# NIBE ERS 10-500/ERS 20-250

Ventilation heat exchanger

## Ventilation heat exchanger for NIBE heat pump

- Provides a complete exhaust and supply air solution for NIBE ground source or air/water heat pump.
- ERS can be docked with NIBE ground source heat pumps/indoor modules regardless of output.
- ERS is controlled via the ground source heat pump/indoor module, which means that all measurement values are visible in the main product's display.
- It also gives you the opportunity to control comfort in your home no matter where you are by using NIBE Uplink.
- Up to 92% recovery.
- Low noise level.
- Compact external dimensions.
- Easy to install.
- Integrated bypass function.

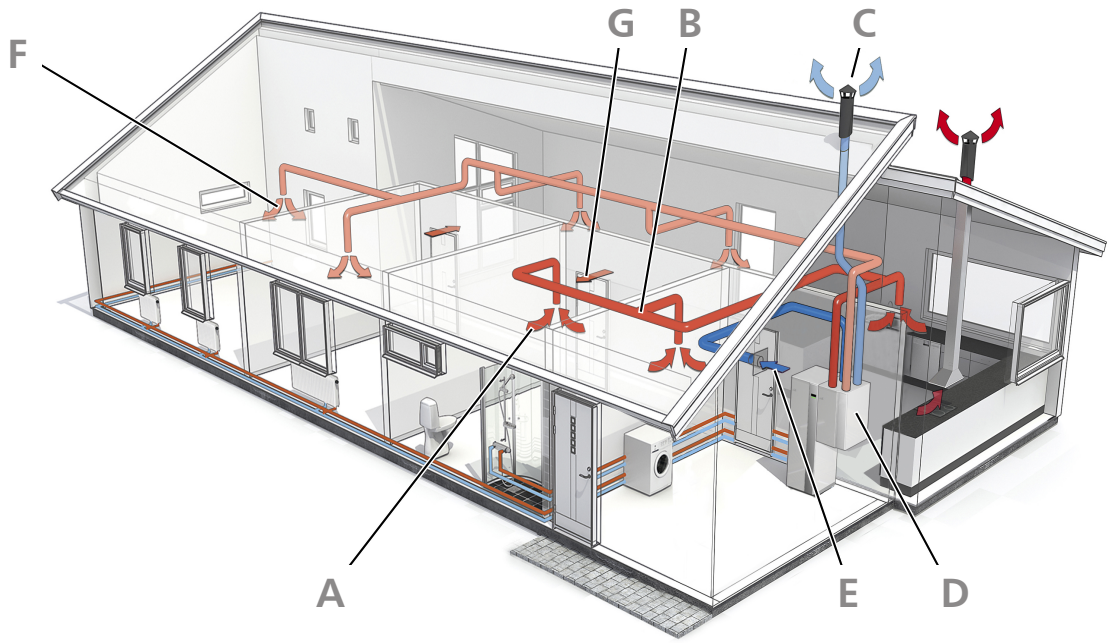
NIBE

A

The product's efficiency class.

# This is how NIBE ERS works

## Principle




The figure shows ERS 10.

NIBE ERS is a ventilation heat exchanger with integrated DC fans and counter-current heat exchanger.

Energy is recovered from the ventilation air and supplied to your home, which reduces energy costs considerably. The unit ventilates the house and heats the supply air as necessary.

The unit is intended for both new installations and replacement in houses or similar.

ERS is suitable for ventilation systems where high temperature efficiency and low energy consumption are required. ERS 10 is normally used in homes with an area of up to approx. 300 $m^2$, ERS 20 to approx. 200 $m^2$.

**A** The warm room air is drawn into the air duct system.

**B** The warm room air is fed to ERS.

**C** The room air is released when it has passed ERS. The air temperature has then been reduced as ERS has extracted the energy in the room air.

**D** ERS ventilates your home and heats the supply air.

**E** Outdoor air is drawn into ERS and heated if necessary.

**F** Air is blown out into rooms with supply air inlets.

**G** Air is transported from rooms with supply air inlets to rooms with exhaust air valves.

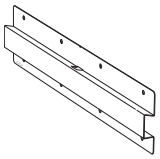
# Good to know about NIBE ERS

## Transport and storage

ERS should be transported and stored in the dry.

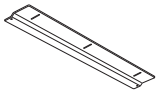
## Supplied components

**ERS 10**



Rail for wall mounting

**ERS 20**



2 x roof brackets

## Installation and positioning

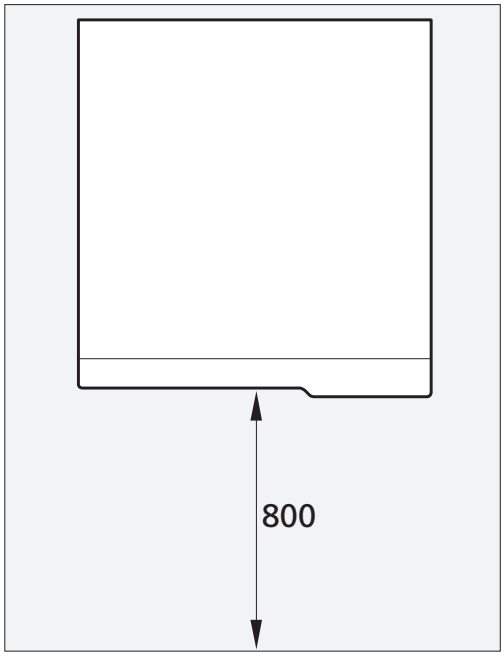
ERS 10 is installed using the enclosed rail on a solid wall. ERS 20 is installed in the roof using the enclosed roof brackets. Noise from the fans can be transferred to the brackets.

- Install ERS 10 with its back to an outside wall, ideally in a room where noise does not matter, in order to eliminate noise problems. Install ERS 20 on an outside wall, ideally in a room where noise does not matter, in order to eliminate noise problems. If this is not possible, avoid placing it against a wall adjoining a bedroom or other room where noise may be a problem.
- Wherever the unit is located, walls to sound sensitive rooms should be fitted with sound insulation.
- Condensation comes from the underside of the ventilation heat exchanger. Condensation outlet with water seal must be installed and routed to an internal drain.
- The ventilation heat exchanger's installation area should always have a temperature of at least 10 °C and max. 35 °C.

**Installation area**

***ERS 10***

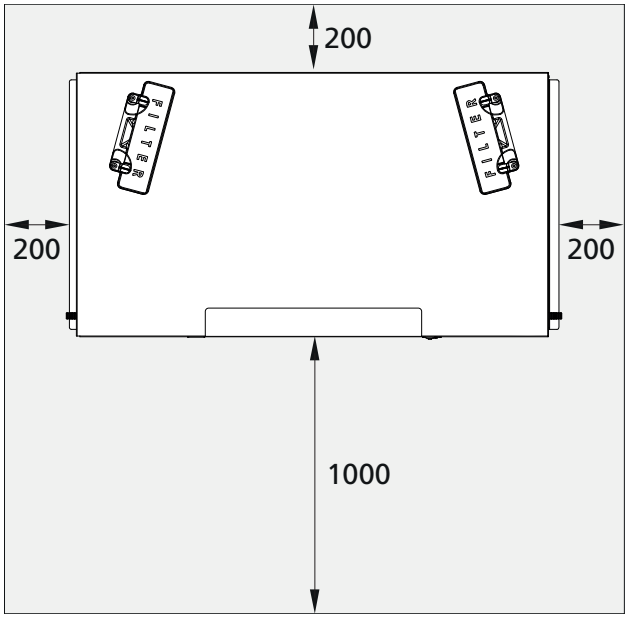
Leave a free space of 800 mm in front of the product.




**NOTE** Ensure that there is necessary space (300 mm) above the exhaust ventilation heat exchanger for installing ventilation hoses.

***ERS 20***

Leave a free space of 1,000 mm in front of the distribution box and 200 mm in front of the other sides. Because servicing is carried out from underneath, free space of 1,600 mm is recommended below the unit.




# Installation

## Condensation water drain

ERS can produce several litres of condensation water per day. It is therefore important that the condensation drain is correctly laid out and the unit is installed level.

Check that the water seal is airtight and firmly in position. The connection must be made so that the user can check that the water seal is functioning, without opening ERS.

The connection for the condensation outlet on ERS 20 measures Ø15 mm. On ERS 10, the condensation outlet is adapted for the type of water seal that is traditionally used for a wash basin (connection G32).

# Ventilation connection

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

To prevent fan noise being transferred to the ventilation devices, install silencers in the ducts. This is especially important if there are ventilation devices in bedrooms.

The extract air and outdoor air ducts are to be insulated using diffusion-proof material (PE30) along their entire lengths. Ensure that the condensation insulation is sealed at any joints and/or at lead-in nipples, silencers, roof cowls or similar. Provision must be made for inspection and cleaning of the duct. Make sure that there are no reductions in cross-sectional area in the form of creases etc., since this will reduce the ventilation capacity. The air duct system must be a minimum of air tightness class B.

All joins in the ducting must be sealed to prevent leakage.

It is recommended that the outdoor air inlet be located on the north or east side of the house to achieve optimal comfort in the house.

When positioning the outdoor air and extract air hood/grille, bear in mind that the two air flows must not short circuit to prevent the exhaust air from being sucked in again.

Exhaust air duct (kitchen fan) must not be connected to ERS.

A duct in a masonry chimney stack must not be used for extract air.

If a stove or similar is installed, it must have airtight doors and be able to take combustion air from outside.

**NOTE** To ensure a sealed connection to ERS, nipples must be used for connection of the air ducts (Ø 125 mm).

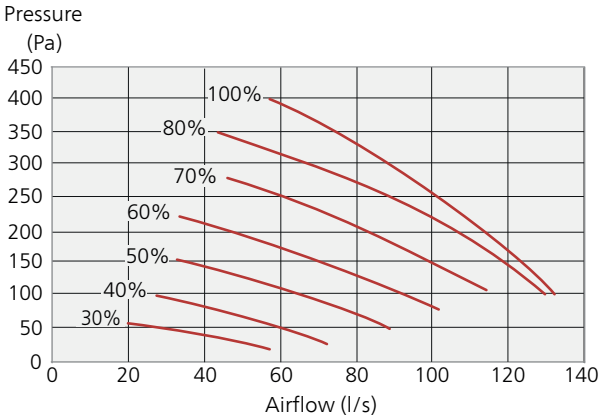
### Setting the ventilation

Even if ventilation is roughly set at installation it is important that a ventilation adjustment is ordered and permitted.

**NOTE** Order a ventilation adjustment to complete the setting.

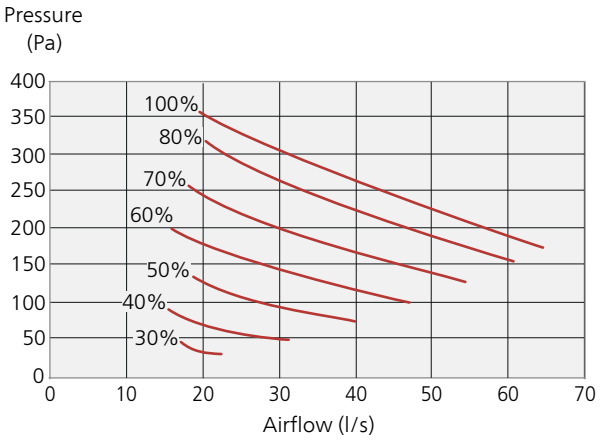
*Ventilation capacity ERS 10*

Supply and exhaust air fan




*Ventilation capacity ERS 20*

Supply and exhaust air fan



# Electrical connection

### Connecting to main product

- Disconnect ERS before insulation testing the house wiring.
- Signal cables to external connections must not be laid close to high current cables.
- If the supply cable is damaged, only NIBE, its service representative or similar authorised person may replace it to prevent any danger and damage.

ERS is equipped with a communication cable from the factory (cable length 2.0 m), which is connected to a circuit board in the heat pump. It is also equipped with a supply cable with a plug (cable length 2.4 m).

**NOTE** Electrical installation and service must be carried out under the supervision of a qualified electrician. Electrical installation and wiring must be carried out in accordance with the stipulations in force.

# Functions

## 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 where you can monitor and control the heating and hot water comfort. 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.

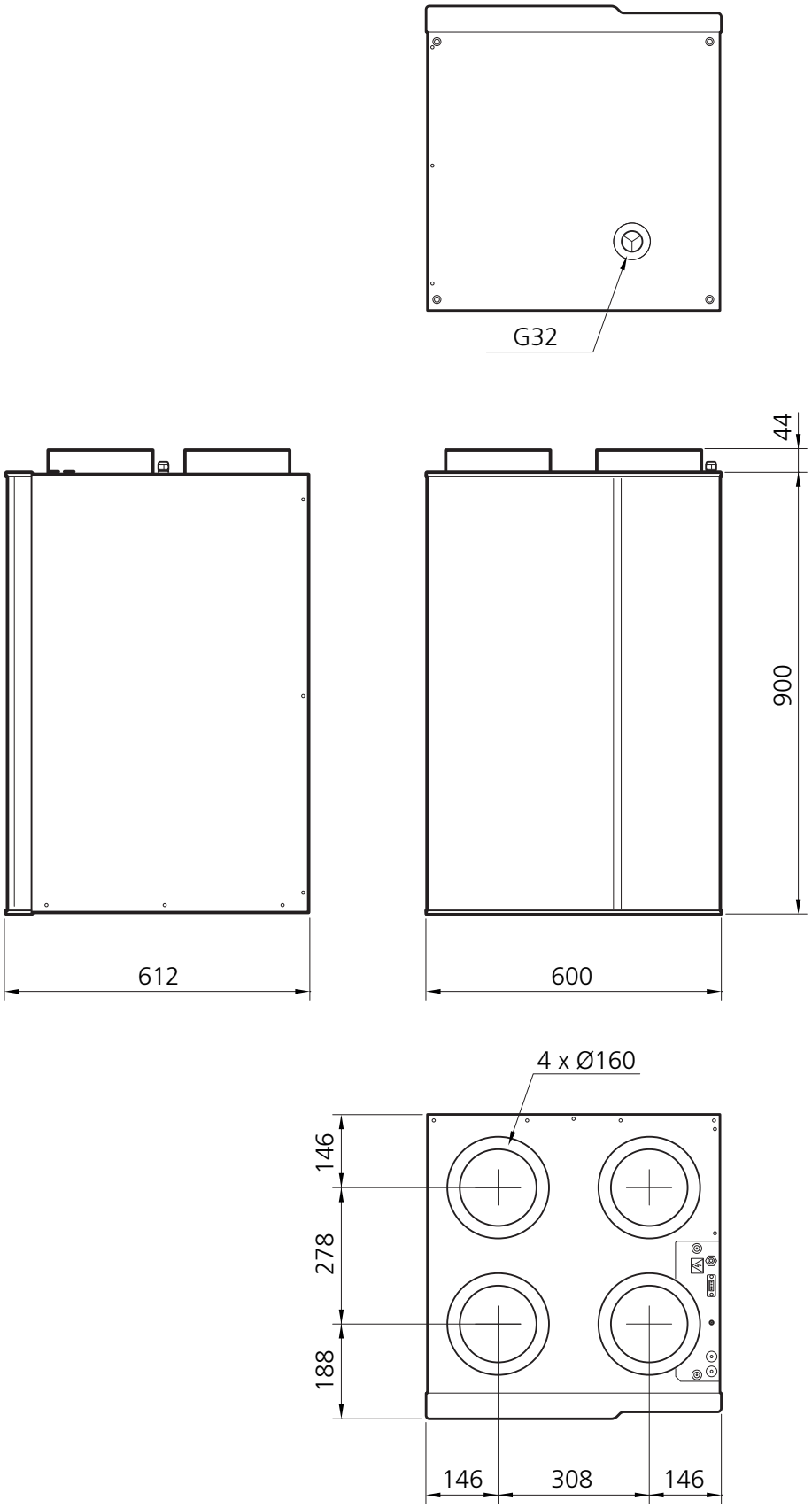
### Range of services

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).

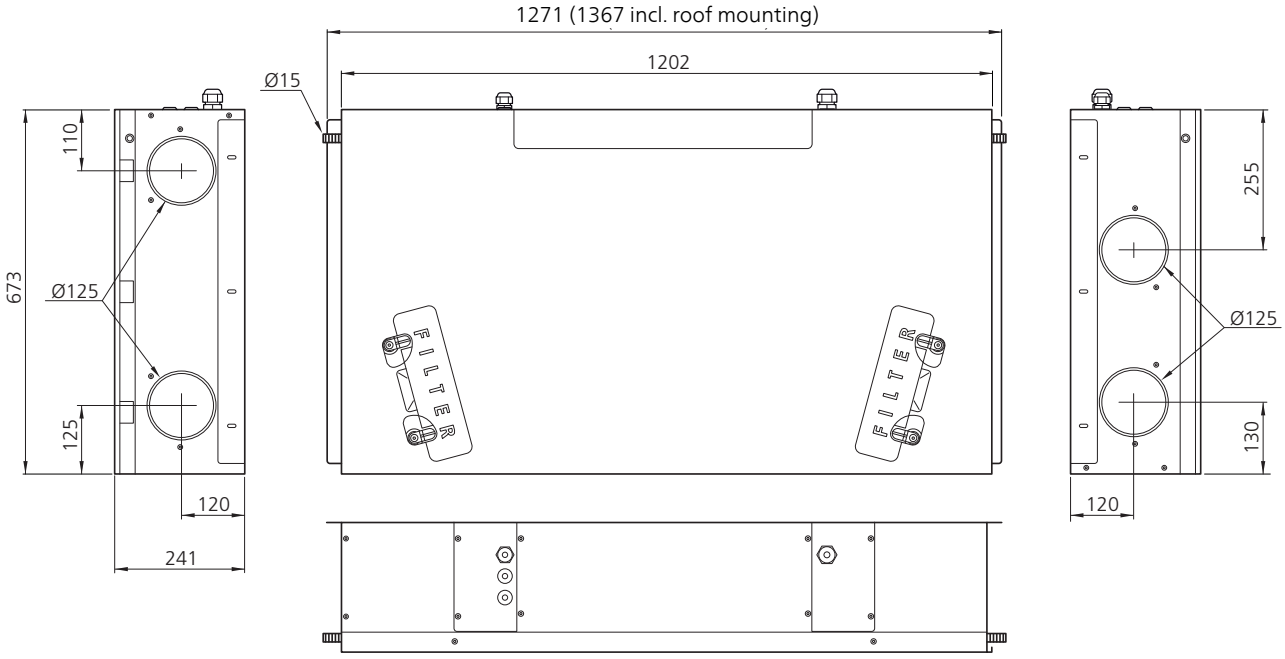
NIBE Uplink also available as an app from App Store and Google Play.

# Technical data
## Dimensions

**ERS 10**



**ERS 20**

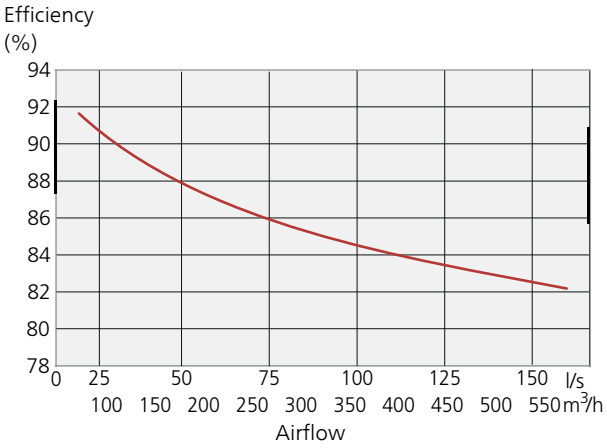

1271 (1367 incl. roof mounting)
1202
Ø15
110
673
Ø125
125
120
241
FILTER
FILTER
255
Ø125
130
120

# Technical data CE

| | | ERS 10 |
|---|---|---|
| **Electrical data** | | |
| Supply voltage | | 230 V ~ 50 Hz |
| Fuse | A | 10 |
| Driving power fan | W | 170 x 2 |
| Enclosure class | | IP21 |
| **Ventilation** | | |
| Filter type, exhaust air filter | | G4 |
| Filter type, supply air filter | | F7 |
| **Sound pressure levels** | | |
| Sound pressure level ($L_{W(A)}$)[1] | dB(A) | 48 |
| **Connections** | | |
| Ventilation connection | mm | Ø160 |
| Connection, condensation water drain | | G32 |
| **Dimensions and weight** | | |
| Length, supply cable | m | 2.4 |
| Length, control cable | m | 2.0 |
| Width | mm | 600 |
| Depth | mm | 612 |
| Height | mm | 900 |
| Weight | kg | 40 |
| Part no. | | 066 079 |

[1] 287 m³/h (80 l/s) at 50 Pa

*Dry temperature efficiency according to EN 308*



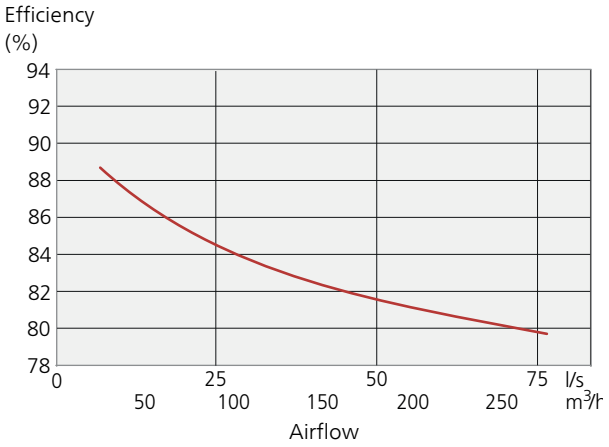

Outdoor air: 5 °C Exhaust air 25 °C RH exhaust air: <27.7 %

| | | ERS 20 |
|---|---|---|
| **Electrical data** | | |
| Supply voltage | | 230 V ~ 50 Hz |
| Fuse | A | 10 |
| Driving power fan | W | 100 x 2 |
| Enclosure class | | IP21 |
| **Ventilation** | | |
| Filter type, exhaust air filter | | G4 |
| Filter type, supply air filter | | F7 |
| **Sound pressure levels** | | |
| Sound pressure level ($L_{W(A)}$) at 1 m[1] | dB(A) | 47.4 |
| Sound pressure level ($L_{W(A)}$) at 1 m[2] | dB(A) | 50 |
| **Pipe connections** | | |
| Ventilation connection | mm | Ø125 |
| Connection, condensation water drain | mm | Ø15 |
| **Dimensions and weight** | | |
| Length, supply cable | m | 2.4 |
| Length, control cable | m | 2.0 |
| Width | mm | 1,202 |
| Depth | mm | 673 |
| Height | mm | 241 |
| Weight | kg | 25 |
| Part no. | | 066 068 |

[1]105 m³/h at 50 Pa

[2]250 m³/h at 140 Pa

*Dry temperature efficiency according to EN 308*

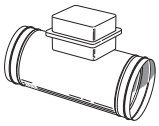



Outdoor air: 5 °C Exhaust air 25 °C RH exhaust air: <27.7 %

# Accessories

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

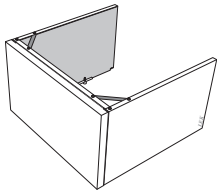
### Electrical air heater EAH 10



In cold weather, EAH 10 heats outdoor air to prevent condensation in ERS from freezing. Used mainly in colder climates.

Part no. 067 567

### Top cabinet



Top cabinet that conceals the ventilation ducts and reduces the sound to the installation room.

| | |
|---|---|
| ***245 mm*** | ***445 mm*** |
| Part no. 089 756 | Part no. 067 522 |
| ***345 mm*** | ***385-635 mm*** |
| Part no. 089 757 | Part no. 089 758 |

Subject to printing errors and design changes.

**PBD GB 1651-1 M12127**

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