

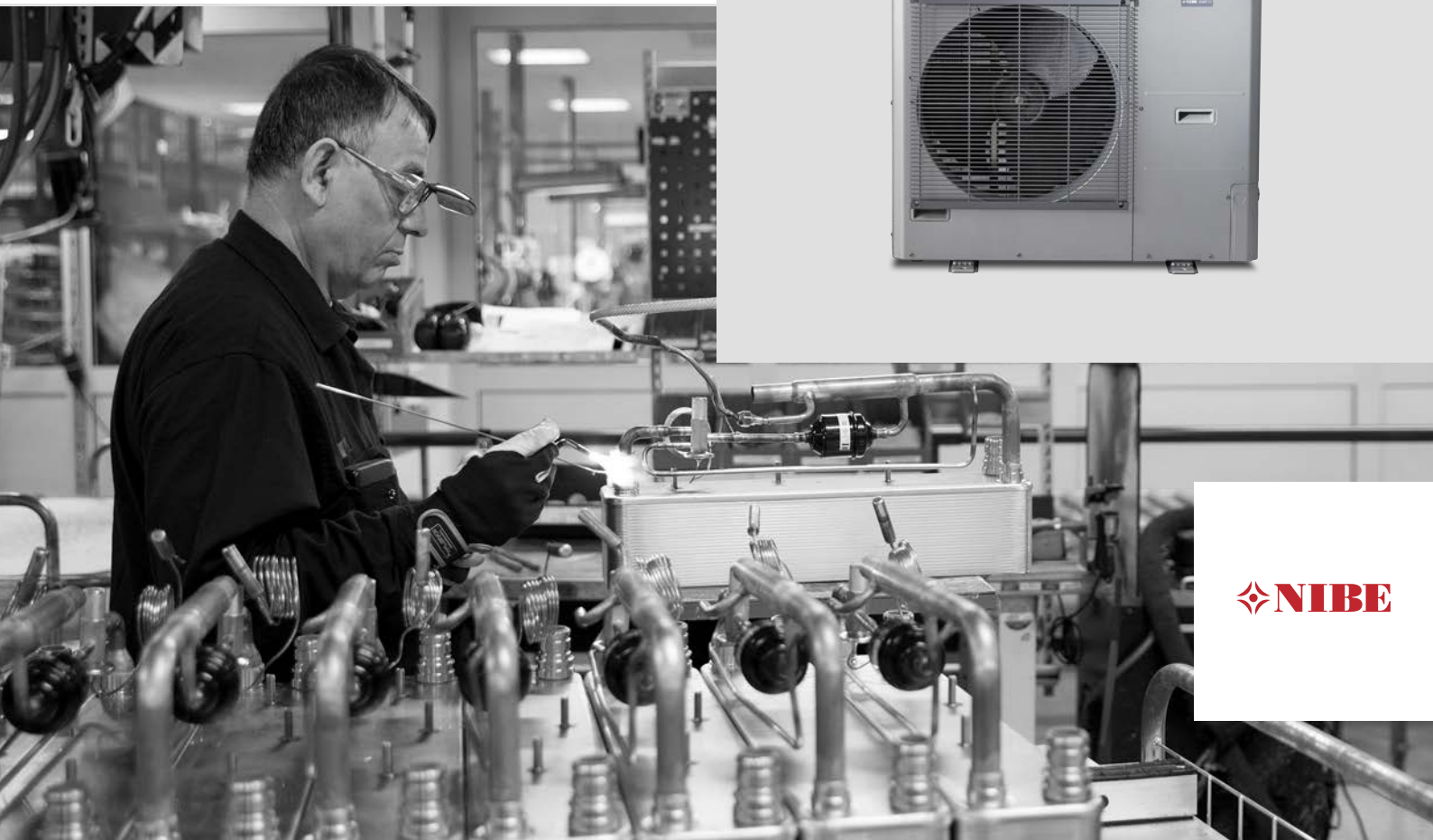
Air/water heat pump NIBE SPLIT HBS 05

NIBE SPLIT HBS 05 is an intelligent and compact inverter-controlled air/water heat pump. The outdoor module AMS 10 is connected with refrigerant pipes to the NIBE HBS 05 split box, which is located indoors. NIBE SPLIT HBS 05 provides optimum savings since the heat pump automatically adjusts to the property's output requirements all year round.

NIBE SPLIT HBS 05 works down to an outdoor temperature of -20°C and at the same time supplies up to 58°C in supply line temperature. The effective cooling function allows the heat pump to deliver a comfortable indoor climate even at high outdoor temperatures.

Thanks to smart technology, the product gives you control over your energy consumption and will be a key part of your connected home. The efficient control system automatically adjusts the indoor climate for maximum comfort, and you do nature a favour at the same time.

- Compact heat pump that adapts to your home's requirements.
- High capacity even down to -20°C and effective cooling function.
- Energy-saving smart technology with user-friendly control.



This is how NIBE SPLIT HBS 05 works

Principle of operation



The outdoor module NIBE AMS 10, together with SPLIT box NIBE HBS 05, creates a complete heat pump intended for use in combination with one of the indoor modules NIBE VVM or control modules NIBE SMO.

The system solution is a "split system", where the outdoor module, AMS 10, is connected by refrigerant pipes to HBS 05 which is located indoors. The exchange between the refrigerant and the heating system liquid occurs in HBS 05.

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

The control modules, NIBE SMO, offer a flexible system solution, which is easily customised. For systems with NIBE SMO, components such as water heaters, additional heat and other accessories can be selected to suit the installation's requirements. Up to eight outdoor air heat pumps can be connected to a NIBE SMO 40.

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

COMPATIBLE INDOOR MODULES (VVM) AND CONTROL MODULES (SMO)

<i>NIBE SPLIT HBS 05</i>	<i>VVM S320</i>
AMS 10-6 / HBS 05-6	X
AMS 10-8 / HBS 05-12	X
AMS 10-12 / HBS 05-12	X
AMS 10-16 / HBS 05-16	

<i>NIBE SPLIT HBS 05</i>	<i>VVM 310</i>	<i>VVM 320</i>	<i>VVM 500</i>	<i>SMO 20</i>	<i>SMO 40</i>
AMS 10-6 / HBS 05-6	X	X	X	X	X
AMS 10-8 / HBS 05-12	X	X	X	X	X
AMS 10-12 / HBS 05-12	X	X	X	X	X
AMS 10-16 / HBS 05-16	X		X	X	X

INDOOR MODULES



VVM S320

Stainless steel, 1x230 V

Part no. 069 198

VVM S320

Stainless steel, 3x400 V

Part no. 069 196

VVM S320

Stainless steel, 3x230 V

Part no. 069 201

VVM S320

Copper, 3x400 V

Part no. 069 195



VVM 225

Enamel, 3x400 V

Part no. 069 227

VVM 225

Stainless steel, 3x400 V

Part no. 069 229

VVM 225

Enamel (DK), 3x400 V

Part no. 069 228

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 320

Stainless steel, 1x230 V

Part no. 069 111

VVM 320

Stainless steel, 3x230 V

Part no. 069 113

VVM 320

Enamel, 3x400 V

With integrated EMK 300

Part no. 069 203

VVM 320

Stainless steel, 3x400 V

Part no. 069 109

VVM 320

Copper, 3x400 V

Part no. 069 108

VVM 500

Stainless steel, 3x400 V

Part no. 069 400

IT'S IN OUR NATURE

CONTROL MODULES

SMO 20

Control module

Part no. 067 224



SMO 40

Control module

Part no. 067 225



AMS 10, HBS 05 and VVM S320 / VVM 320

AMS 10 docked with HBS 05 and VVM S320 / VVM 320 (floating condensation).

This is an outline diagram. Actual installations must be planned according to applicable standards.

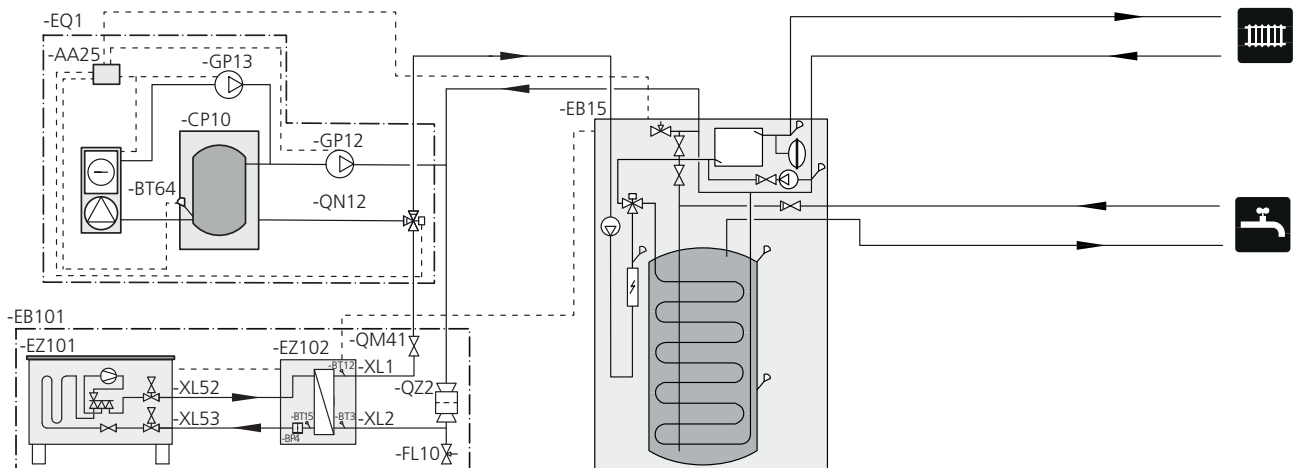
EXPLANATION

EB15 Indoor module (VVM 320 / VVM S320)

- EB101 NIBE SPLIT HBS 05
- BP4 Pressure sensor, condenser
- BT3 Temperature sensor, heating medium, return
- BT12 Temperature sensor, condenser, supply
- BT15 Temperature sensor, fluid pipe
- EZ101 Outdoor module (AMS 10)
- EZ102 SPLIT box (HBS 05)
- FL10 Safety valve, heat pump
- QM41 Shut-off valve
- QZ2 Filterball
- XL1 Connection, heating medium, flow 1
- XL2 Connection, heating medium, return 1
- XL52 Connection, gas line
- XL53 Connection, liquid line

EQ1 Active cooling module (ACS 310)

- AA25 Control unit
- BT64 Temperature sensor, cooling flow line
- CP10 Single jacket accumulator tank, cooling
- GP12 Charge pump
- GP13 Circulation pump, cooling
- QN12 Three way valve cooling/heating



Good to know about NIBE SPLIT HBS 05

System solution

NIBE SPLIT HBS 05 is intended for installation with indoor module (VVM) or control module (SMO) for a complete system solution.

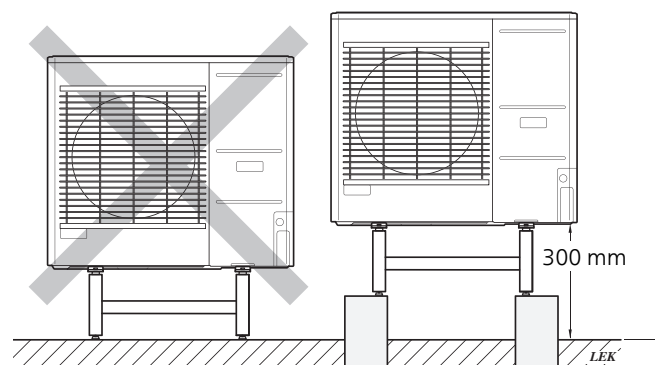
Transport and storage

HBS 05 should be transported and stored vertically in a dry place.

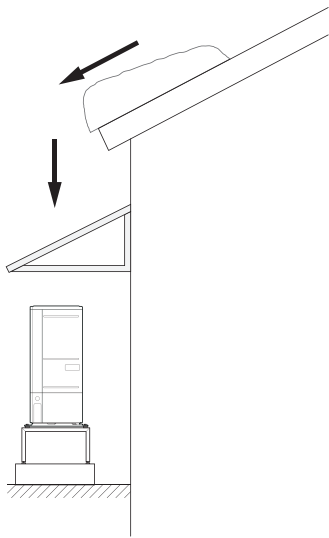
AMS 10 must be transported and stored vertically.

Installation and positioning

- Place AMS 10 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 concrete foundation or slabs must be positioned so that the lower edge of the evaporator is at the level of the average local snow depth, however a minimum of 300 mm.
- AMS 10 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.
- AMS 10 must not be placed so that recirculation of the outdoor air can occur. This causes lower output and impaired efficiency.
- The evaporator should be sheltered from direct wind, which negatively affects the defrosting function. Place AMS 10 protected from wind against the evaporator.
- Large amounts of condensation water, as well as melt water from defrosting, can be produced. Condensation water must be led off to a drain or similar (see page 9).
- Care must be exercised so that the heat pump is not scratched during installation.



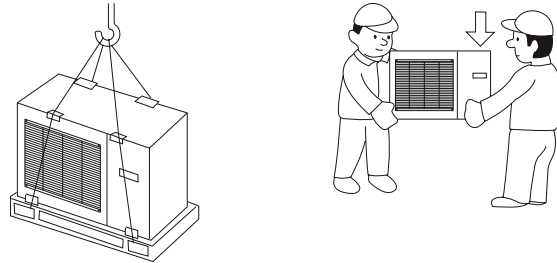
Do not place AMS 10 directly on the lawn or other non solid surface.



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.

LIFT FROM THE STREET TO THE SET UP LOCATION

If the base allows, the simplest thing is to use a pallet truck to move the AMS 10 to the set up location.



If AMS 10 must be transported across soft ground, for example a lawn, we recommend that a crane that can lift it to the set up location is used. When the AMS 10 is lifted by crane the packaging must be untouched and the load equally distributed with a boom, as illustrated above.

If a crane cannot be used AMS 10 can be transported using an extended sack truck. AMS 10 must be used on the side marked "heavy side" and two people are required to get the AMS 10 up.

LIFT FROM THE PALLET TO FINAL POSITIONING

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

Place lifting straps around each machine foot. Lifting from the pallet to the base requires four persons, one for each lifting strap.

It is not permitted to lift anything other than the machine feet.

CONDENSATION RUN OFF

Condensation runs out on to the ground below AMS 10. To avoid damage to the house and heat pump, the condensation must be gathered and drained away.

- The condensation water (up to 50 litres / 24 hrs) must be routed away by a pipe to an appropriate drain, it is recommended that the shortest outdoor length possible is used.
- The section of the pipe that can be affected by frost must be heated by the heating cable to prevent freezing.
- Route the pipe downward from AMS 10.
- The outlet of the condensation water pipe must be at a depth that is frost free or alternatively indoors (with reservation for local ordinances and regulations).
- Use a water trap for installations where air circulation may occur in the condensation water pipe.
- The insulation must be tight against the bottom of the condensation water trough.

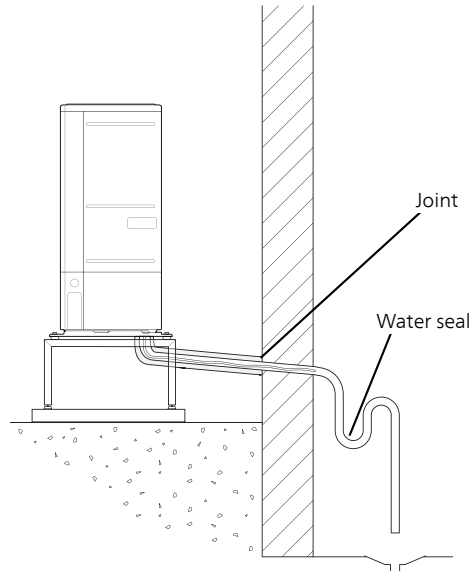
Drain pan heater, control

The drain pan heater is supplied with power when one of the following conditions is met:

1. Operating mode "Heating" or "Hot water" is activated.
2. The compressor has been in operation for at least 30 minutes after last start.
3. The ambient temperature is lower than 1 °C.

Recommended alternative for leading off condensation water

Drain indoors

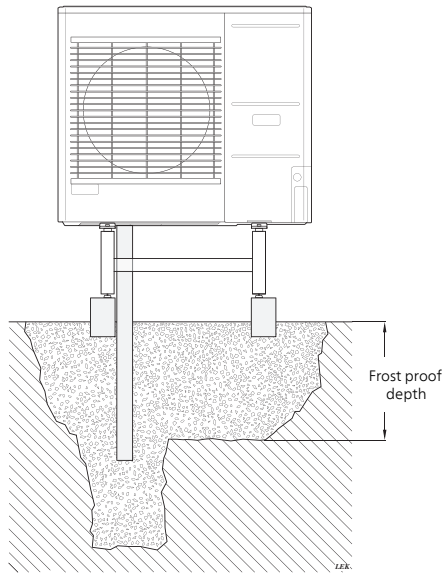


The condensation water is lead to an indoor drain (subject to local rules and regulations).

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

KVR 10 spliced as illustrated. Pipe routing inside house not included.

Stone caisson

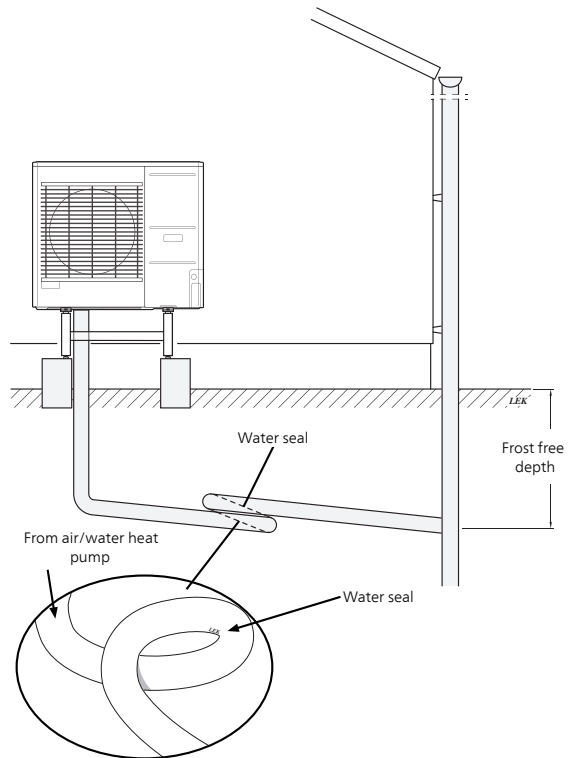


If the house has a cellar the stone caisson must be positioned so that condensation water does not affect the house. Otherwise the stone caisson can be positioned directly under the heat pump.

The outlet of the condensation water pipe must be at frost free depth.

Gutter drainage

Bend the hose to create a water seal, see illustration.

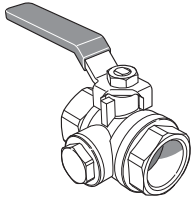


- The outlet of the condensation water pipe must be at frost free depth.
- Route the pipe downward from the air/water heat pump.
- The condensation water pipe must have a water seal to prevent air circulation in the pipe.
- The installation length can be adjusted by the size of the water seal.

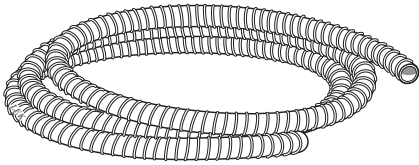
If none of the recommended alternatives is used good lead off of condensation water must be assured.

Enclosed components Installation area for HBS 05

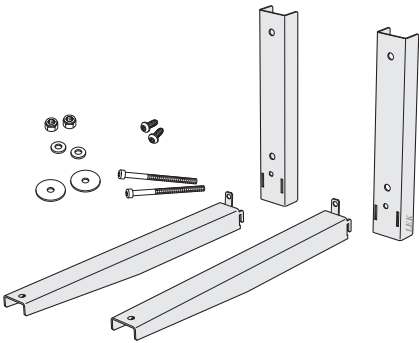
Local differences in the enclosed kit may occur. See relevant installer manual for more information.



Filterball (G1").



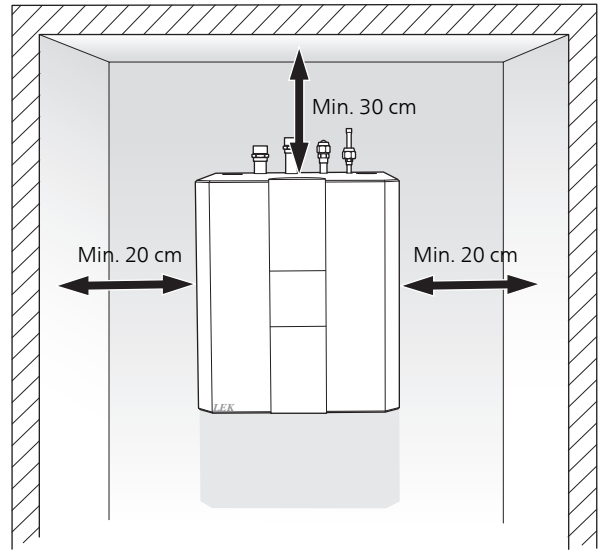
Condensation hose (WP3)



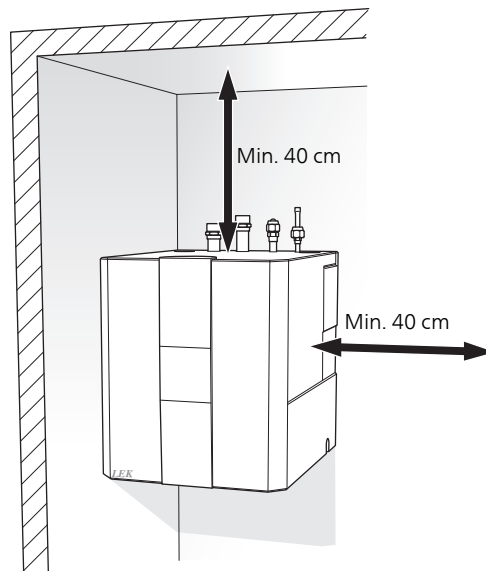
Brackets kit

There should be free space on at least one side, for any service to HBS 05 in the future. Ensure that there is also approx. 80 cm free space in front of HBS 05.

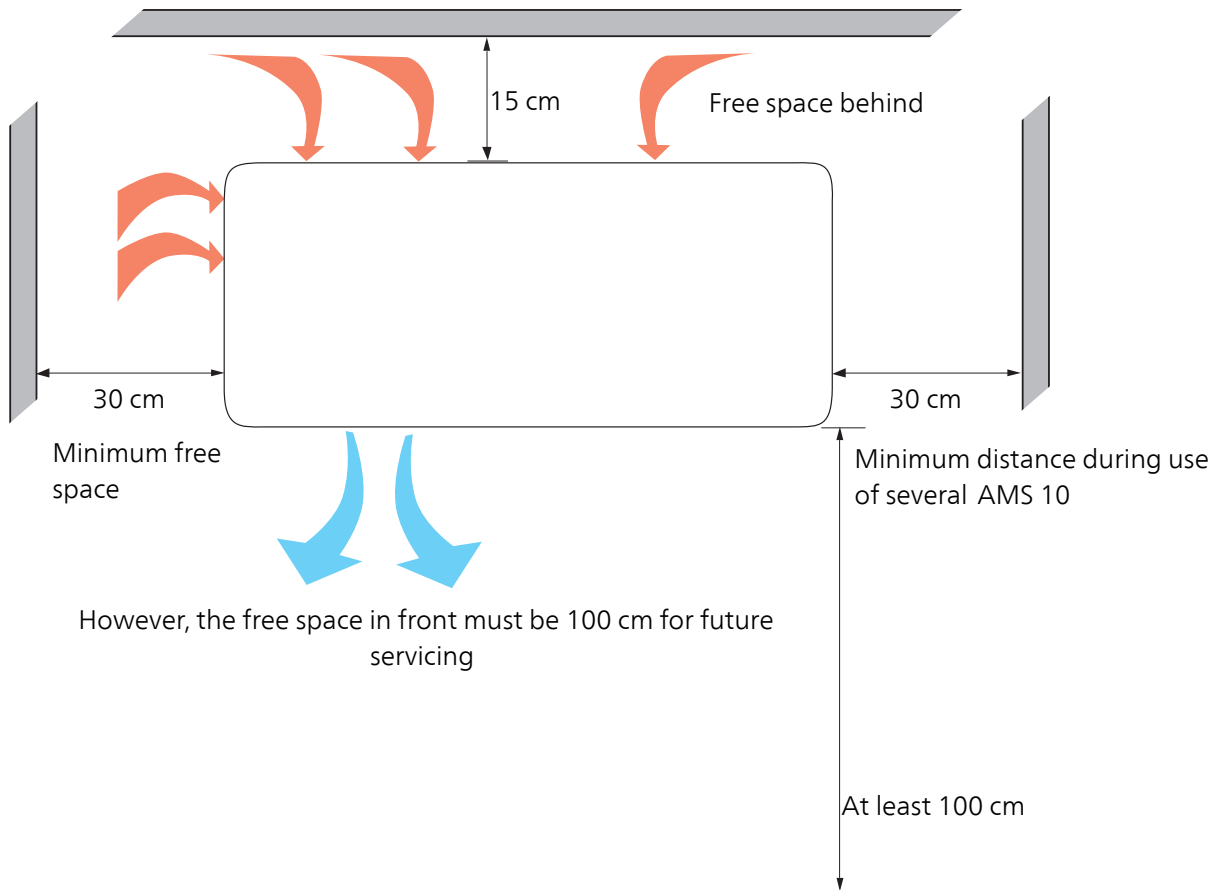
RECOMMENDATION FOR POSITIONING ON WALL



RECOMMENDATION FOR POSITIONING ON WALL / IN CORNER



The recommended distance between AMS 10 and the house wall must be at least 15 cm. Clearance above AMS 10 should be at least 100 cm. However, free space in front must be 100 cm for future servicing



Installation

Pipe installation

GENERAL

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

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 at least to manage 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)
HBS 05-6/ AMS 10-6	0.19	20	22
HBS 05-12/ AMS 10-8	0.19	20	22
HBS 05-12/ AMS 10-12	0.29	20	22
HBS 05-16/ AMS 10-16	0.39	25	28

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

AMS 10 and HBS 05 work up to a return temperature of approx. 55°C and an outgoing temperature from the heat pump of approx. 58 °C.

HBS 05 is not equipped with shut off valves on the water side, these must be installed to facilitate any future servicing.

When docking with HBS 05 free flow in the climate system is recommended for correct heat transfer. This can be achieved by use of a bypass valve. If free flow cannot be ensured, it is recommended that a buffer tank (NIBE UKV) is installed.

Water volumes

AMS 10	-6	-8	-12	-16
Minimum volume, climate system during heating/cooling	20 l	50 l	80 l	150 l
Minimum volume, climate system during under floor cooling	50 l	80 l	100 l	150 l

The pipe work must be flushed before the heat pump is connected, so that any contaminants do not damage the components.

For more information see nibe.eu.

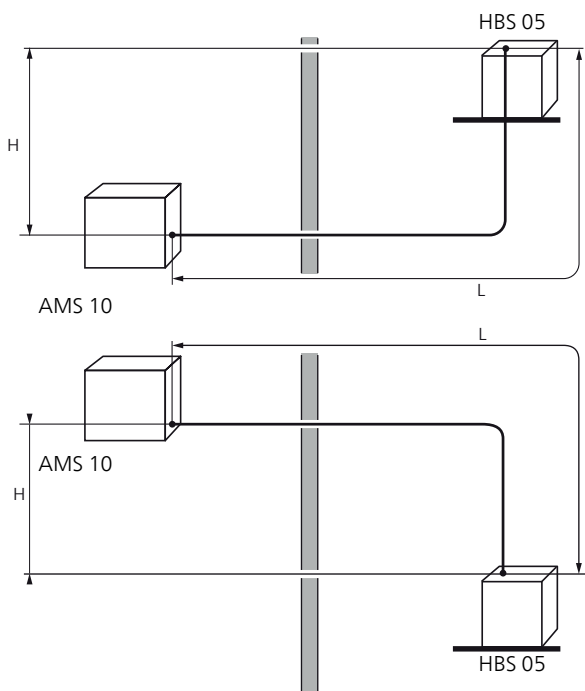
CONNECTING REFRIGERANT PIPES (NOT SUPPLIED)

Install the refrigerant pipes between the outdoor module AMS 10 and HBS 05.

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

Parameters AMS 10

- Maximum pipe length, AMS 10 (L): 30 m.
- Maximum height difference (H): ±7m.



Pipe dimensions and materials

AMS 10-6

	Gas pipe	Liquid pipe
Pipe dimension	Ø12.7 mm (1/2")	Ø6.35 mm (1/4")
Connection	Flare - (1/2")	Flare - (1/4")
Material	Copper quality SS-EN 12735-1 or C1220T, JIS H3300	
Minimum material thickness	1.0 mm	0.8 mm

AMS 10-8, AMS 10-12 and AMS 10-16

	Gas pipe	Liquid pipe
Pipe dimension	Ø15.88 mm (5/8")	Ø9.52 mm (3/8")
Connection	Flare - (5/8")	Flare - (3/8")
Material	Copper quality SS-EN 12735-1 or C1220T, JIS H3300	
Minimum material thickness	1.0 mm	0.8 mm

Electrical connections

AMS 10 and HBS 05 do not include an omnipolar circuit breaker on the incoming power supply. Its supply cables must therefore each be connected to their own circuit breaker with a breaking gap of at least 3 mm. Incoming supply must be 230V ~50Hz via electrical distribution board with fuses.

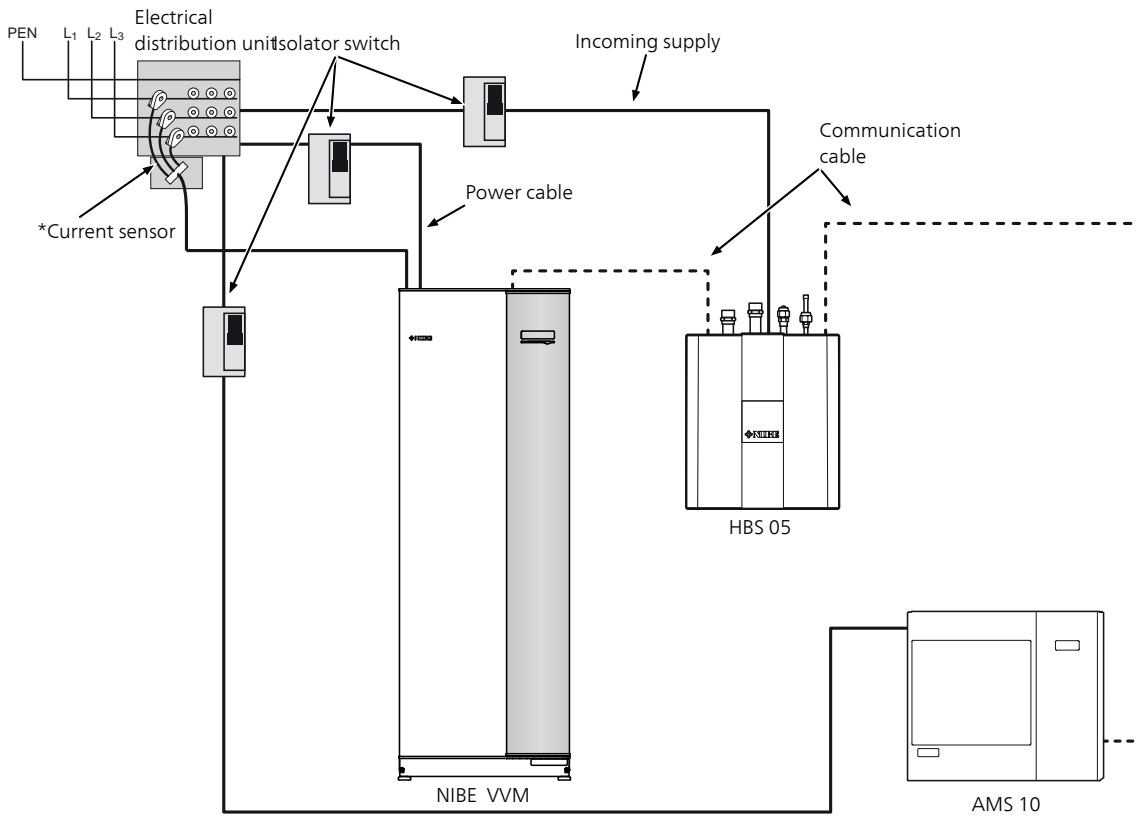
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- Disconnect the SPLIT box HBS 05 and outdoor module AMS 10 before insulation testing the house wiring.
Disconnect the SPLIT box HBS 05 and outdoor module AMS 10 before insulation testing the house wiring.
- For fuse ratings, see technical data, "Fuse protection".
- If the building is equipped with an earth-fault breaker, AMS 10 should be equipped with a separate one.
- Connection must not be carried out without the permission of the electricity supplier and under the supervision of a qualified electrician.
- Cables must be routed so that they are not damaged by metal edges or trapped by panels.
- AMS 10 is equipped with a single phase compressor. This means that one of the phases will be loaded with a number of amperes (A) during compressor operation. Check the maximum load in the table below.

Outdoor module	Maximum current (A)
AMS 10-6	15
AMS 10-8	16
AMS 10-12	23
AMS 10-16	25

- Maximum permitted phase loading can be restricted to a lower maximum current in the indoor module or control nodule.

PRINCIPLE DIAGRAM, ELECTRICAL INSTALLATION



* Only in a 3-phase installation.

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

OWN CURVE

HBS 05 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).

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

ADDITIONAL HEAT ONLY

The indoor module (VVM), which is connected to NIBE SPLIT HBS 05, can be used with the additional heat alone (electric boiler) to produce heating and hot water, for example before the outdoor module is installed.

Alarm indications

The status lamp lights red in the event of an alarm and the display shows detailed information depending on the fault. An alarm log is created with each alarm containing a number of temperatures, times and operating status.

The display

The indoor module (VVM) / control module (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.

The display unit is equipped with a USB socket that can be used to update the software and save logged information in the indoor module / control module.

Visit nibeuplink.com and click the "Software" tab to download the latest software for your installation.

NIBE Uplink



Using the Internet and NIBE Uplink, you can obtain a quick overview and the present status of the installation and the heating in your home.

You can obtain a good overall view, allowing you to monitor and control the heating and hot water comfort effectively. If the system is affected by a malfunction, you receive an alert via e-mail that allows you to react quickly.

NIBE Uplink also gives you the opportunity to control the comfort in your home easily, no matter where you are.

RANGE OF SERVICES

You have access to different levels of service via NIBE Uplink. A basic level that is free and a premium level where you can select different extended service functions for a fixed annual subscription fee (the subscription fee varies depending on the selected functions).

NIBE Uplink also available as an app from App Store and Google Play.

INSTALLATION AND ASSOCIATED EQUIPMENT REQUIREMENTS

NIBE Uplink needs the following in order to communicate with your HBS 05:

- network cable
- Internet connection to which HBS 05 can be connected
- web browser with JavaScript activated
- account on nibeuplink.com

We recommend our mobile apps for NIBE Uplink.

For more information, visit nibeuplink.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 heat pump's consumption according to the time of day that electricity prices are lowest. This allows for savings, provided that the hourly rate subscription has been signed with the electricity supplier.

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

SMART HOME

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

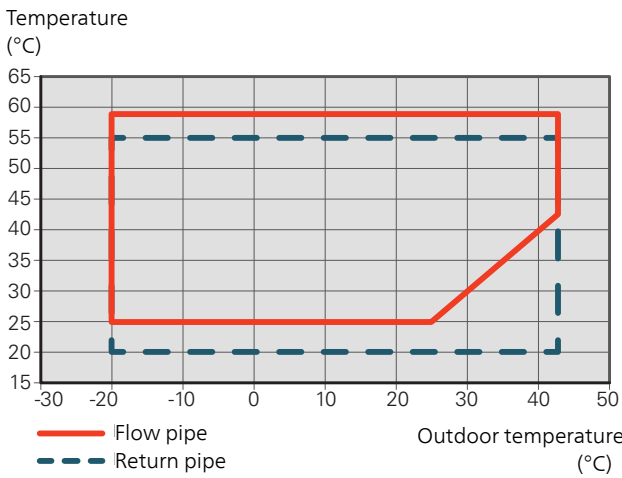
By allowing connected units to communicate with NIBE Uplink, your heating system becomes a natural part of your homesmart home and gives you the opportunity to optimise the operation.

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

Technical data

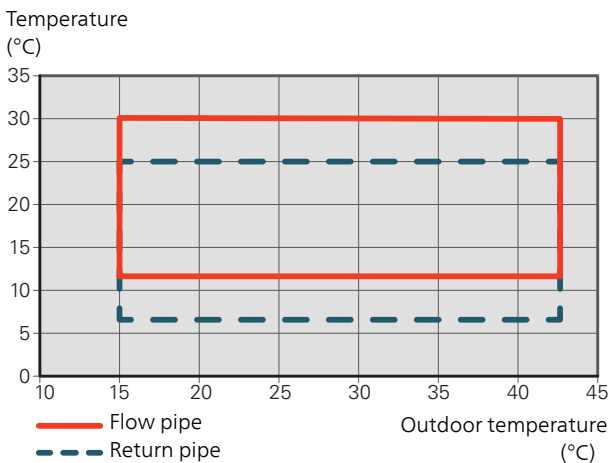
Working area

Compressor operation – heating



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

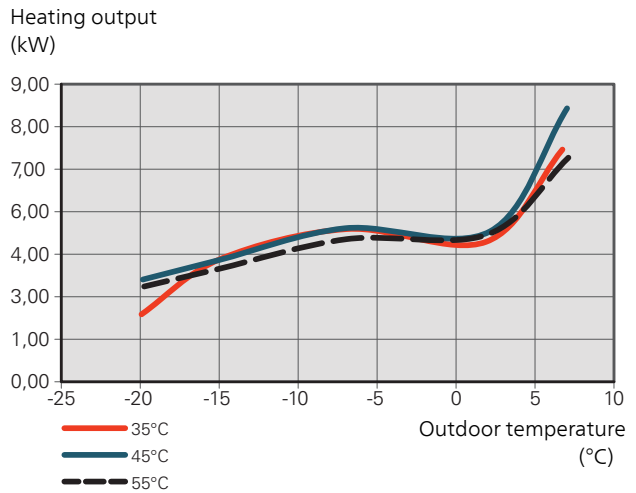
Compressor operation – cooling



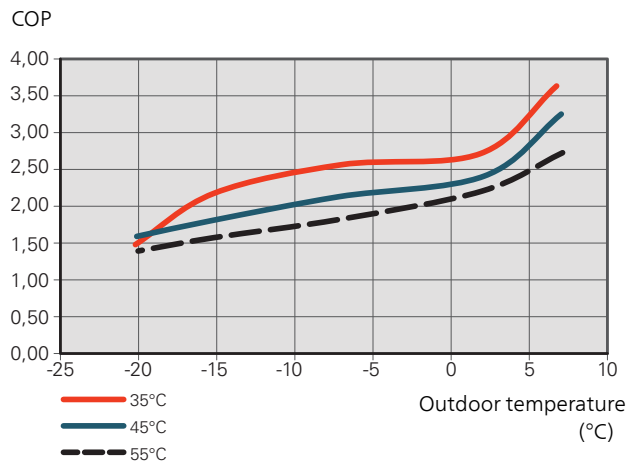
Capacity and COP

Capacity and COP at different supply temperatures. Maximum capacity including defrosting. According to standard EN 14511.

Max. specified power AMS 10-6

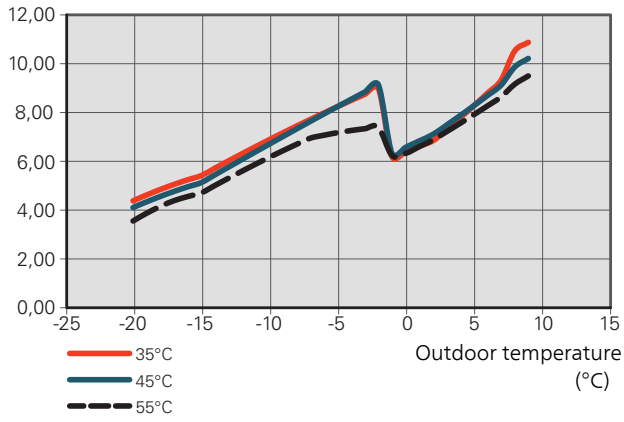


COP AMS 10-6



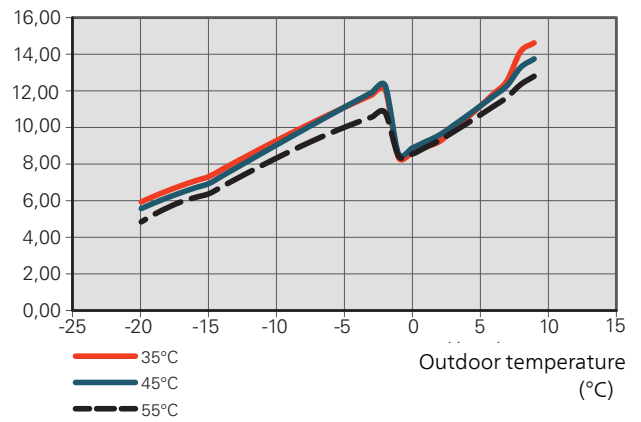
Max. specified power AMS 10-8

Heating output
(kW)



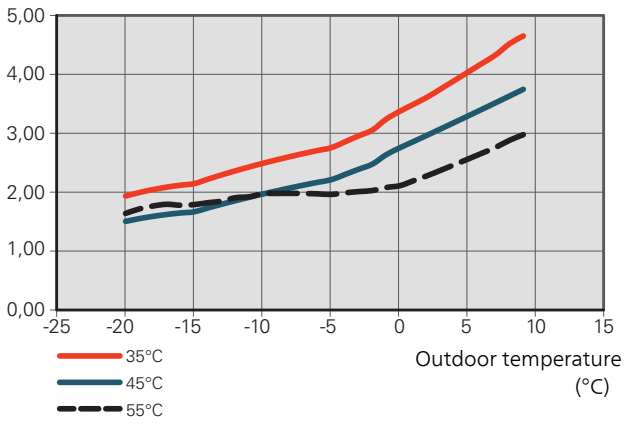
Max. specified power AMS 10-12

Heating output
(kW)



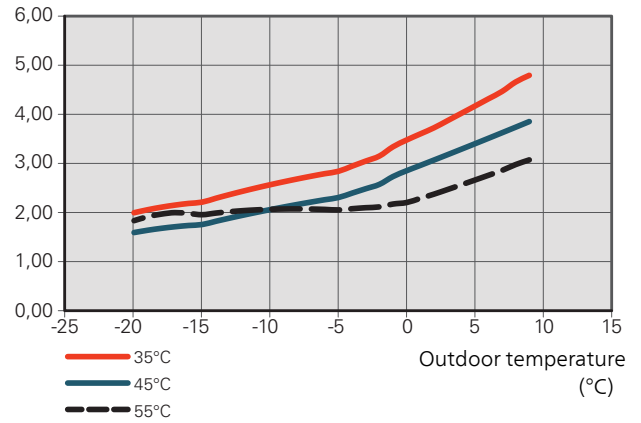
COP AMS 10-8

COP



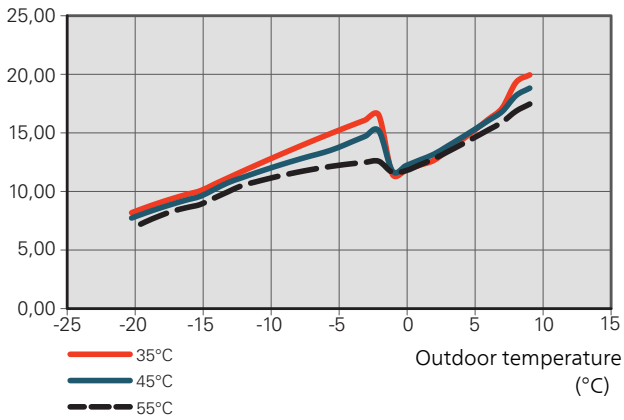
COP AMS 10-12

COP



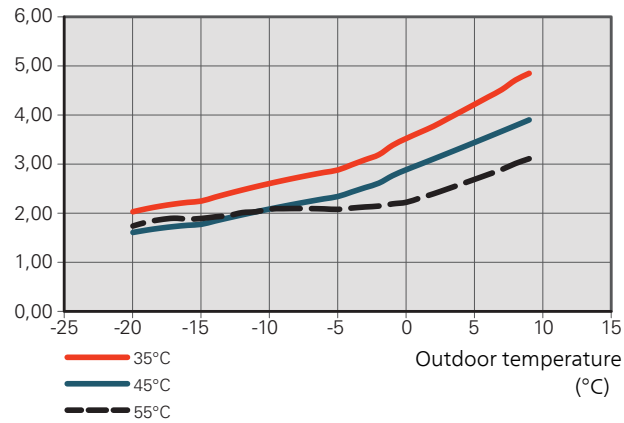
Max. specified power AMS 10-16

Heating output (kW)



COP AMS 10-16

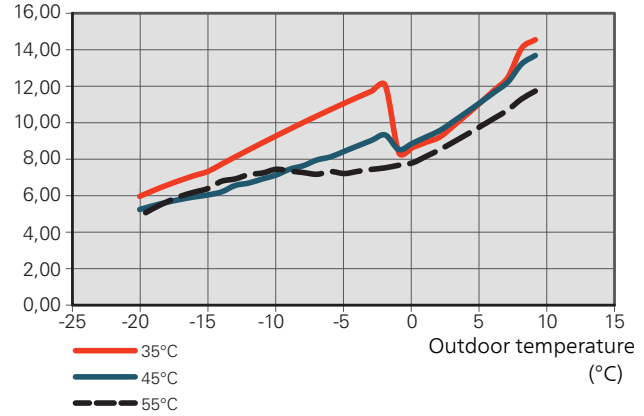
COP



Capacity with lower fuse rating

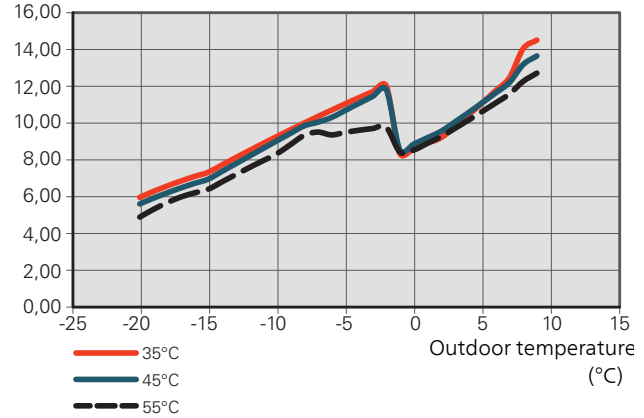
Capacity AMS 10-12, fuse rating 16A

Heating output (kW)



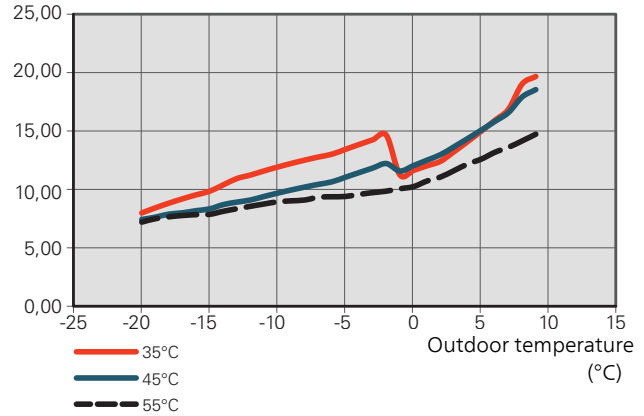
Capacity AMS 10-12, fuse rating 20A

Heating output (kW)



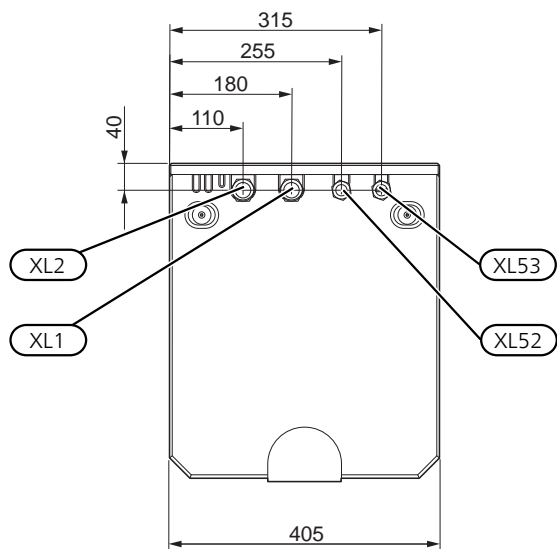
Capacity AMS 10-16, fuse rating 20A

Heating output (kW)



Dimensions

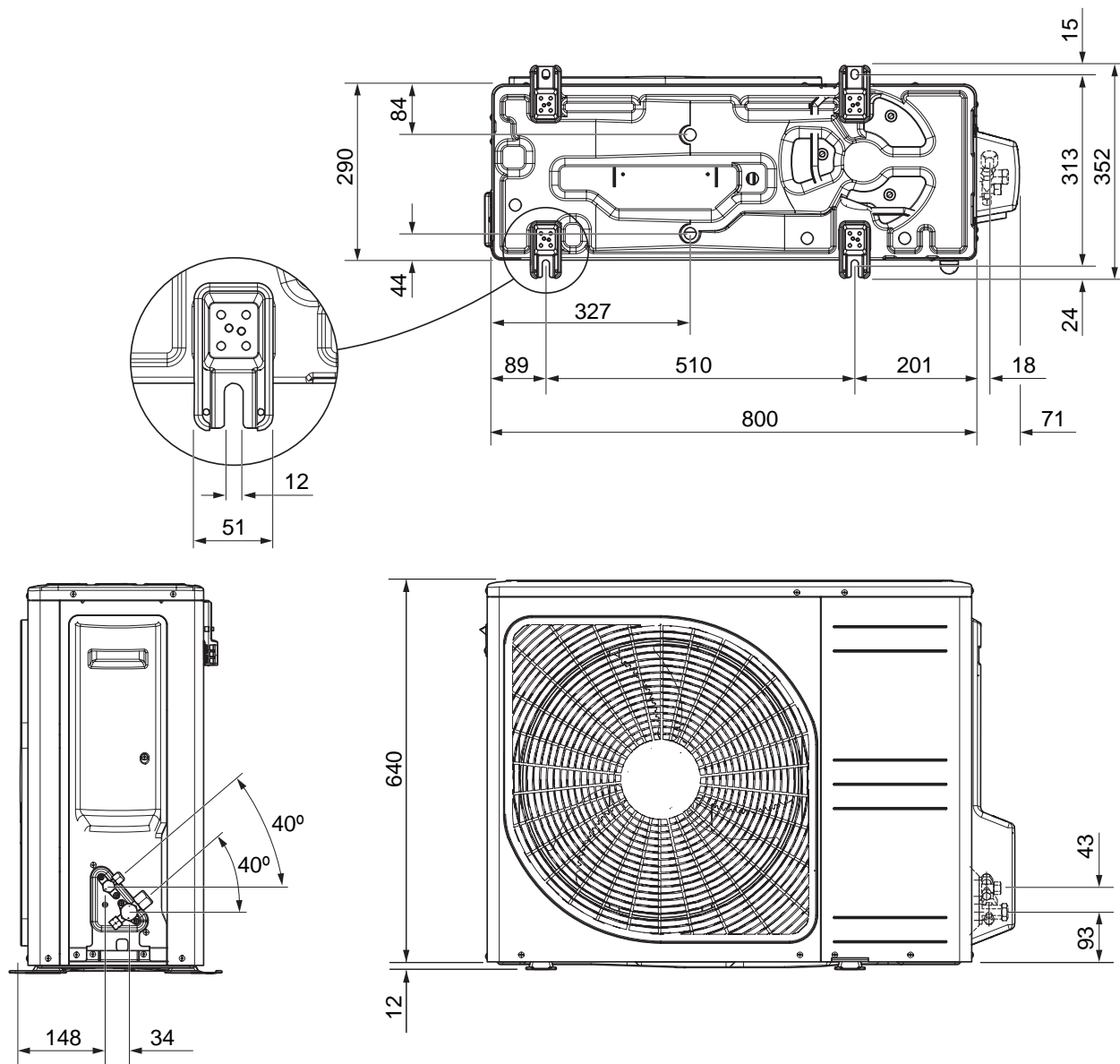
SPLIT BOX HBS 05



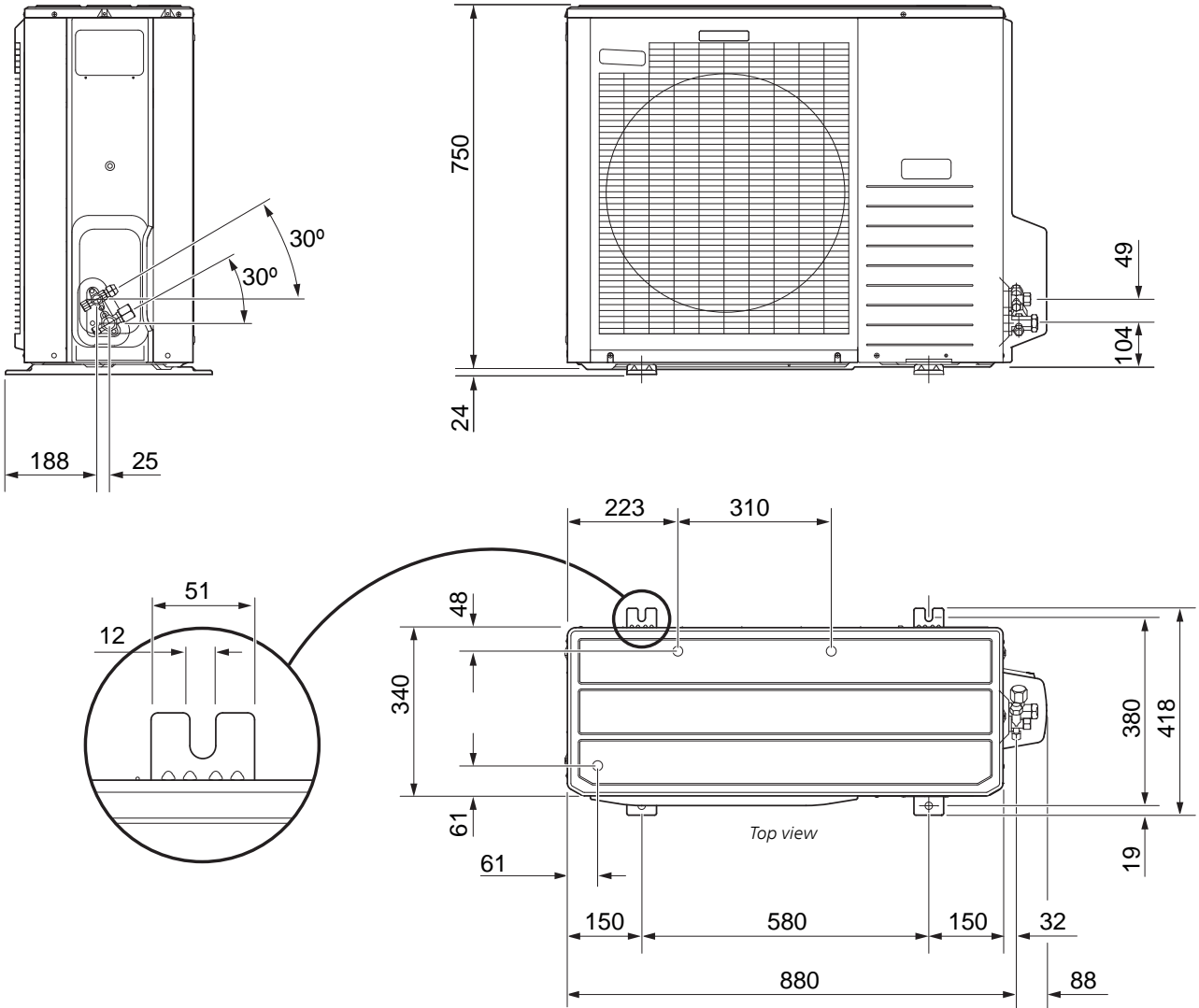
View from above.

- XL1 Climate system, flow \varnothing 28 mm
- XL2 Climate system, return \varnothing 28 mm
- XL52 Gas line refrigerant, HBS 05-12/16: flare 5/8". HBS 05-6: 1/2"
- XL53 Liquid line refrigerant, HBS 05-12/16: flare 3/8". HBS 05-6: 1/4"

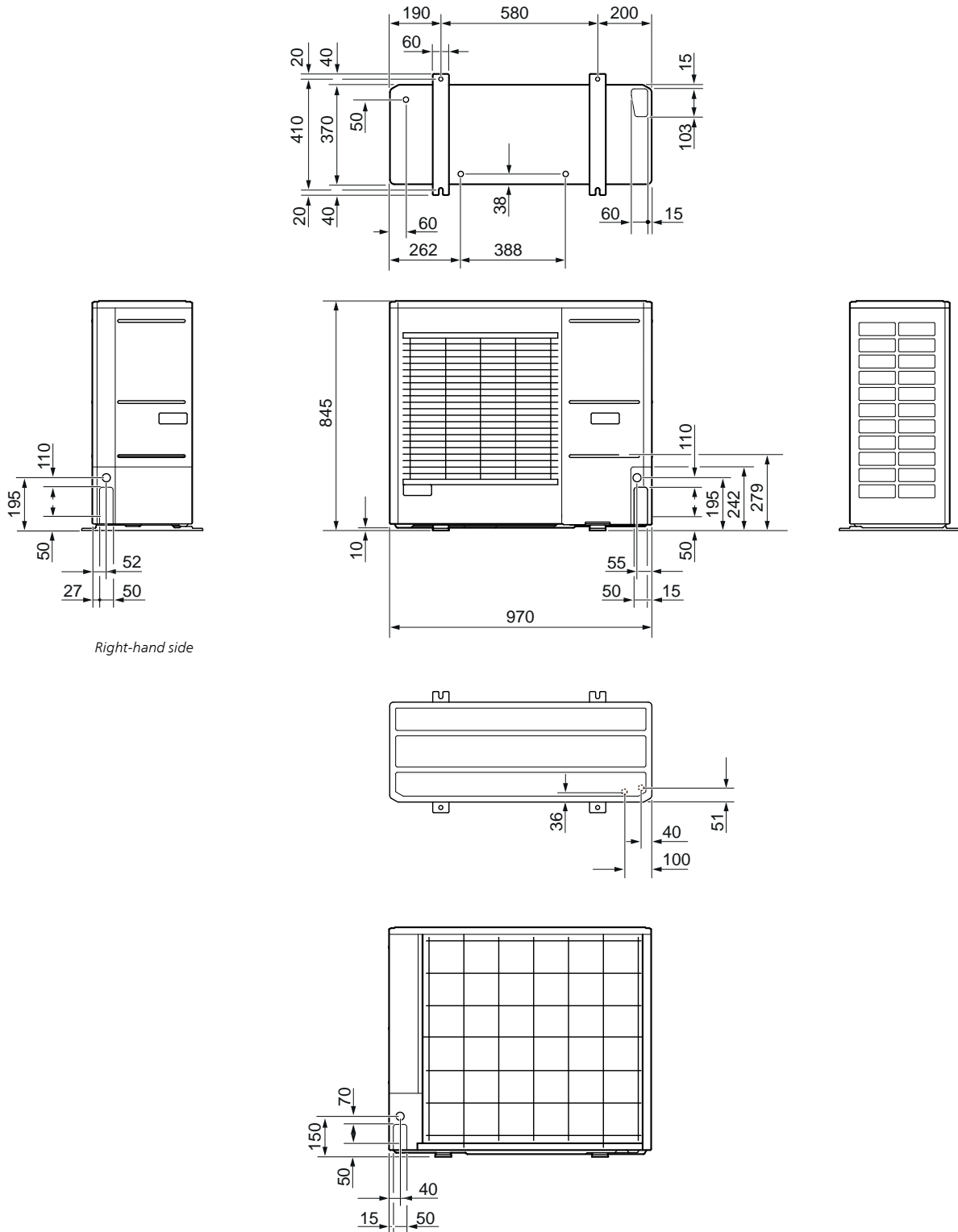
AMS 10-6



AMS 10-8

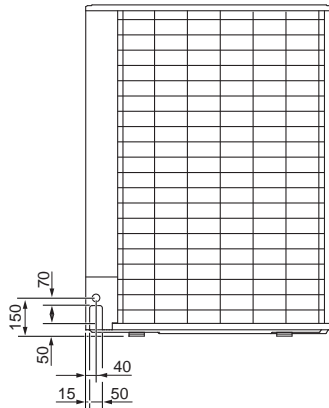
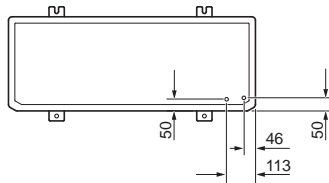
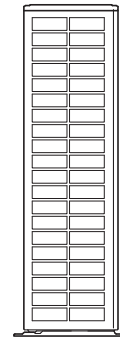
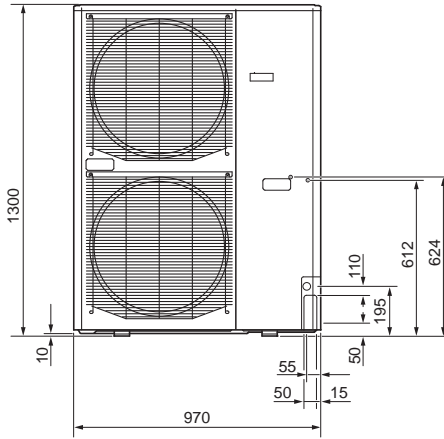
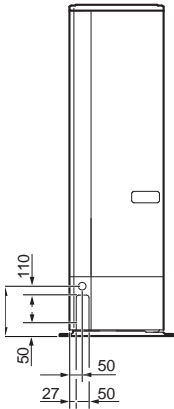
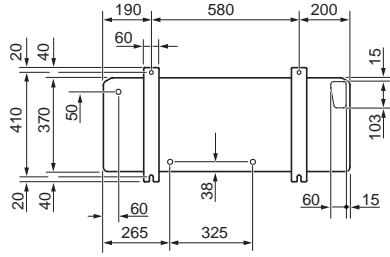


AMS 10-12



IT'S IN OUR NATURE

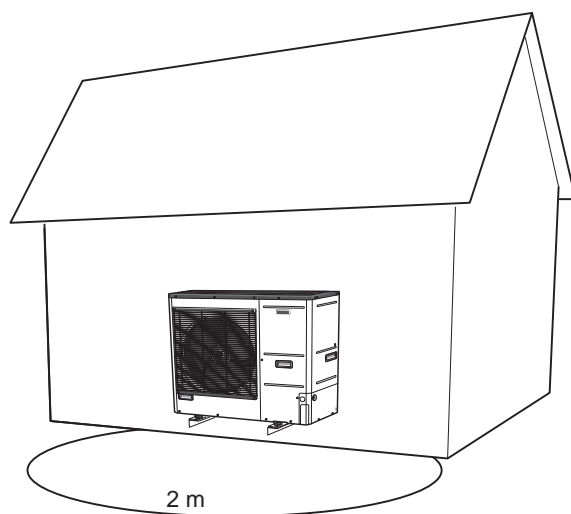
AMS 10-16



Sound pressure levels

HBS 05 is usually placed next to a house wall, which gives a directed sound distribution that should be considered. Accordingly, you should always attempt to find a placement on 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.



Noise		AMS 10-6	AMS 10-8	AMS 10-12	AMS 10-16
Sound power level, according to EN12102 at 7/35 °C (nominal)*	$L_W(A)$	51	55	58	62
Sound pressure level at 2 m free standing (nominal)*	$dB(A)$	37	41	44	48

* Free space.

Technical data ϵ

<i>NIBE SPLIT HBS 05 (AMS 10 and HBS 05)</i>		
Working range during heating with compressor (ambient temperature)	°C	-20 – +43
Working range during cooling (ambient temperature)	°C	+15 – +43
Max temperature flow line, only compressor	°C	58
Max temperature return line	°C	55
Min temperature flow line during heating with compressor and continuous operation	°C	25
Maximum temperature supply during cooling and continuous operation	°C	25
Min temperature flow line during cooling	°C	7
Incoming voltage supply, maximum permitted deviation	%	-15 % – +10 %
The water quality, domestic hot water and climate system		≤ EU directive no. 98/83/EF

HBS 05

<i>SPLIT box</i>		<i>HBS 05-6</i>	<i>HBS 05-12</i>		<i>HBS 05-16</i>
<i>Compatible outdoor module</i>		<i>AMS 10-6</i>	<i>AMS 10-8</i>	<i>AMS 10-12</i>	<i>AMS 10-16</i>
<i>Electrical data</i>					
Electrical connections		230V ~ 50Hz			
Recommended fuse rating	A_{rms}	6			
Enclosure class		IP21			
<i>Heating medium circuit</i>					
Max pressure, climate system	MPa (bar)	0.6 (6)			
Max pressure, cooling system	MPa	4.5			
Min/max system flow, heating operation	l/s	0.09 / 0.29	0.12 / 0.38	0.15 / 0.57	0.25 / 0.79
Min/max system flow, cooling operation	l/s	0.11 / 0.29	0.15 / 0.38	0.20 / 0.57	0.32 / 0.79
Min flow, climate system, 100 % circulation pump speed (defrosting flow)	l/s	0.19	0.19	0.29	0.39
Volume, total	litre	1.2 ±5%	3 l ±5 %		4 l ±5 %
Max operating temperature	°C	65			
Ambient temperature	°C	5 – 35 °C, max relative humidity 95 %			
<i>Miscellaneous</i>					
Weight	kg	13	15		19.5
Water quality, climate system		EU directive no. 98/83/EF			
Substances according to Directive (EG) no. 1907/2006, article 33 (Reach)		Lead in brass components			
Part no.		067 578	067 480		067 536

<i>Outdoor module</i>		<i>AMS 10-6</i>	<i>AMS 10-8</i>	<i>AMS 10-12</i>	<i>AMS 10-16</i>
<i>Output data according to EN 14511 ΔT5K</i>		Outdoor temp./ Supply temp.			
<i>Heating</i> Capacity / power input / COP (kW/kW/-) at nominal flow	7/35 °C (floor)	2.67/0.5/5.32	3.86/0.83/4.65	5.21/1.09/4.78	7.03/1.45/4.85
	2/35 °C (floor)	2.32/0.55/4.2	5.11/1.36/3.76	6.91/1.79/3.86	9.33/2.38/3.92
	-7/35 °C (floor)	4.60/1.79/2.57	6.60/2.46/2.68	9.00/3.27/2.75	12.1/4.32/2.80
	7/45 °C	2.28/0.63/3.62	3.70/1.00/3.70	5.00/1.31/3.82	6.75/1.74/3.88
	2/45 °C	1.93/0.67/2.88	5.03/1.70/2.96	6.80/2.24/3.04	9.18/2.98/3.08
<i>Cooling</i> Capacity / Power input / EER (kW/kW/-) at maximum flow	27/7 °C	5.87/1.65/3.56	7.52/2.37/3.17	9.87/3.16/3.13	13.30/3.99/3.33
	27/18 °C	7.98/1.77/4.52	11.20/3.20/3.50	11.70/3.32/3.52	17.70/4.52/3.91
	35/7 °C	4.86/1.86/2.61	7.10/2.65/2.68	9.45/3.41/2.77	13.04/4.53/2.88
	35/18 °C	7.03/2.03/3.45	9.19/2.98/3.08	11.20/3.58/3.12	15.70/5.04/3.12
<i>Electrical data</i>					
Rated voltage		230V 50 Hz, 230V 2AC 50Hz			
Max. current	A _{rms}	15	16	23	25
Recommended fuse rating	A _{rms}	16	16	25	25
Starting current	A _{rms}	5			
Max fan flow (heating, nominal)	m ³ /h	2,530	3,000	4,380	6,000
Fan rating	W	50	86		2X86
Drain pan heater (integrated)	W	110	100	120	
Defrosting	Reverse cycle				
Enclosure class	IP24				
<i>Refrigerant circuit</i>					
Type of refrigerant		R410A			
GWP refrigerant		2,088			
Compressor		Twin Rotary			
Refrigerant quantity	kg	1.5	2.55	2.90	4.0
CO ₂ equivalent	t	3.13	5.32	6.06	8.35
Cut-out value, pressure switch, high pressure	MPa (bar)	-	4.15 (41.5)		
Breaking value high pressure	MPa (bar)	4.5 (45)			
Cut-out value, pressure switch, low pressure (15 s)	MPa (bar)	-	0.079 MPa (0.79)		
Max. length, refrigerant pipe, one way	m	30*			
Max height difference, refrigerant pipe	m	7			
Dimensions, refrigerant pipe		Gas pipe: OD12.7 (1/2") Fluid pipe: OD6.35 (1/4")	Gas pipe: OD15.88 (5/8") Fluid pipe: OD9.52 (3/8")		
<i>Pipe connections</i>					
Pipe connection option		Right-hand side	Right-hand side	Right / bottom / reverse	
Pipe connections		Flare			
<i>Miscellaneous</i>					
Weight	kg	46	60	74	105
Substances according to Directive (EG) no. 1907/2006, article 33 (Reach)		Lead in brass components			
Part no.		064 205	064 033	064 110	064 035

*HBS 05-6: If the length of the refrigerant pipes exceeds 15 m, extra refrigerant must be added at a rate of 0.02 kg/m.

HBS 05-8/12/16: If the length of the refrigerant pipes exceeds 15 metres, extra refrigerant must be added at a rate of 0.06 kg/m.

SCOP & PDESIGNH

<i>SCOP & P_{designh} HBS 05 according to EN 14825</i>								
<i>Outdoor module / SPLIT box</i>	<i>AMS 10-6 / HBS 05-6</i>		<i>AMS 10-8 / HBS 05-12</i>		<i>AMS 10-12 / HBS 05-12</i>		<i>AMS 10-16 / HBS 05-16</i>	
	<i>P_{designh}</i>	<i>SCOP</i>	<i>P_{designh}</i>	<i>SCOP</i>	<i>P_{designh}</i>	<i>SCOP</i>	<i>P_{designh}</i>	<i>SCOP</i>
SCOP 35 Average climate	4.8	4.8	8.2	4.38	11.5	4.43	14,5	4.48
SCOP 55 Average climate	5,3	3.46	7.0	3.25	10	3,38	14	3.43
SCOP 35 Cold climate	4,0	3,65	9	3.55	11.5	3.63	15	3.68
SCOP 55 Cold climate	5,6	2.97	10	2.78	13	2.85	16	2,9
SCOP 35 Warm climate	4,2	6.45	8	5,7	12	5.8	15	5.95
SCOP 55 Warm climate	4.76	4.58	8	4.58	12	4.7	15	4.8

ENERGY RATING, AVERAGE CLIMATE

<i>Model</i>		<i>AMS 10-6 / HBS 05-6</i>	<i>AMS 10-8 / HBS 05-12</i>	<i>AMS 10-12 / HBS 05-12</i>	<i>AMS 10-16 / HBS 05-16</i>
<i>Control module model</i>		<i>SMO</i>	<i>SMO</i>	<i>SMO</i>	<i>SMO</i>
<i>Temperature application</i>	<i>°C</i>	<i>35 / 55</i>	<i>35 / 55</i>	<i>35 / 55</i>	<i>35 / 55</i>
The product's room heating efficiency class ¹⁾		A+++ / A++	A++ / A++	A++ / A++	A+++ / A++
Space heating efficiency class of the system ²⁾		A+++ / A++	A+++ / A++	A+++ / A++	A+++ / A++

¹⁾Scale for the product's room heating efficiency class A++ to G.

²⁾Scale for the system's room heating efficiency class A+++ to G.

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.

Accessories

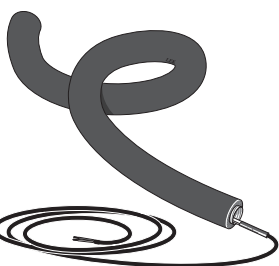
Detailed information about the accessories and complete accessories list available at nibe.eu.

Not all accessories are available on all markets.

Condensation water pipe

KVR 10-10 F2040 / HBS

1 metres



KVR 10-30 F2040 / HBS

3 metres

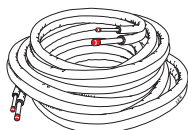


KVR 10-60 F2040 / HBS

6 metres

Refrigerant pipe kit

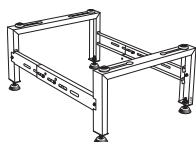
3/8" – 5/8", 12 metres, insulated,
for HBS 10-12/16 and AMS 10-8/12/16



Stand and brackets

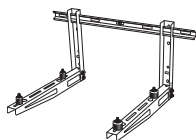
Ground stand

For AMS 10-6, -8, -12, -16



Wall bracket

For AMS 10-6, -8, -12





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PBD EN 1943-4 M11999

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