

INSTALLATION AND OPERATION MANUAL

AERO E

Heat recovery ventilation unit with enthalpy exchanger and built-in electric preheater.

AERO E350 L / R · AERO E550 L / R



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01

SAFETY AND INTENDED USE

Read the entire manual carefully before installation and commissioning, and keep it with the unit.

1.1 Safety instructions

WARNING Installation, electrical connection and servicing may only be carried out by a qualified person. Disconnect the unit from the mains before any work on it.

OPERATION

- The unit may be used by children aged 8 and over and by persons with reduced capabilities only under supervision or after instruction on its safe use.
- Children must not play with the unit. Cleaning and maintenance must not be carried out by children without supervision.
- Do not sit on the unit or place objects on it.
- Do not touch the unit with wet hands or when barefoot.
- Do not block the supply or extract openings.

INSTALLATION

- Install the unit only after construction and finishing work in the room has been completed.
- Do not squeeze the casing during installation – deformation may cause the motor to jam and generate noise.
- Do not glue the unit; use only the mounting method described in this manual.
- Before installation, check that the casing, impellers and grilles are undamaged and that there are no foreign objects inside.
- Unauthorised modifications to the unit and interference with the internal wiring are prohibited.

COMBUSTION APPLIANCES

The unit may affect the safe operation of gas or other fuel-burning appliances (including those in other rooms) through flue gas backdraft – risk of carbon monoxide poisoning. After installation, a specialist must verify that no flue gas backflow occurs.

POWER CABLE

A damaged power cable may only be replaced by the manufacturer, a service technician or a similarly qualified person. The unit must be disconnected from the mains before the cover is removed.

NOTE The conveyed air must not contain dust, flammable or explosive mixtures, sticky substances or fibres. Do not use the unit in an explosive atmosphere. At the end of its service life, take it to a separate collection point – do not dispose of it with household waste.

1.2 Intended use

AERO E provides continuous controlled air exchange in houses, apartments and offices. It transfers heat and moisture from the extract air to the fresh air, reducing heating costs and protecting the interior from drying out in winter.

- The unit is designed for continuous operation.
- Not intended for ventilating swimming pools, saunas, greenhouses or other spaces with high humidity.
- The unit is part of a ventilation system and is not intended for stand-alone operation without ducts.

1.3 Scope of delivery and labelling

ITEM	QTY
Heat recovery ventilation unit AERO E	1 pcs
Installation and operation manual	1 pcs
Packaging	1 pcs

Fixing material (screws, wall plugs) is not included – the installer selects it according to the substrate and the weight of the unit.

AERO**E****350****L**

SYMBOL	MEANING
E	enthalpy exchanger, built-in electric preheater
350 / 550	unit size (max. airflow 410 / 720 m³/h)
L / R	left / right version (spigot layout)

02

TECHNICAL DATA

Parameters, dimensions and operating conditions of both AERO E sizes.

2.1 Parameters

PARAMETER	UNIT	AERO E350	AERO E550
Airflow (max.)	m ³ /h	410	720
Temperature efficiency (max.)	%	84	80
Moisture recovery efficiency (max.)	%	79	56
Energy efficiency class (SEC)		A	A
Power supply	V / Hz	1~230 / 50	1~230 / 50
Fan power input (max.)	W	213	346
Electric preheater	W	1050	1400
Total power input (max.)	W	1263	1746
Total current (max.)	A	6,28	8,61
Sound pressure at 3 m *	dB(A)	26	38
Conveyed air temperature	°C	-25 to +40	-25 to +40
Filters (supply / extract)		G4 / G4	G4 / G4
Casing / insulation		EPP / 45 mm	EPP / 45 mm
Connection spigots	mm	Ø160	Ø200
Dimensions W × D × H (height with spigots)	mm	770 × 616 × 880 (939)	830 × 711 × 885 (943)
Weight	kg	26	55,5
Condensate outlet	mm	Ø18	Ø18
Electrical class / protection rating		I / IP22 (motors IP44)	I / IP22 (motors IP44)

* Sound pressure in free field at 70 % airflow and 50 Pa, for comparison only.

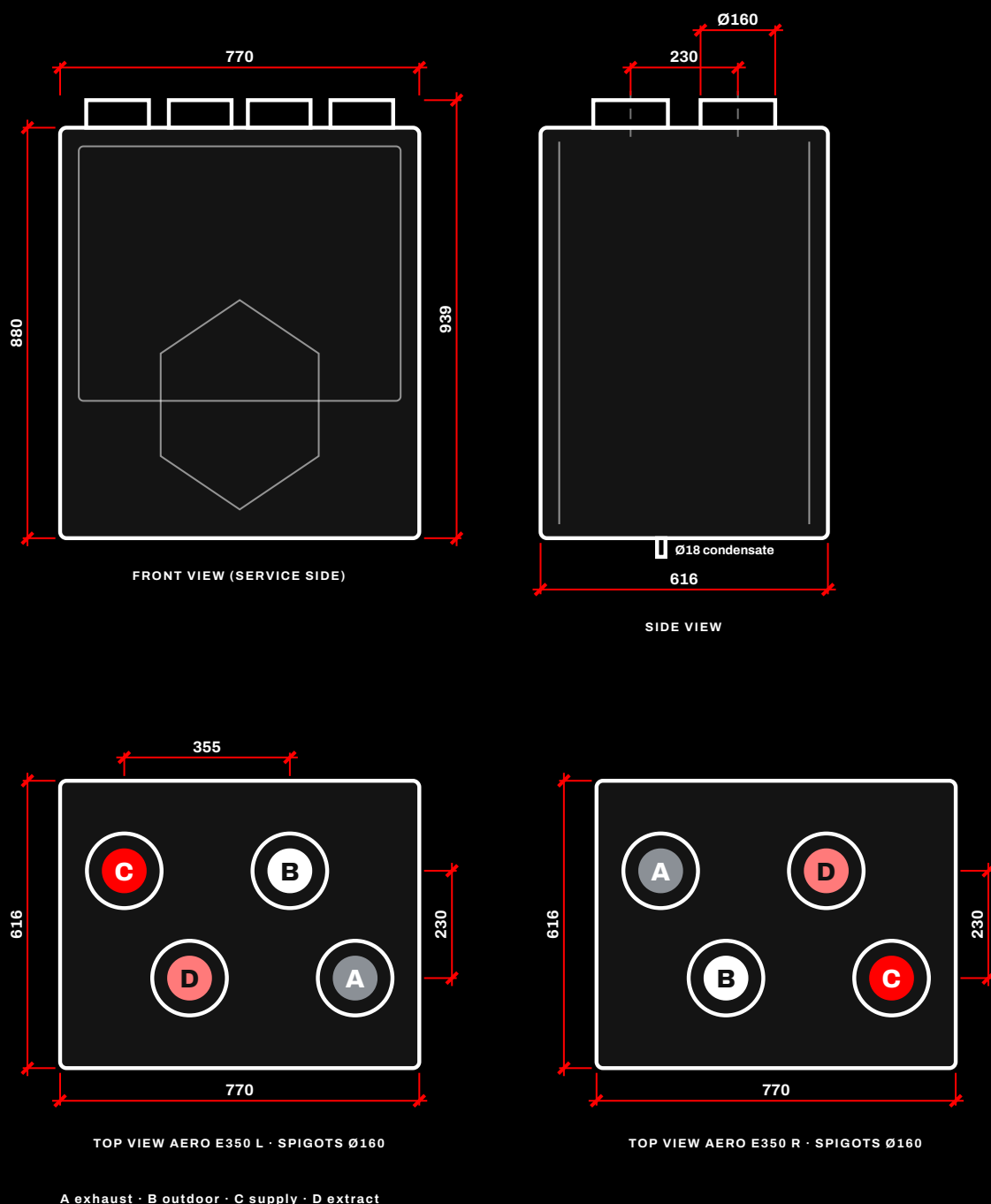
2.2 Operating conditions

- The unit is designed for indoor installation at an ambient temperature of +1 to +40 °C and relative humidity up to 60 %, non-condensing.

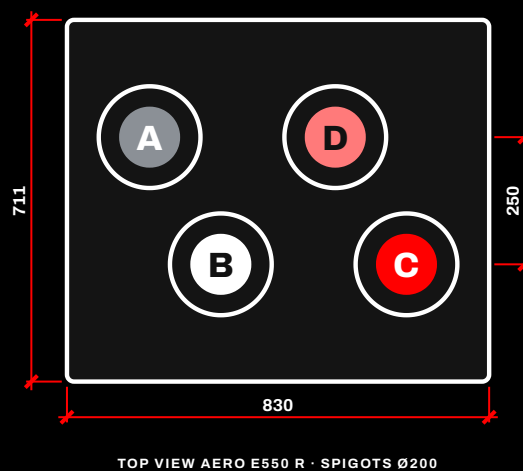
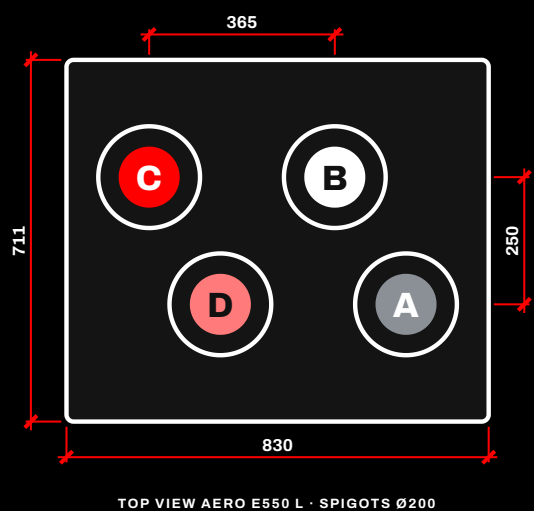
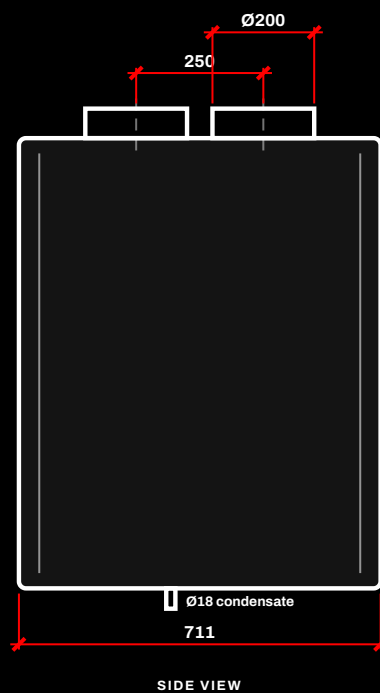
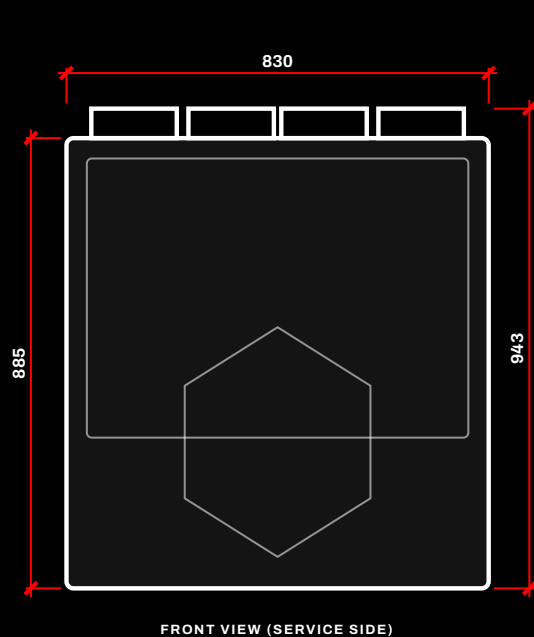
- In cold and humid spaces, condensation or freezing may occur on the casing – the casing surface should be 2 – 3 °C warmer than the dew point of the conveyed air.
- Operate the unit continuously. When ventilation is not needed, reduce the output to the minimum (approx. 20 %).
- Do not use the unit to dry out new buildings.

2.3 Dimensions

AERO E350



AERO E550



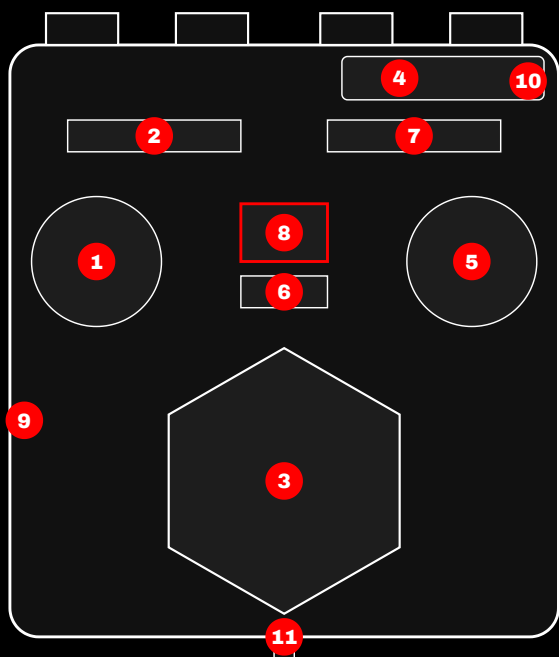
A exhaust · B outdoor · C supply · D extract

03

DESIGN AND FUNCTION

What the unit consists of and how it works in each mode.

3.1 Unit description



- 1 Supply fan (EC)
- 2 Extract air filter G4
- 3 Enthalpy counterflow exchanger
- 4 Control unit
- 5 Extract fan (EC)
- 6 Bypass damper
- 7 Supply air filter G4
- 8 Electric preheater
- 9 Cable glands
- 10 Setup Mode button
- 11 Condensate outlet Ø18

The service side has a removable panel for filter replacement. The control unit is on top of the casing; the power cable enters through the cable glands.

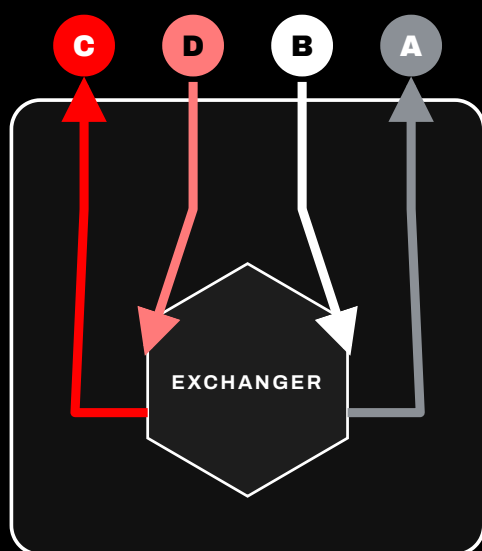
Schematic view with the service panel removed.

3.2 Operating modes

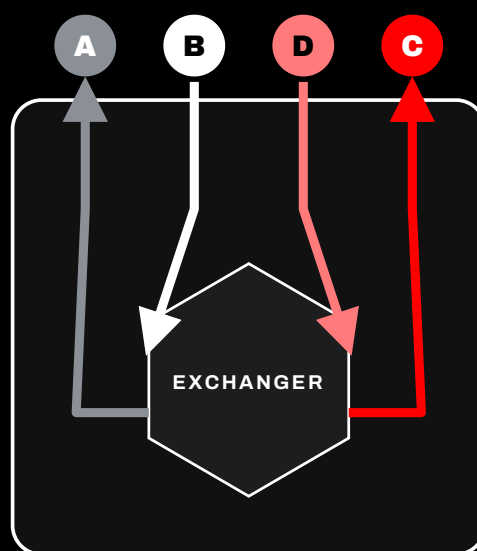
- B** Outdoor (fresh) air
 C Supply air (into the house)
 D Extract air (from the house)
 A Exhaust air (outside)

HEAT RECOVERY

Warm extract air (D) passes through the filter and the exchanger, and the extract fan blows it outside (A). Fresh outdoor air (B) is filtered, takes up heat and moisture from the extract air in the exchanger, and the supply fan delivers it into the house (C). The two airflows do not mix in the exchanger.



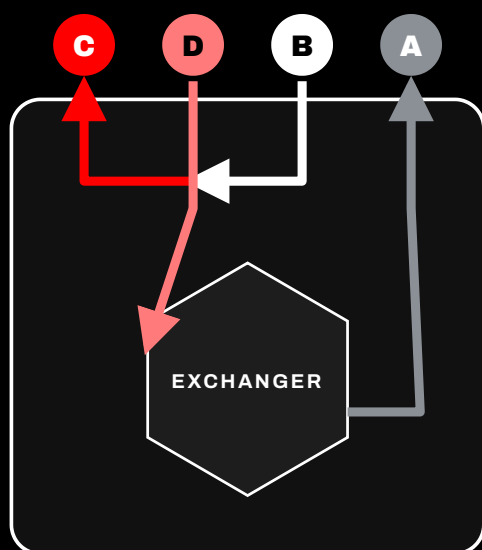
AERO E L



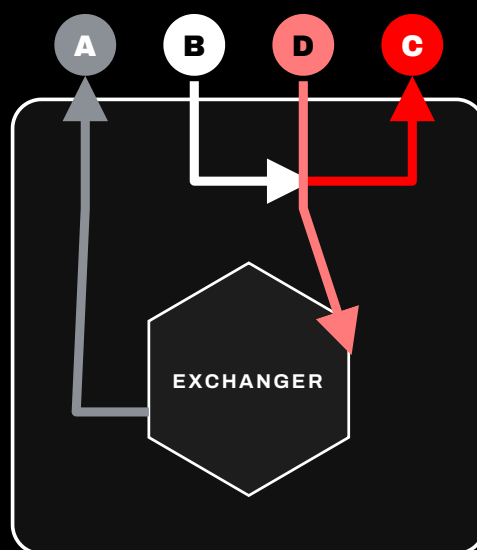
AERO E R

NO HEAT RECOVERY (BYPASS)

The bypass damper opens and fresh air flows around the exchanger. This mode is used in summer for night cooling of the house with outdoor air.



AERO E L



AERO E R

3.3 Frost protection

There is a risk of the exchanger freezing when the exhaust air temperature downstream of the exchanger is below +5 °C and the outdoor air temperature upstream of the exchanger is below -3 °C. The built-in electric preheater then switches on automatically and heats the outdoor air before it enters the exchanger. Once the temperature rises, the unit returns to its previous mode.

NOTE Frost protection by means of the bypass is not available – the exchanger is protected by the preheater.

04

MOUNTING

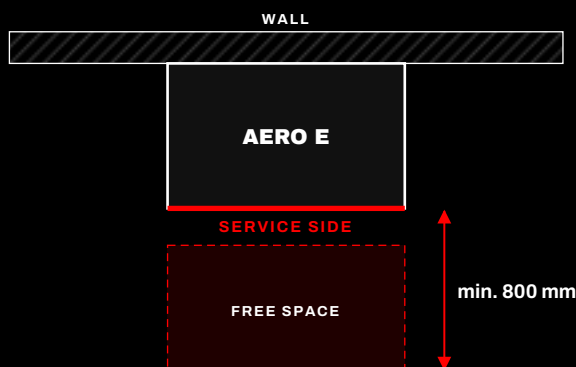
Location and mounting of the unit and connection of the ductwork.

4.1 L and R versions

The L and R versions differ in the order of the connection spigots on top of the unit. Choose the version according to the side from which the outdoor and exhaust air ducts arrive, so that the service side remains accessible.

VERSION	SPIGOTS FROM LEFT TO RIGHT (VIEW OF SERVICE SIDE)
L	C supply · D extract · B outdoor · A exhaust
R	A exhaust · B outdoor · D extract · C supply

4.2 Location



- Leave a free space of min. 800 mm in front of the service side for replacing the filters and the exchanger.
- The base must be level – an uneven base deforms the casing and impairs operation.
- Place the unit in a heated space (+1 to +40 °C), e.g. a plant room, storeroom or walk-in wardrobe.
- Ensure convenient access for maintenance and servicing.

4.3 Wall and floor mounting

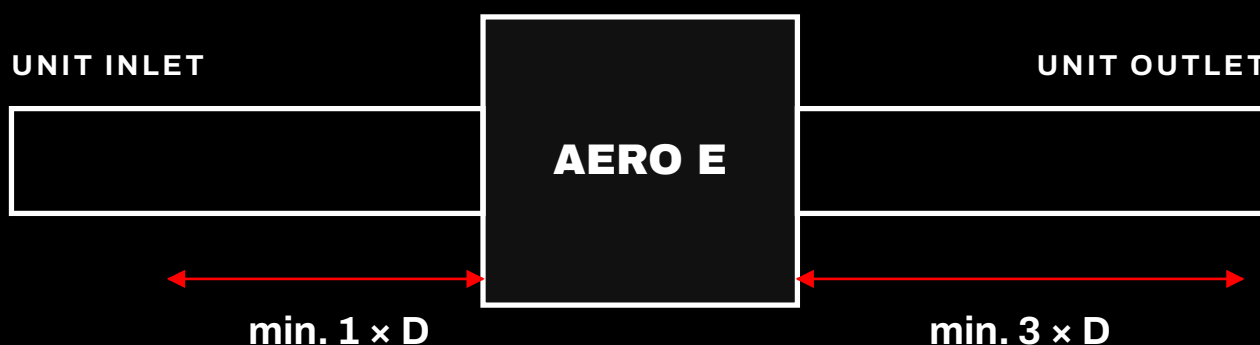
WALL MOUNTING

- 1 Securely fix the wall bracket to the wall at the required height.
- 2 Hang the unit on the bracket and check that it is vertical.
- 3 Select fixing material according to the substrate and the weight of the unit (26 kg / 55,5 kg).

FLOOR MOUNTING

- 1 Place the unit on a level, solid base.
- 2 Leave space under the unit for levelling and handling.
- 3 Check that the casing does not deform when the ducts are tightened.

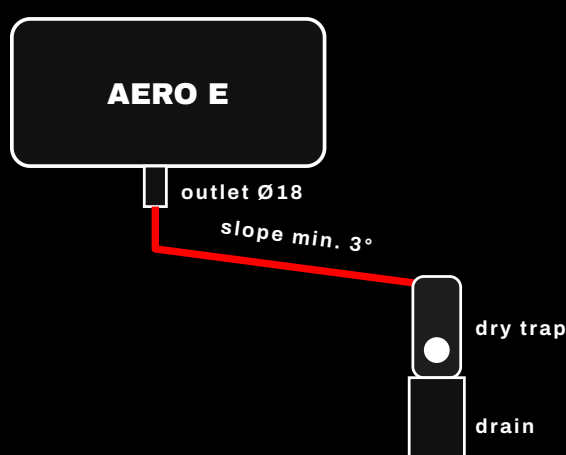
4.4 Duct connection



- Connect straight duct sections to the spigots: min. 1 × diameter on the unit inlet side and min. 3 × diameter on the outlet side – this reduces pressure losses and noise.
- Push the ducts onto the spigots as far as they will go. Secure flexible ducts with a metal clamp band.
- Insulate the outdoor and exhaust air ducts thermally and vapour-tight.
- If the ducts are not connected, protect the spigots against foreign objects – e.g. with a mesh of max. 12,5 mm.
- Commission the supply and extract ductwork so that the airflows are balanced.

4.5 Condensate

The enthalpy exchanger returns moisture to the house, so little condensate forms – mainly in winter during severe frost. However, **always connect** the Ø18 mm condensate outlet at the bottom of the unit to the drain.



- 1 Push a hose or pipe onto the Ø18 outlet and secure it with a clip.
- 2 Route it to the trap with a slope of min. 3° (approx. 5 cm per 1 m), without rises or sags.
- 3 Use a **dry trap** (with a ball or membrane) – there is little condensate and a conventional trap would dry out.
- 4 Connect the trap to the drain (e.g. washing machine waste or soil stack).
- 5 Insulate the pipe in unheated spaces to prevent it from freezing.

WARNING Do not connect the condensate directly to the drain without a trap – the unit would draw in sewer odours.

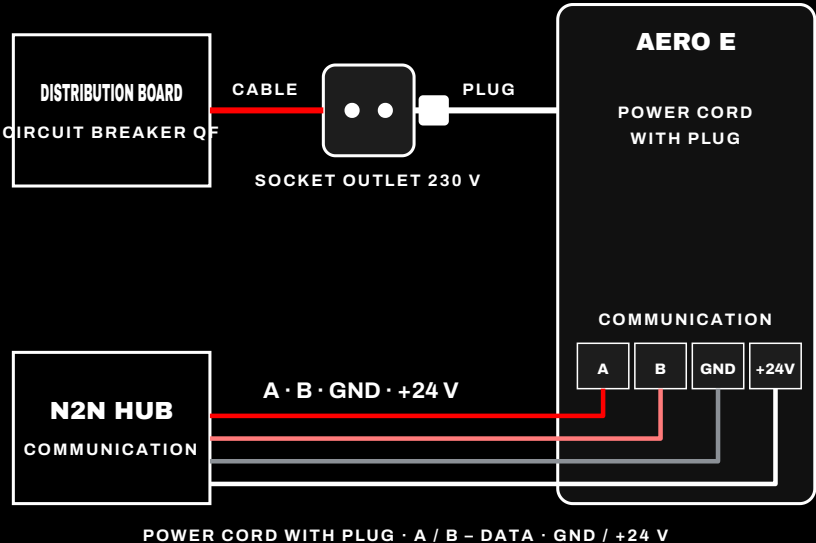
05

ELECTRICAL CONNECTION

The unit is supplied with a power cord with plug – it connects to a 230 V socket outlet.

5.1 Power supply and protection

WARNING Any interference with the internal wiring is prohibited and voids the warranty.



PARAMETER	AERO E350	AERO E550
Power supply	socket outlet 230 V (power cord with plug)	socket outlet 230 V (power cord with plug)
Total power input (max.)	1263 W	1746 W
Total current (max.)	6,28 A	8,61 A
Recommended circuit breaker	B10	B16
Cable to socket outlet	CYKY-J 3×1,5	CYKY-J 3×2,5
Cable to N2N HUB	J-Y(St)Y 2×2×0,8	J-Y(St)Y 2×2×0,8

- 1 Connect the communication cable from N2N HUB to terminals A, B, GND, +24 V.
- 2 Insert the power cord plug into the 230 V socket outlet.

NOTE The socket outlet must be within 1 m of the unit, on a dedicated circuit breaker. The socket circuit must be installed by a licensed electrician.

06

CONTROL

The unit has built-in control electronics with Wi-Fi. You control it from the mobile app.

6.1 Control functions

Control via Wi-Fi from the mobile app, from anywhere	Speed selection stepless airflow control	Weekly schedule automatic output changes by time
Timer temporary mode change	Boost mode short-term increase in output, e.g. when cooking	Fireplace mode overpressure when the fireplace is in use
Bypass automatic or manual	Frost protection control of the built-in preheater	Minimum supply temperature protection against cold supply air
Filter replacement timer and replacement reminder	Fault indication notification in the app	Modbus RTU / TCP connection to a smart home or BMS

6.2 Connecting to the app

- 1 Download the mobile app and sign in.
- 2 On the outer panel of the control unit, press the **Setup Mode** button – the unit switches to pairing mode.
- 3 Add a new device in the app and follow the instructions.
- 4 After connecting, set the time, the weekly schedule and the required airflows.

NOTE For a stable connection, ensure sufficient home Wi-Fi network signal at the installation location.

07

MAINTENANCE AND TROUBLESHOOTING

Regular maintenance keeps the unit's efficiency high, its energy consumption low and its operation quiet.

7.1 Maintenance schedule

WARNING Disconnect the unit from the mains before maintenance. Leave maintenance of the exchanger, fans and control unit to a service technician.

WHAT	WHEN	HOW
Filters	3 – 4× per year	Remove the cover on the service side and vacuum the filters. Replace the filters with new ones after every two cleanings.
Enthalpy exchanger	1× per year	Remove the exchanger and clean it with compressed air or a vacuum cleaner. Do not wash with water – the membrane would be damaged.
Fans	1× per year	Clean with a soft cloth, brush or compressed air. Do not use water, solvents or sharp objects.
Intake grille	2× per year	Check and remove leaves and dirt.
Ducts	1× in 5 years	Clean or replace the ductwork.
Control unit	as needed	Connection and condition check – service technician.

7.2 Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Fans do not start after switching on	No power supply.	Check the circuit breaker and the power connection.
	Jammed motor or dirty impeller.	Switch off the unit, remove the obstruction, clean the blades and switch the unit back on.
	Current overload after a short circuit.	Switch off the unit and contact N2N service.
Cold supply air	Dirty extract air filter.	Clean or replace the filter.
Low airflow	Low speed is set.	Set a higher speed.
	Dirty filters, fans or exchanger.	Clean or replace the filters, clean the fans and the exchanger.
	Blocked, damaged or closed ducts, air valves or grilles.	Clean or replace the distribution components and check the air valve settings.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Increased noise, vibrations	Dirty impellers.	Clean the impellers.
	Loose screw connections on the fans or casing.	Tighten the screw connections.
	Fan failure.	Switch off the unit and contact N2N service.

7.3 Storage and transport

- Store in the original packaging in a dry, ventilated place at a temperature of +5 to +40 °C and relative humidity up to 70 %.
- The environment must not contain aggressive vapours or chemicals that cause corrosion.
- Transport only in the operating position, protected from precipitation and mechanical damage. Avoid impacts and rough handling.
- After transport at low temperatures, leave the unit at room temperature for at least 3 – 4 hours before switching it on for the first time.

08

WARRANTY

N2N provides a 5-year warranty on AERO E heat recovery units.

8.1 Warranty terms

The product complies with the requirements of the EU Electromagnetic Compatibility Directive 2014/30/EÚ and the Low Voltage Directive 2014/35/EÚ and bears the CE marking. The warranty period is **5 years** from the date of sale, provided that the instructions for transport, storage, installation, operation and maintenance are followed. Detailed warranty terms are available at n2n.sk.

THE WARRANTY DOES NOT COVER

- routine maintenance, installation, removal and adjustment of the unit
- damage to the casing and internal parts caused by the user
- consequences of failure to follow the installation, operation and maintenance instructions
- improper repairs and modifications of the unit, use of non-approved parts

THE WARRANTY IS VOID IN CASE OF

- connection to a voltage other than that stated in the manual
- damage caused by mains overvoltage or force majeure (fire, flood, etc.)
- interference with the internal wiring
- missing proof of purchase

NOTE To make a warranty claim, present the unit, the proof of purchase and this manual. Service can be ordered at n2n.sk or via the customer line +421 41 5000 500.

N2N s.r.o.

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OPENING HOURS

Mon – Fri: 8:00 – 16:00