor settings
	1.9.7 - own curve
	1.9.8 - point offset

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.

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: 0

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.



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 1.3 - scheduling

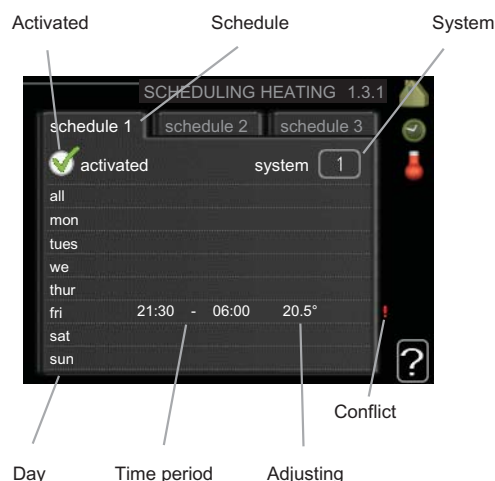
You can also schedule a longer period during a selected period (vacation) in menu 4.7.

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.

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.

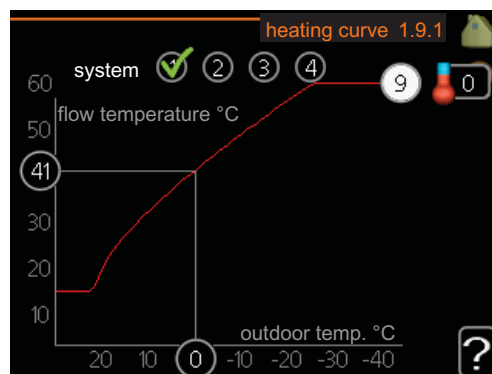
min. flow line temp. Setting minimum permitted flow line temperature.

room sensor settings Settings regarding the room sensor.

own curve Setting own heat curve.

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

Menu 1.9.1 - heating curve



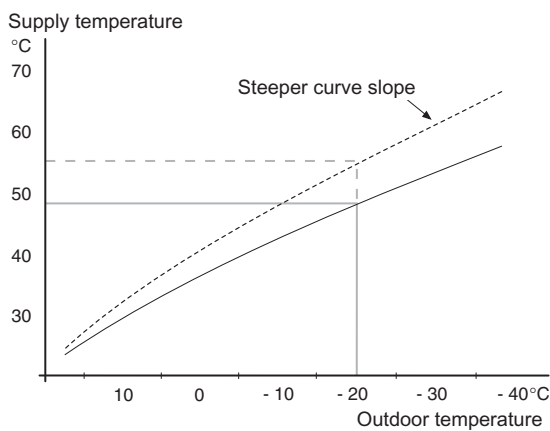
heating curve

Setting range: 0 - 15

Default value: 9

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 indoor module'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.

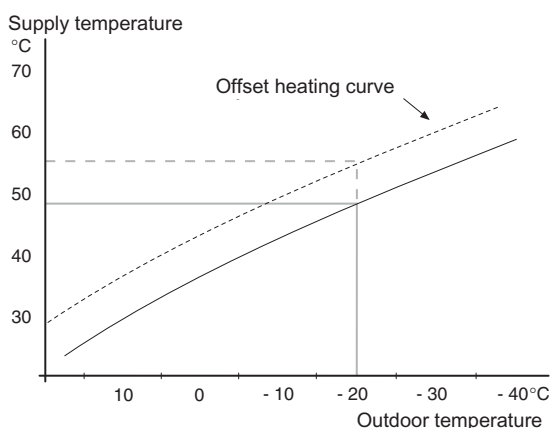
The heating curve is set when the heating installation is installed, but may need adjusting later. Thereafter the heating curve should not need further adjustment.



Caution

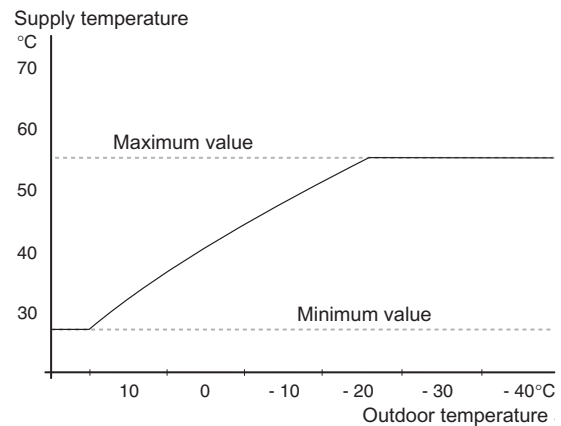
In the event of making fine adjustments for the indoor temperature, the heat curve must be offset up or down instead, this is done in menu 1.1 **temperature**.

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 temperature. Heating curve 0 means that **own curve** (menu 1.9.7) is used.
5. Press the OK button to exit the setting.

To read off a heating curve:

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



TIP

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

If it is cold outdoors and the room temperature is too low, increase the curve slope by one increment.

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

If it is warm outdoors and the room temperature is too low, increase the curve offset by one increment.

If it is warm outdoors and the room temperature is too high, lower the curve offset by one increment.

Menu 1.9.2 - external adjustment

climate system

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

Default value: 0

Connecting an external contact, for example, a room thermostat or a timer allows you to temporarily or periodically raise or lower the room temperature. 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: 5-70 °C

Default value: 20 °C

Set the minimum temperature on the supply temperature to the climate system. This means that VVM 500 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 1.9.7 - 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 $\pm 5\text{ }^{\circ}\text{C}$ 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 $-2\text{ }^{\circ}\text{C}$, "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 2 - HOT WATER

Overview

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

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 hot water circulation (accessory is required)

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 time to the right displays the remaining time at the selected setting.

When the time has run out VVM 500 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.

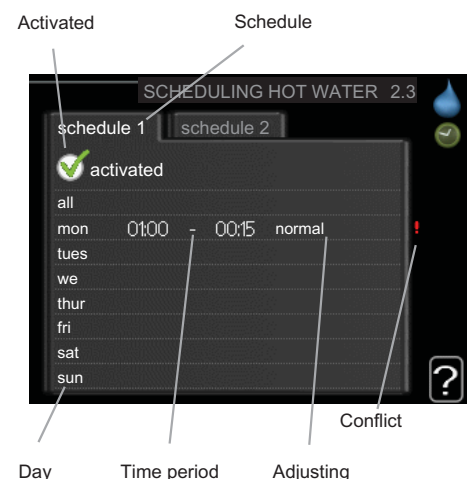
luxury: Lux mode gives the greatest possible amount of hot water. In this mode, the immersion heater, as well as the compressor, is used to heat hot water, which may increase operating costs.

Menu 2.3 - scheduling

What hot water comfort the indoor module 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.



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.

Menu 2.9 - advanced

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

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

Menu 2.9.2 - hot water recirc. (accessory required)

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, it is just display of information. Status information for the relevant menu can be found on the display to the right of the menu.

service info shows temperature levels and settings in the indoor module.

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 indoor module when the alarm occurred.

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

Menu 3.1 - service info

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

Symbols in this menu:



Compressor



Heating



Addition



Hot water

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 installation's 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.

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 - MY SYSTEM

Overview

4 - MY SYSTEM	4.1 - plus functions *	4.1.1 - pool *
	4.1.4 - sms *	
	4.2 - op. mode	
	4.3 - my icons	
	4.4 - time & date	
	4.6 - language	
	4.7 - holiday setting	
	4.9 - advanced	4.9.1 - op. prioritisation
		4.9.2 - auto mode setting
		4.9.3 - degree minute setting
		4.9.4 - factory setting user
		4.9.5 - schedule blocking

* Accessory needed.

Sub-menus

For the menu **MY SYSTEM** 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 indoor module's user interface that are to appear on the hatch 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.

advanced Settings of indoor module work mode.

Menu 4.1 - plus functions

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

Menu 4.1.1 - pool (accessory is required)

start temp

Setting range: 5.0 - 80.0 °C

Default value: 22.0 °C

stop temperature

Setting range: 5.0 - 80.0 °C

Default value: 24.0 °C

Select whether the pool control is to be activated and within what temperatures (start and stop temperature) pool heating must occur.

When the pool temperature drops below the set start temperature and there is no hot water or heating requirement, VVM 500 starts pool heating.

Untick "activated" to switch off the pool heating.



Caution

The start temperature cannot be set to a value that is higher than the stop temperature.

Menu 4.1.4 - sms (accessory is required)

Make settings for the accessory SMS 40 here.

Add the mobile numbers that are to have access to change and receive status information from the indoor module. 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 indoor module operating mode is usually set to "auto". It is also possible to set the indoor module to "add. heat only", but only when an addition is used, or "manual" the 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 indoor module 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 you cannot select which functions are to be permitted because it is handled automatically by the indoor module.

Operating mode manual

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

Operating mode add. heat only

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



Caution

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



Caution

You cannot change from only additional heat if you do not have a slave connected (see Menu 5.2.2).

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 symbol for the indoor module. 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.

Menu 4.3 - my icons

You can select what icon should be visible when the door to VVM 500 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 and display mode here.

Menu 4.6 - language

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

Menu 4.7 - holiday setting

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.

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 installation should work with each requirement if there are several requirements at the same time. If there is only one requirement the installation only works with that requirement.

The indicator marks where in the cycle the installation 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 indoor module 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: 100

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

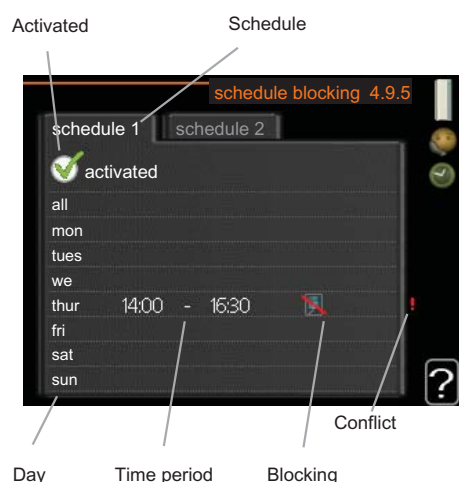
All settings that are available to the user (including advanced menus) can be reset to default values here.

Menu 4.9.5 - schedule blocking

The compressor and/or addition in the indoor module 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 relevant blocking symbol is shown in the main menu on the symbol for the indoor module.



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
		5.1.3 - max diff flow line temp.
		5.1.4 - alarm actions
		5.1.10 - op. mod heat med pump
		5.1.11 - pump speed heating medium
		5.1.12 - internal electrical addition
		5.1.14 - flow set. climate system
		5.1.18 - flow setting charge pump
		5.1.19 - charge pump speed
		5.1.20.1 - EB101
	5.2 - system settings	5.2.2 - installed slaves
		5.2.4 - accessories
	5.3 - accessory settings	5.3.3 - extra climate system *
		5.3.2 - shunt controlled add. heat *
		5.3.3 - extra climate system *
		5.3.4 - solar heating *
		5.3.7 - external addition
	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 indoor module.

system settings System settings for the indoor module, 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 indoor module.

start guide Manual start of the start guide which is run the first time when the indoor module is started.

quick start Quick starting the compressor.



NOTE

Incorrect settings in the service menus can damage the installation.

Menu 5.1 - operating settings

Operating settings can be made for the indoor module in the sub menus.

Menu 5.1.1 - hot water settings

economy

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

Factory setting start temp. economy: 44 °C

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

Factory setting stop temp. economy: 47 °C

normal

Setting range start temp. normal: 5 – 55 °C

Factory setting start temp. normal: 47 °C

Setting range stop temp. normal: 5 – 60 °C

Factory setting stop temp. normal: 50 °C

luxury

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

Factory setting start temp. lux: 52 °C

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

Factory setting stop temp. lux: 55 °C

Here you set the start and stop temperature of the hot water for the different comfort options in menu 2.2.

Menu 5.1.2 - max flow line temperature

climate system

Setting range: 5-70 °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



Caution

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

Menu 5.1.10 - op. mod heat med pump

op. mode

Setting range: auto, continuous

Default value: auto

Set the operating mode of the heating medium pump here.

auto: The heating medium pump runs according to the current operating mode for VVM 500.

continuous: Continuous operation.

Menu 5.1.11 - pump speed heating medium

op. mode

Setting range: auto, manual

Default value: auto

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

auto: The heating medium pump controls the speed for optimum operation.

manual: The speed of the heating medium pump is adjustable between 0 and 100%.

Menu 5.1.12 - internal electrical addition

max connected el. add.

Setting range: 0-9 kW

Default value: 9 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 VVM 500 and the fuse size for the installation.

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

Menu 5.1.14 - flow set. climate system

presettings

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

Default value: radiator

Setting range DOT: -40,0 - 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 5.1.18 - flow setting charge pump

Set the flow for the charge pump here. Activate the flow test to measure delta (the difference between the flow and return line temperatures from the heat pump). The test is OK if delta lies between the two parameters shown in the display.

If delta lies outside the parameters adjust the flow for the charge pump by reducing/increasing the pressure and then perform the flow test again.

Menu 5.1.19 - charge pump speed

op. mode

Setting range: auto, manual

Default value: auto

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

auto: The charge pump selects optimal speed for the current operating mode for VVM 500.

manual: The speed of the charge pump is adjustable between 0 and 100%.

Menu 5.1.20.1 - EB101

EB101

setting A4

Default value: 20 minutes

setting A7

Default value: -20 °C

setting A8

Default value: 55 minutes

setting A9

Default value: -3 °C

setting A10

Default value: 20 °C

setting A11

Default value: 7 minutes

Make settings for the installed slaves here. To see what settings you can make, see installation manual for the relevant installed slave.

Menu 5.2 - system settings

Make different system settings for your installation here, e.g. activate connected slaves and which accessories are installed.

Menu 5.2.2 - installed slaves

Set which slaves are connected to the master installation.

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

search installed slaves

Mark "search installed slaves" and press the OK button to automatically find connected slaves for the master installation.

Menu 5.2.4 - accessories

Set which accessories are installed on the installation here.

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

search installed acc.

Mark "search installed acc." and press the OK button to automatically find connected accessories for VVM 500.

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 5.3.4 - solar heating

start delta-T

Setting range: 1 - 40 °C

Default value: 8 °C

stop delta-T

Setting range: 0 - 40 °C

Default value: 4 °C

max. tank temperature

Setting range: 70 - 85 °C

Default value: 85 °C

max. solar collector temp.

Setting range: 80 - 200 °C

Default value: 125 °C

anti-freeze temperature

Setting range: -20 - +20 °C

Default value: 2 °C

start solar collector cooling

Setting range: 80 - 200 °C

Default value: 110 °C

start delta-T, stop delta-T: Here you can set the temperature difference between solar panel and solar tank at which the circulation pump is to start and stop.

max. tank temperature, max. solar collector temp.: Here you can set the maximum temperatures in tank re-

spectively solar panel at which the circulation pump is to stop. This is to protect against excess temperatures in the solar tank and production of steam in the solar circuit.

anti-freeze temperature: Here you can set the temperature in the solar panel at which the circulation pump is to start to prevent freezing.

start solar collector cooling: If the temperature in the solar panel is greater than this setting at the same time that the temperature in the solar tank is greater than the set maximum temperature, the external function for cooling is activated.

Menu 5.3.7 - external addition

Make settings for external addition here. External addition is for example external oil, gas or electric boiler.

If the external addition is not step controlled, in addition to selecting when this should start also set the run time for the addition.

If the external addition is step controlled you can select when the addition is to start, set the maximum number of permitted steps and whether binary stepping is to be used.

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 21) 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.



NOTE

When resetting, the start guide is displayed the next time the indoor module is restarted.

Menu 5.6 - forced control

You can force control the different components in the indoor module and any connected accessories here.

Menu 5.7 - start guide

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

See page 25 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.



NOTE

During floor drying the heating medium pump in 100% runs regardless of the setting in menu 5.1.10.



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 VVM 500 only replacement parts from NIBE may be used.

Emergency mode

Emergency mode is used in event of operational interference and in conjunction with service. Hot water capacity is reduced in this mode.

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 is set between 35 and 45 °C.
- Only the circulation pumps and electrical addition are active. The electrical addition power in emergency mode is set in the immersion heater card (AA1). See page 20 for instructions.

Emptying the hot water coil

The hot water coil is most easily drained by detaching the cold water pipe at the coils's entry to the reservoir.

Draining the climate system

In order to carry out service on the climate system, it may be easier to drain the system first using drain valve (QM1).



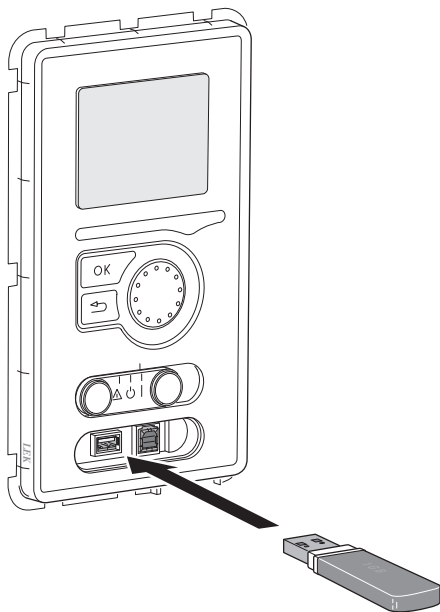
NOTE

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

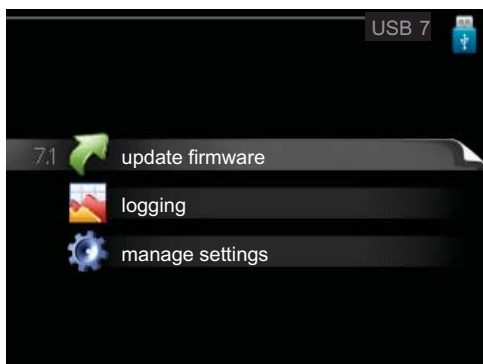
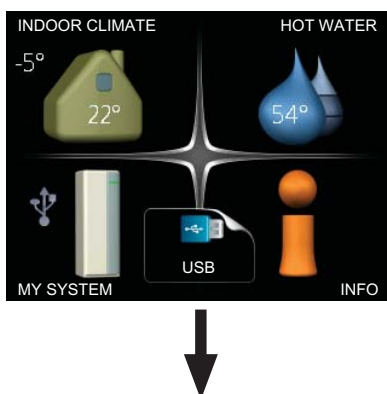
Temperature sensor data

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

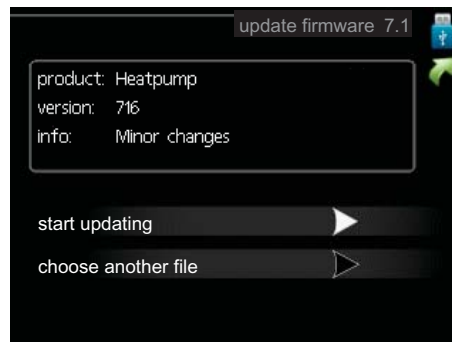


VVM 500 is equipped with a USB socket in the display unit. This USB socket can be used to connect a USB memory to update the software, save logged information and handle the settings in VVM 500.



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 VVM 500.



NOTE

For the following functions to work the USB memory must contain files with software for VVM 500 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 from 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 VVM 500 restarts.



NOTE

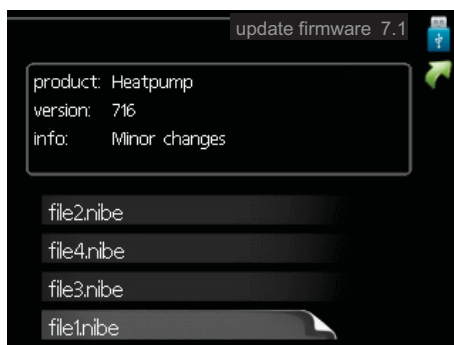
A software update does not reset the menu settings in VVM 500.



NOTE

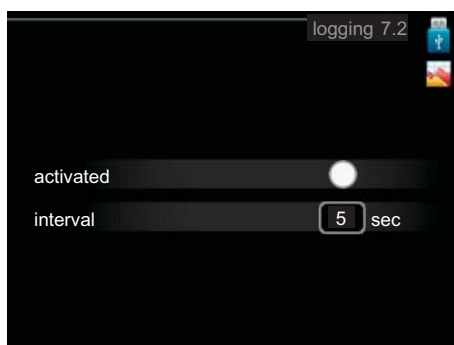
If the update is interrupted before it is complete (for example power cut etc.) the software can be reset to the previous version if the OK button is held in during start up until the green lamp starts to illuminate (takes about 10 seconds).

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 VVM 500 are to be saved in a log on the USB memory.

Log for longer periods

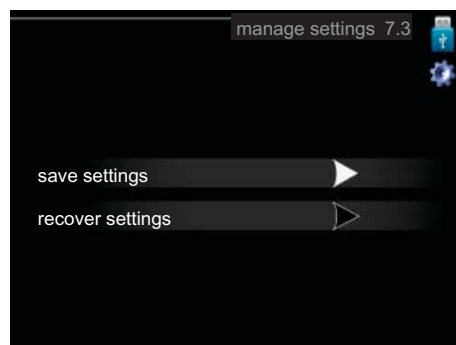
1. Set the desired interval between loggings.
2. Tick "activated".
3. Mark "read log settings" and press the OK button.
4. The present values from VVM 500 are saved in a file in the USB memory at the set interval until "activated" is unticked.



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 VVM 500 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 VVM 500.



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.

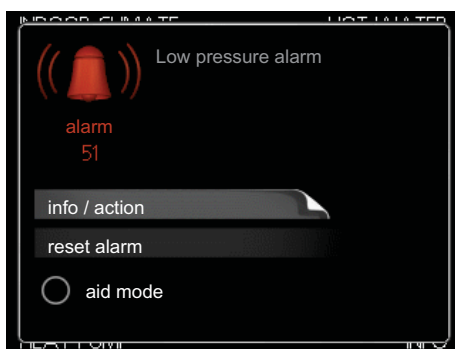
10 Disturbances in comfort

In most cases, the indoor module 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 indoor module measurement values are gathered under menu 3.1 in the indoor module menu system. Looking through the values in this menu can often simplify finding the fault source.

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 indoor module 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 indoor module 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 51).

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

Low hot water temperature or a lack of hot water

- Too high domestic water flow.
 - Reduce the domestic water flow, see diagram of hot water capacity on page 55.
- Indoor module in incorrect operating mode.
 - 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.

Low room temperature

- Closed thermostats in several rooms.
- Indoor module 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 heat curve offset of the heat curve. If the room temperature is only low in cold weather the curve slope in the menu 1.9.1 (heating curve) needs to be adjusted up.
- 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.
- Air in the climate system.
 - Vent the climate system (see page 51).
- Closed valves (QM20), (QM32) to the climate system.
 - Open the valves.

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 climate system.
 - Top up the water in the climate system (see page 52).

The compressor does not start

- There is no heating requirement.
 - The indoor module does not call on heating nor hot water.
- 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

Auxiliary relay HR 10

Part no. 089 423

Communications module MODBUS 40

MODBUS 40 enables VVM 500 to be controlled and monitored using a DUC (computer sub-center) in the building. Communication occurs using MODBUS-RTU.

Part no. 067 144

Communications module SMS 40

SMS 40 enables VVM 500 to be controlled and monitored via SMS messages. The mobile application "NIBE Mobile App" can be used with a mobile telephone with the Android operating system .

Part no. 067 073

Energy measurement kit EMK 500

Part no. 067 178

External electrical addition ELK

These accessories require accessory DEH 500 (step controlled addition).

ELK 26	ELK 5/8/15
Part no. 067 074	ELK 5 Part no. 069 025
	ELK 8 Part no. 069 026
	ELK 15 Part no. 069 022

Extra shunt group ECS 40/ECS 41

This accessory is used when VVM 500 is installed in houses with two or more different climate systems that require different supply temperatures.

ECS 40 (Max. 80 m ²)	Part no. 067 061
ECS 41 (Min. 80 m ²)	Part no. 067 099

Heat pump

F2026

6 kW Part no. 064 084

8 kW Part no. 064 085

10 kW Part no. 064 086

F2300

14 kW Part no. 064 063

20 kW Part no. 064 064

Pipe for external heat source

DEH 500 (oil/electricity/gas)

Part no. 067 180

Pool heating POOL 500

POOL 500 is an accessory that enables pool heating with VVM 500.

Part no. 067 181

Room sensor RTS 40

Part no. 067 065

Room unit RMU 40

RMU 40 means that control and monitoring of the heat pump can be carried out in a different part of the accommodation to where VVM 500 is located.

Part no. 067 064

SCA 30

SCA 30 means that VVM 500 can be connected to solar heating.

Part no. 067 179

Top cabinet

Top cabinet to room height 2060, 2160, 2200-2450 mm.

2060 mm

Part no. 056 177

2160 mm

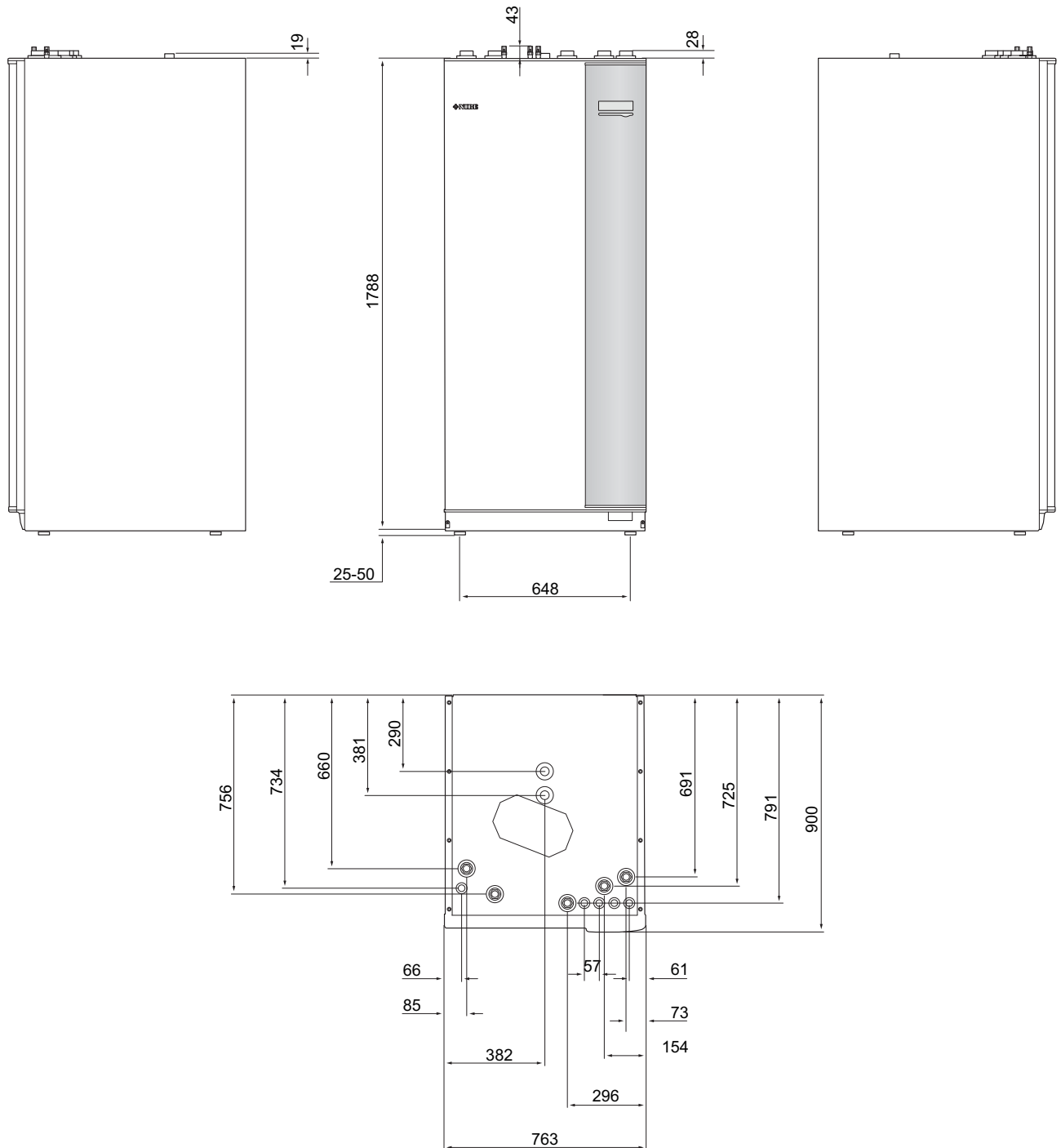
Part no. 056 178

2200-2450 mm

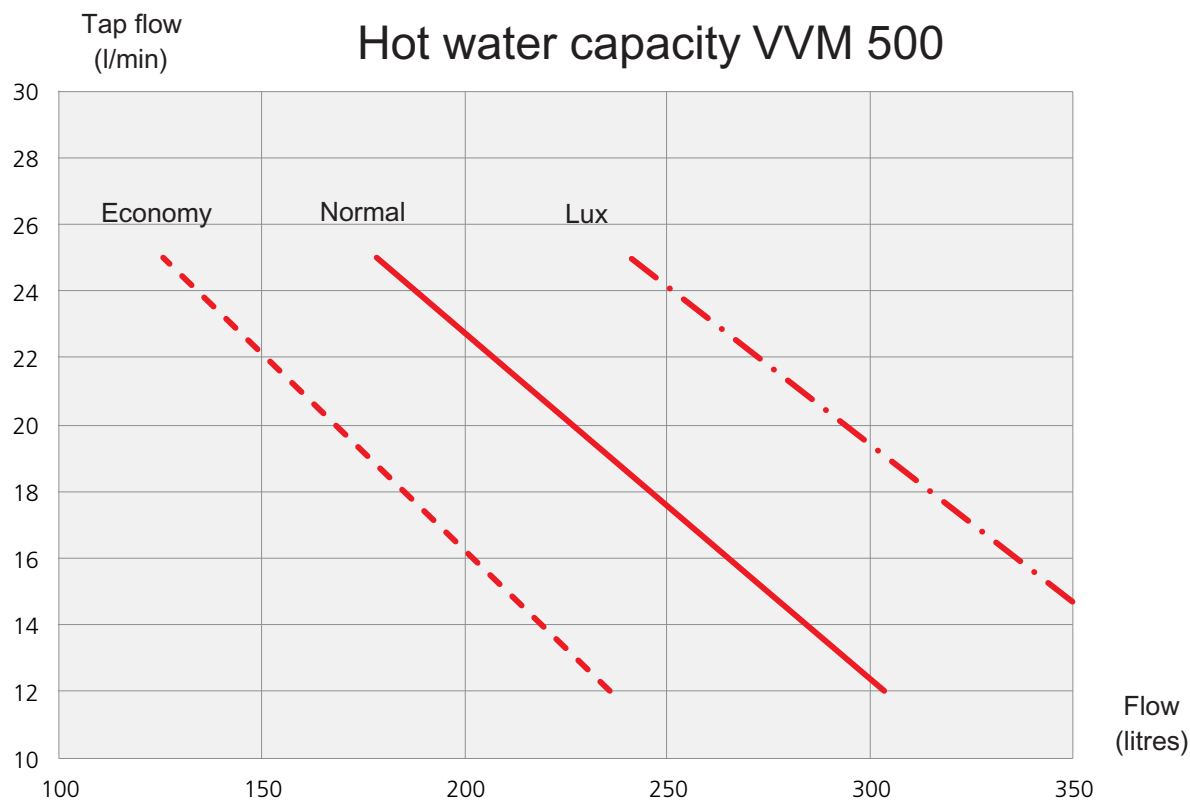
Part no. 056 179

12 Technical data

Dimensions and setting-out coordinates



Hot water capacity



Technical specifications



3x400V

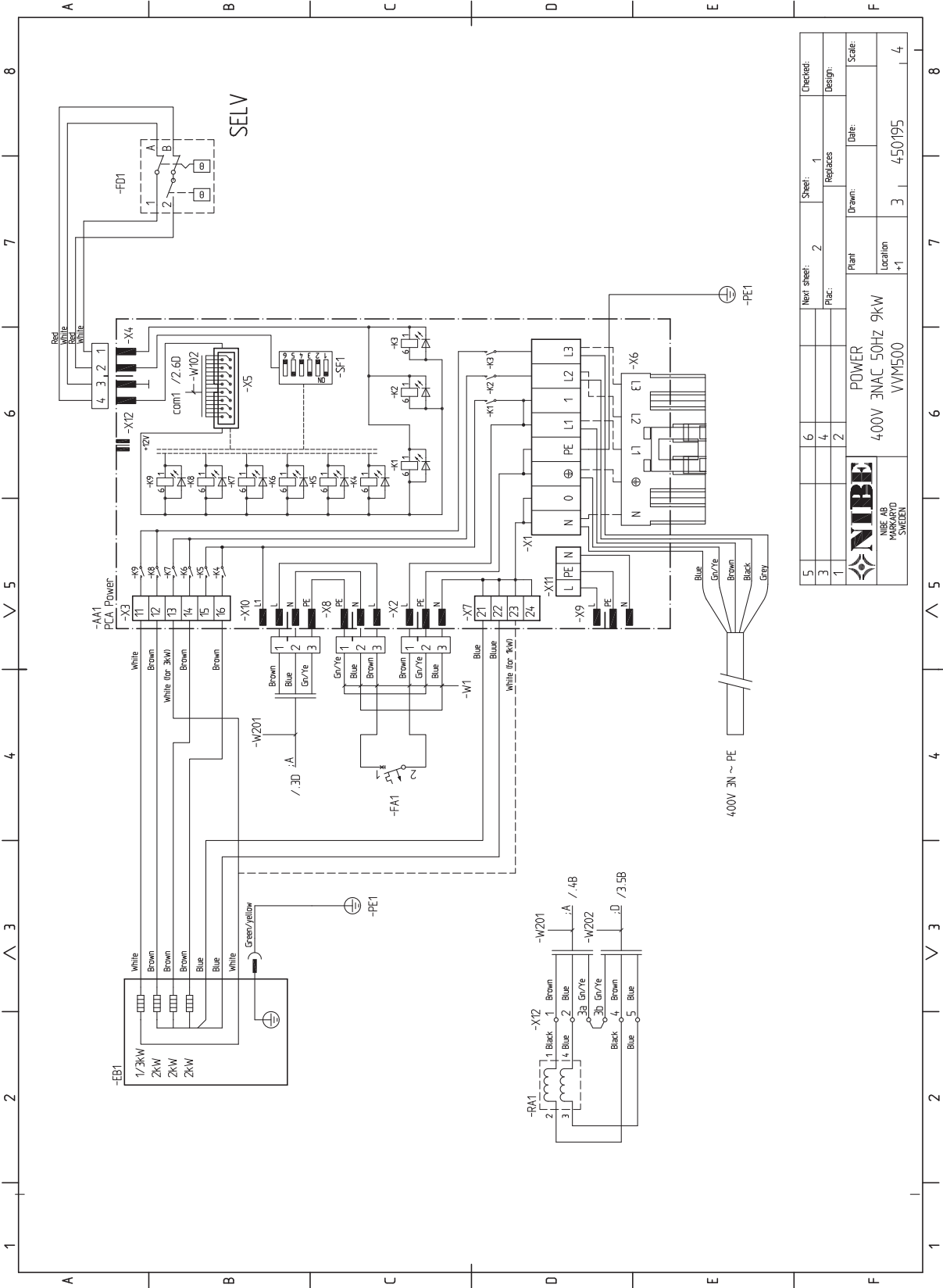
3x400V		
Max heat pump output ¹⁾	kW	20
Additional power	kW	9
Electrical data		
Rated voltage		400V 3NAC 50 Hz
Max operating current	A	16.2
Fuse	A	16
Output, Heating medium pump	W	10 – 110
Output, charge pump	W	10 – 110
IP class		IP 21
Heating medium circuit		
Energy class circ-pump		low en- ergy
Energy class charge pump		low en- ergy
Max system pressure heating medium	MPa	0.3 (3 bar)
Min flow	l/h	500
Max HM temp	°C	70
Pipe connections		
Heating medium, CU pipe	G25	int.
Hot water connection	G25	int.
Cold water connection	G25	int.
Heat pump connections	G25	int.

Miscellaneous

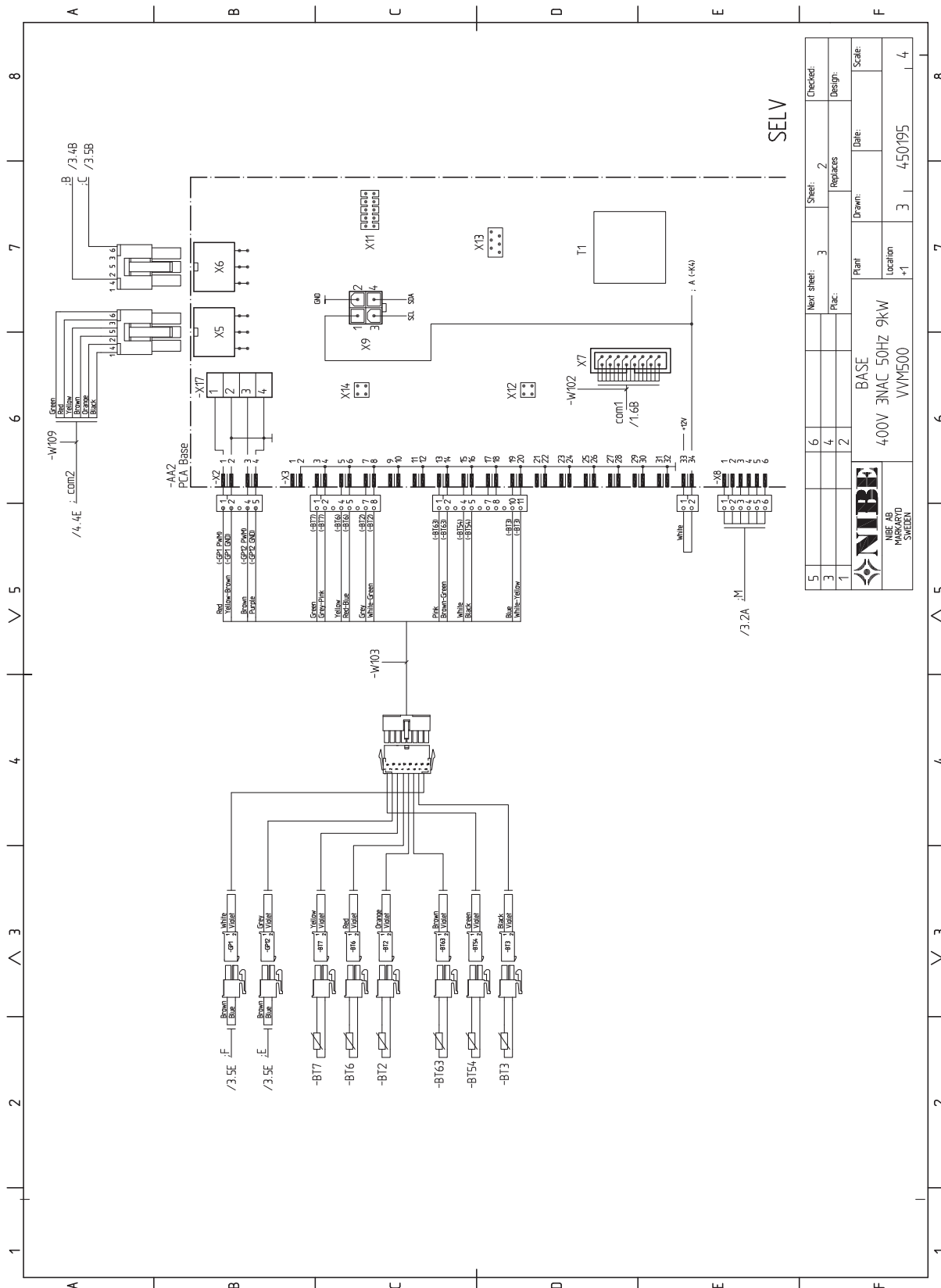
Miscellaneous		
Indoor module		
Volume loop	l	22.8
Volume, total indoor module	l	500
Volume buffer vessel	l	80
Volume, solar coil	l	2
Cut-off pressure, loop	MPa	0.9 (9 bar)
Max permitted pressure in indoor module	MPa	0.3 (3 bar)
Capacity hot water heating According to EN 255-3		
Tap volume 40 °C at Eco- comfort	l	235
Tap volume 40 °C at Normal comfort	l	303
Tap volume 40 °C at Lux comfort	l	378
Idle loss according to DIN 4753-8.	W	116
Dimensions and weight		
Width	mm	760
Depth	mm	900
Height	mm	1900
Required ceiling height	mm	2000
Weight (excl packaging)	kg	240
Part no.		069 400
RSK No.		624 23 28

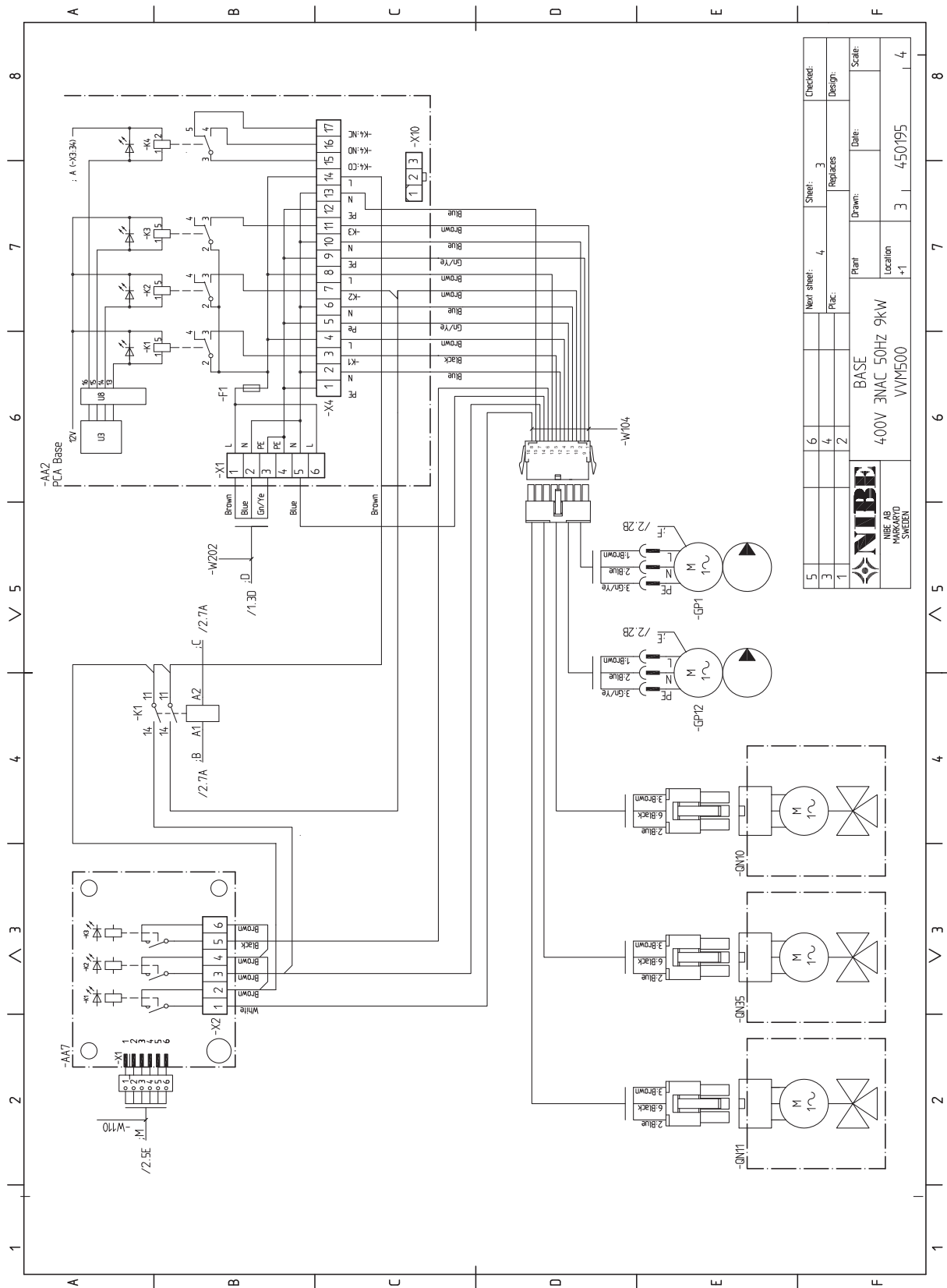
¹⁾Applies with an outdoor air heat pump at 7/45 °C (outdoor temperature/flow line temperature)

Electrical circuit diagram

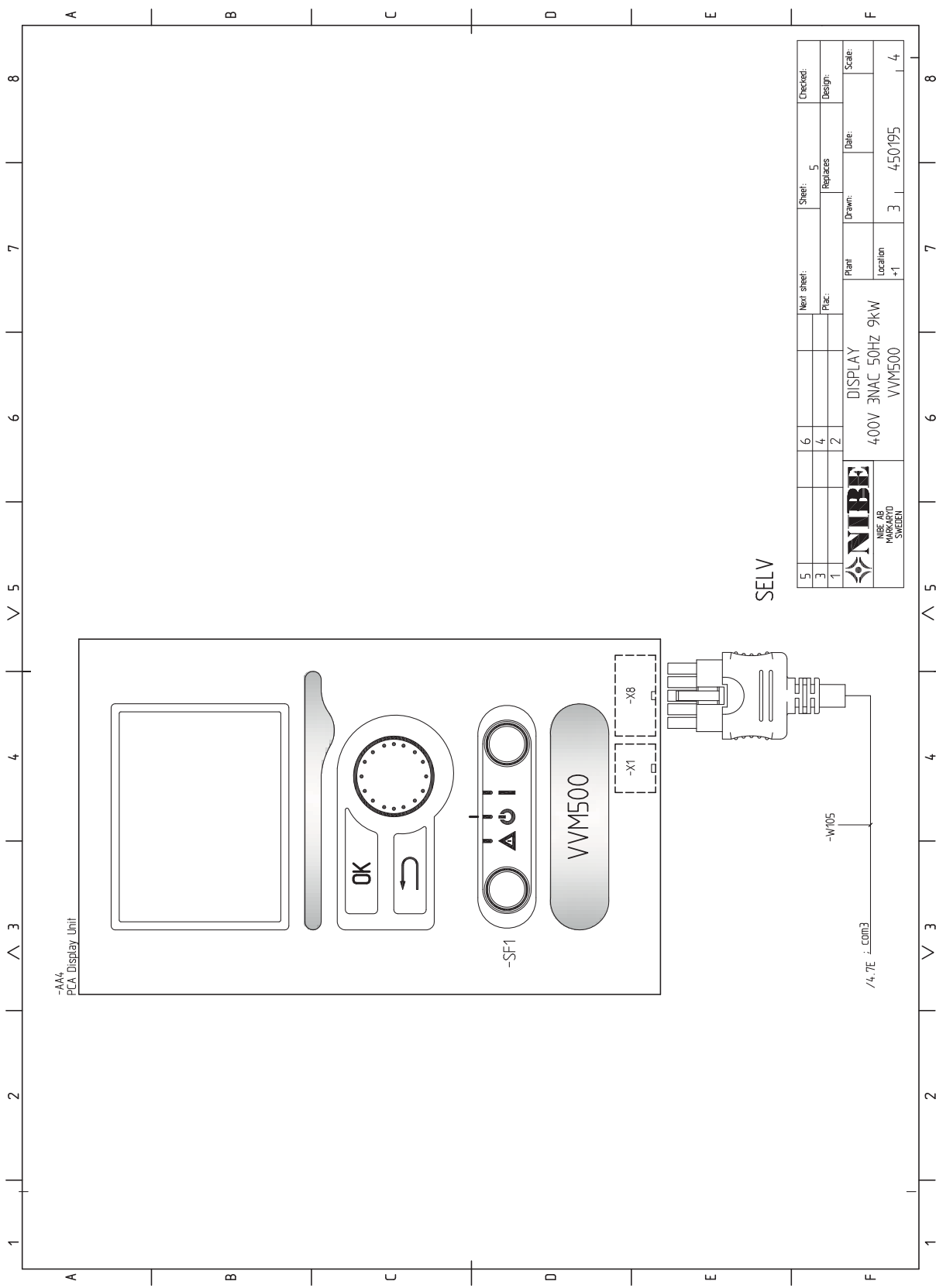


5	6	Next sheet:	2	Sheet:	1	Checked:	
3	4	Plac.		Replaces		Design:	
1	2	Plant		Drawn:		Date:	
		Location	+1	3	450195	Scale:	4
		POWER					
		400V 3NAC 50Hz 9kW					
		VVM500					
		NIBE AB					
		MARKARYD SWEDEN					





5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	1488	1489	1490	1491	1492	1493	1494	1495	1496	1497	1498	1499	1500	1501	
---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	--



13 Item register

Item register

A

Accessibility, electrical connection, 17
Accessories, 53
Assembly, 5

B

Back button, 27

C

Cable lock, 17
Cold and hot water, 14
Commissioning and adjusting, 24
 Filling and venting, 24
 Preparations, 24
 Start guide, 25
 Start-up and inspection, 25
Connecting accessories, 23
Connecting cold and hot water, 13, 14
Connecting current sensors, 21
Connecting pool, 14
Connecting the climate system, 14
Connection of external heat source, 13
Connections, 18
Contact for activation of "external adjustment", 22
Contact for activation of "temporary lux", 22
Contact information, 4
Control, 27, 31
 Control - Introduction, 27
 Control - Menus, 31
Control - Introduction, 27
 Display unit, 27
 Menu system, 28
Control knob, 27
Control - Menus, 31
 Menu 1 - INDOOR CLIMATE, 31
 Menu 2 - HOT WATER, 36
 Menu 3 - INFO, 38
 Menu 4 - MY SYSTEM, 39
 Menu 5 - SERVICE, 43

D

Delivery and handling, 5
 Assembly, 5
 Installation area, 5
 Removing the covers, 7
 Supplied components, 6
 Transport, 5
Dimensions and pipe connections, 11
Dimensions and setting-out coordinates, 54
Display, 27
Display unit, 27
 Back button, 27
 Control knob, 27
 Display, 27
 OK button, 27
 Status lamp, 27
 Switch, 27
Disturbances in comfort, 51
 Manage alarm, 51
 Troubleshooting, 51
Draining the climate system, 48
Draining the hot water heater, 48

E

Electrical addition - maximum output, 20
 Power steps of the immersion heater, 20
Electrical circuit diagram, 58
Electrical connections, 16
 Accessibility, electrical connection, 17

Cable lock, 17
Connecting accessories, 23
Connections, 18
Electrical addition - maximum output, 20
External connection options, 21
 General, 16
 Load monitor, 21
 Miniature circuit-breaker, 16
 Outdoor sensor, 18
 Power connection, 18
 Removing the cover, base board, 17
 Removing the cover, immersion heater circuit board, 17
 Removing the hatch, input circuit board, 17
 Room sensor, 19
 Settings, 20
 Temperature limiter, 16
External connection options, 21
 Contact for activation of "external adjustment", 22
 Contact for activation of "temporary lux", 22
 Possible selection for AUX inputs, 21
 Possible selection for AUX output (potential free variable relay), 22
 Switch for external blocking of heating, 21
External heat source, 13

F

Filling and venting, 24
 Filling the climate system, 24
 Filling the hot water coil, 24
 Venting the climate system, 24
Filling the climate system, 24
Filling the hot water coil, 24

H

Heating medium side, 14
Heat pump, 13
Help menu, 25, 30
Hot water capacity, 55

I

Important information, 2
 Safety information, 2
Indoor module's design, 8
 Component locations, 8
 List of components, 9
Initial pressure, 10
Inspection of the installation, 3
Installation alternative, 15
 Connecting hot water circulation, 15
 Extra hot water heaters, 15
 Two or more climate systems, 14
 Water heater with immersion heater, 15
Installation area, 5

M

Manage alarm, 51
Marking, 2
Menu 1 - INDOOR CLIMATE, 31
Menu 2 - HOT WATER, 36
Menu 3 - INFO, 38
Menu 4 - MY SYSTEM, 39
Menu 5 - SERVICE, 43
Menu system, 28
 Help menu, 25, 30
 Operation, 29
 Scroll through the windows, 30
 Selecting menu, 29
 Selecting options, 29
 Setting a value, 29

Miniature circuit-breaker, 16

O

OK button, 27

Operation, 29

Outdoor sensor, 18

P

Pipe and ventilation connections, 10

 Cold and hot water, 14

 Connecting cold and hot water, 13, 14

 Connecting pool, 14

 Connecting the climate system, 14

 Connecting the heating pump, 13

 Connection as electric boiler, 13

 Connection of external heat source, 13

 Dimensions and pipe connections, 11

 Electric boiler mode, 13

 External heat source, 13

 General pipe connections, 10

 Heating medium side, 14

 Heat pump, 13

 Installation alternative, 15

 Maximum boiler and radiator volumes, 10

 Pipe dimensions, 11

 Pool, 14

 Sun, 13

 System diagram, 10

Pipe dimensions, 11

Pool, 14

Possible selection for AUX inputs, 21

Possible selection for AUX output (potential free variable relay), 22

Power connection, 18

Preparations, 24

R

Removing the cover, base board, 17

Removing the cover, immersion heater circuit board, 17

Removing the covers, 7

Removing the hatch, input circuit board, 17

Room sensor, 19

S

Safety information, 2

 Contact information, 4

 Inspection of the installation, 3

 Marking, 2

Serial number, 2

Symbols, 2

Scroll through the windows, 30

Selecting menu, 29

Selecting options, 29

Serial number, 2

Service, 48

 Service actions, 48

Service actions, 48

 Draining the climate system, 48

 Draining the hot water heater, 48

 Standby mode, 48

 Temperature sensor data, 48

 USB service outlet, 49

Setting a value, 29

Settings, 20

Standby mode, 48

 Power in emergency mode, 20

Start guide, 25

Start-up and inspection, 25

 Pump speed, 26

Status lamp, 27

Sun, 13

Supplied components, 6

Switch, 27

Switch for external blocking of heating, 21

Symbols, 2

System diagram, 10

T

Technical data, 54

 Dimensions and setting-out coordinates, 54

 Electrical circuit diagram, 58

 Hot water capacity, 55

 Technical Data, 56

Technical Data, 56

Temperature limiter, 16

 Resetting, 16

Temperature sensor data, 48

Transport, 5

Troubleshooting, 51

U

USB service outlet, 49

V

Venting the climate system, 24

NIBE AB Sweden
Hannabadsvägen 5
Box 14
SE-285 21 Markaryd
info@nibe.se
www.nibe.eu

