Air/water heat pump
NIBE S2125

NIBE S2125 is an intelligent inverter controlled air / water heat pump. With NIBE indoor modules, it forms a highly efficient climate system for your home. The heat pump operates with a natural refrigerant for a sustainable impact on the climate and the environment. It provides optimized savings because it automatically adapts to the home's power needs.

NIBE S2125 has an optimised annual heating factor, which provides a low operating cost and hot water with high performance. The working area provides a single-flow temperature of up to 75 °C. At an outdoor temperature of down to -25 °C, up to 65 °C is still delivered, while the sound level is low. Available in two effect sizes, 8 and 12.

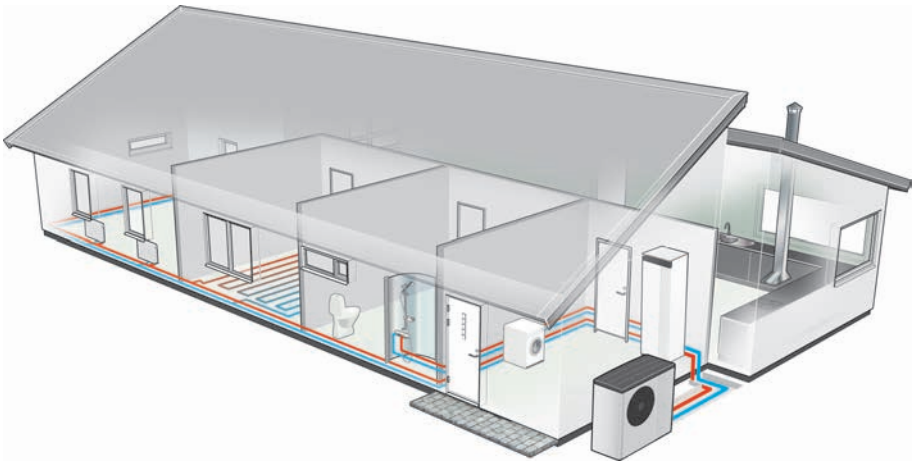
Together with the NIBE S-series indoor module with built-in wifi connection and the possibility of wireless accessories, it becomes a natural part of your connected home. The smart technology automatically adjusts the indoor climate and gives you complete control of the system from your smartphone or tablet. High comfort and low energy consumption - at the same time as you do nature a favour.

- **Optimised seasonal performance factor*, low operating costs and high-performance hot water, using a natural refrigerant for a low environmental impact.**
- **New design for low noise level.**
- **Operating range up to 75 °C supply temperature and 65 °C at -25 °C outdoor temperature.**

***The NIBE S2125 has a rating of SCOP of 5.0 (Average climate, 35/55 °C) and SCOP of >4.1 (Cold climate, 35/55 °C) in accordance with European standard EN 14825:2018, i.e. the standard for determining the reference seasonal effect level, SCOP. Applies to S2125 -8 and -12.**

This is how NIBE S2125 works

Installation method



S2125 – a part of your climate system where S2125 is intended to be combined with one of the indoor modules or the control modules.

Together with an indoor module, S2125 creates a complete heating/cooling and hot water system. Our flexible indoor modules provide efficient heating and high hot water performance. The indoor modules are complete with a smart, user-friendly control system, hot water heater, additional heat, self-regulating circulation pump, etc.

The control modules offer a flexible system solution that can be easily customised. For systems with a control module, different components, such as water heaters, additional heat and other accessories, can be selected to suit the installation's requirements.

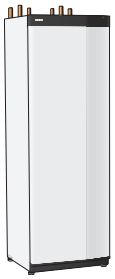
There is a wide range of system solutions and accessories for NIBE's indoor modules and control modules.

COMPATIBLE INDOOR MODULES AND CONTROL MODULES

	VVM S320	SMO S40
S2125-8	X	X
S2125-12	X	X

	VVM 225	VVM 310	VVM 500	SMO 20	SMO 40	MHB 05
S2125-8	X	X	X	X	X	X
S2125-12	X	X	X	X	X	X

INDOOR MODULES



VVM S320
Stainless steel, 1x230 V
Part no. 069 198

VVM S320
Stainless steel, 3x230 V
Part no. 069 201

VVM S320
Enamel, 3x400 V
Part no. 069 206

VVM S320
Stainless steel, 3x400 V
Part no. 069 196

VVM S320
Copper, 3x400 V
Part no. 069 195

VVM S330
Stainless steel, 1 x 230 V
Part no. 069 249

VVM S330
Stainless steel, 3 x 400 V
Part no. 069 250

SVM S332
6 kW, 1 x 230 V
Part no. 069 247

SVM S332
10 kW, 1 x 230 V
Part no. 069 248

SVM S332
6 kW, 3 x 400 V
Part no. 069 255

SVM S332
10 kW, 3 x 400 V
Part no. 069 256

VVM 225[1]
Stainless steel, 1x230 V
Part no. 069 231

VVM 225[1]
Stainless steel, 3x230 V
Part no. 069 230

VVM 225[1]
Enamel, 3x400 V
Part no. 069 227

VVM 225[1]
Stainless steel, 3x400 V
Part no. 069 229

VVM 310
Stainless steel, 3x400 V
Part no. 069 430

VVM 310
Stainless steel, 3x400 V
With integrated EMK 310
Part no. 069 084

VVM 500
Stainless steel, 3x400 V
Part no. 069 400

1 In combination with S2125-12, the system must be supplemented with NIBE UKV.

MONOBLOC HYDRO BOX

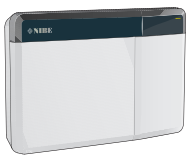
MHB 05

Part no. 067 942

CONTROL MODULES

SMO S40

Control module
Part no. 067 654



SMO 20

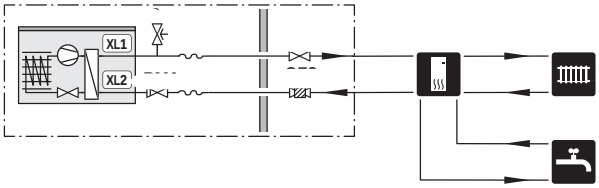
Control module
Part no. 067 224

SMO 40

Control module
Part no. 067 225

Principle of operation

Principle of operation with hot water and heating system.



XL1 Heating medium connection, supply (from S2125)
XL2 Heating medium connection, return (to S2125)

Good to know about NIBE S2125

Transport

S2125 should be transported and stored vertically in a dry place.

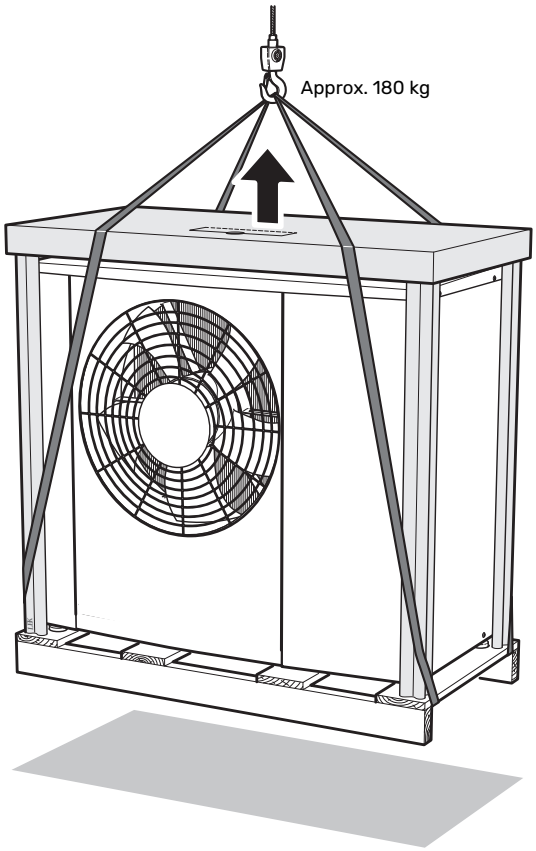
Ensure that the heat pump cannot fall over during transport.

Check that S2125 has not been damaged during transport.

LIFT FROM THE STREET TO THE SET UP LOCATION

If the surface allows, the easiest method is to use a pallet truck to move the heat pump to the installation area.

The centre of gravity is offset to one side (see print on the packaging).



If the heat pump needs to be transported across soft ground, such as a lawn, we recommend using a crane truck that can lift it to the installation location. When the heat pump is lifted with a crane, the packaging must be intact.

If a crane truck cannot be used, the heat pump can be transported on an extended sack truck. The heat pump must be taken hold of from its heaviest side and two people are required to lift it.

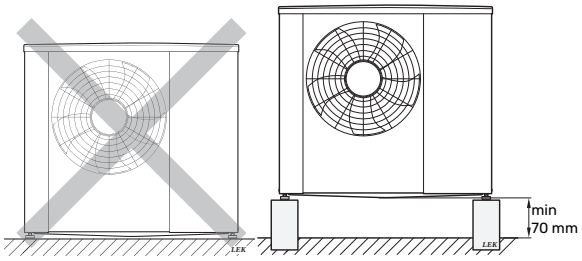
LIFT FROM THE PALLET TO FINAL POSITIONING

Before lifting remove the packaging and the securing strap to the pallet.

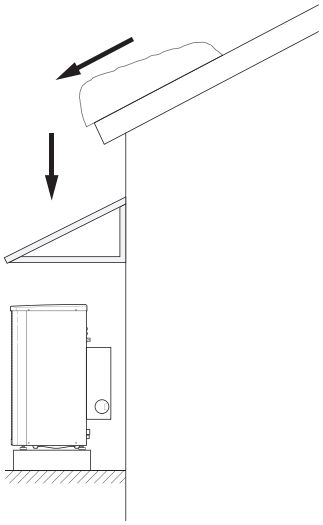
Place lifting straps around each foot. Four people are recommended for lifting from the pallet to the foundation, one for each lifting strap.

Installation and positioning

- Place the heat pump in a suitable location outdoors to prevent any risk of the refrigerant flowing in through ventilation openings, doors or similar openings in the event of a leak. It must also not constitute a hazard to people or property in any other way.
- If the heat pump is placed in a location where any refrigerant leak could accumulate, for example below ground level (in a dip or low-lying recess), the installation must satisfy the same requirements that apply for gas detection and the ventilation of engineering rooms. Requirements regarding sources of ignition must be applied where appropriate.
- Place S2125 outdoors on a solid level base that can take the weight, preferably a concrete foundation. If concrete slabs are used they must rest on asphalt or shingle.
- The lower edge of the evaporator must not be lower than the level of the average local snow depth, or at least 300 mm above ground level. The base should be at least 70 mm tall.
- S2125 should not be positioned next to noise sensitive walls, for example, next to a bedroom.
- Also ensure that the placement does not inconvenience the neighbours.
- S2125 must not be placed so that recirculation of the outdoor air is possible. Recirculation entails reduced power and impaired efficiency.
- The evaporator must be sheltered from direct wind / , which negatively affects the defrosting function. Place S2125 protected from wind / against the evaporator.
- Small amounts of condensation water, as well as melt water from defrosting, may be produced. Condensation water must be led off to a drain or equivalent.
- Care must be exercised so that the heat pump is not scratched during installation.



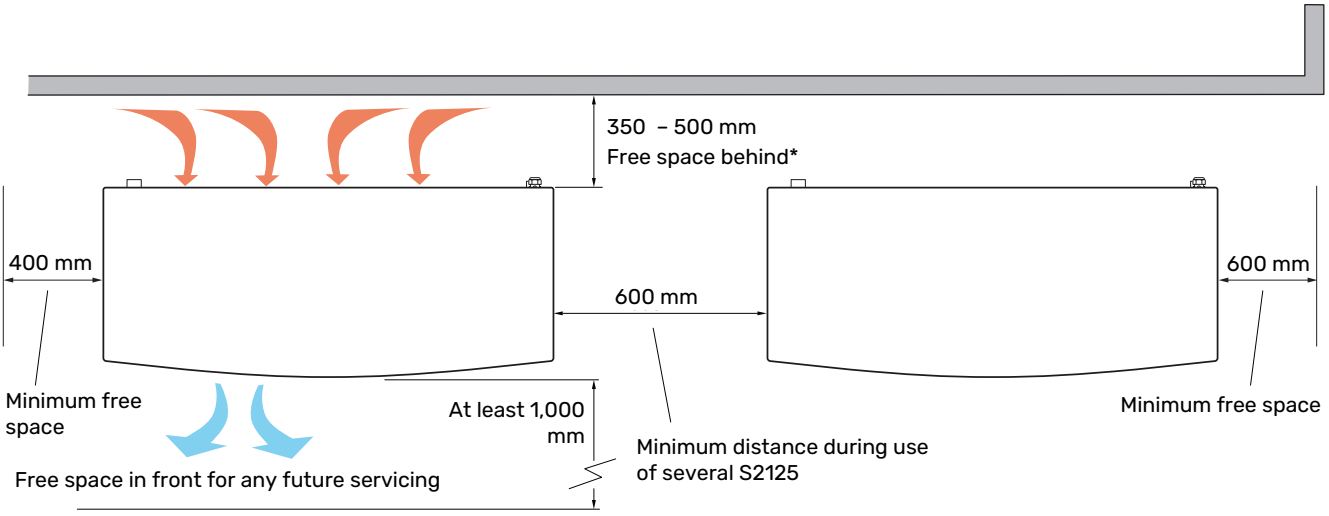
Do not place S2125 directly on the lawn or other non solid surface.



If there is a risk of snow slip from roof, a protective roof or cover must be erected to protect the heat pump, pipes and wiring.

Installation area

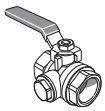
The distance between S2125 and the house wall must be at least 350 mm, but not more than 500 mm in locations that are exposed to the wind. The free space above S2125 must be at least 1,000 mm. The free space in front must be at least 1,000 mm for any future servicing.



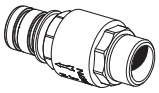
* The space behind must not exceed 500 mm in locations that are exposed to the wind.

Supplied components

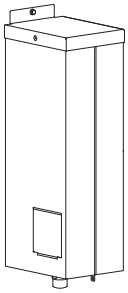
Local differences in the enclosed kit may occur. See relevant installer manual for more information.



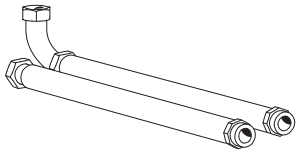
1 x filterball (G1")



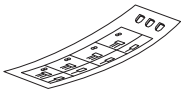
1 x non-return valve



1 x automatic gas separator



1 x flexible pipe with bend
1 x flexible pipe
(Dimensions, flexible pipes DN25, G1")
4 x gaskets



2 x labels for external control voltage of the control system

Installation

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 and must be documented. The above applies to closed heating systems.

If the heat pump is replaced, the installation must be inspected again.

Condensation water trough

The condensate drain pan collects and leads away the condensation water.

It is important to the heat pump function that condensation water is led away and that the drain for the condensation water run off is not positioned so that it can cause damage to the house.

Condensation run-off should be checked regularly, especially during the autumn. Clean if necessary.

Pipe, with heating cable, for draining the condensate drip tray is not included. To guarantee the function, the accessory KVR should be used.

- The condensation water (up to 50 litres/24 hrs) that collects in the trough should be routed away by a pipe to an appropriate drain, it is recommended that the shortest outdoor stretch possible is used.
- The section of the pipe that can be affected by frost must be heated by the heating cable to prevent freezing.

  Pipe with heating cable for draining the condensation water trough is not included.

  To ensure this function, the accessory KVR should be used.
- Route the pipe downward from the heat pump.
- The outlet of the condensation water pipe must be at frost free depth.
- Use a water trap for installations where air circulation may occur in the condensation water pipe.
- The insulation must seal against the bottom of the condensation water trough.

DRAINAGE OF CONDENSATION

If none of the following recommended alternatives is used, good drainage of condensation must be provided.

Stone caisson

If the house has a cellar the stone caisson must be positioned so that condensation water does not affect the house. Otherwise the stone caisson can be positioned directly under the heat pump.

Gutter drainage

Route the pipe sloping downward from the heat pump. The condensation water pipe must have a water seal to prevent air circulation in the pipe.

Pipe connections

MINIMUM SYSTEM FLOWS

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

Each climate system must be dimensioned individually to provide the recommended system flows.

The installation must be dimensioned to provide at least the minimum defrosting flow at 100 % circulation pump operation.

Air/water heat pump	Minimum flow during defrosting 100% circulation pump operation (l/s)	Minimum recommended pipe dimension (DN)	Minimum recommended pipe dimension (mm)
S2125-8 (1x230 V)	0.32	25	28
S2125-8 (3x400 V)			
S2125-12 (1x230 V)			
S2125-12 (3x400 V)			

S2125 can only operate up to a return temperature of about 65 °C and an outgoing temperature of about 75 °C from the heat pump.

WATER VOLUMES

To avoid short operating times and to enable defrosting, a certain available water volume is required. For the optimum operation of S2125, a minimum available water volume of 120 litres is recommended. This applies separately to heating and cooling systems.

Electrical connections

- Electrical installation and wiring must be carried out in accordance with national provisions.
- Prior to insulation testing the house wiring, disconnect the air/water heat pump installation.
- If a miniature circuit breaker is used, this must have at least triggering characteristic "C". See section "Technical specifications" in the Installer Manual for S2125.
- If the building is equipped with an RCD, S2125 must be equipped with a separate one.
- The RCD must have a nominal tripping current of no more than 30 mA.
- S2125 must be installed via an isolator switch. The cable area has to be dimensioned based on the fuse rating used.

  The incoming supply must be 400V 3N~ 50Hz via an electrical distribution unit with fuses.

  For 230V~ 50Hz, the incoming supply must be 230V~ 50Hz via distribution box with fuses.
- The routing of cables for heavy current and signals should be made out through the cable glands on the heat pump's right-hand side, seen from the front.
- Use a screened cable for communication.
- To prevent interference, communication cables to external connections must not be laid in the vicinity of high voltage cables.
- Connect the charge pump to the control module. See where the charge pump is to be connected in the Installer Manual for your control module.

Functions

When connection to NIBE indoor module / control module (VVM / SMO) is ready, you can control your unit via the indoor module / control module.

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

The indoor module/control module have pre-programmed, non-linear heating curves. It is also possible to create your own defined curve. This is a partially 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).

It is also possible to put the installation in holiday mode, which means that the lowest possible temperature is maintained without the risk of freezing.

Additional heat only

The indoor module, which is connected to S2125, can be used with the additional heat alone (electric boiler) to produce heating and hot water, for example before the outdoor unit is installed.

Alarm indications

If there is an alarm, the status lamp lights up red on the indoor module's / control module's display. Detailed information, depending on the fault, is shown in the display. An alarm log is created for each alarm, containing a number of temperatures, times and operating status.

The display

The indoor module / control module (HWM / SMO) 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.

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 system:

- 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.

WIRELESS UPDATES

When the system is connected, there is the option to receive wireless updates. This provides the system with new functions, giving a better experience. To receive wireless updates, you have to create an account on myUplink.

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.

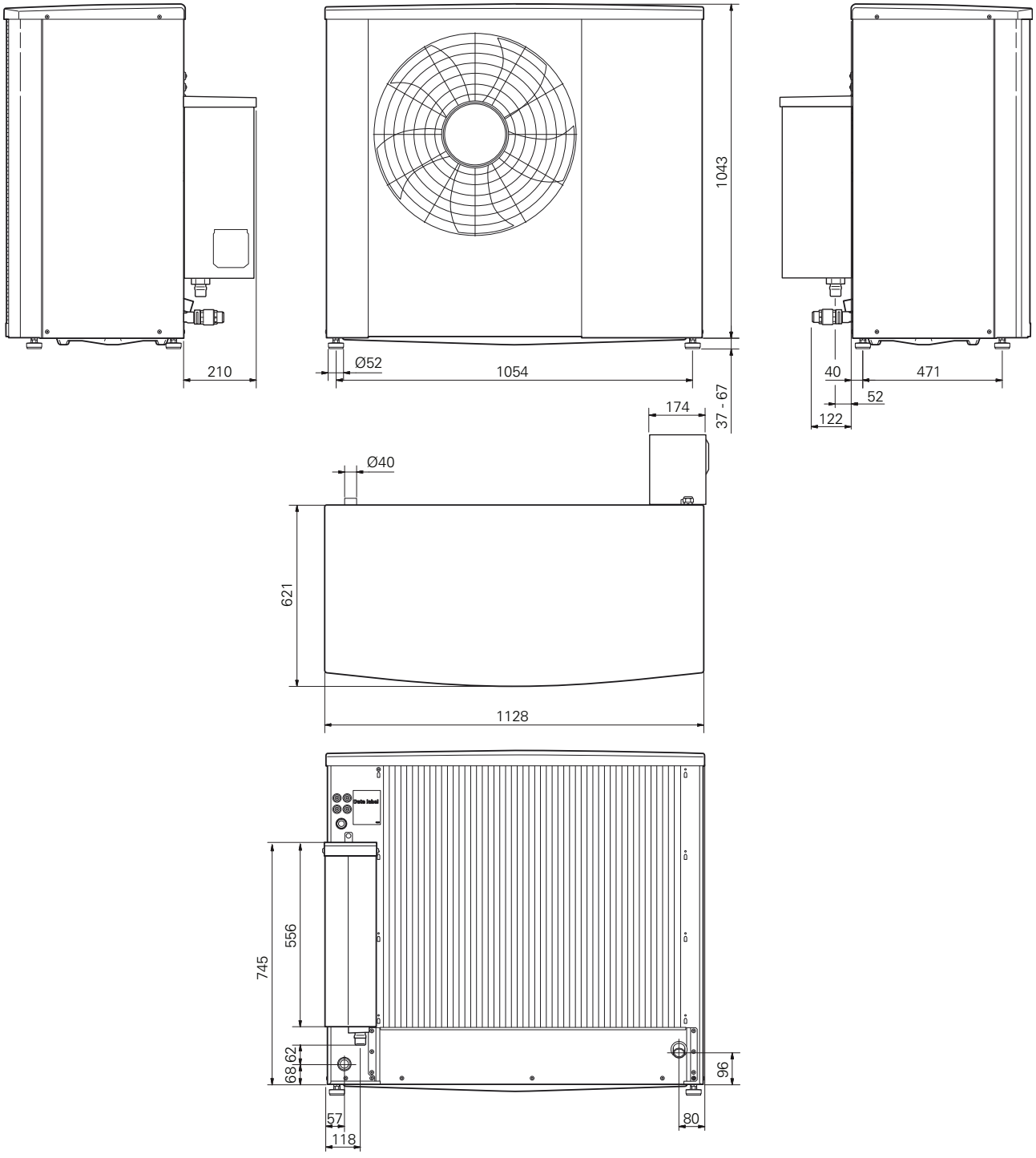
Remember that the "smart home" function requires myUplink in order to work.

NIBE SMART ENERGY SOURCE™

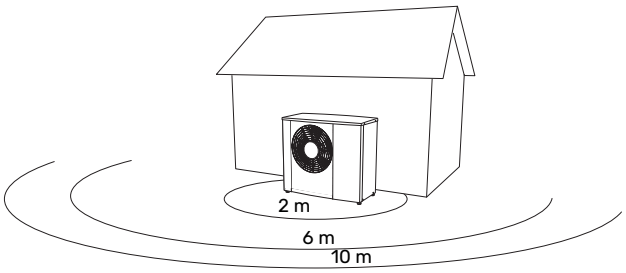
Smart Energy Source™ prioritises how / to what extent each docked energy source will be used. Here you can choose if the system is to use the energy source that is cheapest at the time. You can also choose if the system is to use the energy source that is most carbon neutral at the time.

Technical data

Dimensions



Sound levels



S2125 is usually placed next to a house wall, which gives a directed sound distribution that has to be taken into consideration. Accordingly, when setting up, you should always attempt to select the side that faces the least sound-sensitive neighbouring area.

The sound pressure levels are further affected by walls, bricks, differences in ground level, etc and should therefore only be seen as guide values.

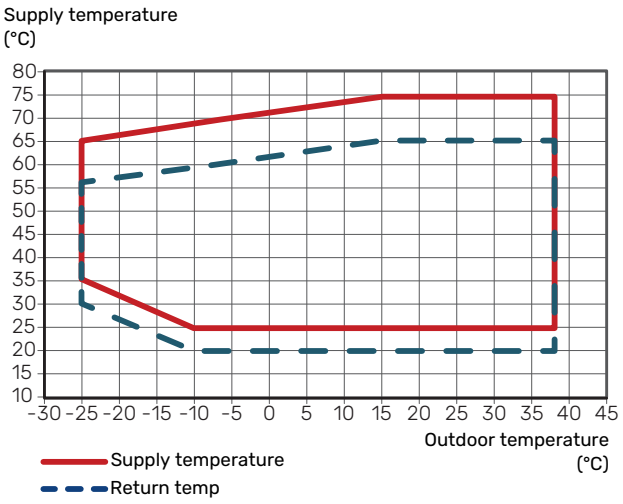
		Sound power[1]	Sound pressure at distance (m)[2]									
			1	2	3	4	5	6	7	8	9	10
S2125-8	Nominal sound value	49	44	38	34.5	32	30	28.5	27	26	25	24
	Max. sound value	55	50	44	40.5	38	36	34.5	33	32	31	30
	Max. sound value, silent mode	50	45	39	35.5	33	31	29.5	28	27	26	25
S2125-12	Nominal sound value	49	44	38	34.5	32	30	28.5	27	26	25	24
	Max. sound value	59	54	48	44.5	42	40	38.5	37	36	35	34
	Max. sound value, silent mode	54	49	43	39.5	37	35	33.5	32	31	30	29

1 Sound power level, L_W(A), according to EN12102

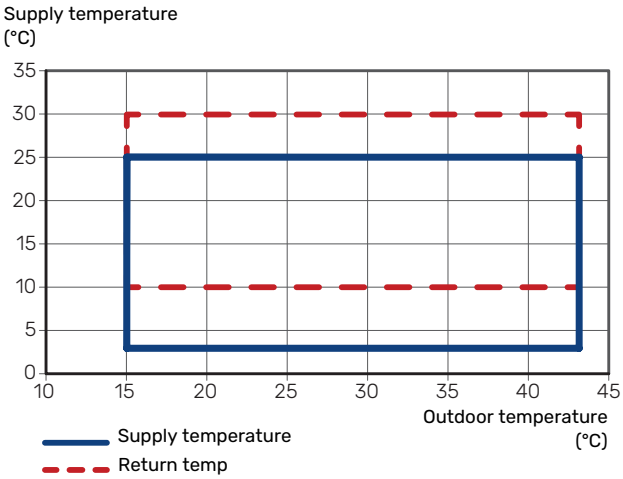
2 Sound pressure calculated according to directivity factor Q=4

Technical specifications

WORKING RANGE, HEATING



WORKING RANGE, COOLING

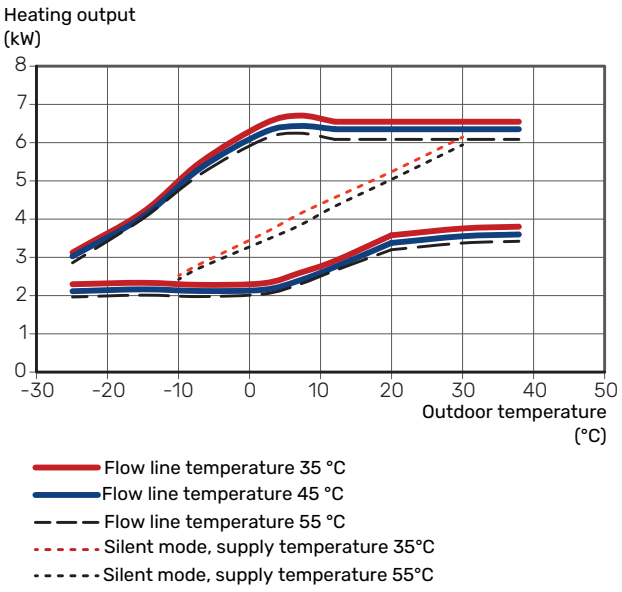


During shorter time it is allowed to have lower working temperatures on the water side, e.g. during start up.

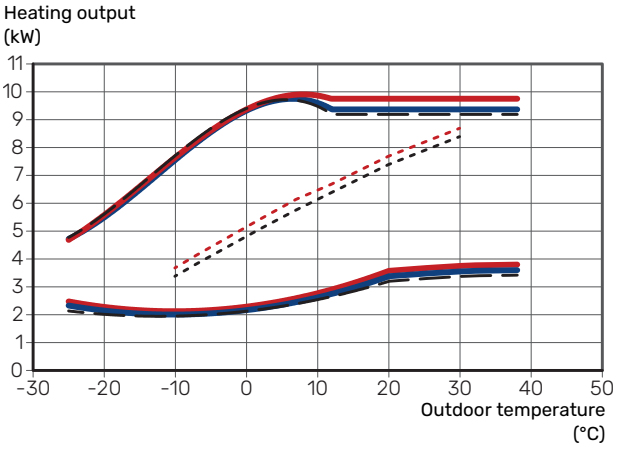
POWER DURING HEATING OPERATION

Maximum and minimum capacity during continuous operation. Defrosting is not included.

S2125-8

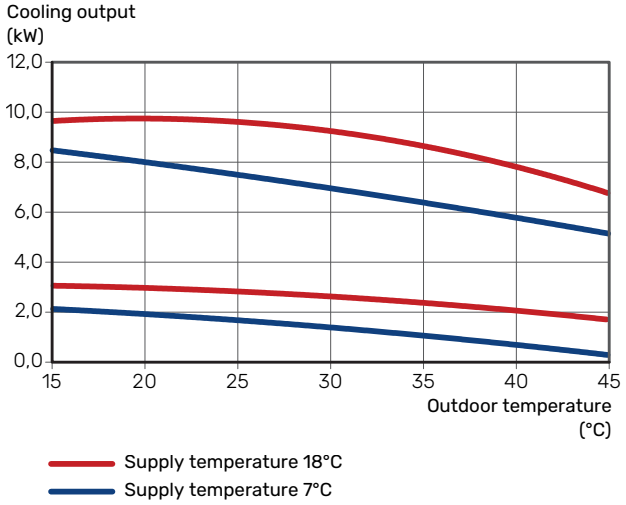


S2125-12



POWER DURING COOLING OPERATION

Maximum and minimum capacity during continuous operation.



S2125		8	12	8	12
Voltage		**1 x 230 V**	**1 x 230 V**	**3 x 400 V**	**3 x 400 V**
Output data according to EN 14 511, partial load [1]					
Heating Capacity / power input / COP (kW/kW/-) at nominal flow Outdoor temp: / Supply temp.	-7 / 35 °C	4.72 / 1.72 / 2.74	7.23 / 2.73 / 2.65	4.72 / 1.72 / 2.74	7.23 / 2.73 / 2.65
	2 / 35 °C	3.20 / 0.72 / 4.44	3.67 / 0.85 / 4.32	3.20 / 0.72 / 4.44	3.67 / 0.85 / 4.32
	2 / 45 °C	2.95 / 0.87 / 3.39	3.46 / 1.02 / 3.40	2.95 / 0.87 / 3.39	3.46 / 1.02 / 3.40
	7 / 35 °C	3.15 / 0.61 / 5.16	3.67 / 0.70 / 5.24	3.15 / 0.61 / 5.16	3.67 / 0.70 / 5.24
	7 / 45 °C	2.97 / 0.76 / 3.90	3.35 / 0.85 / 3.94	2.97 / 0.76 / 3.90	3.35 / 0.85 / 3.94
Cooling Capacity / power input / EER (kW/kW/-) at maximum flow Outdoor temp: / Supply temp.	35 / 7 °C	6.69 / 2.41 / 2.77	6.69 / 2.41 / 2.77	6.69 / 2.41 / 2.77	6.69 / 2.41 / 2.77
	35 / 18 °C	8.68 / 2.60 / 3.34	8.68 / 2.60 / 3.34	8.68 / 2.60 / 3.34	8.68 / 2.60 / 3.34
SCOP according to EN 14825					
Nominal heat output ($P_{designh}$) average climate 35 °C / 55 °C (Europe)	kW	5.33 / 5.30	6.80 / 7.60	5.33 / 5.30	6.80 / 7.60
Nominal heat output ($P_{designh}$) cold climate 35 °C / 55 °C	kW	5.40 / 5.20	8.40 / 8.40	5.40 / 5.20	8.40 / 8.40
Nominal heat output ($P_{designh}$) warm climate 35 °C / 55 °C	kW	5.50 / 5.20	7.00 / 7.45	5.50 / 5.20	7.00 / 7.45
SCOP average climate, 35 °C / 55 °C (Europe)		5.00 / 3.70	5.00 / 3.80	5.00 / 3.70	5.00 / 3.80
SCOP cold climate, 35 °C / 55 °C		4.10 / 3.20	4.20 / 3.40	4.10 / 3.20	4.20 / 3.40
SCOP warm climate, 35 °C / 55 °C		6.30 / 4.50	6.30 / 4.60	6.30 / 4.50	6.30 / 4.60
Energy rating, average climate [2]					
The product's room heating efficiency class 35 °C / 55 °C [3]		A+++ / A++	A+++ / A+++	A+++ / A++	A+++ / A+++
The system's room heating efficiency class 35 °C / 55 °C [4]		A+++ / A+++			
Electrical data					
Rated voltage		230 V ~ 50 Hz	230 V ~ 50 Hz	400 V 3N ~ 50 Hz	400 V 3N ~ 50 Hz
Max. power, fan	W	30	50	30	50
Fuse	A_{rms}	16	20	6	10
Enclosure class		IP24			
Refrigerant circuit					
Type of refrigerant		R290			
GWP refrigerant		3			
Volume	kg	0.8			
Type of compressor		Rotary compressor			
CO_2-equivalent (The cooling circuit is hermetically sealed.)	t	0.0024			
Airflow					
Max airflow	m^3/h	2,400	2,950	2,400	2,950
Working area					
Min./max. air temperature, heating	°C	-25 / 38			
Min./max. air temperature, cooling	°C	15 / 43			
Heating medium circuit					
Max system pressure heating medium	MPa	0.45 (4.5)			
Cut-off pressure, heating medium	MPa	0.25 (2.5)			
Recommended flow interval, heating operation	l/s	0.08 – 0.32	0.12 – 0.48	0.08 – 0.32	0.12 – 0.48
Min. design flow, defrosting (100% pump speed)	l/s	0.32			
Min./max. HM temp, continuous operation	°C	26 / 75			
Connection heating medium S2125		G1" external thread			
Connection heating medium flex pipe		G1" external thread			
Min. recommended pipe dimension (system)	DN (mm)	25 (28)			
Dimensions and weight					
Width	mm	1,128			
Depth	mm	831			
Height	mm	1,080			
Weight	kg	163	163	179	179
Miscellaneous					
Part no.		064 220	064 218	064 219	064 217

1 Power statements including defrosting according to EN 14511 at heating medium supply corresponding to DT=5 K at 7 / 45.

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

3 Scale for the product's room heating efficiency class A++ to G. Control module model SMO S

4 Scale for the system's room heating efficiency class A+++ to G. Control module model SMO S

Accessories

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

Not all accessories are available on all markets.

Condensation water pipe KVR

Condensation water pipe, different lengths.

KVR 11-10
1 metres
Part no. 067 823

KVR 11-30
3 metres
Part no. 067 824

KVR 11-60
6 metres
Part no. 067 825

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
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