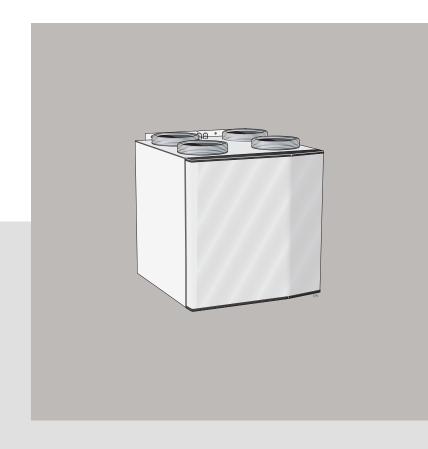
# HRV unit NIBE ERS S40-350







# Table of Contents

| 1 | Important information                  | 4  | 8   | Disturbances in comfort    | 22 |
|---|--|----|-----|----------------------------|----|
|   | Safety information                     | 4  |     | Troubleshooting            | 22 |
|   | Serial number                          | 4  |     |                            |    |
|   | Recovery                               | 5  | 9   | Accessories                | 23 |
|   | Inspection of the installation         | 6  |     | Top cabinet TOC 30         | 23 |
| 2 | Delivery and handling                  | 7  | 10  | Technical data             | 24 |
|   | Transport and storage                  | 7  |     | Dimensions                 | 24 |
|   | Supplied components                    | 7  |     | Technical specifications   | 25 |
|   | Removing the covers                    | 7  |     | Energy labelling           | 26 |
|   | Physical configuration                 | 8  |     | Electrical circuit diagram | 27 |
|   | Assembly                               | 11 |     |                            | 20 |
|   | Mounting                               | 11 | Itε | em register                | 28 |
| 3 | Design of the HRV unit                 | 12 | Co  | ontact information         | 31 |
| U | Pipe connections                       |    |     |                            |    |
|   | Sensors etc.                           |    |     |                            |    |
|   | Electrical components                  |    |     |                            |    |
|   | Ventilation                            |    |     |                            |    |
|   | Miscellaneous                          |    |     |                            |    |
| 4 | Ventilation connections                | 14 |     |                            |    |
|   | General ventilation connections        | 14 |     |                            |    |
|   | Ventilation flow                       |    |     |                            |    |
|   | Adjusting ventilation                  | 14 |     |                            |    |
|   | Dimensions and ventilation connections |    |     |                            |    |
| 5 | Electrical connection                  | 16 |     |                            |    |
|   | Supply                                 | 16 |     |                            |    |
|   | Connecting to main product             | 16 |     |                            |    |
| 6 | Commissioning and adjusting            | 18 |     |                            |    |
|   | Preparations                           |    |     |                            |    |
|   | Start-up and inspection                | 18 |     |                            |    |
| 7 | Program settings                       | 19 |     |                            |    |
|   | Start guide                            | 19 |     |                            |    |

NIBE ERS \$40-350 Table of Contents

# 1 Important information

# Safety information

This manual describes installation and service procedures for implementation by specialists.

The manual must be left with the customer.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Rights to make any design or technical modifications are reserved.

**©NIBE 2020.** 

#### **SYMBOLS**



#### NOTE

This symbol indicates danger to person or machine .



#### Caution

This symbol indicates important information about what you should consider when installing or servicing the installation.

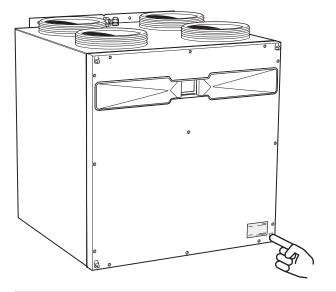
#### **MARKING**

**CE** The CE mark is obligatory for most products sold in the EU, regardless of where they are made.

**IPX1B** Classification of enclosure of electro-technical equipment.

### Serial number

The serial number can be found at the bottom right, inside the front cover.





#### Caution

You need the product's serial number for servicing and support.

# Recovery



Leave the disposal of the packaging to the installer who installed the product or to special waste stations.

When disposing of the product, its constituent materials and components, e.g. compressors,

fans, circulation pumps and circuit boards, must be disposed of at a special waste station or dealer who provides this type of service.

To access the separate components, refer to the section that shows the construction of the product. No special tools are required for access.

Improper disposal of the product by the user results in administrative penalties in accordance with current legislation.

# 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. In addition, fill in the page for the installation data in the User Manual.

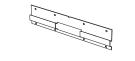
| V   | Description           | Notes | Signa-<br>ture | Date |
|-----|-----------------------|-------|----------------|------|
| Ele | ctricity (page 16)    |       |                |      |
|     | Connections           |       |                |      |
|     | Main voltage          |       |                |      |
|     | Fuses property        |       |                |      |
|     | Earth circuit-breaker |       |                |      |

# 2 Delivery and handling

# Transport and storage

ERS S40 should be transported and stored in the dry.

# Supplied components





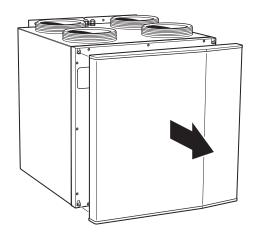
Rail for wall mounting

4 x feet

# Removing the covers

#### FRONT COVER

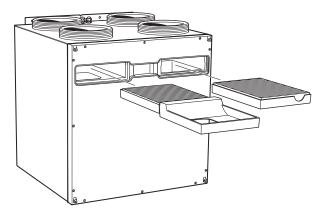
1. Pull the hatch towards yourself.



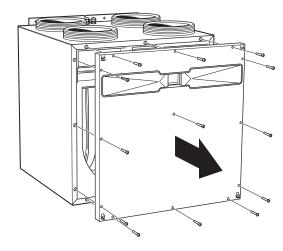
#### INNER FRONT COVER

The inner front cover must be removed to access the internal parts.

1. Remove the air filters.



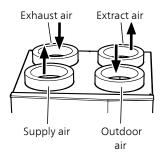
2. Loosen the screws that hold the inner front cover in place.



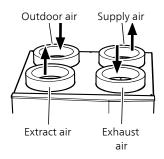
3. Pull the front cover straight out.

# Physical configuration

ERS S40 is supplied with exhaust air and supply air to the left, known as the left-handed version. The images in this manual show ERS S40 in the left-handed version, unless otherwise specified.

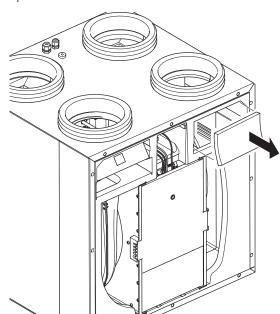


ERS S40 can be converted to a right-handed version if necessary, which means that exhaust air and supply air are connected to the right.

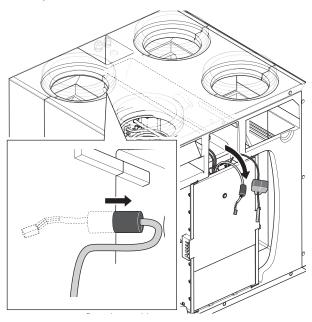


#### CONVERSION TO RIGHT-HANDED VERSION

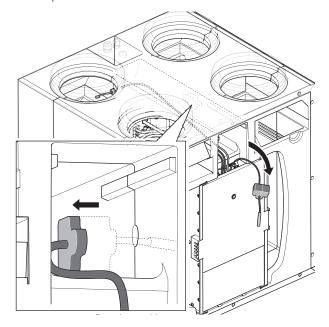
 Remove the insulation located in the right-hand space.

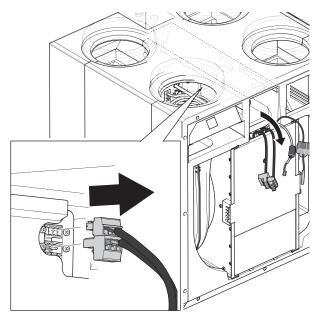


Remove the humidity sensor (BM20) including the insulation plug. This is located furthest in the lefthand space.

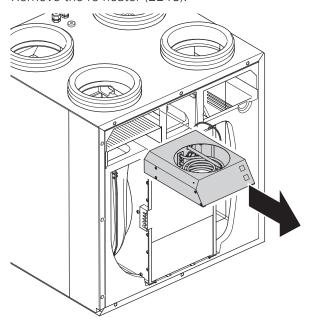


3. Remove the extract air sensor (BT21) including the insulation plug. This is located furthest in the right-hand space.

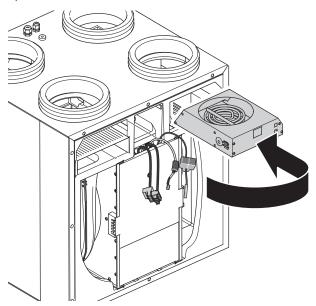




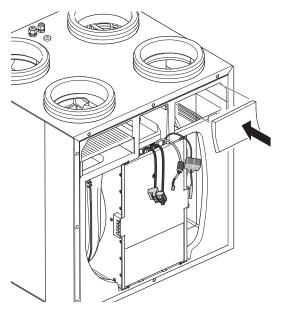
5. Remove the re-heater (EB18).



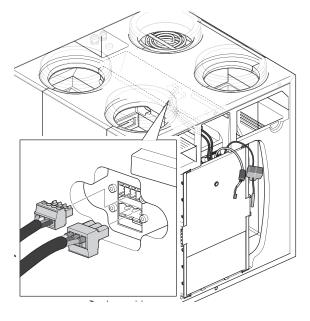
4. Disconnect the two cables located in the re-heater. 6. Install the re-heater (EB18) furthest in the right-hand space.



7. Refit the insulation.

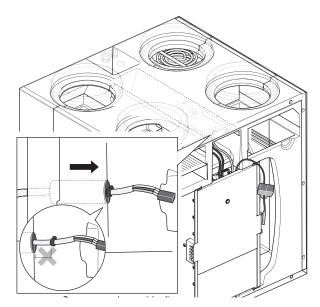


8. Connect the two cables to the re-heater.

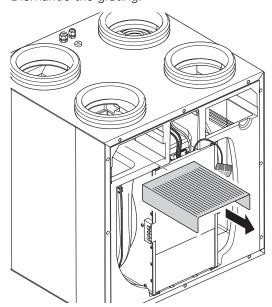


9. Install the humidity sensor (BM20) and the insulation plug in the right-hand space.

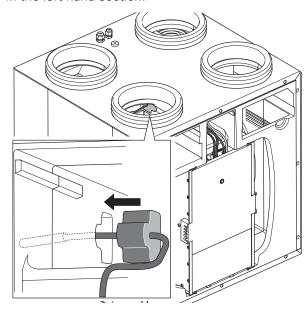
There is a cable tie on the sensor, indicating how far in the sensor has to be positioned.



10. Dismantle the grating.



11. Install the insulation plug and sensor (BT21) furthest in the left-hand section.



- 12. Refit the grating.
- 13. Switch the filters around. Filter ePM1 55% must be placed on the supply air side.
- 14. Fit the filter cassettes.
- 15. Mark the change to the air flows on the duct connection plate (PZ4) on the upper side of the product.



#### Caution

In order to complete the conversion, changes are required in menu 7.2.11.

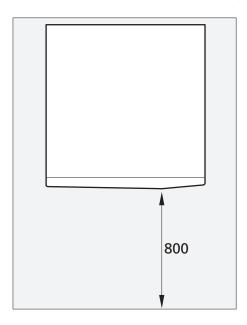
### Assembly

ERS S40 can be installed on a wall or placed on a horizontal surface. For wall installation, place the enclosed rail on a solid wall. Noise from the fans might be transferred to the rail. When placing on a horizontal surface, fit the enclosed feet on the underside of ERS S40. It is important for the surface where ERS S40 is placed to be stable and to withstand the weight of the unit.

- Install with its back to 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 behind 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.
- The HRV unit's installation area always has to have a temperature of at least -38 °C and max. 50 °C.

#### **INSTALLATION AREA**

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





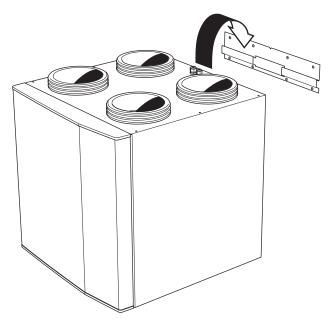
#### NOTE

Ensure that there is sufficient space (300 mm) above the HRV unit for installing ventilation hoses.

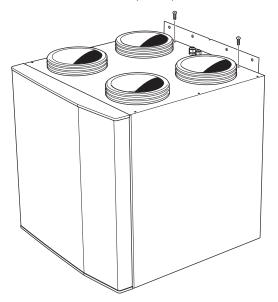
### Mounting

When hanging on a wooden wall, a vibration damper is recommended to prevent vibration being transferred.

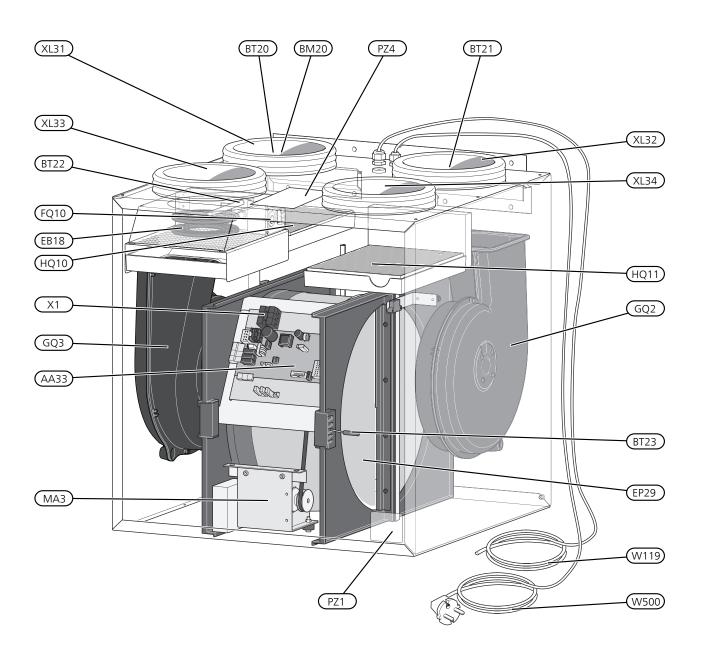
- 1. Install the enclosed bracket to the wall.
- 2. Install ERS S40 on the brackets.



3. Screw ERS S40 firmly into place on the bracket.



# 3 Design of the HRV unit



# Pipe connections

XL31 Ventilation connection, exhaust air
 XL32 Ventilation connection, extract air
 XL33 Ventilation connection, supply air
 XL34 Ventilation connection, outdoor air

### Sensors etc.

BM20 Humidity sensor, exhaust air
BT20 Temperature sensor, exhaust air
BT21 Temperature sensor, extract air
BT22 Temperature sensor, supply air
BT23 Temperature sensor, outdoor air

# Electrical components

AA33 AJBboard EB18 Re-heater

FQ10 Temperature limiter

MA3 Motor for the heat exchanger

W119 Communication cable
W500 Cord with connection plug
X1 Terminal block, power supply

### Ventilation

EP29 Rotary heat exchanger

GQ2 Exhaust air fan
GQ3 Supply air fan
HQ10 Exhaust air filter
HQ11 Supply air filter

### Miscellaneous

PZ1 Type plate

PZ4 Duct connection rating plate

Designations according to standard EN 81346-2.

# 4 Ventilation connections

# General ventilation connections

- Ventilation installation must be carried out in accordance with current norms and directives.
- Provision must be made for inspection and cleaning of the duct.
- The air duct system must be a minimum of air tightness class B.
- To prevent fan noise being transferred to the ventilation devices, silencers should be installed in the duct system. In the event of ventilation devices in noise-sensitive rooms, silencers must be installed.
- The extract air and outdoor air ducts are insulated using diffusion-proof material (at least PE30 or equivalent) along their entire lengths.
- Ensure that the condensation insulation is fully sealed at any joints and/or at lead-in nipples, silencers, roof cowls or similar.
- The air must be routed to the outdoor air duct through an outer wall grille in the facade. The outer wall grille must be installed so that it is protected from the weather and must be designed so that no rainwater and/or snow can penetrate the facade or follow the air into the duct.
- 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 extract air from being drawn into ERS S40 again.
- A duct in a masonry chimney stack must not be used for extract air or outdoor air.



#### NOTE

To ensure a sealed connection to ERS S40, the supplied hose clips must be used for connecting the air ducts.

#### EXHAUST AIR DUCT /KITCHEN FAN

Exhaust air duct (kitchen fan) must not be connected to ERS S40.

To prevent food vapour being transferred to ERS S40 the distance between the kitchen fan and the exhaust air device must be considered. The distance should not be less than 1.5 m, but this can vary between different installations.

Always use a kitchen fan when cooking.

### Ventilation flow

Connect ERS S40 so that all the exhaust air, except kitchen duct air (kitchen fan), passes through the heat exchanger (EP29) in the product.

The ventilation flow must comply with the applicable national standards.

The supply air flow must be lower than the exhaust air flow to prevent over pressure in the house.

Set the ventilation capacity in the main product's menu system (menu 7.1.4).

# Adjusting ventilation

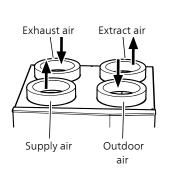
To obtain the necessary air exchange in every room of the building, the exhaust air valve and the supply air inlet as well as the fans in the HRV unit must be correctly positioned and adjusted.

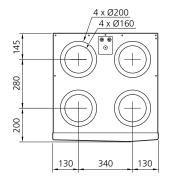
Immediately after installation adjust the ventilation so that it is set according to the projected value of the house.

Incorrect adjustment of the ventilation may lead to reduced installation efficiency and thus poorer operating economy, a poorer indoor climate and moisture damage in the building.

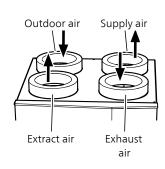
# Dimensions and ventilation connections

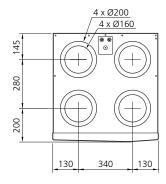
#### LEFT-HANDED VERSION





#### **RIGHT-HAND VERSION**





# 5 Electrical connection



#### NOTE

All electrical connections must be carried out by an authorised electrician.

Electrical installation and wiring must be carried out in accordance with the stipulations in force.

ERS S40 must not be powered during installation.

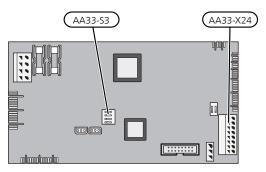


#### NOTE

If the supply cable is damaged, only NIBE, its service representative or similar authorised person may replace it to prevent any danger and damage.

- To prevent interference, sensor cables to external connections must not be laid close to high voltage cables.
- The minimum area of communication and sensor cables to external connections must be 0.5 mm² up to 50 m, for example EKKX, LiYY or equivalent.

For electrical wiring diagram, see page 27.



# Connecting to main product

#### **COMPATIBLE PRODUCTS**

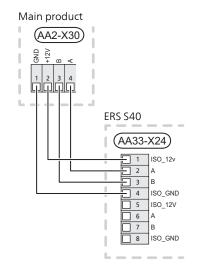
- S1155
- VVM S320
- SMO S40

- S1255
- VVM S325

#### CONNECTING COMMUNICATION

ERS S40 contains an accessory board (AA33) that connects directly to the main product's input board (terminal block AA2-X30).

The communication cable (W119) is connected to the AJB board (AA33) from the factory.

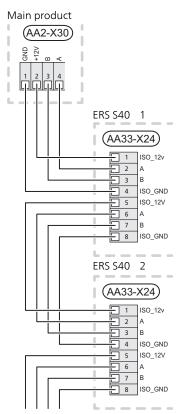


### Supply

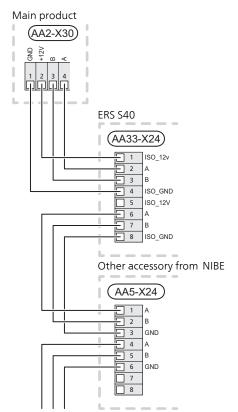
ERS S40 is connected to a earthed single-phase wall socket or a permanent installation. For permanent installations, ERS S40 must be preceded by a circuit breaker with at least a 3 mm breaking gap.

If more accessories are to be connected, or are already installed, the boards are connected in series.

#### Multiple ERS S40

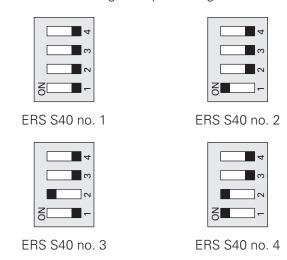


#### ERS S40 and another accessory from NIBE



#### Dip switch

The DIP switch (AA33-S3) has to be set as follows. You can have up to 4 ERS S40 in the same installation, with each ERS S40 having a unique setting.



# 6 Commissioning and adjusting

### Preparations

 Check that the air filters are clean, they can become dirty after installation.



#### Caution

ERS S40 must not be started if the temperature is below -25 °C in the installation area.

# Start-up and inspection

#### SETTING THE VENTILATION

The ventilation must be set according to applicable standards. Adjust the supply air flow to guarantee a negative pressure.

The settings are made in menu 7.1.4.

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



#### Caution

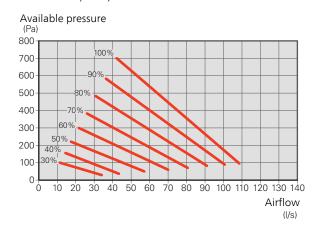
An incorrectly set ventilation flow can damage the house and may also increase energy consumption.



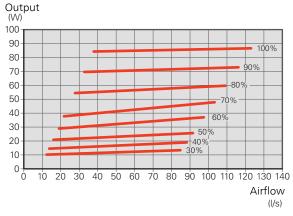
#### NOTE

Order a ventilation adjustment to complete the setting.

#### Ventilation capacity



#### Fan rating<sup>1</sup>



<sup>1</sup>The diagram shows the power consumption per fan.

#### **HUMIDITY**

ERS S40 has a built-in humidity sensor (BM20) that is used when demand-controlled ventilation is required.

The speed of the rotor is regulated with respect to a set value depending on the humidity measured in the exhaust air, as well as the calculated humidity outdoors, to achieve the desired relative humidity in the home. The speed of the fans is also regulated, if necessary.

The settings for demand-controlled ventilation are made in menu 7.1.4.4.

# 7 Program settings

Program setting of ERS S40 can be performed via the start guide or directly in the menu system in the main product.

The main product's software must be the latest version.



**C**aution

See the documentation for the main product.

### Start guide

The start guide appears upon first start-up after heat pump installation, but is also found in menu 7.7.

### Menu system

If you do not make all settings via the start guide or need to change any of the settings, this can be done in the menu system.

Menu 7.2.1 -Add/remove accessories

Activating/deactivating of accessories.

Select "ERS S40".

Menu 7.2.11 - Vent. heat exchanger (ERS)

Physical configuration

Setting range: Left, Right

Allow re-heater

Setting range: on/off

Offset re-heater

Setting range: 0.0 – 5.0 °C

Desired supply air temp.

Setting range: 16.5 - 25 °C

Time between defrosts

Setting range: 1 - 8 h

Max. defrosting time

Setting range: 5 – 120 min

Temp. for end of defrosting

Setting range: -10.0 - 10.0 °C

Physical configuration: "Left" means that exhaust air and supply air are connected to the left in the product. Changing the configuration requires the conversion of ERS S40.

Allow re-heater: Here, you activate the inbuilt re-heater (EB18).

Offset re-heater: Here, you set the number of degrees the supply temperature must drop below "Desired supply air temp." before the re-heater is permitted to start.

Desired supply air temp.: Here, you set the temperature you want for the supply air when the re-heater is running. When the re-heater is not running, the supply air temperature and the exhaust air temperature will be close to each other.

Time between defrosts, Max. defrosting time, Temp. for end of defrosting: Here, you make settings for defrosting.

Menu 1.2.7 - Ventilation recovery

Temp stop of heat recovery

Setting range: 5 – 30 °C

Min diff ind and outd air

Setting range: 2 - 10 °C

Recovery stop during heating

Setting range: on/off

Cooling recovery

Setting range: on/off

St temp sup air cooled by exh air

Setting range: -20.0 - 41.0 °C Min diff outd and exhaust air

Setting range: 3.0 - 10.0 °C

When you do not have a heating demand and it is warmer outside than inside, ventilation recovery is stopped to prevent the building from being heated further.



Only ventilation recovery is stopped, not the ventilation.

Temp stop of heat recovery: Here, you set the outside temperature at which ventilation recovery is to stop.

Min diff ind and outd air. Here, you set the temperature difference between the indoor air and the outdoor air that is required in order for ventilation recovery to start.

Recovery stop during heating: Stopping ventilation recovery during the time heating is permitted is possible.

Cooling recovery: When you do not have a heating demand, ventilation recovery is stopped to prevent the building from being heated further. When it is warm indoors and even warmer outdoors, ERS S40 can be used to prevent the building from being heated further with the "Cooling recovery" function. "Cooling recovery" means that the cool temperature in the building can also be retained when ventilation recovery is running. When "Cooling recovery" is activated, the exhaust air is used to cool the supply air, which causes the temperature in the building to drop slightly.

"Cooling recovery" is started when the exhaust air temperature is a certain number of degrees below the outdoor temperature and it is warm outside.

St temp sup air cooled by exh air: Here, you set the outdoor temperature at which cooling recovery will start.



#### **C**aution

"St temp sup air cooled by exh air" cannot be lower than "Stop heating" in menu 7.1.10.2 -"Auto mode setting".

Min diff outd and exhaust air: Here, you set the temperature difference between outdoor air and exhaust air that is required in order for cooling recovery to start.

Menu 1.2.1 - Fan speed

Alternatives: normal and speed 1 - speed 4

The ventilation in the accommodation can be temporarily increased or reduced here.

When you have selected a new speed a clock starts a count down. When the time has counted down the ventilation speed returns to the normal setting.

If necessary, the different return times can be changed in menu 1.2.5.

The fan speed is shown in brackets (in percent) after each speed alternative.

Menu 1.2.2 -Night cooling

Night cooling

Setting range: on/off

Start temp exhaust air

Setting range: 20 - 30 °C

Min diff ind and outd air

Setting range: 3 - 10 °C

Night cooling during heating

Setting range: on/off

Activate night cooling here. When the temperature in the building is high and the outdoor temperature is low, a cooling effect can be obtained by forcing the ventilation. When night cooling is activated, the fan operates at speed 4. In this mode, ventilation recovery is stopped.

Start temp exhaust air: Here, you set the exhaust air temperature at which night cooling will start.

Min diff ind and outd air: If the temperature difference is greater than the set value for "Min diff ind and outd air", and the exhaust air temperature is higher than the set value for "Start temp exhaust air", the ventilation operates at speed 4 until one of these conditions is no longer valid.

Night cooling during heating: It is possible to have night cooling during the time heating is permitted.

Menu 1.2.5 - Fan return time

speed 1 - speed 4

Setting range: 1 – 24 h

Here, you select the return time for the temporary speed change (speed 1 – speed 4) of the ventilation in menu 1.2.1.

Return time is the time taken before the ventilation speed returns to normal speed.

Menu 1.2.6 - Filter cleaning interval

Months between filter cleaning

Setting range: 1 – 24 months

Clean the filter in ERS S40 regularly; how often depends on the amount of dust in the ventilation air.

Set the interval for the reminder to clean the filter in this menu.

The menu shows the time remaining until the next reminder, and you can also reset active reminders.

#### Menu 7.1.4.1 - Fan speed, exhaust air

Normal and Fan speed 1 – Fan speed 4

Setting range: 0 – 100 %

Set the speed for the five different selectable speeds for the fan here.

#### Menu 7.1.4.2 - Fan speed, supply air

Normal and Fan speed 1 - Fan speed 4

Setting range: 0 – 100%

Set the speed for the five different selectable speeds for the fan here.

#### Menu 7.1.4.4 - Demand contr. ventilation

Humidity controlled ventilation

Alternative: on/off

Highest fan speed

Setting range: 1 – 100%

Lowest fan speed

Setting range: 1 – 100%

Time interv. change of fan speed

Setting range: 1 – 60 minutes

Controlling zones

Activate zones for demand-controlled ventilation.

Here, you make settings for demand-controlled ventilation.

The speed of the fan can be changed depending on the humidity in the air.

#### Menu 6.2 - Scheduling

In this menu, you schedule repeated changes of ventilation.



#### Caution

A schedule repeats according to the selected setting (e.g. every Monday) until you go into the menu and switch it off.

#### Menu 7.4 - Selectable in/outputs

Select here whether you want to activate fan speed for the relevant AUX input.

# 8 Disturbances in comfort

In most cases, the main product notes a malfunction (a malfunction can lead to disturbance in comfort) and indicates this with alarms and shows action instructions in the display.

### Troubleshooting

If the operational interference is not shown in the display the following tips can be used:

#### **BASIC ACTIONS**

Start by checking the following items:

- That the main product is running or that the supply cable to ERS S40 is connected.
- Group and main fuses of the accommodation.
- The property's earth circuit breaker.
- Temperature limiter for ERS S40 (FQ10).

#### HIGH OR LOW ROOM TEMPERATURE

- The re-heater (EB18) is not activated.
  - Activate the re-heater in menu 7.2.11.

#### LOW OR A LACK OF VENTILATION

- Filters (HQ10), (HQ11) blocked.
  - Clean or replace the filter.
- The ventilation is not adjusted.
  - Order/implement ventilation adjustment.
- Exhaust air device blocked or throttled down too much.
  - Check and clean the exhaust air devices.
- Fan speed in reduced mode.
  - Enter the main product's menu 1.2.1 and select "normal".
- External switch for changing the fan speed activated.
  - Check any external switches.

#### HIGH OR DISTRACTING VENTILATION

- Filters (HQ10), (HQ11) blocked.
  - Clean or replace the filter.
- The ventilation is not adjusted.
  - Order/implement ventilation adjustment.
- Closed, too much choke or blocked ventilation device.
  - Check and clean the exhaust air devices.
- Fan speed in forced mode.
  - Enter the main product's menu 1.2.1 and select "normal".
- External switch for changing the fan speed activated.
  - Check any external switches.
- Silencers not correctly installed.
  - Check the silencers.

# 9 Accessories

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

#### **TOP CABINET TOC 40**

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

 Height 245 mm
 Height 345 mm

 Part no. 089 756
 Part no. 089 757

Height 445 mm Height 385-635 mm

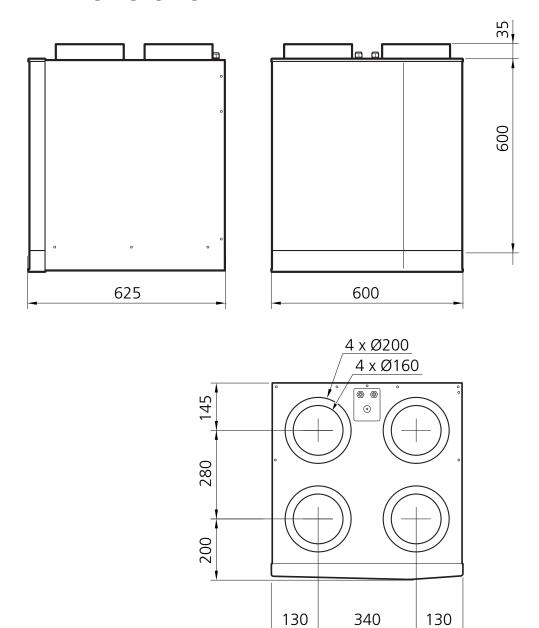
Part no. 067 522 Part no. 089 758

NIBE ERS S40-350 Chapter 9 | Accessories

23

# 10 Technical data

# **Dimensions**

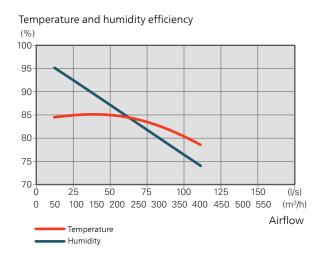


# Technical specifications

| Туре  |       | ERS S40      |  |  |
|---|-------|--------------|--|--|
| Electrical data   |       |              |  |  |
| Supply voltage  | V     | 230 V ~ 50Hz |  |  |
| Fuse  | А     | 10           |  |  |
| Driving power fan   | W     | 2 x 85       |  |  |
| Enclosure class   |       | IP X1B       |  |  |
| Ventilation   |       |              |  |  |
| Filter type, exhaust air filter                               |       | Coarse 65%   |  |  |
| Filter type, supply air filter                                |       | ePM1 55%     |  |  |
| Noise levels  |       |              |  |  |
| Sound power level (L <sub>W(A)</sub> ) <sup>1</sup>           | dB(A) | 41           |  |  |
| Sound pressure level (L <sub>P(A)</sub> ) at 1 m <sup>2</sup> | dB(A) | 40           |  |  |
| Pipe connections  |       |              |  |  |
| Ventilation Ø   | mm    | 160          |  |  |
| Dimensions and weight   | ,     |              |  |  |
| Efficiency class <sup>3</sup>                                 |       | А            |  |  |
| Length, supply cable  | m     | 2.4          |  |  |
| Length, control cable   | m     | 2.4          |  |  |
| Width   | mm    | 600          |  |  |
| Height  | mm    | 600          |  |  |
| Depth   | mm    | 620          |  |  |
| Weight  | kg    | 45           |  |  |
| Part no.  |       | 066 166      |  |  |
| RSK no.   |       | 879 94 11    |  |  |

<sup>1 270</sup> m<sup>3</sup>/h (75 l/s) at 50 Pa

### Temperature and humidity efficiency according to EN 13141-7



RPM: 25 Outdoor air: 7 °C RH <80% Exhaust air: 20 °C RH <38%

<sup>2 260</sup> m<sup>3</sup>/h (72 l/s) at 50 Pa

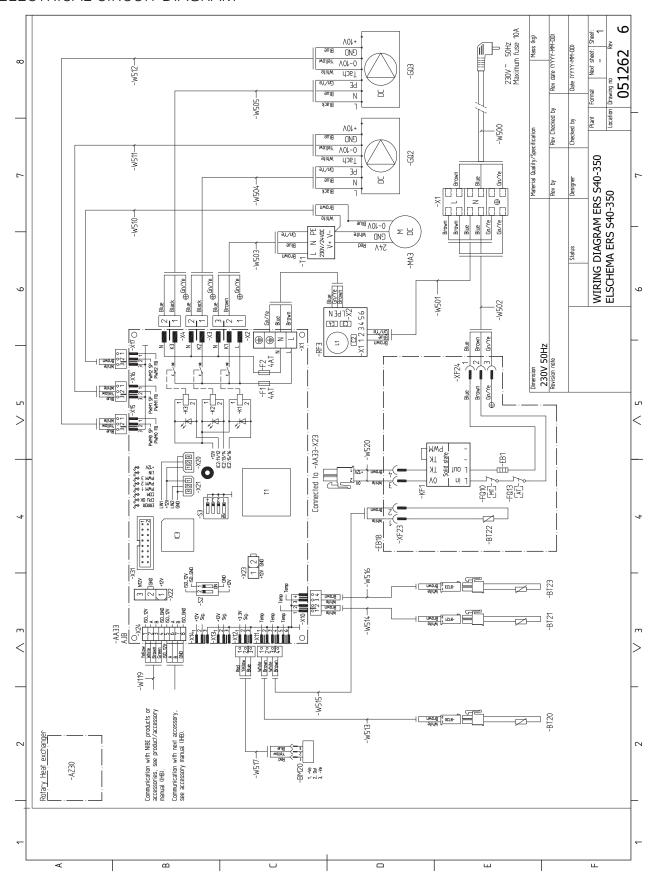
<sup>&</sup>lt;sup>3</sup> Scale for efficiency class: A+ to G.

# Energy labelling

| Supplier   |           | NIBE  |  |
|--|-----------|---|--|
| Model  |           | ERS \$40-350  |  |
| Specific energy consumption (SEC)                          | kWh/(m²   | Average: -38.3  |  |
|  | year)     | Cold: -75.3   |  |
|  |           | Warm: -14.4   |  |
| Energy efficiency class                                    |           | A   |  |
| Declared typology  |           | RVU, Bidirectional                                      |  |
| Type of drive  |           | Variable speed drive                                    |  |
| Type of heat recovery system                               |           | Regenerative  |  |
| Thermal efficiency of heat recovery                        |           | 83  |  |
| Maximum air flow rate                                      | m³/h      | 386   |  |
| Electric power input of the fan drive at maximum flow rate | W         | 161   |  |
| Sound power level (LWA)                                    | dB        | 41  |  |
| Reference flow rate  | m³/s      | 0.075   |  |
| Reference pressure difference                              | Pa        | 50  |  |
| Specific power input (SPI)                                 | W/m³/h    | 0.252   |  |
| Control factor and control typology                        |           | Local demand control (0.85)                             |  |
| External leakage rates                                     | %         | Internal: 2.8   |  |
|  |           | External: 0.38  |  |
| Information about filter warning                           |           | See user manual.  |  |
| Information about supply/exhaust grilles in the facade     |           | See section General ventilation connections on page 14. |  |
| Information about pre-/disassembly                         |           | See section Recovery on page 5.                         |  |
|  |           | This installer manual can also be accessed at nibe.eu.  |  |
| The annual electricity consumption                         | kWh/year  | Average: 273  |  |
|  |           | Cold: 810   |  |
|  |           | Warm: 228   |  |
| Annual heating saved, kWh primary energy per year          | kWh       | Average: 4,440  |  |
|  | prim/year | Cold: 8,686   |  |
|  |           | Warm: 2,008   |  |

Chapter 10 | Technical data NIBE ERS S40-350

#### ELECTRICAL CIRCUIT DIAGRAM



# Item register

Left-handed version, 8

| A Accessories, 23 Adjusting ventilation, 14 Assembly, 11  | Right-handed version, 8 Pipe and ventilation connections Exhaust air duct, 14 Program settings, 19   |
|---|--|
| C Commissioning and adjusting, 18 Preparations, 18 D  | R Recycling, 5 Removing the covers, 7 Right-hand version, 8  |
| Delivery and handling, 7 Assembly, 11 Installation, 11 Physical configuration Left-handed version, 8 Right-handed version, 8 Removing the covers, 7 Supplied components, 7 Transport and storage, 7 Design of the HRV unit, 12 Dimensions and ventilation connections, 15 Disturbances in comfort, 22 Troubleshooting, 22  E Electrical circuit diagram, 27 Electrical connection, 16 Connecting to main product, 16 DIP switch, 17 Energy labelling, 26 Exhaust air duct, 14  G General ventilation connections, 14  I Important information, 4 Recycling, 5 Inspection of the installation, 6 Installation area, 11 | Safety information Inspection of the installation, 6 Marking, 4 Symbols, 4 Serial number, 4 Start guide, 19 Start-up and inspection Setting the ventilation, 18 Supplied components, 7 Symbols, 4  T Technical data Electrical circuit diagram, 27 The design of the exhaust air module List of components, 13 Transport and storage, 7 Troubleshooting, 22  V Ventilation connections, 14 Adjusting ventilation, 14 Dimensions and ventilation connections, 15 General ventilation connections, 14 Ventilation flows, 14 Ventilation flow, 14 |
| Left-handed version, 8  |  |
| Marking, 4 Menu system, 19 Mounting, 11   |  |
| P Physical configuration  |  |

28 Item register NIBE ERS S40-350

#### Contact information

**AUSTRIA** 

KNV Energietechnik GmbH Gahberggasse 11, 4861 Schörfling

Tel: +43 (0)7662 8963-0

mail@knv.at knv.at

**FINLAND** 

NIBE Energy Systems Oy Juurakkotie 3, 01510 Vantaa Tel: +358 (0)9 274 6970

info@nibe.fi nibe.fi

GREAT BRITAIN

NIBE Energy Systems Ltd 3C Broom Business Park,

Bridge Way, S41 9QG Chesterfield

Tel: +44 (0)845 095 1200 info@nibe.co.uk

nibe.co.uk

NIBE-BIAWAR Sp. z o.o.

Tel: +48 (0)85 66 28 490

CZECH REPUBLIC

Dražice 69, 29471 Benátky n. Jiz.

nibe@nibe.cz

Tel: +420 326 373 801

nibe.cz

**FRANCE** 

NIBE Energy Systems France SAS Zone industrielle RD 28

Rue du Pou du Ciel, 01600 Reyrieux Tel: +49 (0)5141 75 46 -0

Tél: 04 74 00 92 92 info@nibe.fr

nibe.fr

**NETHERLANDS** 

NIBE Energietechniek B.V.

Energieweg 31, 4906 CG Oosterhout Brobekkveien 80, 0582 Oslo Tel: +31 (0)168 47 77 22

info@nibenl.nl nibenl.nl

**DENMARK** 

Družstevní závody Dražice - strojírna Vølund Varmeteknik A/S

Industrivei Nord 7B, 7400 Herning

Tel: +45 97 17 20 33 info@volundvt.dk

volundyt.dk

**GERMANY** 

NIBE Systemtechnik GmbH Am Reiherpfahl 3, 29223 Celle

info@nibe.de nibe.de

*NORWAY* 

ABK-Qviller AS

Tel: (+47) 23 17 05 20 post@abkqviller.no

nibe.no

**POLAND** RUSSIA

Al. Jana Pawla II 57, 15-703 Bialystok bld. 8, Yuliusa Fuchika str.

biawar.com.pl

**EVAN** 

603024 Nizhny Novgorod Tel: +7 831 419 57 06

kuzmin@evan.ru nibe-evan.ru

**SWEDEN** 

NIBE Energy Systems

Box 14

Hannabadsvägen 5, 285 21 Markaryd

Tel: +46 (0)433-27 3000

info@nibe.se nibe.se

**SWITZERLAND** 

NIBE Wärmetechnik c/o ait Schweiz AG Industriepark, CH-6246 Altishofen

Tel. +41 (0)58 252 21 00 info@nibe.ch

nibe.ch

For countries not mentioned in this list, contact NIBE Sweden or check nibe.eu for more information.

This is a publication from NIBE Energy Systems. All product illustrations, facts and data are based on the available information at the time of the publication's approval.

NIBE Energy Systems makes reservations for any factual or printing errors in this publication.

