



## Air/water heat pump

# NIBE SPLIT HBS 20

**NIBE AMS 20 / HBS 20 is an intelligent, compact and inverter-controlled air/water heat pump with climate-friendly refrigerant. NIBE AMS 20 / HBS 20 provides optimised savings since the heat pump automatically adapts to your home's output requirements all year round.**

The heat pump works down to an outdoor temperature of  $-20^{\circ}\text{C}$  and at the same time supplies up to  $58^{\circ}\text{C}$  in supply line temperature. The effective cooling function allows the heat pump to deliver a comfortable indoor climate even at high outdoor temperatures. It also has a climate-friendly refrigerant to provide less impact on the environment. Available in two sizes AMS 20 / HBS 20-6 and AMS 20 / HBS 20-10.

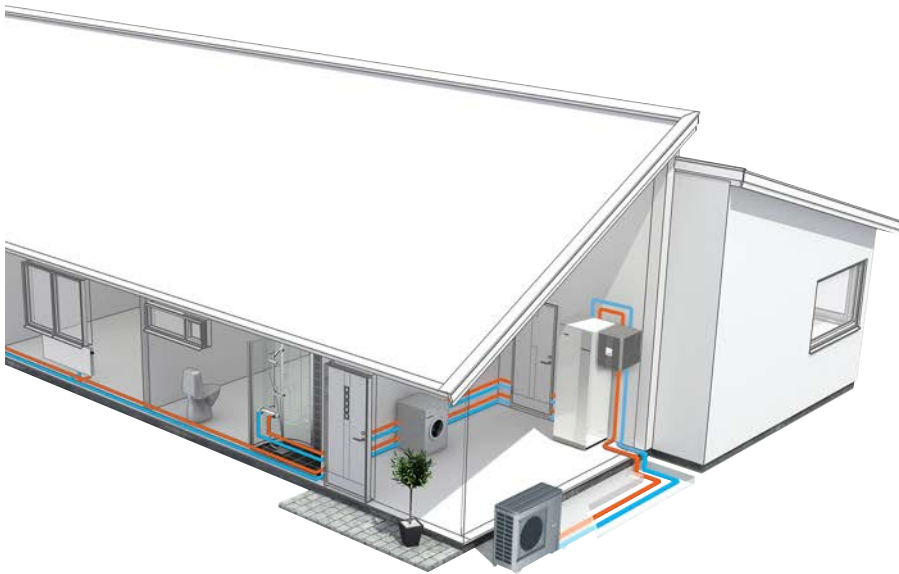
Thanks to smart technology, the product gives you control over your energy consumption and will be a key part of your connected home. The efficient control system automatically adjusts the indoor climate for high comfort, and you do nature a favour at the same time.



- **Compact heat pump that adapts to your home's requirements.**
- **High capacity even down to  $-20^{\circ}\text{C}$  and effective cooling function.**
- **Energy-saving smart technology with user-friendly control.**

# This is how NIBE SPLIT HBS 20 works

## Installation method



The outdoor module NIBE AMS 20, together with SPLIT box NIBE HBS 20, creates a complete heat pump intended for use in combination with one of the indoor module NIBE VVM or control modules NIBE SMO.

The system solution is a "split system", where the outdoor module, NIBE AMS 20, is connected via refrigerant pipes to NIBE HBS 20, which is placed indoors. The exchange between the refrigerant and the heating system's liquid occurs in NIBE HBS 20.

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

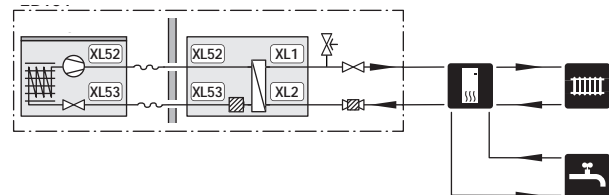
The control modules, NIBE SMO, offer a flexible system solution that can be customised easily. For systems with NIBE SMO, components such as water heaters, additional heat and other accessories can be selected to match the installation's requirements.

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

## PRINCIPLE OF OPERATION

Principle of operation with hot water and a heating system.

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



- XL1 Heating medium connection, supply (from HBS 20)
- XL2 Heating medium connection, return (to HBS 20)
- XL52 Gas line connection
- XL53 Liquid line connection

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

| NIBE SPLIT HBS 20     | VVM S320 | SMO S40 |
|-----------------------|----------|---------|
| AMS 20-6 / HBS 20-6   | X        | X       |
| AMS 20-10 / HBS 20-10 | X        | X       |

| NIBE SPLIT HBS 20     | VVM 225 | VVM 310 | VVM 500 | SMO 20 | SMO 40 |
|-----------------------|---------|---------|---------|--------|--------|
| AMS 20-6 / HBS 20-6   | X       | X       | X       | X      | X      |
| AMS 20-10 / HBS 20-10 | X       | X       | X       | X      | X      |

### INDOOR MODULES



#### VVM S320

Stainless steel, 1x230 V  
Part no. 069 198

#### VVM S320

Enamel, 3x400 V  
Part no. 069 206

#### VVM S320

Stainless steel, 3x230 V  
Part no. 069 201

#### VVM S320

Stainless steel, 3x400 V  
Part no. 069 196



#### VVM 225

Stainless steel, 1x230 V  
Part no. 069 231

#### VVM 225

Enamel, 3x400 V  
Part no. 069 227

#### VVM 225

Stainless steel, 3x400 V  
Part no. 069 229

#### VVM 310

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

#### VVM 225

Stainless steel, 3x230 V  
Part no. 069 230

#### VVM 225

Enamel (DK), 3x400 V  
Part no. 069 228

#### VVM 310

Stainless steel, 3x400 V  
Part no. 069 430

#### VVM 500

Stainless steel, 3x400 V  
Part no. 069 400

### 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



# Good to know about NIBE SPLIT HBS 20

## System solution

NIBE SPLIT HBS 20 is intended for installation with indoor module (VVM) or control module (SMO) for a complete system solution.

## Transport

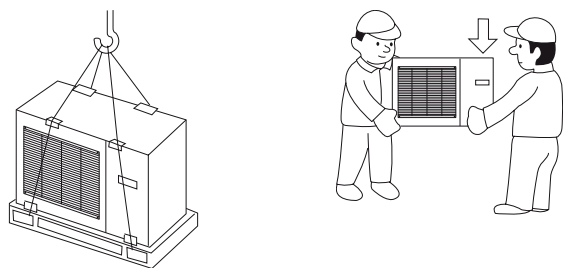
NIBE SPLIT HBS 20 should be transported and stored vertically in a dry place.

Ensure that the heat pump cannot fall over during transport.

Check that AMS 20 / HBS 20 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.



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.

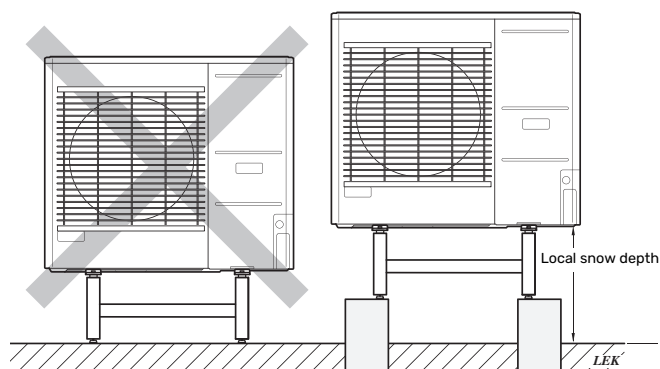
Place lifting straps around each foot. It is recommended that two people perform the lift from the pallet to the base.

## Installation and positioning

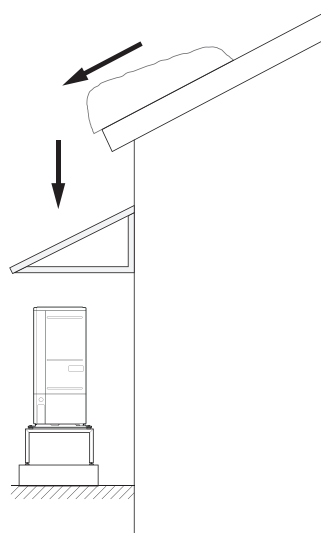
### INSTALLATION AMS 20

- Place AMS 20 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 20 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 20 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 20 protected from wind against the evaporator.
- Large amounts of condensation, as well as melt water from defrosting, may be produced. Condensation must be led off to a drain or similar (see section "Condensation").
- Care must be exercised so that the heat pump is not scratched during installation.



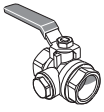
Do not place AMS 20 directly on the lawn or other non solid surface.



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.

## ENCLOSED COMPONENTS FOR AMS 20 / HBS 20

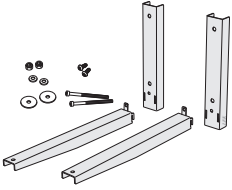
Local differences in the enclosed kit may occur. See relevant installer manual for more information.



1 x filterball (G1")



1 x condensation hose

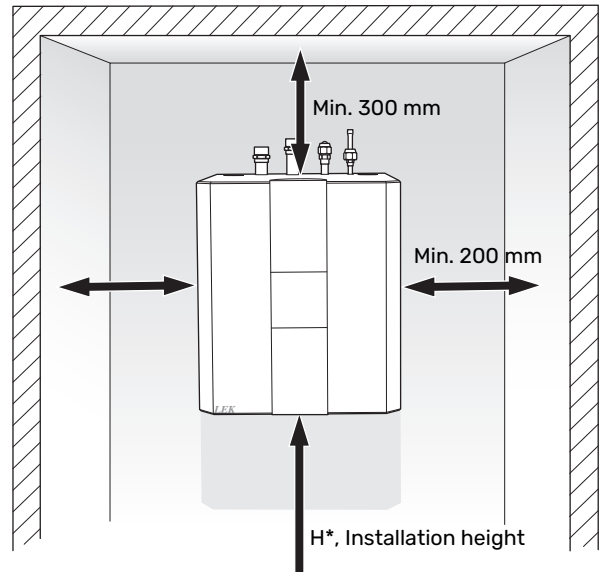


1 x bracket kits

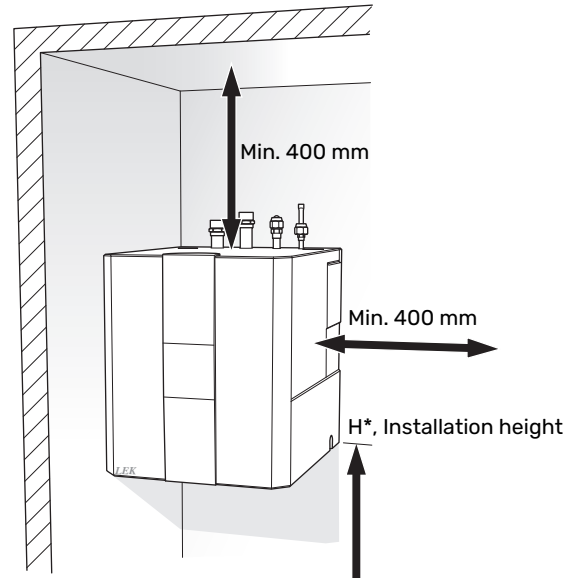
## INSTALLATION AREA

There has to be free space on at least one side to allow any service to HBS 20 in the future. Ensure that there is also approx. 800 mm free space in front of HBS 20.

### Recommendation for positioning on wall

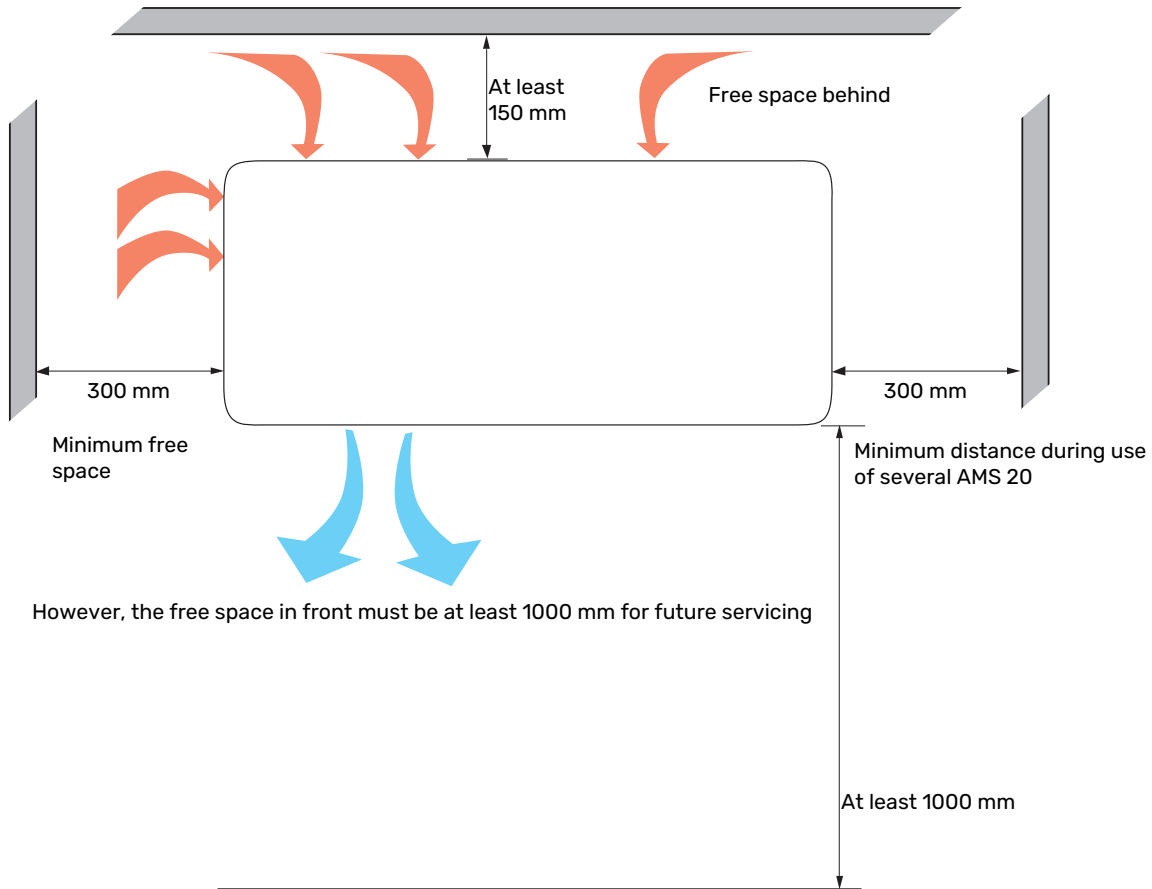


### Recommendation for positioning on wall / in corner



\*For a total amount of refrigerant exceeding 1.84 kg R32, when the pipe length is longer than 15 m, requirements are set regarding installation height and the floor of the installation area, see section "Minimum floor area HBS 20-10" in the Installer Manual.

The recommended distance between AMS 20 and the house wall must be at least 150 mm. The free space above AMS 20 must be at least 1,000 mm. However, the free space in front must be at least 1,000 mm for future servicing.



# 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

Condensation runs out on to the ground below AMS 20. To avoid damage to the house and heat pump, the condensation must be gathered and drained away.

It is important for the heat pump's function that the condensation water is led away and that the outlet for the condensation water pipe is positioned so as to prevent damage to the building. Condensation run-off should be checked regularly, especially during the autumn. Clean if necessary.

Pipe with heating cable for draining the condensate drain pan is not included. To ensure this function, the accessory KVR 10 should be used.

- 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.

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

To ensure this function the accessory KVR 10 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.

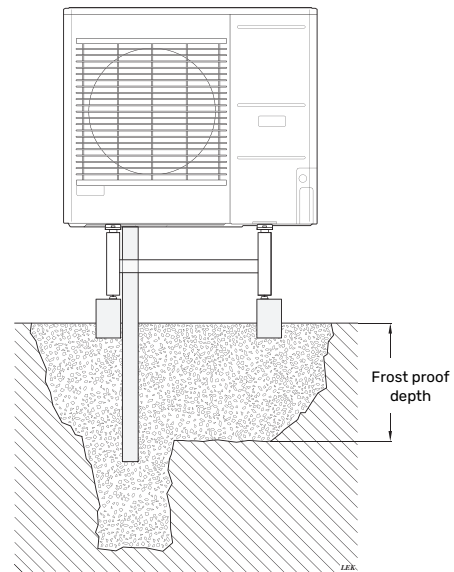
## DRAIN PAN HEATER, CONTROL

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

1. The compressor has been in operation for at least 30 minutes after last start.
2. The ambient temperature is lower than 1 °C.

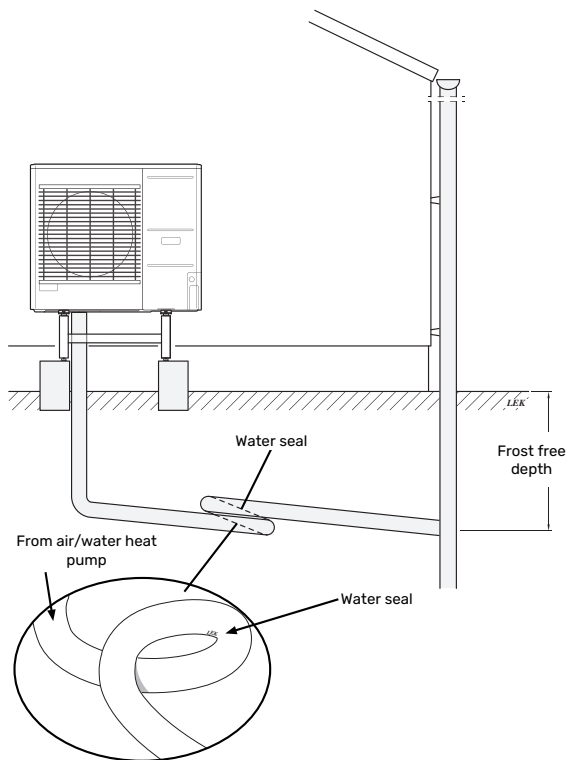
## DRAINAGE OF CONDENSATION

### 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. 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.

## Pipe connections

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 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 20-6/<br>HBS 20-6   | 0.19   | 20                                      | 22                                      |
| AMS 20-10/<br>HBS 20-10 |  |   |   |

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

NIBE SPLIT HBS 20 can only operate up to a return temperature of approx. 55 °C and an outgoing temperature of approx. 58 °C from the heat pump.

When docking with NIBE SPLIT HBS 20, free flow in the climate system is recommended for correct heat transfer. This can be achieved by using a bypass valve. If free flow cannot be ensured, it is recommended that a buffer vessel (NIBE UKV) be installed.

AMS 20 / HBS 20 is not equipped with shut-off valves on the heating medium side, rather these must be installed to facilitate any future servicing. The return temperature is limited by the return line sensor.

### WATER VOLUMES

| AMS 20  | -6   | -10  |
|---|------|------|
| Minimum volume, climate system during heating/cooling     | 20 l | 50 l |
| Minimum volume, climate system during under floor cooling | 50 l | 80 l |

Install the supplied filterball (QZ2) upstream of the inlet, i.e. the connection (XL2, HM return) on HBS 20.

Connection of, and other work on, the cooling system may only be carried out by a qualified technician with the correct qualifications and the required certificates.

For more information see [nibe.eu](http://nibe.eu).



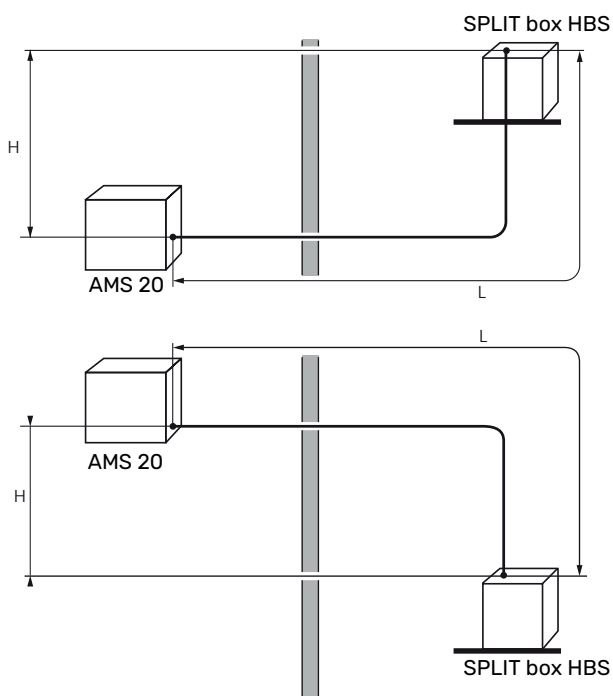
## CONNECTING REFRIGERANT PIPE (NOT ENCLOSED)

Install the refrigerant pipe between the outdoor module AMS 20 and SPLIT box HBS 20.

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

### Parameters

|  |   | AMS 20 / HBS 20 |    |
|--|---|-----------------|----|
|  |   | 6               | 10 |
| Max. length, refrigerant pipe, one way                                   | m | 30              | 50 |
| Max height difference, when AMS 20 / HBS 20 is placed higher than AMS 20 | m | 20              | 15 |
| Max height difference, when AMS 20 / HBS 20 is placed lower than AMS 20  | m | 20              | 30 |



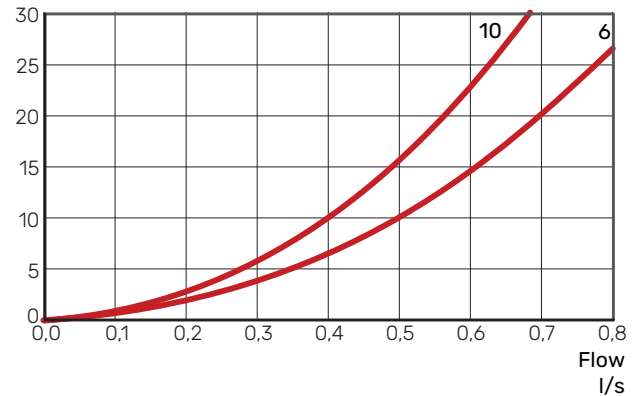
## AMS 20-10

|                            | Gas pipe  | Liquid pipe     |
|----------------------------|---|-----------------|
| Pipe dimension             | Ø15.88 mm (5/8")                                  | Ø6.35 mm (1/4") |
| Connection                 | Flare - (5/8")                                    | Flare - (1/4")  |
| Material                   | Copper quality SS-EN 12735-1 or C1220T, JIS H3300 |                 |
| Minimum material thickness | 1.0 mm  | 0.8 mm          |

## PRESSURE DROP, HEATING MEDIUM SIDE

### AMS 20 / HBS 20

Pressure drop (kPa)



## Pipe dimensions and materials

### AMS 20-6

|                            | 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          |

## Electrical connections

AMS 20 and SPLIT box HBS 20 does not include a circuit breaker on the incoming electricity supply. For this reason, each one of its supply cables must be connected to its own circuit breaker with a breaking gap of at least 3 mm. The incoming supply must be 230V ~50Hz via an electrical distribution unit with fuses.

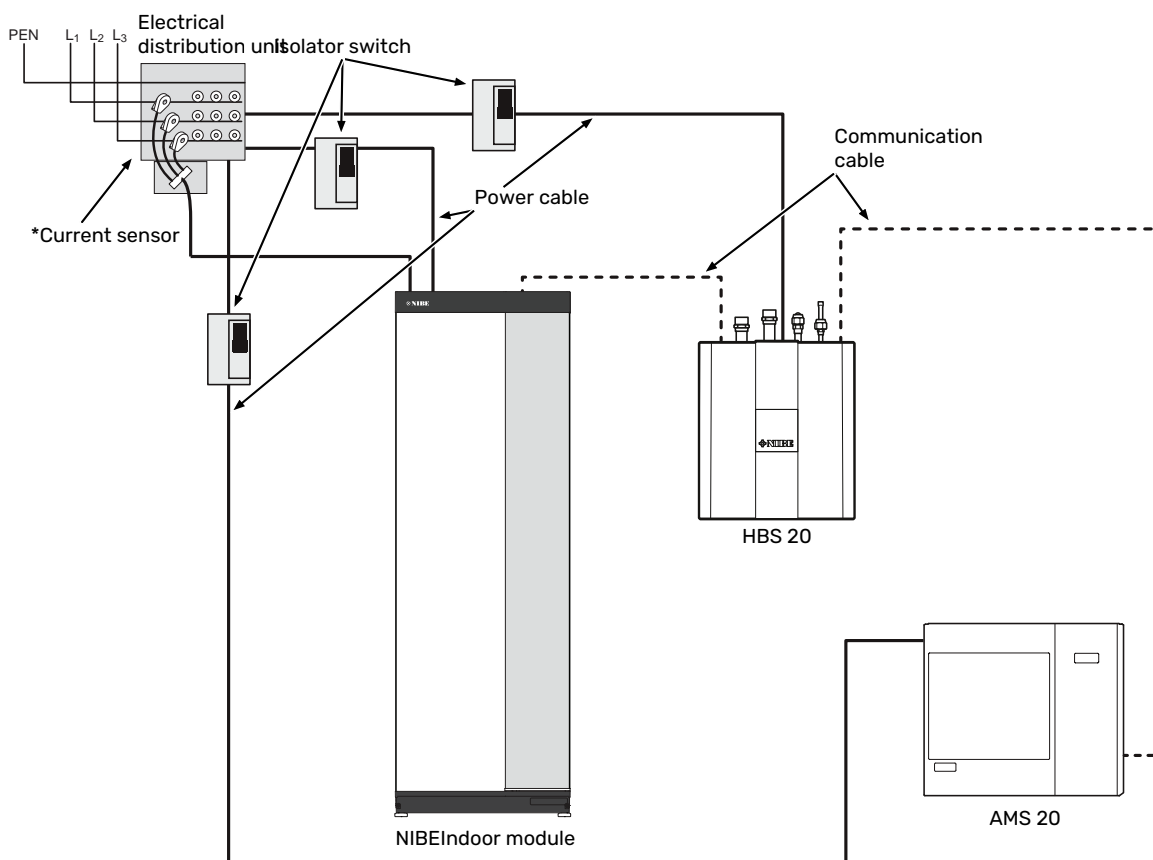
- For fuse ratings, see technical data, "Fuse protection".
- If the building is equipped with an earth-fault breaker, AMS 20 should be equipped with a separate one.
- Connection must not be carried out without the permission of the electricity supplier and must be under the supervision of a qualified electrician.

- Cables must be routed so that they are not damaged by metal edges or trapped by panels.
- AMS 20 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 20-6       | 15                  |
| AMS 20-10      | 16                  |

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

### 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 selected heating curve setting. 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

### ADDITIONAL HEAT ONLY



The indoor module (VVM), which is connected to NIBE SPLIT HBS 20, 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



If there is an alarm, the status lamp lights red on the indoor module's / control module's (HWM / SMO) display. Detailed information, depending on the fault, is shown in the display. An alarm log is created with 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.

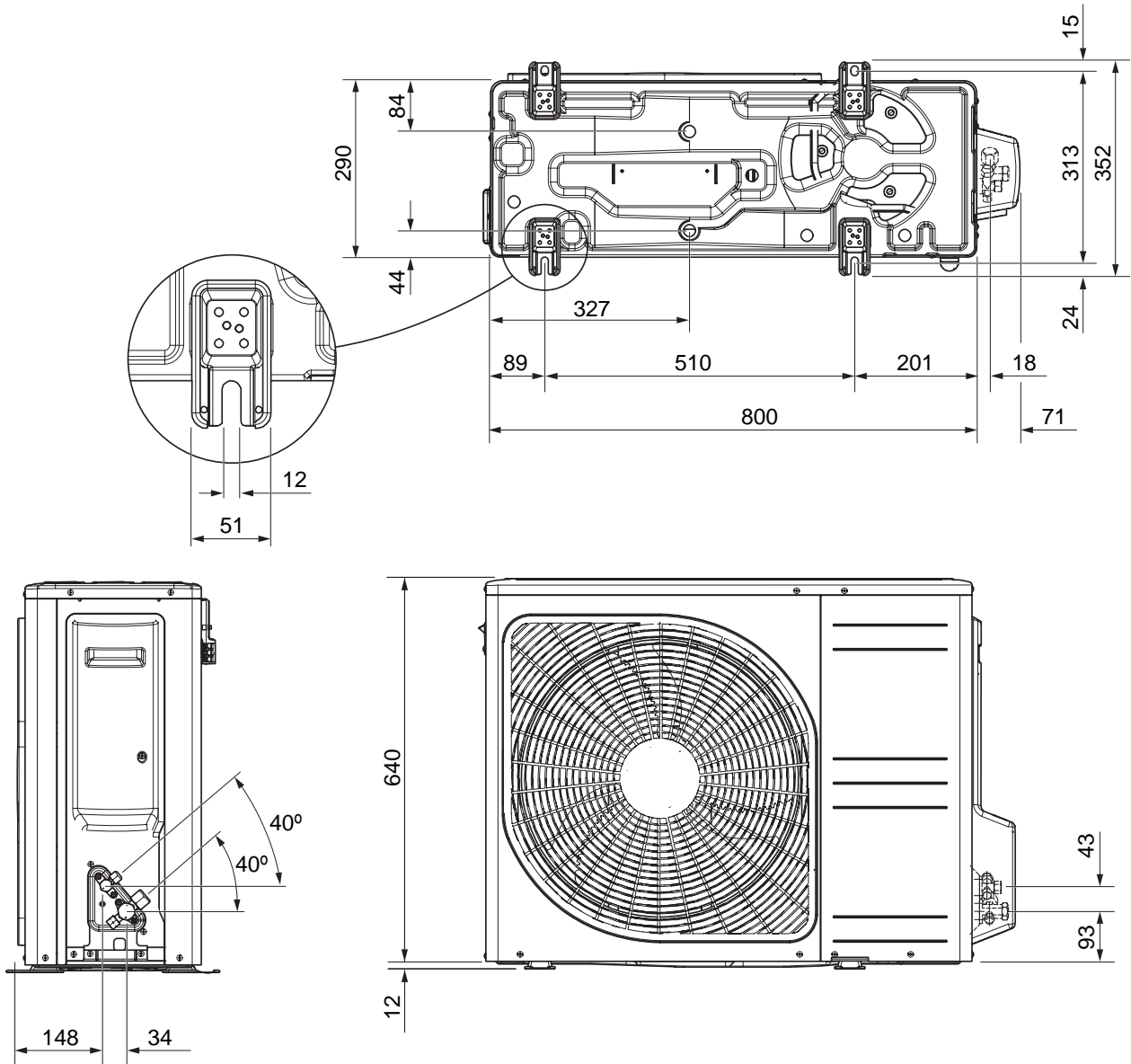
Instructions, settings and operational information are shown on the display. You can easily navigate between the different menus and options to set the comfort or obtain the information you require.

Visit [myuplink.com](http://myuplink.com) and click the "Software" tab to download the latest software for your installation.

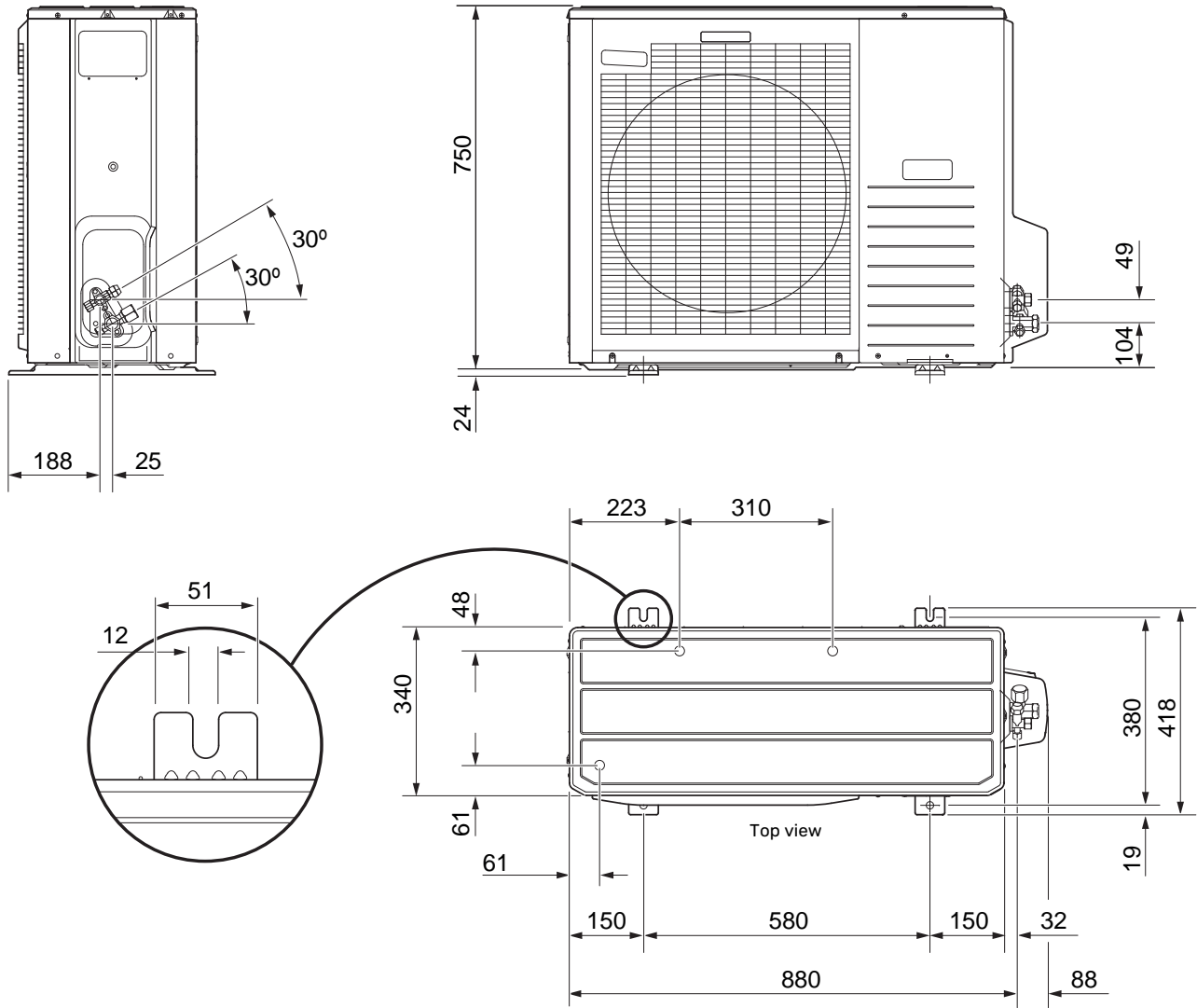
# Technical data

## Dimensions

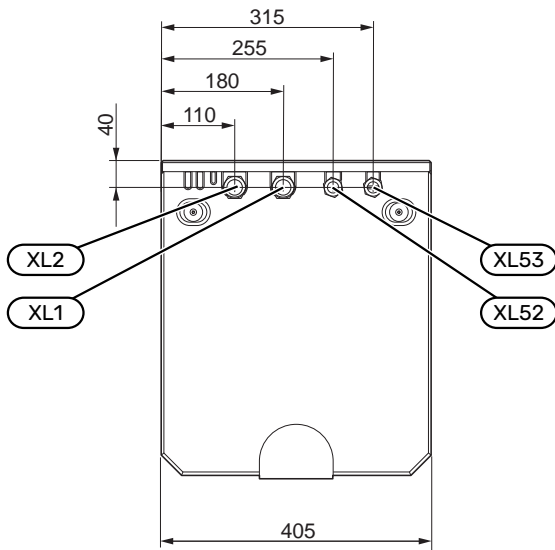
AMS 20-6



**AMS 20-10**



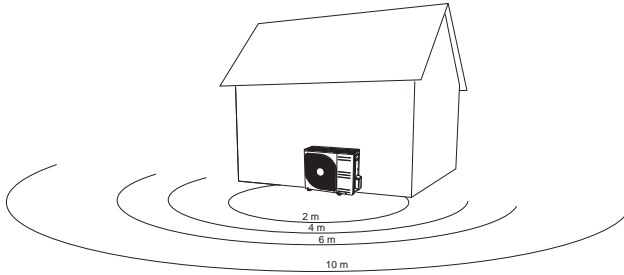
## SPLIT BOX HBS 20



View from above.

- XL1 Climate system, flow  $\varnothing$  28 mm
- XL2 Climate system, return  $\varnothing$  28 mm
- XL52 Gas line refrigerant, HBS 20-6: 1/2", HBS 20-10: flare 5/8"
- XL53 Liquid line refrigerant, HBS 20-6: 1/4", HBS 20-10: flare 1/4"

## Sound levels



AMS 20 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.

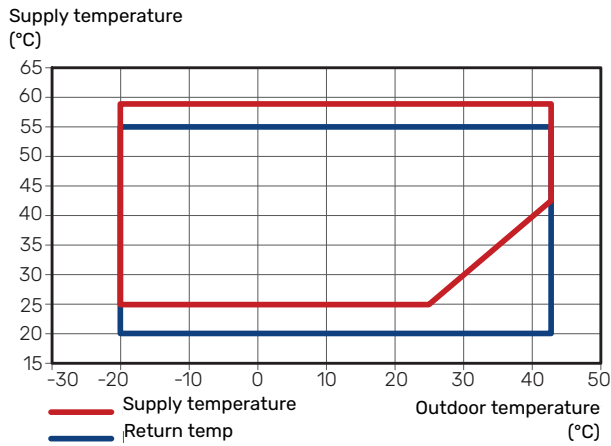
|           |                                     | Sound power <sup>1</sup> | Sound pressure at distance (m) <sup>2</sup> |      |      |      |      |      |      |      |      |      |
|-----------|-------------------------------------|--------------------------|---|------|------|------|------|------|------|------|------|------|
|           |                                     |                          | 1   | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |
| AMS 20-6  | Nominal sound value                 | 54                       | 49.0  | 43.0 | 39.5 | 37.0 | 35.0 | 33.5 | 32.1 | 31.0 | 29.9 | 29.0 |
|           | Max. sound value                    | 62                       | 57.0  | 51.0 | 47.5 | 45.0 | 43.0 | 41.5 | 40.1 | 39.0 | 37.9 | 37.0 |
|           | Max. sound value, silent mode       | 54                       | 48.0  | 42.0 | 38.5 | 36.0 | 34.0 | 32.5 | 31.1 | 30.0 | 28.9 | 28.0 |
| AMS 20-10 | Nominal sound value                 | 54                       | 49.0  | 43.0 | 39.5 | 37.0 | 35.0 | 33.5 | 32.1 | 31.0 | 29.9 | 29.0 |
|           | Max. sound value                    | 65                       | 60.0  | 54.0 | 50.5 | 48.0 | 46.0 | 44.5 | 43.1 | 42.0 | 40.9 | 40.0 |
|           | Max. sound value, silent mode 60 Hz | 54                       | 49.0  | 43.0 | 39.5 | 37.0 | 35.0 | 33.5 | 32.1 | 31.0 | 29.9 | 29.0 |

<sup>1</sup> Sound power level,  $L_w(A)$ , according to EN12102

<sup>2</sup> Sound pressure calculated according to directivity factor  $Q=4$

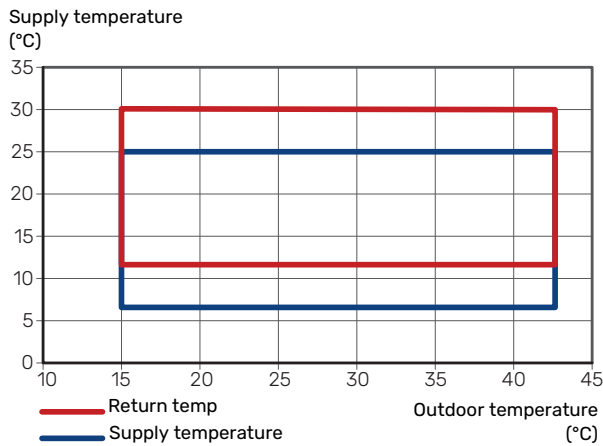
## Working area

### WORKING RANGE, HEATING



The supply temperature is permitted to be lower for a short period, e.g. at start-up.

### WORKING RANGE, COOLING



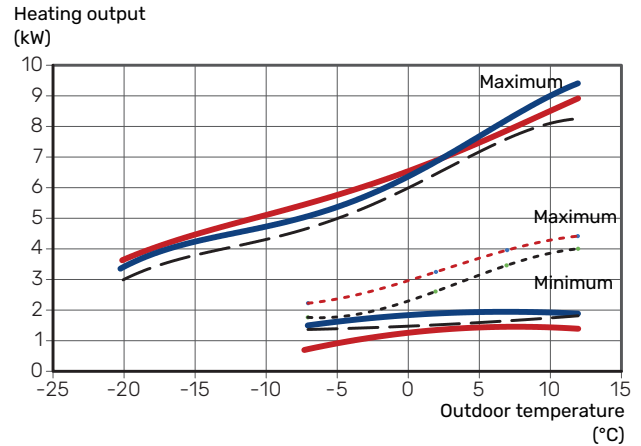
## Capacity and COP

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

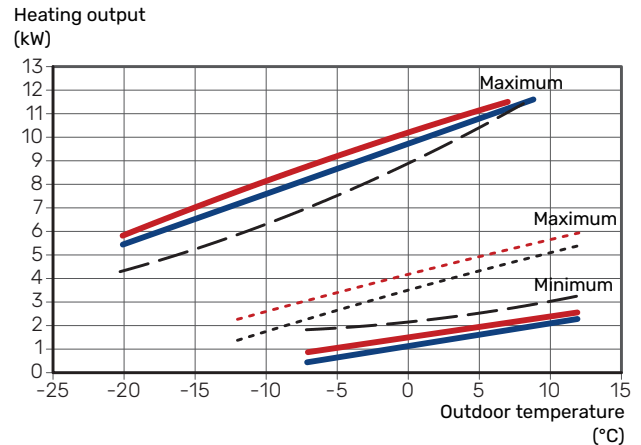
### POWER DURING HEATING OPERATION

Maximum and minimum capacity during continuous operation.

#### AMS 20 / HBS 20-6



#### AMS 20 / HBS 20-10



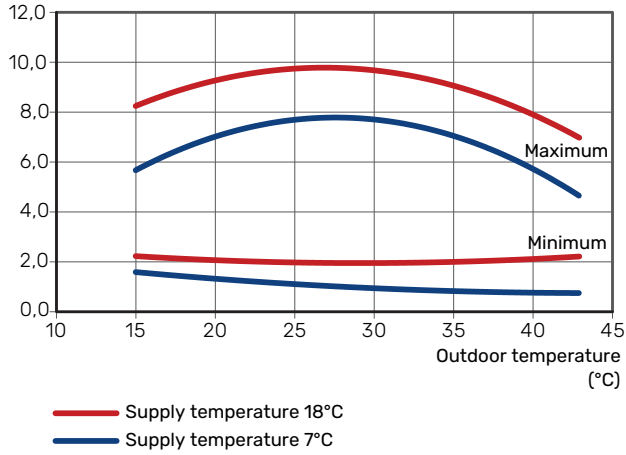


## POWER DURING COOLING OPERATION

Maximum and minimum capacity during continuous operation.

### AMS 20 / HBS 20-6

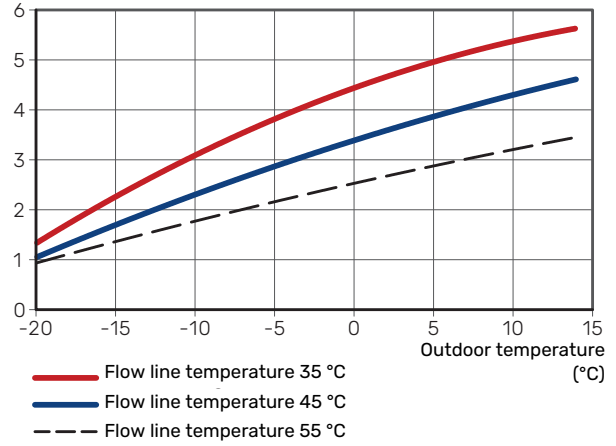
Cooling output (kW)



## COP

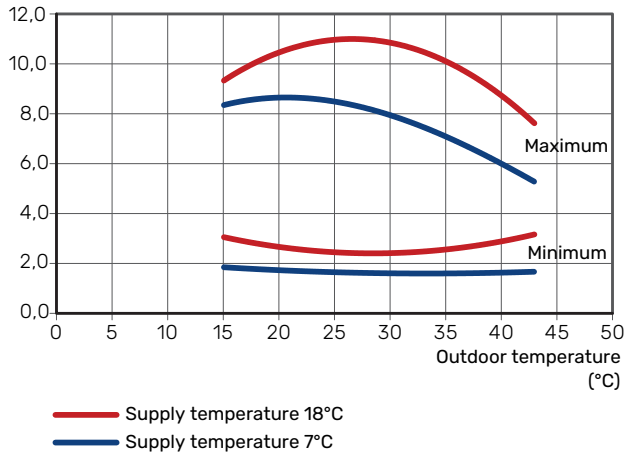
### AMS 20 / HBS 20-6

COP



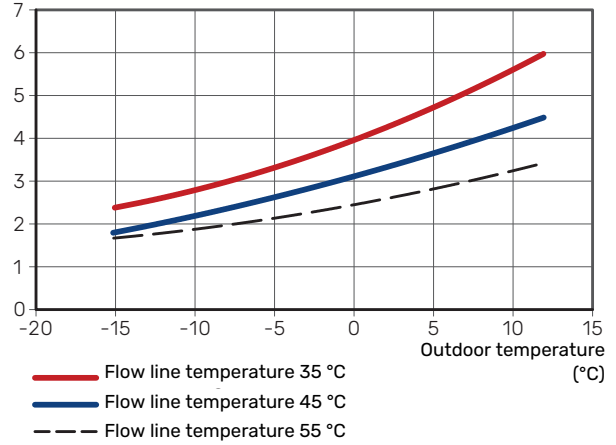
### AMS 20 / HBS 20-10

Cooling output (kW)



### AMS 20 / HBS 20-10

COP



# Technical specifications

| NIBE SPLIT HBS 20 (AMS 20 and HBS 20)   |    | -6                          | -10 |
|---|----|-----------------------------|-----|
| 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                          | 60  |
| 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 |     |

| SPLIT box   |                  | HBS 20-6                  | HBS 20-10   |
|---|------------------|---------------------------|-------------|
| <b>Energy rating, average climate<sup>1</sup></b>                       |                  |                           |             |
| The product's room heating efficiency class 35 C / 55 C <sup>2</sup>    |                  | A++ / A++                 |             |
| The system's room heating efficiency class 35 C / 55 C <sup>3</sup>     |                  | A+++ / A++                |             |
| <b>Electrical data</b>  |                  |                           |             |
| Rated voltage   |                  | 230 V – 50 Hz             |             |
| Fuse  | A <sub>rms</sub> | 16                        |             |
| Enclosure class   |                  | IP24                      |             |
| <b>Heating medium circuit</b>   |                  |                           |             |
| 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 |
| Min/Max system flow, cooling operation                                  | l/s              | 0.11 / 0.29               | 0.15 / 0.38 |
| Min flow, climate system, 100% circulation pump speed (defrosting flow) | l/s              | 0.19                      |             |
| Volume, total   | litre            | 1.2 +-5 %                 | 3 +-5%      |
| Max operating temperature   | °C               | 65                        |             |
| Ambient temperature, max relative humidity                              | °C               | 5 – 35, 95 %              |             |
| <b>Dimensions and weight</b>  |                  |                           |             |
| Width   | mm               | 404                       |             |
| Depth   | mm               | 472                       |             |
| Height, without pipe / with pipe  | mm               | 463 / 565                 |             |
| Weight  | kg               | 13                        | 15          |
| <b>Miscellaneous</b>  |                  |                           |             |
| Water quality, climate system   |                  | EU directive no. 98/83/EF |             |
| Part number HBS 20  |                  | 067 668                   | 067 819     |

<sup>1</sup> Reported efficiency for the system also takes the temperature regulator into account. If the system is supplemented with an external auxiliary boiler or solar heating, the total efficiency of the system must be recalculated.

<sup>2</sup> Scale for the product's room heating efficiency class A++ to G. Control module model SMO S

<sup>3</sup> Scale for the system's room heating efficiency class A+++ to G. Control module model SMO S

| Outdoor module AMS 20  |                   | 6                            | 10                            |
|--|-------------------|------------------------------|-------------------------------|
| <b>Output data according to EN 14 511, partial load<sup>1</sup></b>                |                   |                              |                               |
| Heating  | -7 / 35 °C        | 5.55 / 2.05 / 2.71           | 7.18 / 2.93 / 2.45            |
| Capacity / power input / COP (kW/kW/-) at nominal flow                             | 2 / 35 °C         | 2.31 / 0.56 / 4.13           | 3.46 / 0.83 / 4.17            |
| Outdoor temp. / Supply temp.   | 2 / 45 °C         | 2.02 / 0.67 / 3.01           | 3.24 / 1.12 / 3.24            |
|  | 7 / 35 °C         | 2.64 / 0.49 / 5.42           | 4.00 / 0.75 / 5.33            |
|  | 7 / 45 °C         | 2.43 / 0.65 / 3.74           | 5.00 / 1.28 / 3.91            |
| Cooling  | 35 / 7 °C         | 5.32 / 1.94 / 2.74           | 7.07 / 2.40 / 2.95            |
| Capacity / power input / EER (kW/kW/-) at maximum flow                             | 35 / 18 °C        | 7.55 / 2.11 / 3.58           | 10.79 / 3.00 / 3.60           |
| Outdoor temp. / Supply temp.   |                   |                              |                               |
| <b>SCOP according to EN 14825</b>  |                   |                              |                               |
| Nominal heat output (P <sub>designh</sub> ) average climate 35 °C / 55 °C (Europe) | kW                | 5.20 / 5.60                  | 6.3 / 6.5                     |
| Nominal heat output (P <sub>designh</sub> ) cold climate 35 °C / 55 °C             | kW                | 5.80 / 5.70                  | 6.5 / 6.2                     |
| Nominal heat output (P <sub>designh</sub> ) warm climate 35 °C / 55 °C             | kW                | 5.57 / 5.48                  | 6.9 / 6.6                     |
| SCOP average climate, 35 °C / 55 °C (Europe)                                       |                   | 5.08 / 3.58                  | 4.6 / 3.4                     |
| SCOP cold climate, 35 °C / 55 °C   |                   | 4.10 / 3.05                  | 3.9 / 2.9                     |
| SCOP warm climate, 35 °C / 55 °C   |                   | 6.76 / 4.55                  | 6.4 / 4.4                     |
| <b>Energy rating, average climate<sup>2</sup></b>                                  |                   |                              |                               |
| The product's room heating efficiency class 35 C / 55 C <sup>3</sup>               |                   | A++ / A++                    |                               |
| The system's room heating efficiency class 35 C / 55 C <sup>4</sup>                |                   | A+++ / A++                   |                               |
| <b>Electrical data</b>   |                   |                              |                               |
| Rated voltage  |                   | 230 V ~ 50 Hz                |                               |
| Max. power, fan  | W                 | 50                           | 86                            |
| Drain pan heating (integrated)   | W                 | 110                          | 100                           |
| Fuse   | A <sub>rms</sub>  | 16                           |                               |
| Starting current   | A <sub>rms</sub>  | 5                            |                               |
| Enclosure class  |                   | IP24                         |                               |
| <b>Refrigerant circuit</b>   |                   |                              |                               |
| Type of refrigerant  |                   | R32                          |                               |
| GWP refrigerant  |                   | 675                          |                               |
| Volume   | kg                | 1.3                          | 1.84                          |
| Type of compressor   |                   | Twin Rotary                  |                               |
| CO <sub>2</sub> -equivalent (The cooling circuit is hermetically sealed.)          | t                 | 0.88                         | 1.24                          |
| Max. length, refrigerant pipe, one way   | m                 | 30                           | 50                            |
| Max height difference, when AMS 20 is placed higher than HBS 20                    | m                 | 20                           | 30                            |
| Max height difference, when AMS 20 is placed lower than HBS 20                     | m                 | 20                           | 15                            |
| Dimensions, refrigerant pipes, Gas pipe/Liquid pipe <sup>5</sup>                   | mm                | 12.7 (1/2") /<br>6.35 (1/4") | 15.88 (5/8") /<br>6.35 (1/4") |
| <b>Airflow</b>   |                   |                              |                               |
| Max airflow  | m <sup>3</sup> /h | 2,530                        | 3,000                         |
| <b>Working area</b>  |                   |                              |                               |
| Min./max. air temperature, heating   | °C                | -20 / 43                     |                               |
| Min./max. air temperature, cooling   | °C                | 15 / 43                      |                               |
| <b>Pipe connections</b>  |                   |                              |                               |
| Pipe connection option   |                   | Högarsida                    |                               |
| Pipe connections   |                   | Flare                        |                               |
| <b>Dimensions and weight</b>   |                   |                              |                               |
| Width  | mm                | 800                          | 880 (+67 ventilskydd)         |
| Depth  | mm                | 290                          | 340 (+ 110 med fotskena)      |
| Height with stand  | mm                | 640                          | 750                           |
| Weight   | kg                | 46                           | 60                            |
| <b>Miscellaneous</b>   |                   |                              |                               |
| Part no.   |                   | 064 235                      | 064 319                       |

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

<sup>2</sup> Reported efficiency for the system also takes the temperature regulator into account. If the system is supplemented with an external auxiliary boiler or solar heating, the total efficiency of the system must be recalculated.

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

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

<sup>5</sup> If the length of the refrigerant pipes exceeds 15 metres, extra refrigerant must be added at 0.02 kg/m. Use the enclosed label to re-mark the unit with the new amount of refrigerant.

## Accessories

Detailed information about the accessories and complete accessories list available at [nibe.eu](http://nibe.eu).

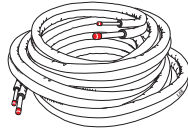
Not all accessories are available on all markets.

### Refrigerant pipe kit

#### RPK 10-120

1/4" / 1/2", 12 metres, insulated,  
for AMS 20 / HBS 20-6

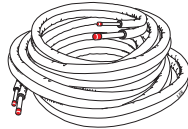
Part no. 067 889



#### RPK 12-120

1/4" / 5/8", 12 metres, insulated,  
for AMS 20 / HBS 20-10

Part no. 067 830

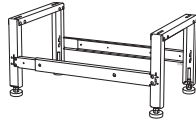


### Stand and brackets

#### Ground stand GSU 20

For AMS 20-6, -10

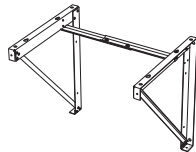
Part no. 067 651

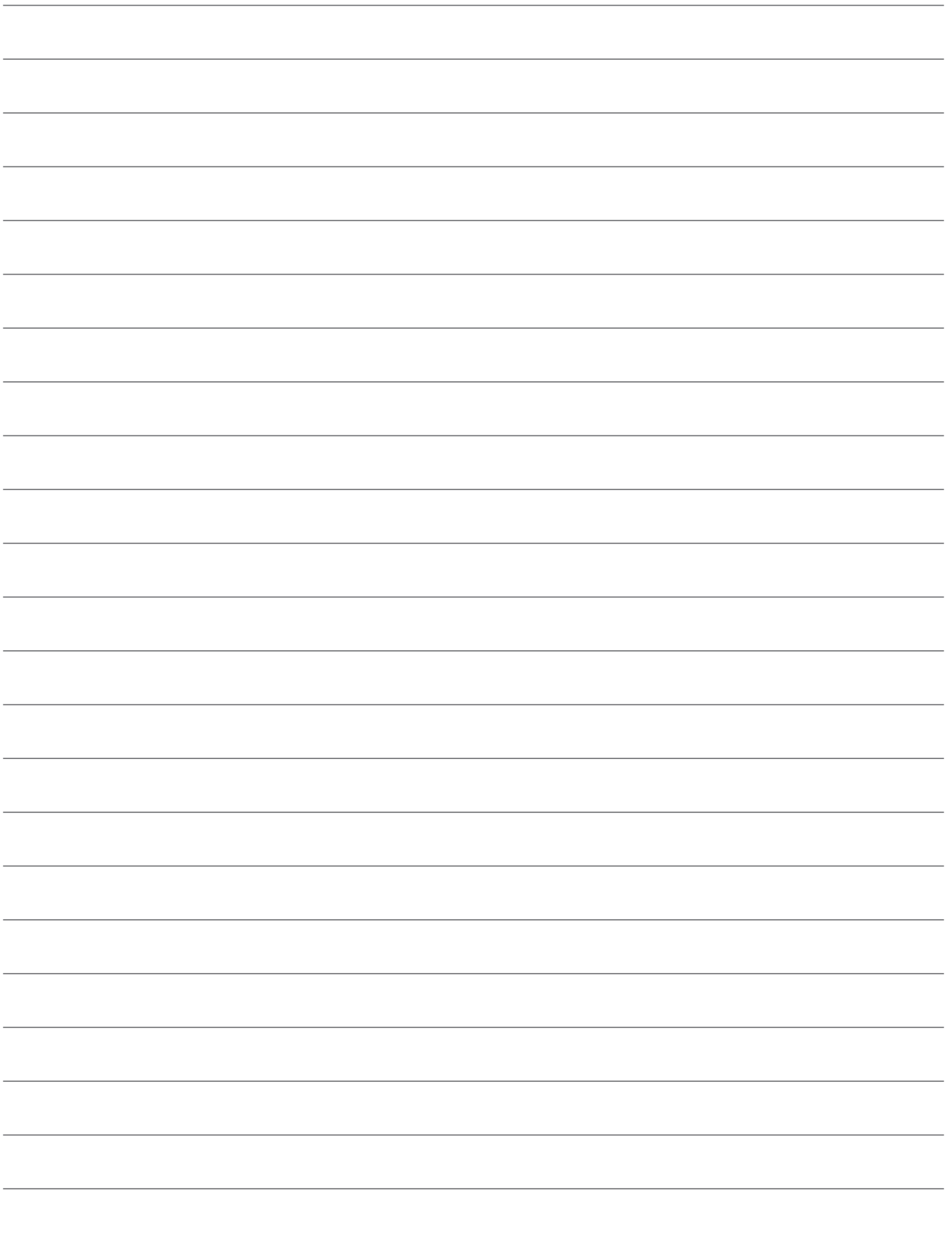


#### Wall bracket BAU 20

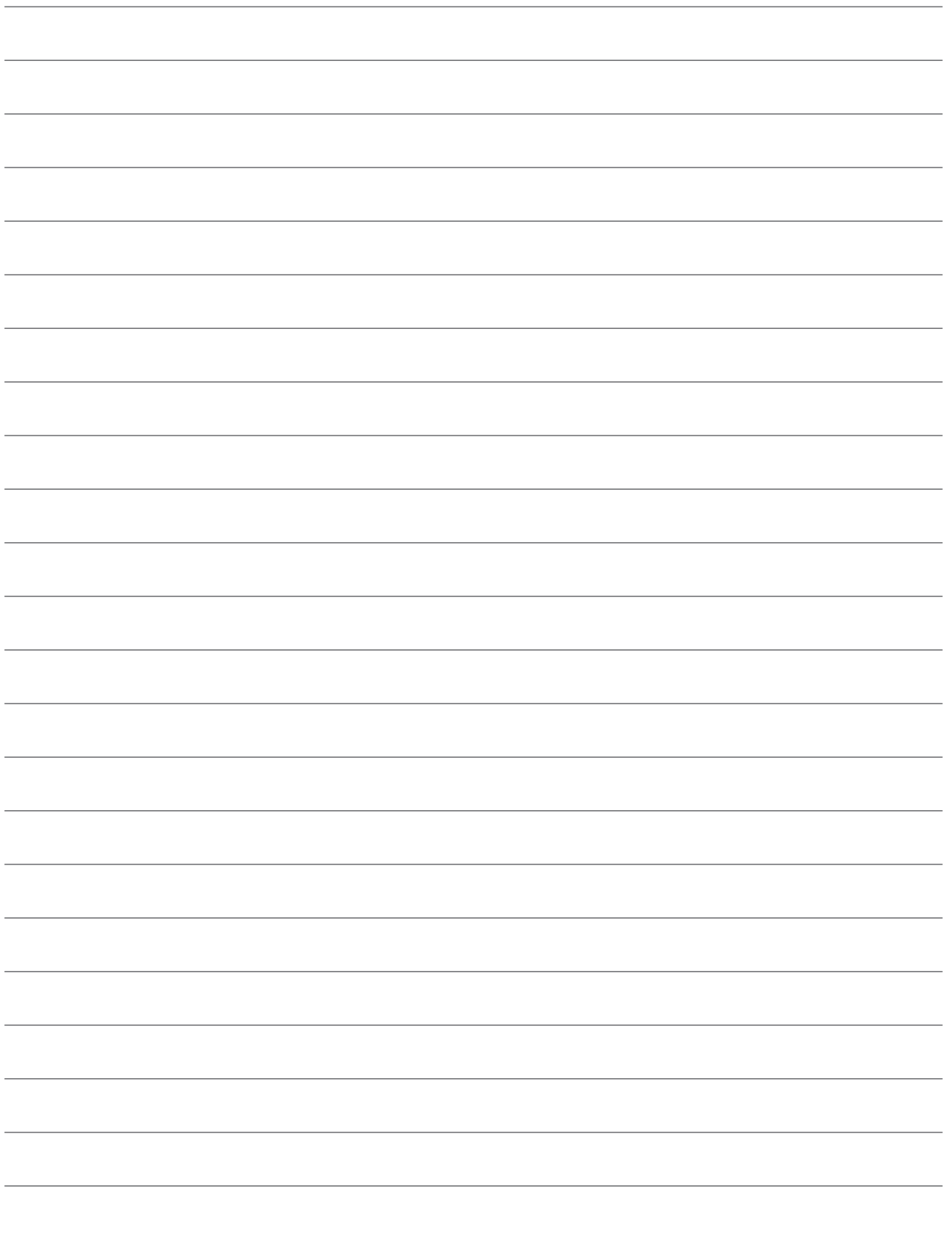
For AMS 20-6, -10

Part no. 067 600









# Sustainable energy solutions since 1952

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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.

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Box 14, SE-285 21 Markaryd  
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