Indoor module
NIBE VVM S320

The NIBE VVM S320 is designed for combination with any NIBE air/water heat pump to create a highly efficient climate system for your home.

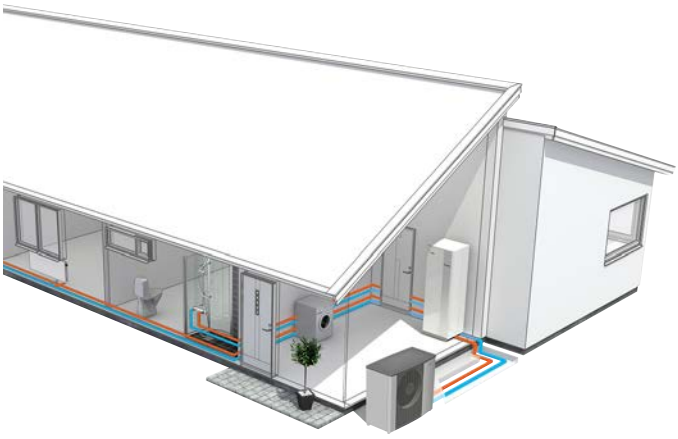
The NIBE VVM S320 has a smart, user-friendly control system which provides efficient heating/cooling and hot water with high performance. The NIBE VVM S320 is ready for installation since the water heater, electric additional heat, self-regulating circulation pump, filling valve, manometer, safety valve and expansion vessel are included.

With integrated wifi, the S Series is a natural part of your connected home. Smart technology adjusts the indoor climate automatically while you're in complete control from your smartphone or tablet. Giving high comfort and low energy consumption, while doing nature a favour at the same time.

- **Combine with a NIBE air/water heat pump for an integrated climate system.**
- **Smart, user-friendly control system.**
- **User-friendly touch control, wireless accessories and integrated wireless connectivity with energy saving smart technology for high comfort.**

This is how NIBE VVM S320 works

Installation method



VVM S320 consists of water heater with charge coil, expansion vessel, safety valves, filler valve, immersion heater, circulation pumps, buffer vessel and control system.

VVM S320 is directly adapted for connection and communication with NIBE air/water heat pump, which together constitute a complete heating installation.

For optimum operation and savings, a low temperature heat distribution system is recommended. At the lowest dimensioned outdoor temperature (DOT), the highest recommended temperatures are 55 °C on the supply line and 45 °C on the return line. VVM S320 manages up to 70 °C. For correct dimensioning of the heat pump, NIBE's dimensioning program NIBE DIM is recommended.

A system with VVM S320 and NIBE's compatible air/water heat pumps allows a complete, energy-saving installation. VVM S320 can be supplemented with several different accessories.

OUTDOOR MODULES

Compatible air/water heat pumps

In some air/water heat pumps, manufactured before or during 2019, the circuit board must be updated in order to be compatible with VVM S320.

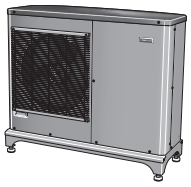
F2040

F2040-12
Part no. 064 092

F2050

F2050-6
Part no. 064 328

F2050-10
Part no. 064 318



F2120

F2120-16 3x400V
Part no. 064 139

S2125

S2125-8 1x230V
Part no. 064 220

S2125-8 3x400V
Part no. 064 219

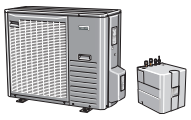
S2125-12 1x230V
Part no. 064 218

S2125-12 3x400V
Part no. 064 217

NIBE SPLIT HBS 05

AMS 10-12
Part no. 064 110

HBS 05-12
Part no. 067 480



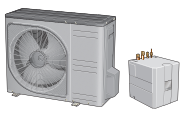
NIBE SPLIT HBS 20

AMS 20-6
Part no. 064 235

HBS 20-6
Part no. 067 668

AMS 20-10
Part no. 064 319

HBS 20-10
Part no. 067 819



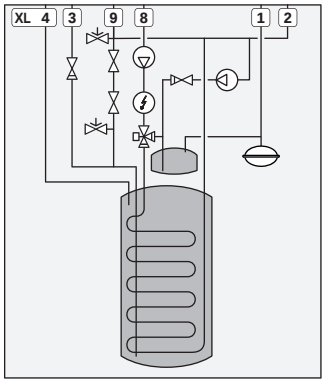
Principle of operation

The heating medium side and the domestic hot water side must be fitted with the necessary safety equipment in accordance with the applicable regulations.

VVM S320 consists of water heater with charge coil, expansion vessel, safety valve, filler valve, immersion heater, circulation pumps, buffer vessel and control system. VVM S320 connects to the climate system.*

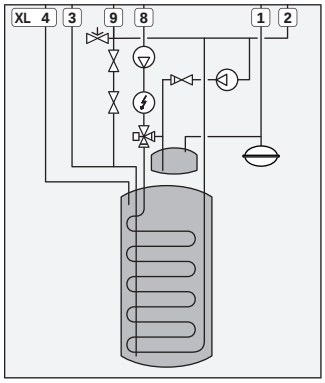
VVM S320 is directly adapted for connection and communication with a compatible NIBE air/water heat pump, see section "Outdoor modules", and together they constitute a complete heating installation.

When it is cold outdoors, the air/water heat pump works with VVM S320, and if the outdoor air temperature falls below the heat pump's stop temperature, all heating is carried out by VVM S320.



*Non-return valve is not included in NIBE VVM S320 E 3x400V DK or NIBE VVM S320 R EM 3x230V.

NIBE VVM S320 R 3X400V NL



Non-return valve and safety valve must be fitted outside NIBE VVM S320 R 3x400V NL. Non-return valve and safety valve are not included in NIBE VVM S320 R 3x400V NL.

National regulations must be observed.

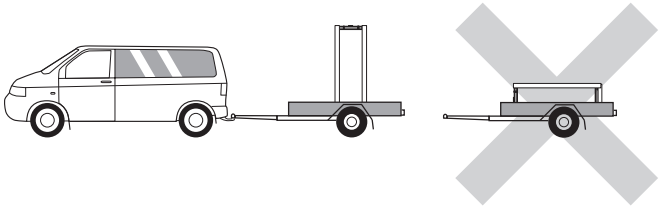
XL1	Connection, heating medium supply line Ø22 mm
XL2	Connection, heating medium return line Ø22 mm
XL3	Connection, cold water Ø22 mm
XL4	Connection, hot water Ø22 mm
XL5	Connection, hot water circulation Ø15 mm (does not apply to VVM S320 CU)
XL8	Connection, docking from heat pump Ø22 mm
XL9	Connection, docking to heat pump Ø22 mm

Good to know about VVM S320

Transport

VVM S320 should be transported and stored vertically in a dry place.

However, the VVM S320 can be carefully laid on its back when being moved into a building.

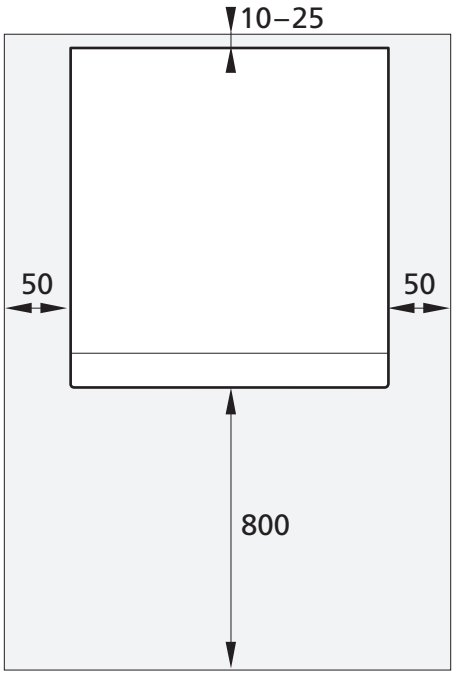


Assembly

- Place VVM S320 on a solid foundation indoors that can take its weight.
- The space where VVM S320 is located must be frost-free.
- Because water can emerge from the safety valve, the area where VVM S320 is located must be provided with floor drainage.

INSTALLATION AREA

Leave a free space of 800 mm in front of the product. All service on VVM S320 can be carried out from the front.



Leave 10 – 25 mm free space between VVM S320 and the wall behind for routing cables and pipes.

Installation

Pipe installation

GENERAL

Pipe installation must be carried out in accordance with current regulations. See manual for compatible NIBE air/water heat pump for installation of the heat pump.

The pipe dimension should not be less than the recommended pipe diameter according to the table. However, each system must be dimensioned individually to manage the recommended system flows.

Minimum system flows

The installation must be dimensioned to manage at least the minimum defrosting flow at 100% pump operation, see table.

Air/water heat pump	Minimum flow during defrosting (100% pump speed (l/s)	Minimum recommended pipe dimension (DN)	Minimum recommended pipe dimension (mm)
AMS 10-12/ HBS 05-12	0.29	20	22

Air/water heat pump	Minimum flow during defrosting (100% pump speed (l/s)	Minimum recommended pipe dimension (DN)	Minimum recommended pipe dimension (mm)
AMS 20-6/ HBS 20-6	0.19	20	22
AMS 20-10/ HBS 20-10			

Air/water heat pump	Minimum flow during defrosting (100% pump speed (l/s)	Minimum recommended pipe dimension (DN)	Minimum recommended pipe dimension (mm)
F2040-12	0.29	20	22

Air/water heat pump	Minimum flow during defrosting (100% pump speed (l/s)	Minimum recommended pipe dimension (DN)	Minimum recommended pipe dimension (mm)
F2050-6	0.19	20	22
F2050-10			

Air/water heat pump	Minimum flow during defrosting (100% pump speed (l/s)	Minimum recommended pipe dimension (DN)	Minimum recommended pipe dimension (mm)
F2120-16 (3x400V)	0.38	25	28

Air/water heat pump	Minimum flow during defrosting (100% pump speed (l/s)	Minimum recommended pipe dimension (DN)	Minimum recommended pipe dimension (mm)
S2125-8 (1x230V)	0.32	25	28
S2125-8 (3x400V)			
S2125-12 (1x230V)			
S2125-12 (3x400V)			

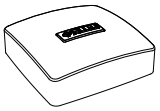
An undersized system can result in damage to the product and lead to malfunctions.

SIMPLE INSTALLATION

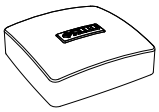
VVM S320 is easy to install. All pipe connections are easily accessible. This is especially useful for the replacement market.

SUPPLIED COMPONENTS

Local differences in the enclosed kit may occur. See relevant installer manual for more information.

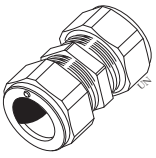


Outside sensor

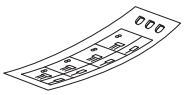


Room sensor

Current sensor[1]



Compression ring coupling[2]



Label for external control voltage for the control system

1 Only to 3 x 400 V

2 Only applies to Germany, Austria, Switzerland and Italy. This compression ring coupling must be used instead of the factory-fitted plug, if you want to connect hot water circulation to XL5.

Location

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

EQUIPMENT

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

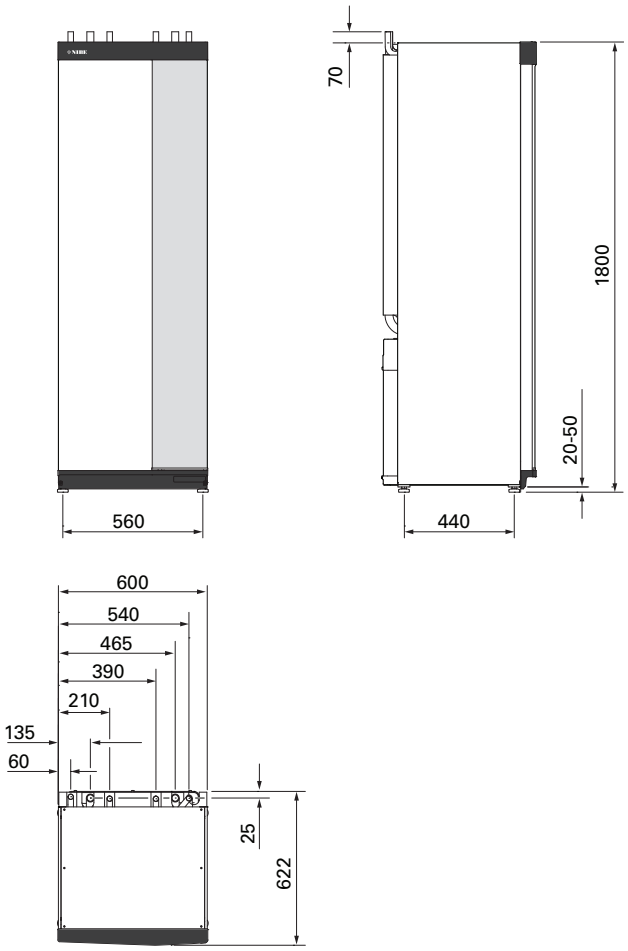
DESIGN

VVM S320 is equipped with filler valves for boiler circuit, expansion vessel, buffer vessel and the requisite safety valves.

The insulation is made of moulded Neopor, which provides excellent heat insulation.

The outer casing is made of white, powder-coated, steel plate.

DIMENSIONS AND PIPE CONNECTIONS



Pipe dimensions

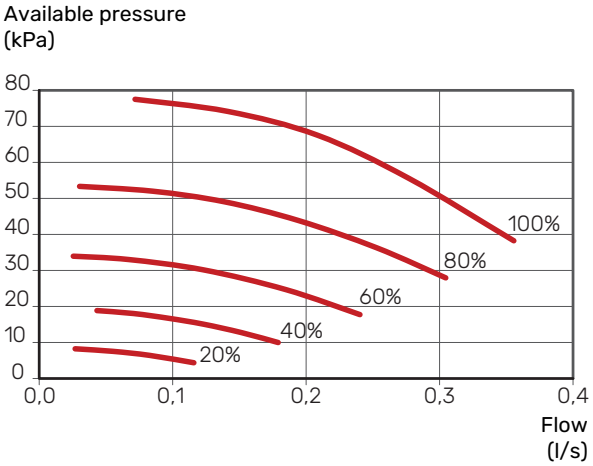
Connection			
XL1 / XL2	Heating medium supply/return ⌀	mm	22
XL3 / XL4	Cold/hot water ⌀	mm	22
XL5	Hot water circulation (does not apply to VVM S320 CU) ⌀	mm	15
XL8 / XL9	Docking connection, supply (from heat pump) / Docking connection, return (to heat pump) ⌀	mm	22

INSTALLATION ALTERNATIVE

VVM S320 can be connected in several ways. The necessary safety equipment must be installed in accordance with current regulations for all installation options.

See nibe.eu for more detailed installation options.

PUMP CAPACITY DIAGRAM



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.

Electrical installation

ELECTRICAL CONNECTIONS

General

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

- Disconnect VVM S320 before insulation testing the house wiring.
- If the building is equipped with an earth-fault breaker, VVM S320 should be equipped with a separate one.
- The electrical wiring diagram for the indoor module can be found in the Installer manual.
- Use a screened cable for communication with the heat pump.
- To prevent interference, sensor cables to external connections must not be laid close to high voltage cables.
- The minimum area of communication and sensor cables to external connections must be 0.5 mm² up to 50 m, for example EKKX, LiYY or equivalent.

  When cable routing in VVM S320, the cable grommets (UB1 and UB2) must be used.

Miniature circuit-breaker

If a miniature circuit breaker is used, this must have at least triggering characteristic "C". See section "Technical specifications" in the Installer Manual for VVM S320.

Temperature limiter

The temperature limiter cuts the power supply to the electrical additional heat if the temperature rises above 89 °C and it is reset manually.

SETTINGS

Electric additional heat – maximum output

The immersion heater is set at the factory to max power.

Emergency mode

When VVM S320 is set to emergency mode, only the most essential functions are activated.

- The hot water capacity is reduced.
- The load monitor is not connected, if present.
- Fixed supply temperature in installations that lack outdoor sensors.

Maintenance of VVM S320

You should check your installation at regular intervals.

If anything unusual occurs, messages about the malfunction appear in the display in the form of different alarm texts.

Safety valve

Safety valves require checking. All essential components can be accessed from the front. This facilitates service and maintenance.

Functions

Control, general

The indoor temperature depends on several different factors. Sunlight and heat emissions from people and household machines are normally sufficient to keep the house warm during the warm seasons. When it gets colder outside, the climate system needs to help heat the house. The colder it is outside, the warmer radiators and underfloor heating systems have to be.

Control of the heat production is performed based on the "floating condensing" principle, which means that the temperature level needed for heating at a specific outdoor temperature is produced based on collected values from the outdoor and supply temperature sensors. The room sensor can also be used to compensate the deviation in room temperature.

Heat production

The supply of heating/cooling to the house is regulated in accordance with the selected heating curve setting (or cooling curve). After adjustment, the correct amount of heat for the current outdoor temperature is supplied. The supply temperature will oscillate around the theoretically desired value.

OWN CURVE

VVM S320 has pre-programmed non-linear heating curves. It is also possible to create your own defined curve. This is an individual linear curve with a number of break points. You select break points and the associated temperatures.

Hot water production

Hot water charging starts when the temperature has fallen to the set start temperature. Hot water charging stops when the hot water temperature at the hot water sensor has been reached.

For temporary higher hot water demand, there is a function that allows the temperature to be raised temporarily for up to 12 hours or by a one time increase (can be selected in the menu system).

With the Smart Control function activated, VVM S320 learns how much hot water is used and when. The Smart Control function memorises the previous week's hot water consumption and adapts the hot water temperature for the coming week to ensure minimal energy consumption.

It is also possible to set VVM S320 in holiday mode, which means that the lowest possible temperature is achieved without the risk of freezing.

Additional heat only

ADDITIONAL HEAT ONLY

VVM S320 can be used with additional heat only (electric boiler) to produce heating and hot water, for example before the outdoor module is installed.

Alarm indications

ALARM INDICATIONS

In the event of an alarm, a malfunction has occurred and the status lamp shines with a steady red light. You receive information about the alarm in the smartguide on the display.

myUplink

With myUplink you can control the installation – where and when you want. In the event of any malfunction, you receive an alarm directly to your e-mail or a push notification to the myUplink app, which allows you to take prompt action.

Visit myuplink.com for more information.

SPECIFICATION

You need the following in order for myUplink to be able to communicate with your VVM S320:

- wireless network or network cable
- Internet connection
- account on myuplink.com

We recommend our mobile apps for myUplink.

RANGE OF SERVICES

myUplink gives you access to various levels of service. The base level is included and, apart from this, you can choose two premium services for a fixed annual fee (the fee varies depending on the functions selected).

Service level	Basic	Premium extended history	Premium change settings
Viewer	X	X	X
Alarm	X	X	X
History	X	X	X
Extended history	-	X	-
Manage	-	-	X

MOBILE APPS FOR MYUPLINK

The mobile apps can be downloaded free of charge from where you usually download your mobile apps. Logging into the mobile app is performed using the same account details as on myuplink.com.

NIBE SMART PRICE ADAPTION™

Smart Price Adaption is not available in all countries. Contact your NIBE dealer for more information.

Smart Price Adaption adjusts the system's consumption according to the time of day when electricity prices are lowest. This allows for savings, provided that an hourly rate subscription has been signed with the electricity supplier.

The function is based on hourly rates for the coming day being downloaded via myUplink. To use the function, an Internet connection and account on myUplink are necessary.

SMART HOME

When you have a smart home system that can communicate with myUplink, you can control the installation via an app by activating the "smart home" function.

By allowing connected units to communicate with myUplink, your heating system becomes a natural part of your homesmart home and gives you the opportunity to optimise the operation.

Remember that the "smart home" function requires myUplink in order to work.

NIBE SMART ENERGY SOURCE™

Smart Energy Source™ prioritises how / to what extent each docked energy source will be used. Here you can choose if the system is to use the energy source that is cheapest at the time. You can also choose if the system is to use the energy source that is most carbon neutral at the time.

The display

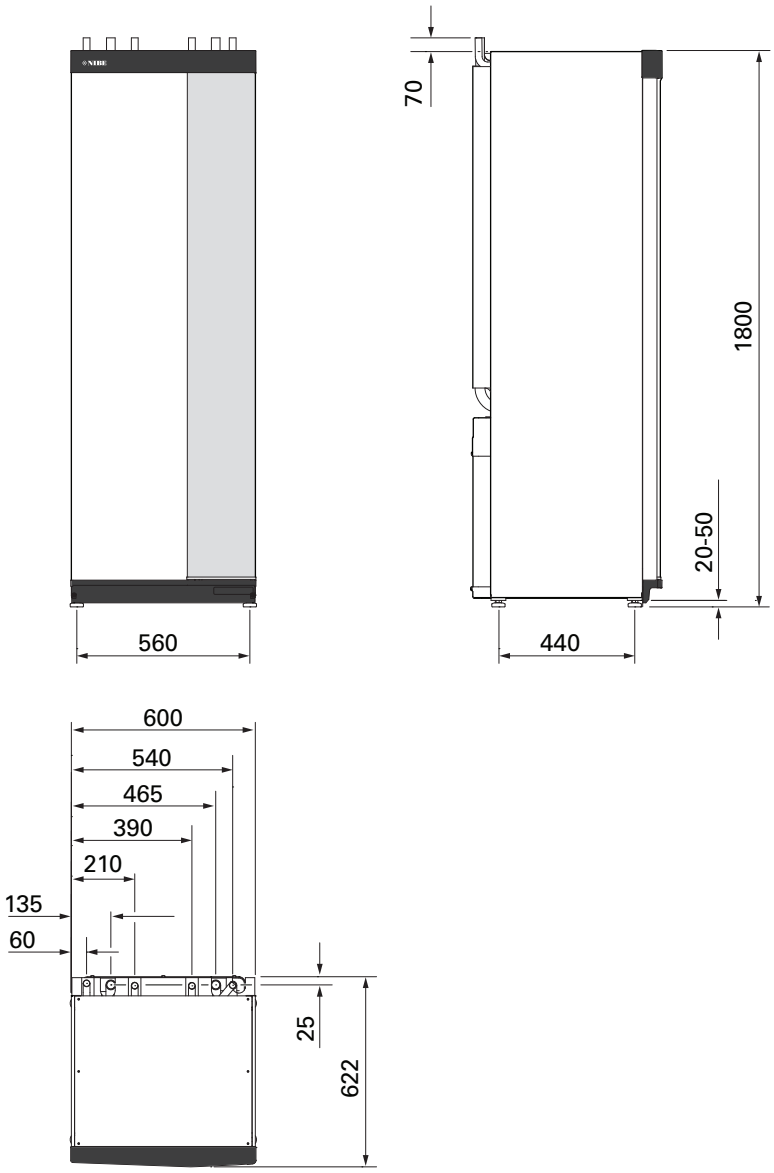
VVM S320 is controlled using a clear and easy to use display.

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

When you connect the product to the network, you can upgrade the software without using the display unit's integrated USB port. See section "myUplink".

Technical data

Dimensions and setting-out coordinates



Technical specifications

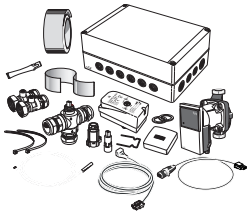
Type		3 x 400 V	3 x 230 V	1 x 230 V
Electrical data				
Additional power	kW	9	9	7
Rated voltage		400 V 3N ~ 50 Hz	230 V 3N ~ 50 Hz	230 V ~ 50 Hz
Fuse	A	16	32	32
Output, heating medium pump (GP1)	W	2 – 75	2 – 75	2 – 75
Power, heating medium pump 2 (GP6)	W	2 – 45	2 – 45	2 – 45
Energy class, heating medium pump (GP1)		low energy		
Energy class, heating medium pump 2 (GP6)		low energy		
Enclosure class		IPX1B		
Equipment Compliant with IEC 61000-3-12				
For Connection Design Purposes, Compliant with IEC 61000-3-3 technical requirements				
WLAN				
2.412 - 2.484 GHz max power	dbm	11		
Wireless units				
2.405 - 2.480 GHz max power	dbm	4		
Heating medium circuit, hot water coil				
Max system pressure heating medium	MPa (bar)	0.3 (3)		
Min system pressure heating medium	MPa (bar)	0.05 (0.5)		
Cut-off pressure, heating medium	MPa (bar)	0.25 (2.5)		
Max HM temp	°C	70		
Pipe connections				
Heating medium ext Ø	mm	22		
Hot water connection ext Ø	mm	22		
Cold water connection ext Ø	mm	22		
Heat pump connections ext Ø	mm	22		
Hot water and heating section				
Volume, hot water heater (Cu)	litre	178	-	-
Volume coil (Cu)	litre	7.5	-	-
Volume, hot water heater (E)	litre	178	-	-
Volume coil (E)	litre	4.7	-	-
Volume, hot water heater (Rf)	litre	176	176	176
Volume coil (Rf)	litre	7.7	7.7	7.7
Volume, total indoor	litre	206	206	206
Volume buffer vessel	litre	26	26	26
Max. permitted pressure in hot water heater	MPa (bar)	1.0 (10)	1.0 (10)	1.0 (10)
Min. permitted pressure in hot water heater	MPa (bar)	0.01 (0.1)	0.01 (0.1)	0.01 (0.1)
Cut-off pressure in hot water heater	MPa (bar)	0.9 (9)	1.0 (10)	0.9 (9)
Hot water heating capacity (comfort mode Normal) According to EN16147				
Tap volume 40 °C (comfort mode Medium) – Cu	litre	240	-	-
Tap volume 40 °C (comfort mode Medium) – E, Rf	litre	207	207	207
Dimensions and weight				
Width	mm	600		
Depth	mm	615		
Height without base	mm	1,800	1,800	1,800
Height with base	mm	1,830 – 1,850	1,830 – 1,850	1,830 – 1,850
Required ceiling height	mm	1,910	1,910	1,910
Weight Cu (excl. packaging and without water)	kg	141	-	-
Weight Rf (excl. packaging and without water)	kg	123	123	123
Weight E (excl. packaging and without water)	kg	163	-	-
Part no.				
Part number Copper – NIBE VVM S320 CU 3x400V		069 195	-	-
Part number Stainless steel – NIBE VVM S320 R 3x400V		069 196	-	-
Part number Enamel – NIBE VVM S320 E 3x400V		069 206	-	-
Part number Enamel – NIBE VVM S320 E 3x400V DK		069 197	-	-
Part number Stainless steel – NIBE VVM S320 R 3x400V NL		069 233	-	-
Part number Stainless steel – NIBE VVM S320 R EM 3x230V		-	069 201	-
Part number Stainless steel – NIBE VVM S320 1x230V R		-	-	069 198

Accessories

Detailed information about the accessories and complete accessories list available at nibe.eu.

Not all accessories are available on all markets.

Active cooling ACS 310*

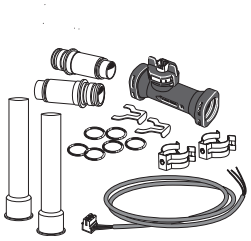


ACS 310 is an accessory that enables VVM S320 to control the production of cooling.

Part no. 067 248

*The accessory requires that NIBE air/water heat pump is installed.

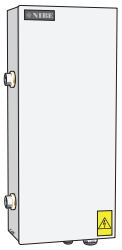
Energy measurement kit EMK 300



This accessory is installed externally and used to measure the amount of energy that is supplied for the pool, hot water, heating and cooling in the building.

Part no. 067 314

External electric additional heat ELK



These accessories require accessories card AXC 40 (step controlled addition).

ELK 5
Electric heater
5 kW, 1 x 230 V
Part no. 069 025

ELK 8
Electric heater
8 kW, 1 x 230 V
Part no. 069 026

ELK 15
15 kW, 3 x 400 V
Part no. 069 022

Extra shunt group ECS

This accessory is used when VVM S320 is installed in houses with two or more different heating systems that require different supply temperatures.

ECS 40 (Max 80 m²)
Part no 067 287

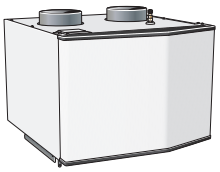
ECS 41 (approx. 80-250 m²)
Part no 067 288

Humidity sensor HTS 40

This accessory is used to show and regulate humidity and temperatures during both heating and cooling operation.

Part no. 067 538

Exhaust air module S135*

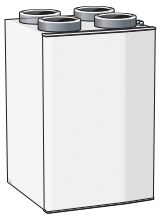


S135 is an exhaust air module specially designed to combine recovery of mechanical exhaust air with an air/water heat pump. Indoor module/control module controls S135.

Part no. 066 161

*The accessory requires that NIBE air/water heat pump is installed.

HRV unit ERS



This accessory is used to supply the accommodation with energy that has been recovered from the ventilation air. The unit ventilates the house and heats the supply air as necessary.

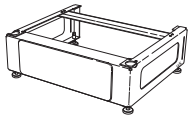
ERS S10-400[1]
Part no. 066 163

ERS 20-250[1]
Part no. 066 068

ERS S40-350
Part no. 066 166

1 A preheater may be required.

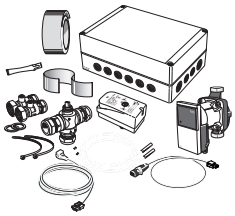
Base extension EF 45



This accessory is used to create a larger connection area under VVM S320.

Part no. 067 152

Pool heating POOL 310*



POOL 310 is an accessory that enables pool heating with VVM S320.

Part no. 067 247

*The accessory requires that NIBE air/water heat pump is installed.

Room unit RMU S40

The room unit is an accessory with a built-in room sensor, which allows the control and monitoring of VVM S320 to be carried out in a different part of your home to where it is located.

Part no. 067 650

Solar package NIBE PV

NIBE PV is a modular system comprising solar panels, assembly parts and inverters, which is used to produce your own electricity.

Accessory card AXC 40

An accessory card is required if step controlled addition (e.g. external electric boiler) or if shunt controlled addition (e.g. wood/oil/gas/pellet boiler) is to be connected to VVM S320.

An accessory card is also required if for example an external circulation pump is connected to VVM S320 at the same time that the buzzer alarm is activated.

Part no. 067 060

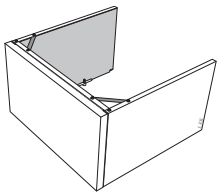
Wireless accessories

It is possible to connect wireless accessories to VVM S320, e.g. room, humidity, CO_2 sensors.

For more information, as well as a complete list of all available wireless accessories, see myuplink.com.

Top cabinet TOC 30

Top cabinet, which conceals any pipes/ventilation ducts.



Height 245 mm
Part no. 067 517

Height 345 mm
Part no. 067 518

Height 385-635 mm
Part no. 067 519

Sustainable energy solutions since 1952

NIBE has been manufacturing energy-efficient and sustainable climate solutions for your home for 70 years. It all began in Markaryd, in the southern Swedish province of Småland, and we recognise our Nordic heritage by utilising the power of nature. We combine renewable energy with smart technology to offer efficient solutions, allowing us to work together to create a more sustainable future.

Regardless of whether it is a chilly winter's day or a warm afternoon in the summer sun, we need a balanced indoor climate that allows us to enjoy a comfortable life, whatever the weather. Our extensive range of products supply your home with cooling, heating, ventilation and hot water, making it possible for you to create a pleasant indoor climate with little impact on the environment.

NIBE Energy Systems
Box 14, SE-285 21 Markaryd
nibe.eu

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