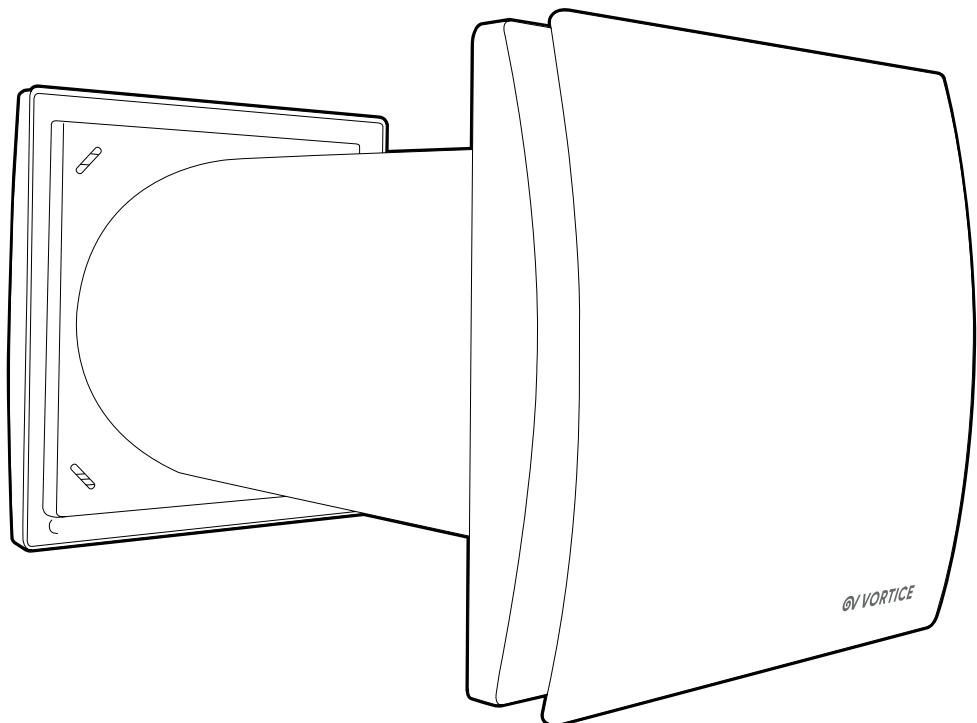




AER HR 100

AER HR 150



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Read the instructions contained in this booklet carefully before using the appliance.

VORTICE S.p.A. cannot assume any responsibility for damage to property or personal injury resulting from failure to abide by the instructions given in this booklet. Following these instructions will ensure a long service life and overall electrical and mechanical reliability. Keep this instruction booklet in a safe place.

1 General informations

1.1 Description of the symbols used within this manual

1.1.1 Obligation



GENERIC OBLIGATION



READING INSTRUCTIONS IS MANDATORY



TURNING OFF THE POWER IS MANDATORY



CONTACT PROFESSIONALLY QUALIFIED PERSONNEL

1.1.2 Prohibition



GENERIC PROHIBITION

1.1.3 Danger



GENERIC DANGER

1.2 Purpose of the manual

This manual contains information on the use and maintenance of the appliance and provides useful information for the correct use of the appliance.



OBLIGATION

Before installing and using the appliance, read the warnings in this manual carefully

VORTICE S.p.A. cannot assume any responsibility for damage to property or personal injury resulting from failure to abide by the instructions given in this booklet. Following these instructions will ensure a long service life and overall electrical and mechanical reliability. Keep this instruction booklet in a safe place. Do not make modifications to this manual.

2 Product description

AER HR is a single alternate flow decentralized (single point) residential heat recovery unit, also called «push&pull» unit, designed to ensure adequate ventilation in enclosed environments reducing energy losses.

It is recommended that two units are installed in pair: when one unit is pulling, the other is pushing.

Pair of units can be installed in the same room or in different rooms (i.e. living room and bedroom). The unit is suitable for installation on an outside wall only.

The device is available in two versions:

- **AER HR 100:** for installation inside holes with a nominal diameter of 110 mm and a maximum air flow rate of 7 l/s (25 m³/h). Maximum absorbed power: 2,6W.
- **AER HR 150:** for installation inside holes with a nominal diameter of 160 mm and a maximum air flow rate of 17 l/s (60 m³/h). Maximum absorbed power: 3,8W.

2.1 Main features

- Unit works at one fixed speed. The speed is set during installation phase.
- Heat recovery mode (alternate flow).
- Inner ventilation unit material: high quality, impact and UV-resistant ABS, colour RAL 9010.
- Front cover removable for cleaning without the use of tools.
- Easy maintenance installation plate, for easy access to the heat exchanger from inside the room.
- Telescopic wall liner adaptable to the thickness of the perimeter wall.
- Anti-dust filter, easily removable for washing by the user without tools.
- Ceramic honeycomb regenerative heat exchanger.
- External grille in high quality, impact and UV-resistant ABS, colour RAL 9010.
- High efficiency aerodynamic fan with "winglet" blades to optimise quietness and efficiency.
- Single phase EC reversible Brushless motor with integral thermal protection.
- Motor mounted on high quality ball bearings.
- The unit is double insulated: no earth connection is required.
- IPX4 degree of protection.
- Power supply: 220-240V~ 50Hz.

2.2 Additional features

- Boost mode: in combination with a dedicated switch or automatic via an ambient sensor (not included).
- ON/OFF and speed selection: only in combination with a remote control equipped with 3 two-position switches (not included).
- Free cooling mode: available only in combination with a remote control equipped with 3 two-position switches (not included). See section 5 for further details about the device operation.

3 Compliance

- 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.
- These appliances are designed for use in residential and commercial properties.
- The appliance must be installed by a professionally qualified electrician only.
- The electrical system to which the product is connected must be in compliance with applicable regulations.
- An omnipolar switch with a contact opening distance of 3 mm or higher should be provided for installation, enabling complete disconnection under overvoltage category III conditions.
- Products equipped with single-phase wiring (M) engines ALWAYS require connection to 220-240V (or only 230V where required) single-phase lines. Any kind of modification shall be considered as product tampering and shall nullify the relative Warranty.
- Precautions must be taken to prevent gas coming from the gas flue pipe or from other fuel combustion units from entering into the room.
- Fans have been designed to be mounted on external walls.

4 Safety/Warnings



OBLIGATION

- After removing the appliance from its packaging, ensure that it is complete and undamaged. If in doubt contact an authorised VORTICE service centre. Do not leave packaging within the reach of children or differently able persons.
- Store the appliance out of the reach of children if you decide to disconnect it from the power supply and use it no more.



OBLIGATION

- Before connecting the product to the power supply or the power outlet, ensure that:
 - the data plate (voltage and frequency) correspond to those of the electrical mains.
 - the electrical power supply/socket is adequate for maximum device power. If not, contact a qualified technician.
- Install the product so that the impeller is not accessible from the air outlet side as verified by contact with the Test Finger (test probe "B" of the norm EN61032) in compliance with the current safety regulations.
- If the appliance does not function correctly or develops a fault, contact a VORTICE authorised Technical Support Centre without delay. Ensure that only genuine original VORTICE spares are used for any repairs.
- If the power supply cable is damaged, have it replaced without delay by a VORTICE authorised Technical Support Centre.
- Should the appliance be dropped or suffer heavy impact, have it checked without delay by a VORTICE authorised Technical Support Centre.
- The appliance must be installed in such a way as to ensure that under normal operating conditions, no one can come into contact with any moving parts or live electrical components.
- The appliance internal parts must be cleaned only by a skilled professional.
- Regularly inspect the appliance for visible defects. If the appliance is defective in any way, do not use it, and contact a VORTICE authorised Technical Support Centre without delay.



OBLIGATION

- Follow the safety instructions to prevent any harm to the user.
- Maintenance instructions must be followed to prevent damage and/or excessive wear to the appliance.



PROHIBITION

- Do not use this appliance for functions other than those described in this booklet.
- Do not leave packaging within reach of children.
- Do not operate the appliance where inflammable vapours or substances are present (alcohol, insecticides, petrol, etc.)
- The device should not be used as an activator for water heaters, stoves, etc., nor should it discharge into hot air/fume vent ducts deriving from any type of combustion unit. It must expel air outside via its own special duct.
- Do not make modifications of any kind to this appliance
- Do not expose the appliance to the weather (rain, sun, etc.).
- Do not immerse the device or its parts in water or other liquids.
- Do not obstruct the fan or exhaust grille to ensure optimum air passage.
- Do not stand objects on the appliance.



ATTENTION

- Certain fundamental rules must be observed when using any electrical appliance:
 - never touch the appliance with wet or damp hands.
 - never touch the appliance while barefoot.
- The device is designed to extract clean air only, i.e. without grease, soot, chemical or corrosive agents, or flammable or explosive mixtures.
- Ensure adequate air return/discharge into/from the room in compliance with existing regulations in order to ensure proper device operation.
- If the environment in which the product is installed also houses a fuel-operating device (water heater, gas stove etc., that is not a "sealed chamber" type), it is essential to ensure adequate air intake, to ensure good combustion and proper equipment operation.
- Operating temperature: -20°C up to +50°C.
- The unit should operate continuously, and only stopped for maintenance or service. When heat exchange is not useful (for example in mid-seasons when indoor and outdoor temperatures are similar), or when heat exchange is not recommended (for example with the option "summer free cooling"), it is recommended to set the unit in "extract-only" or "intake-only" mode and NOT to switch it off.



OBLIGATION

- Turn off the main switch whenever a malfunction is detected or when cleaning.

5 Operation

In both versions, the unit pulls air out for 70 seconds, then it pushes air in for the same time. When heated air is pulled (extracted) from inside the room, it warms up the heat exchanger. When the cold air is pushed (supplied) in the room, it gets preheated, recovering most of thermal energy which would be otherwise lost in the ventilation process.

5.1 Fixed speed operation and extraction / intake mode setting

The unit runs at three different fixed speeds. During installation, it is necessary to wire the device properly according to the desired speed. Refer to the wiring diagrams as per figs. 19A - 19B - 19C. To set the "extract-only" mode or "intake-only", place the integral jumpers as per fig. 21A-21B (see section 7 "Jumper position").

 **WARNING:** Ensure that the electric wiring to 'L' and 'N' is done correctly. An incorrect connection will lead to malfunction or permanent damage of the fan.

5.2 Operation through 3 two-position switches (not included)

The unit can be operated through 3 external two-position switches (not included). The two-position switches "S1" and "S2" select the unit operating mode (OFF / speed 1 / speed 2 / speed 3). "S3" switch activates the "Free cooling" (Bypass) mode, which stops alternate flow and keeps the fan in "extract-only" or "intake-only" mode, to avoid the heat exchange when necessary. The front cover LED indicates when the free cooling mode is on.

Refer to the following tables to select the desired operating speed and the heat recovery or free cooling mode.

Wiring diagram: fig. 19D.

S1	S2	S3
○	○	↔
		→

S1	S2	Operation
○	○	OFF
	○	Speed 1
○		Speed 2
		Speed 3

S3	Operation
↔	Heat recovery (Alternate flow)
→	Free cooling (Bypass)

5.3 Automatic boost mode and ambient sensor (not included)

A automatic boost mode can be achieved through a dedicated switch or ambient sensor (not included), connecting such switch in parallel to the S2 switch. Refer to wiring diagrams at figs. 19E - 19F.

5.4 Connection of two or more units

Wiring diagram of two or more units with external two-position switches: fig. 19G.

6 Synchronisation

When the units are installed in pair, they must be synchronised so that when one unit is extracting, the other is supplying, and viceversa (fig. 19A-19B-19C). This is achieved by setting the dedicated jumper (see figs. 21A - 21B and section 7).

6.1 Reset of the synchronisation

OPTION 1: If two or more units are connected under the same main switch, to reset the synchronisation, the main switch must be switched first OFF and then ON to reactivate (fig. 32).

OPTION 2: If two or more units are not connected under the same main switch, to reset the synchronisation, switch off the mains of the two units (fig. 33) and press at the same time the black pin of each unit (fig. 34) for at least 3 seconds.

7 Jumper position

Integral jumper set in position A (fig. 21A) means "extract-only" mode (default factory setting).

Integral jumper set in position B (fig. 21B) means "intake-only" mode.

The jumper position defines both the air-flow direction when the unit is activated for the first time (for the synchronisation) and the air-flow direction of the free-cooling mode.

8 Maintenance and cleaning

8.1 Ordinary maintenance

Maintenance can be carried out by the user as indicated at figs. 35-42.

8.2 Extraordinary maintenance

Extraordinary maintenance must be performed only by technically qualified personnel in accordance with local rules and regulations. Refer to figs 43÷57. Make sure that the mains supply to the unit is disconnected. Cleaning of the heat exchanger can be performed from outside as well.

9 Disposal

This product complies with Directive 2012/19/EU on the management of waste electrical and electronic equipment (WEEE).

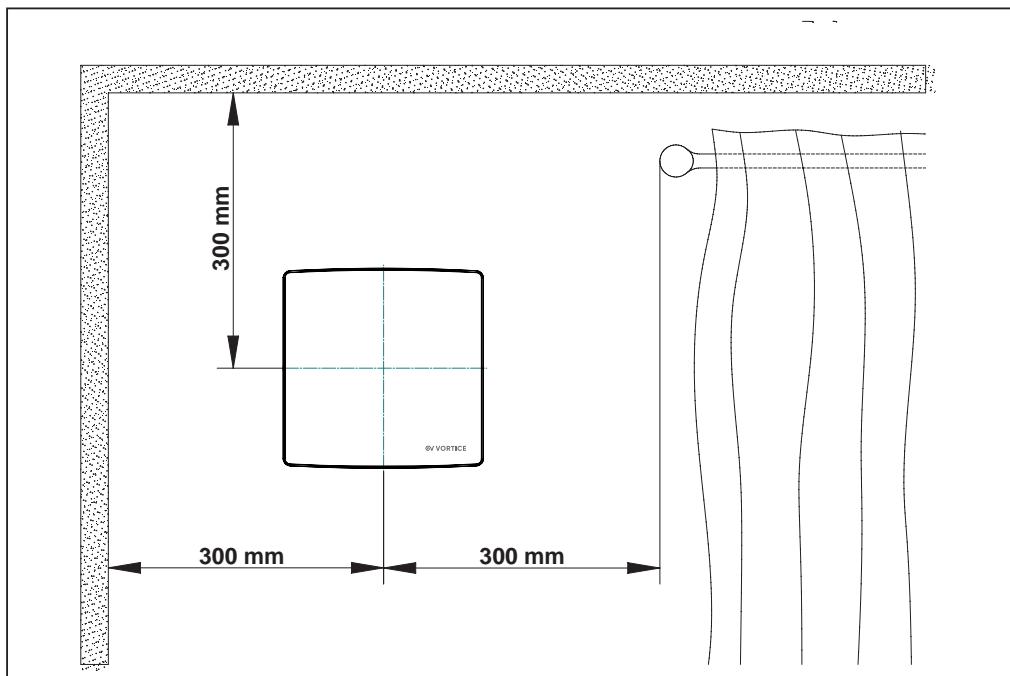
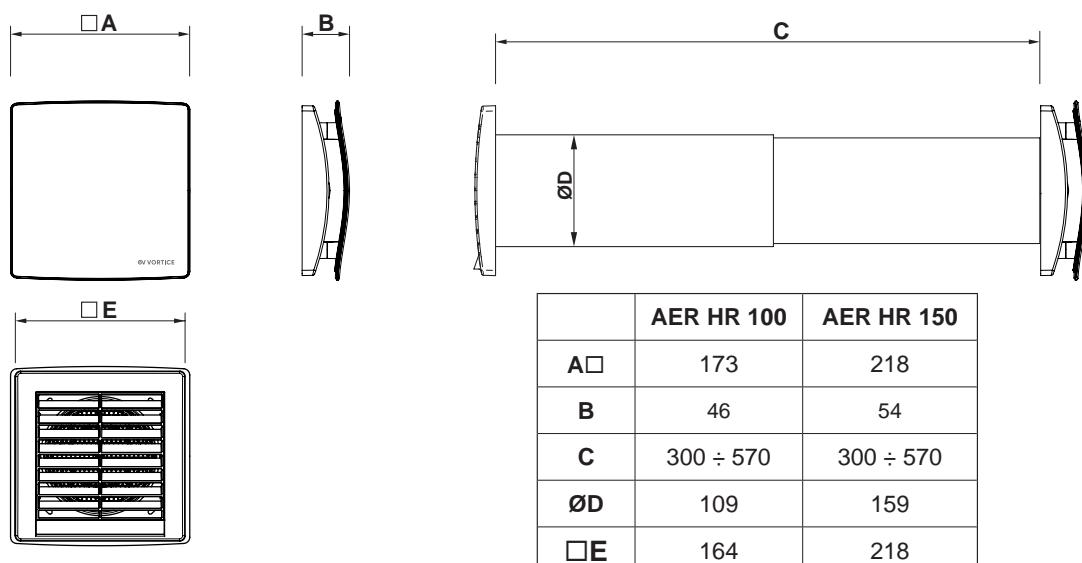
The crossed-out wheeled bin symbol on the appliance indicates that, at the end of its life, the product should not be discarded together with household waste but must be taken to a separate collection point for electrical and electronic equipment. This will avoid negative effects on the environment and health, and will encourage correct treatment, disposal and recycling of the materials from which the product is made.



Contact the municipal authority for the location of this type of facility. Alternatively, the distributor is obliged to take back the appliance to be disposed of free of charge in exchange for the purchase of an equivalent appliance.

DIMENSIONS

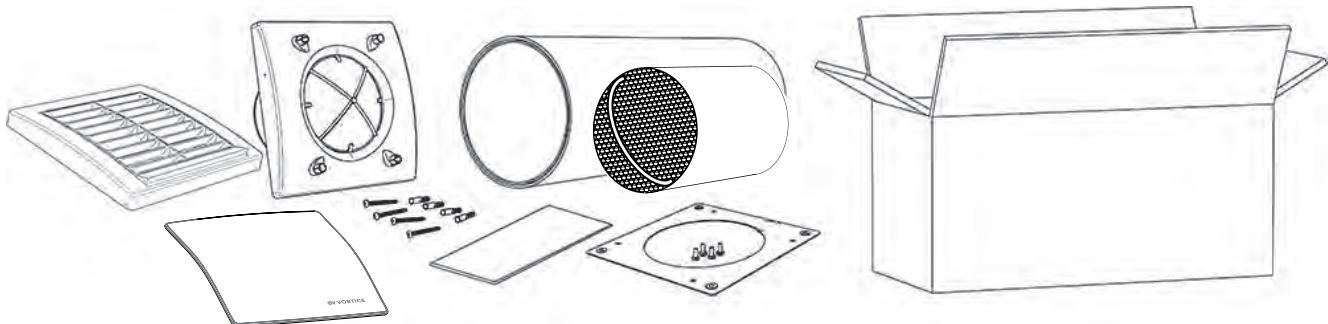
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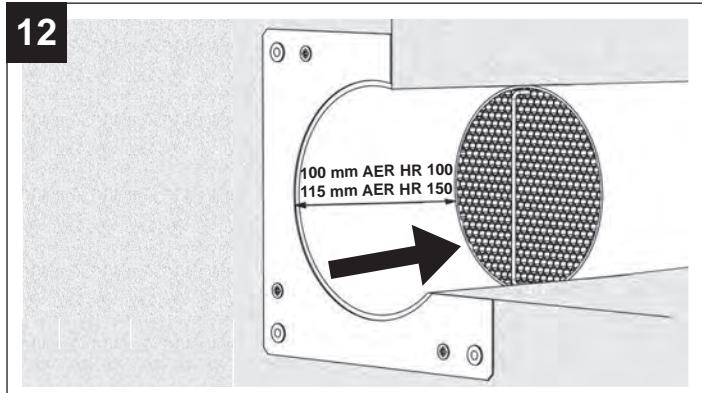
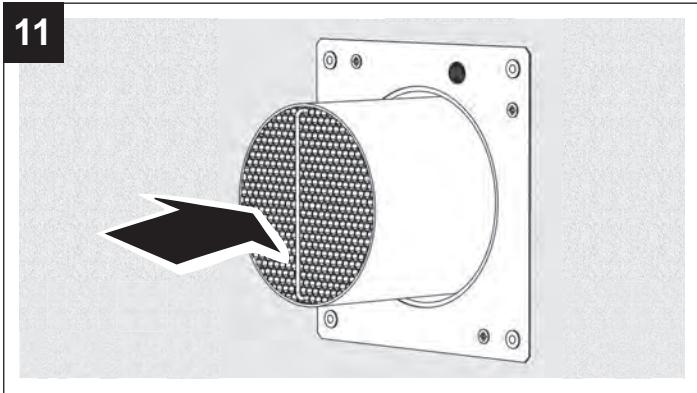
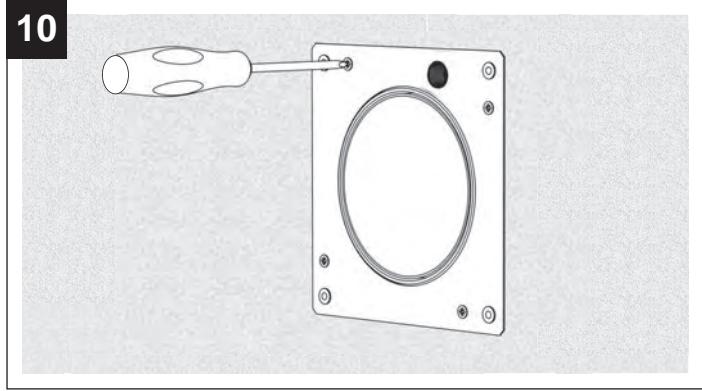
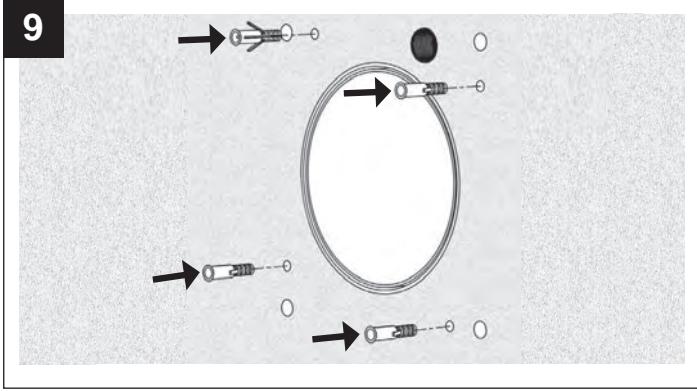
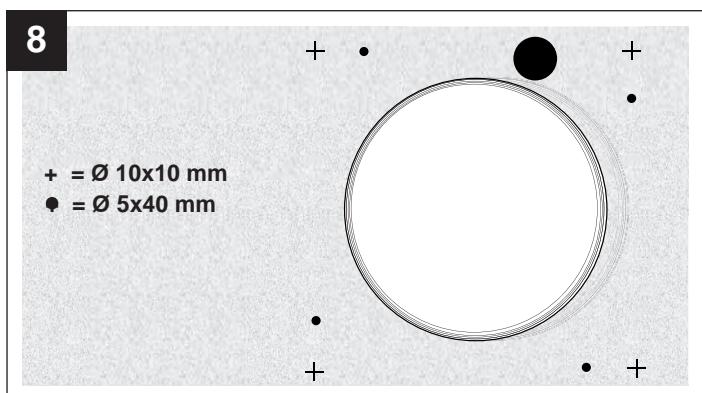
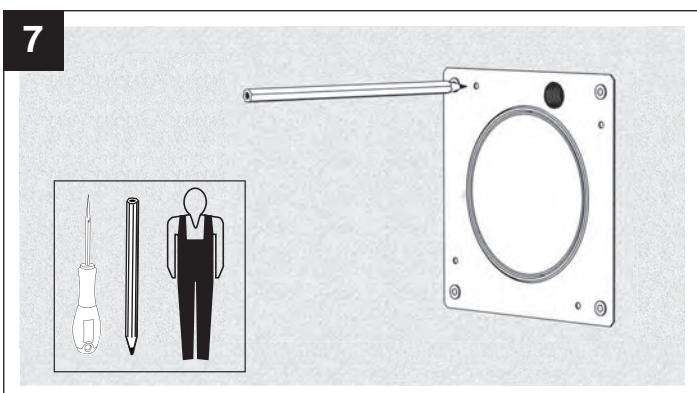
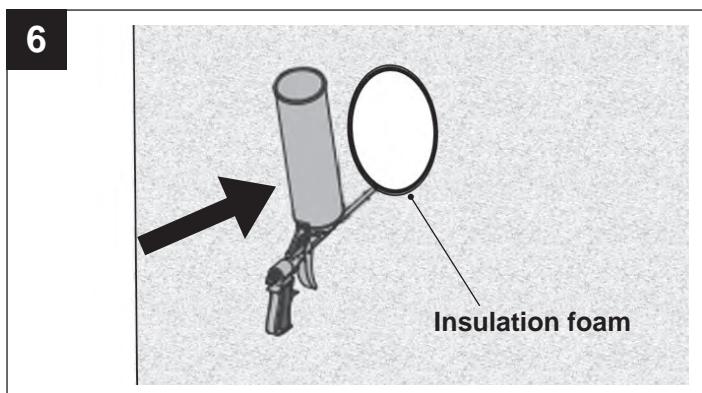
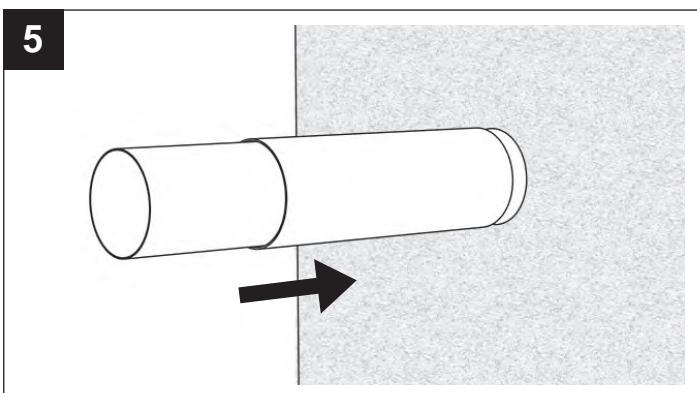
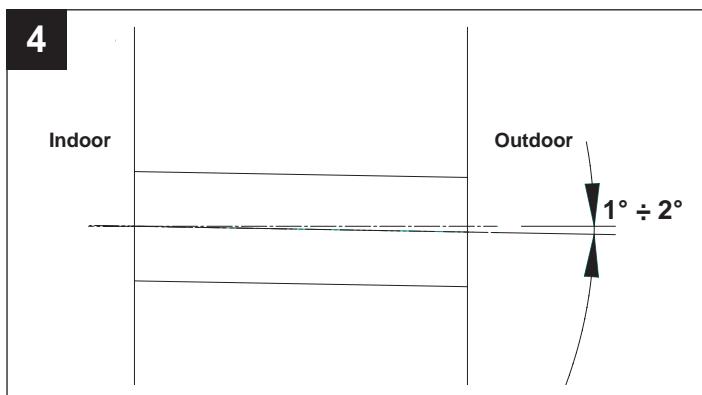
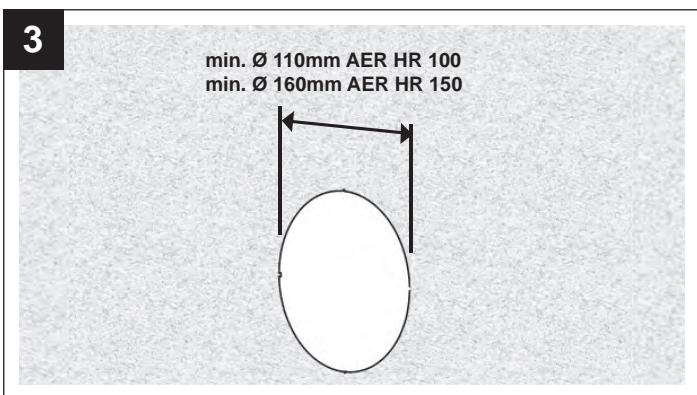


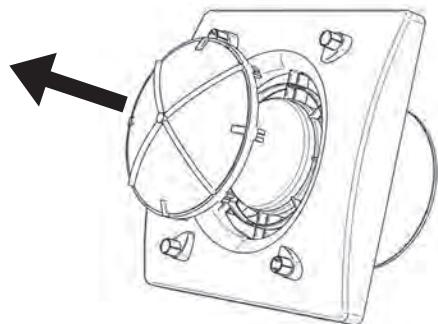
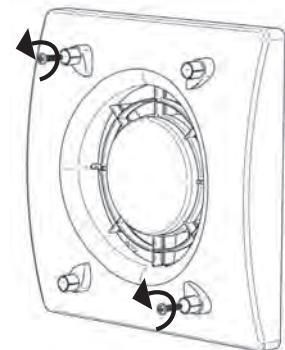
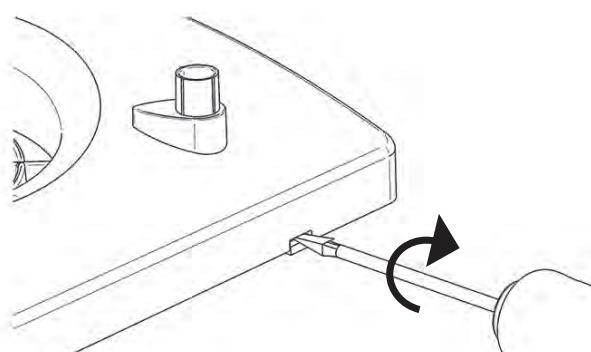
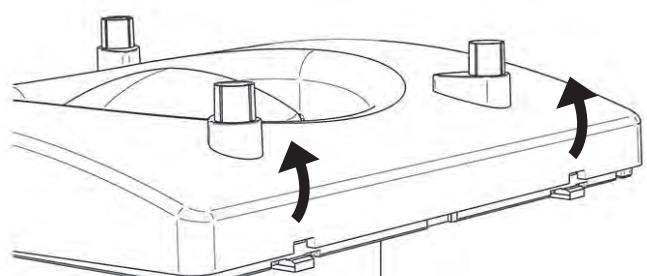
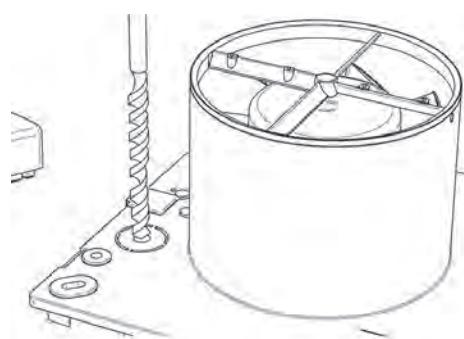
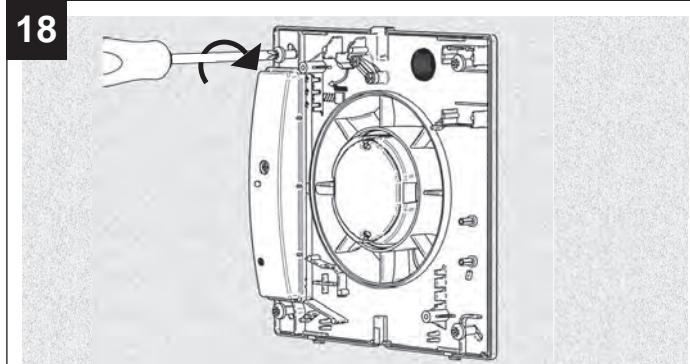
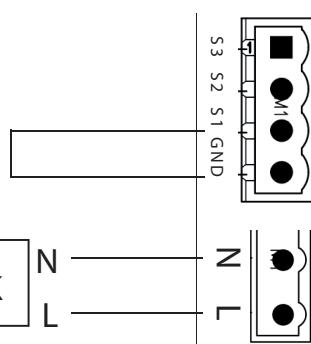
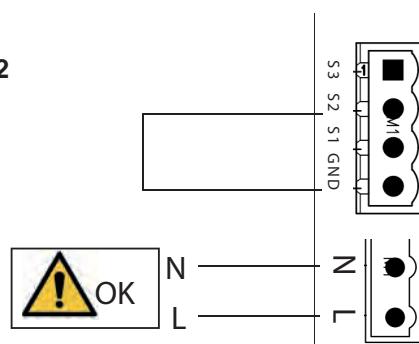
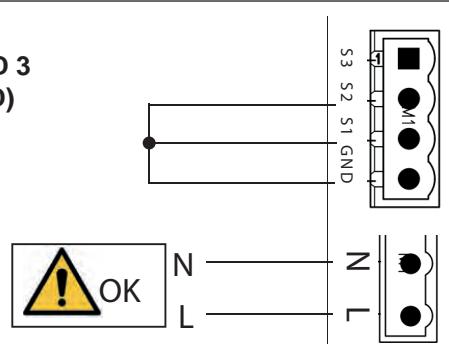
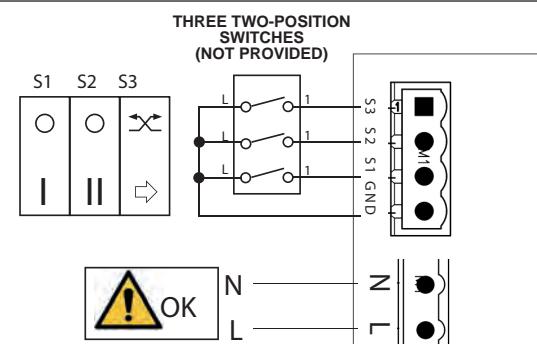
INSTALLATION

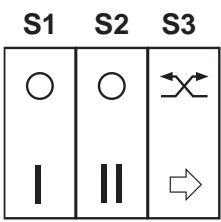
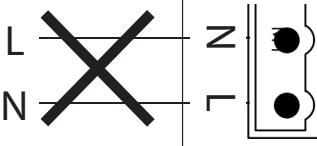
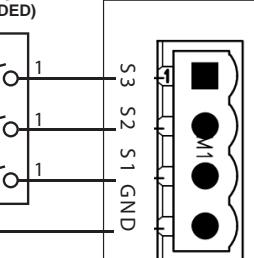
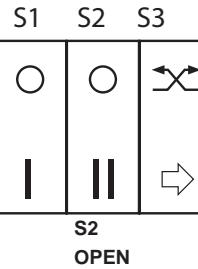
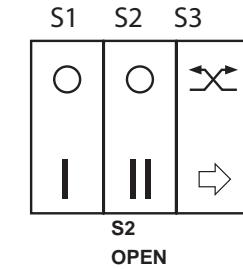
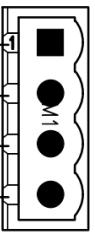
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AER HR 100 / AER HR 150





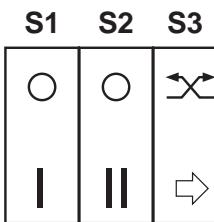
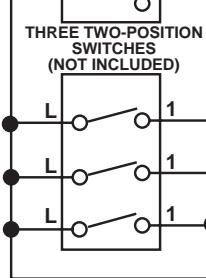
13**14****15****16****17****18****19A****SPEED 1
(FIXED)****19B****SPEED 2
(FIXED)****19C****SPEED 3
(FIXED)****19D****THREE TWO-POSITION
SWITCHES
(NOT PROVIDED)**

19DTHREE TWO-POSITION
SWITCHES
(NOT INCLUDED)**19E****19E**AMBIENT SENSOR
(e.g. CO2 / RH)
- NOT INCLUDED -THREE TWO-POSITION
SWITCHES
(NOT INCLUDED)

SENSOR INTERVENTION:

S1 OPEN: OFF → SPEED 2

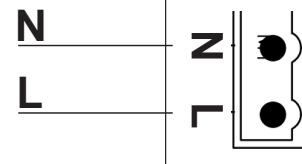
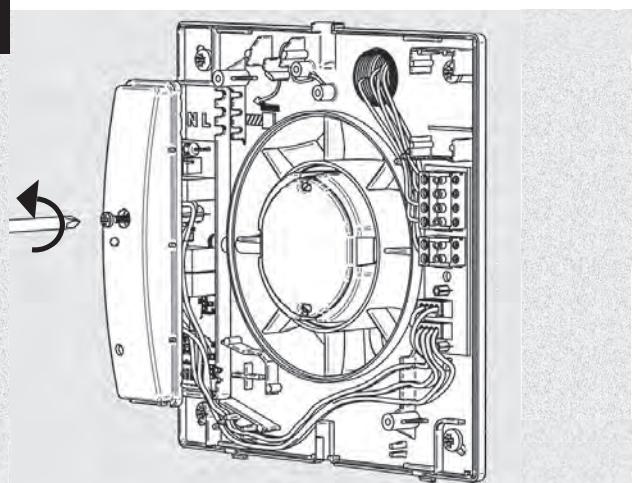
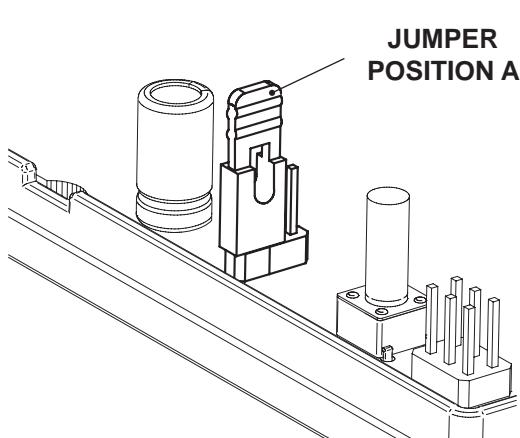
S1 CLOSE: SPEED 1 → SPEED 3

19FAMBIENT SENSOR
(e.g. CO2 / RH)
- NOT INCLUDED -S1
OPEN

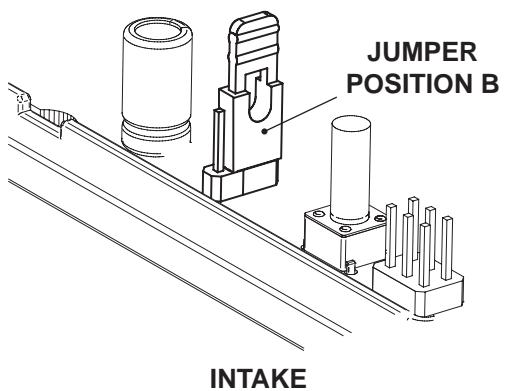
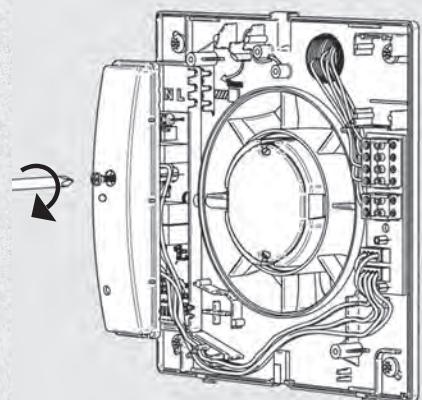
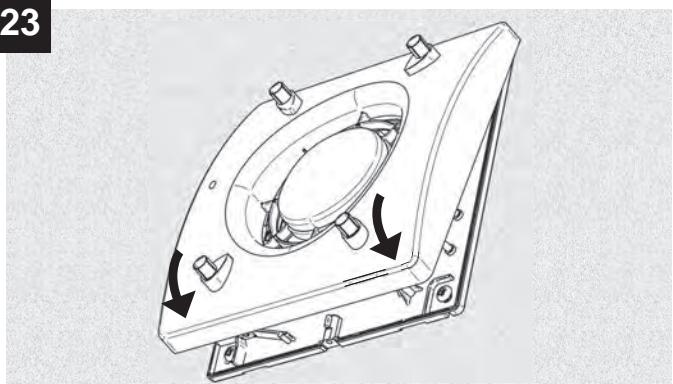
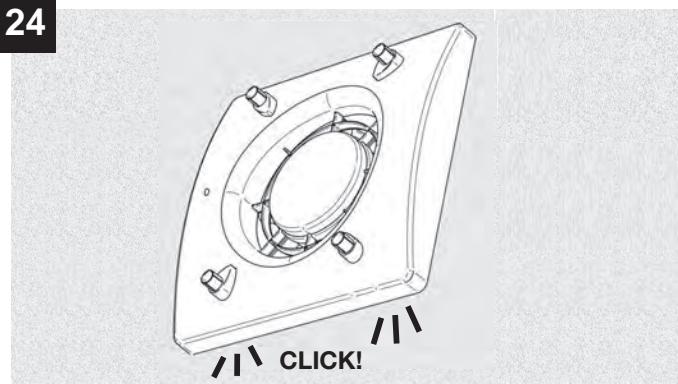
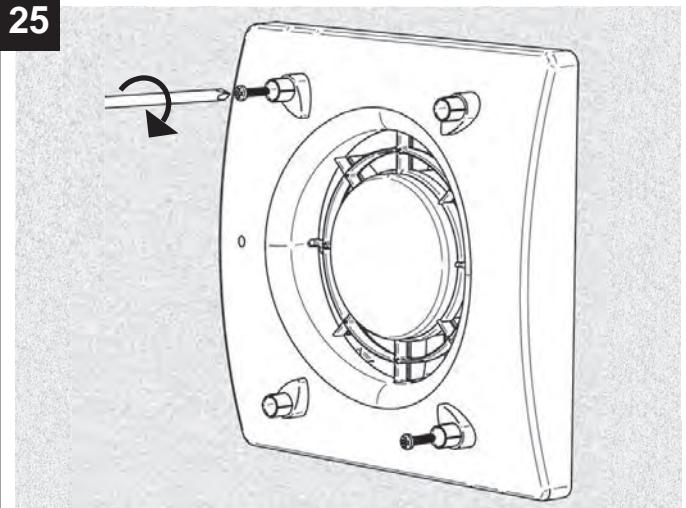
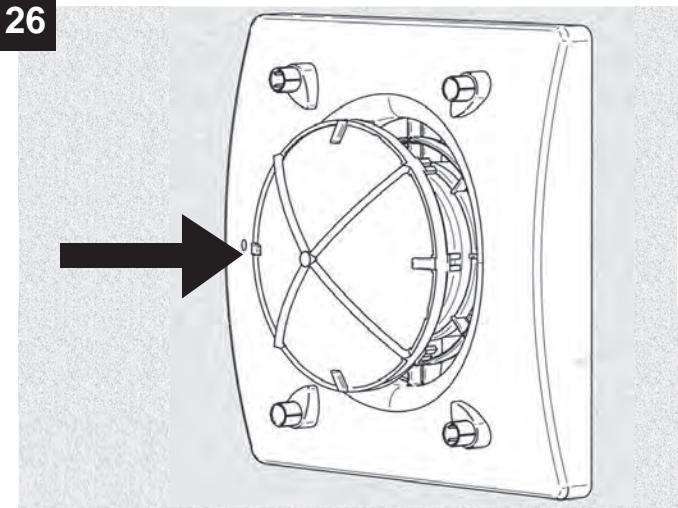
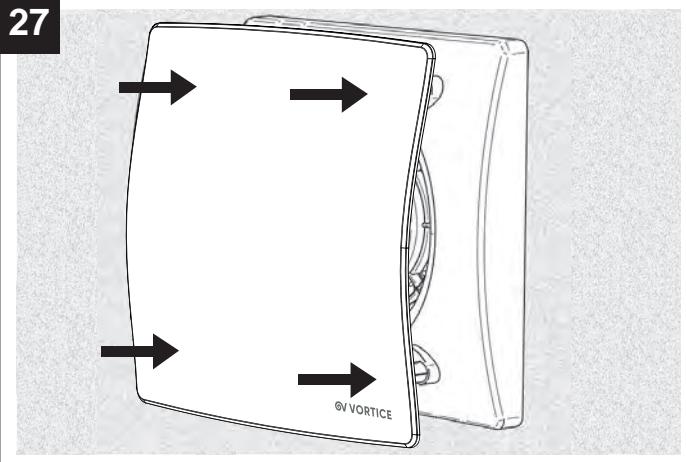
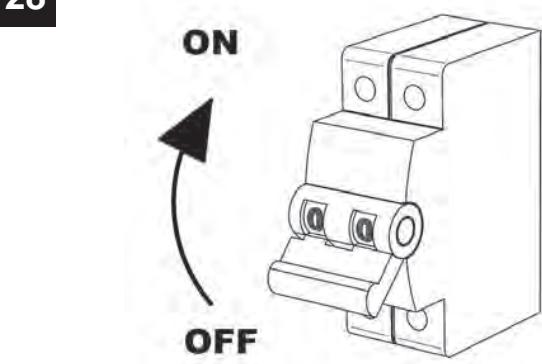
SENSOR INTERVENTION:

S2 OPEN: OFF → SPEED 1

S2 CLOSE: SPEED 2 → SPEED 3

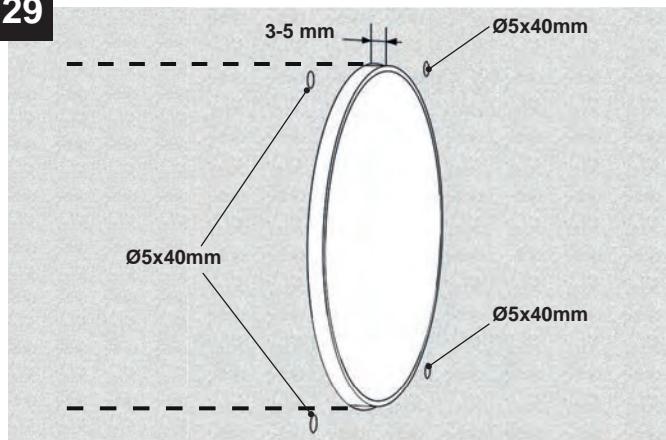
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EXTRACTION (FACTORY DEFAULT SETTING)

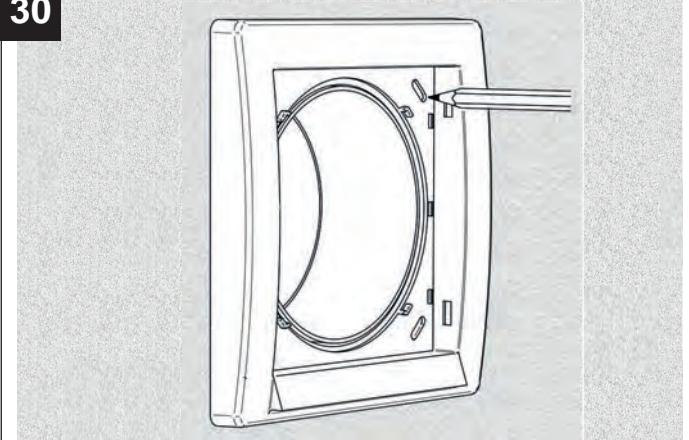
21B**22****23****24****25****26****27****28**

EXTERNAL GRILLE

29



30



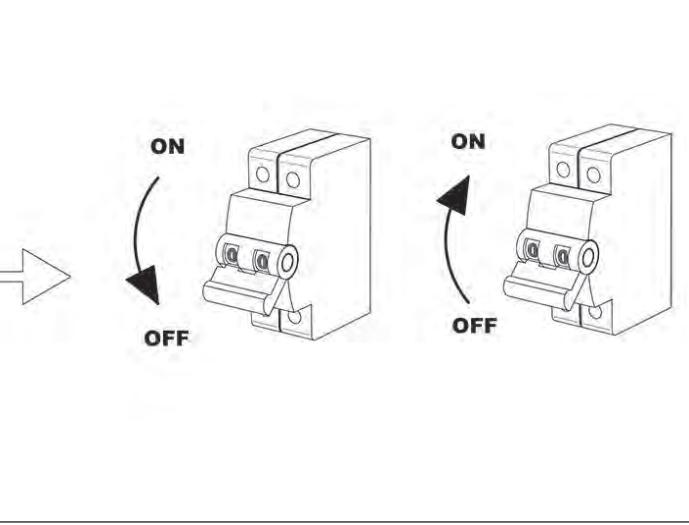
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RESET OF UNIT SYNCHRONIZATION

OPTION 1

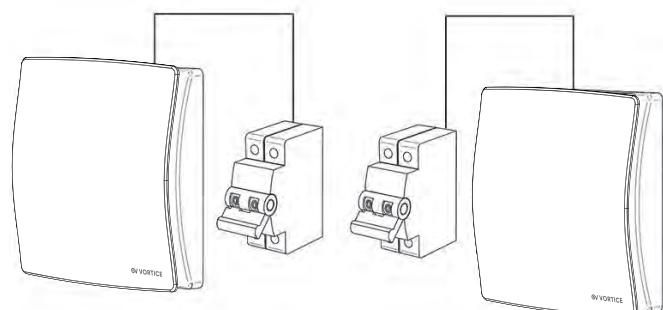
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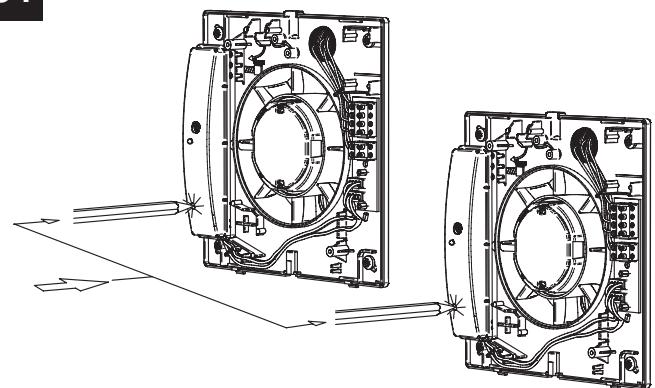
RESET OF UNIT SYNCHRONIZATION

OPTION 2

33



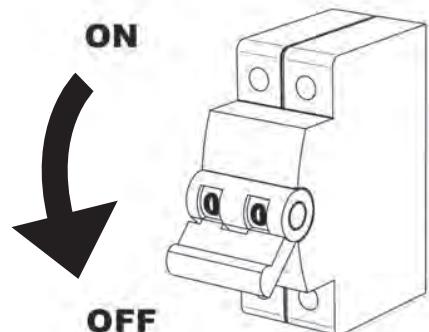
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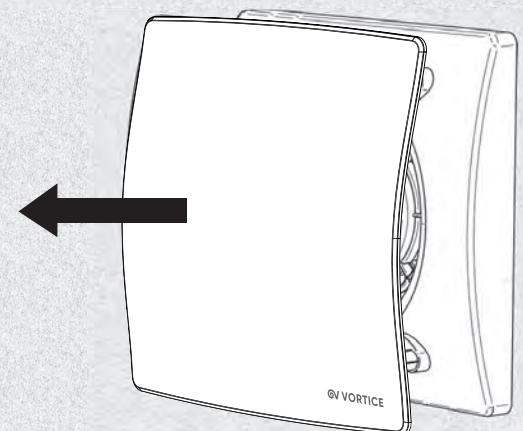
FILTER CLEANING (MAINTENANCE)

It can be carried out by the user.

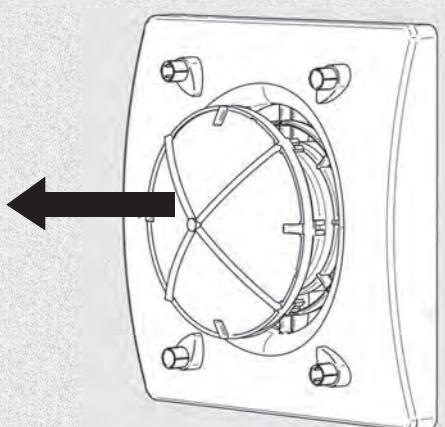
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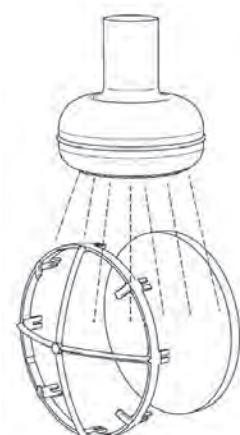
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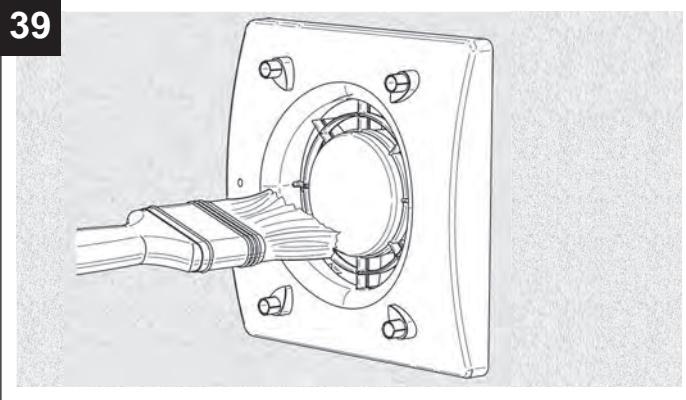
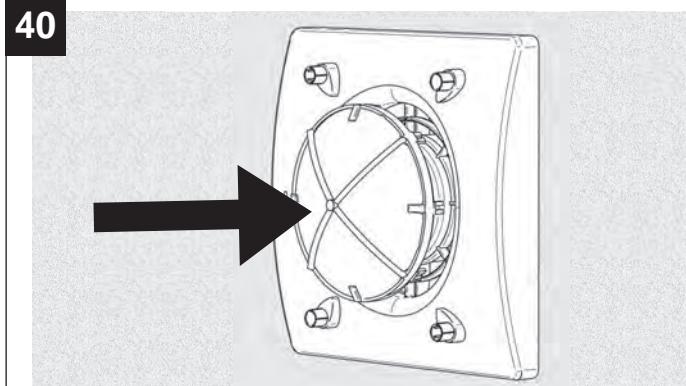
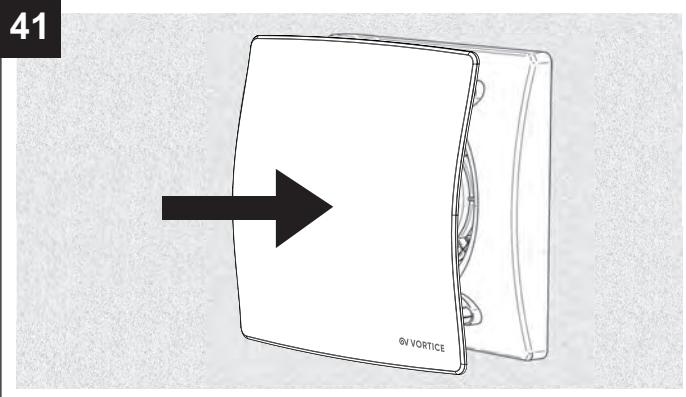
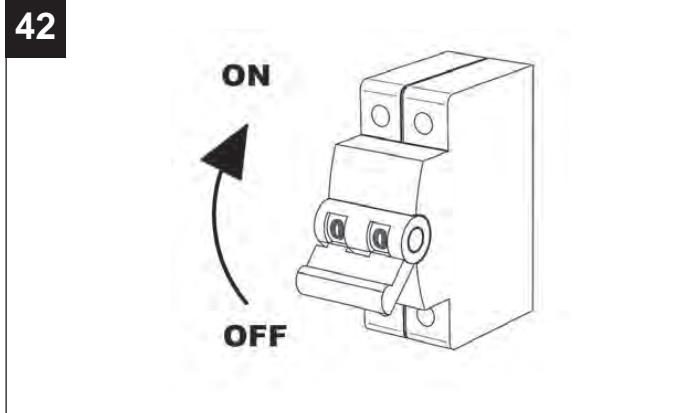


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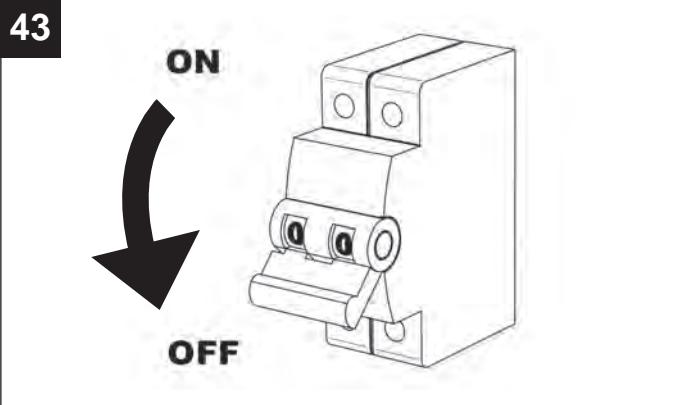
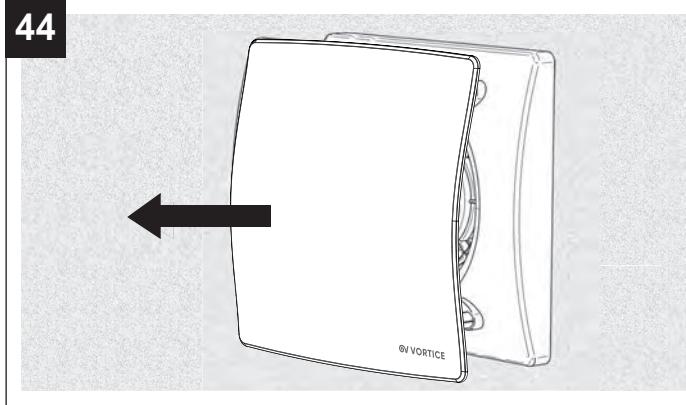
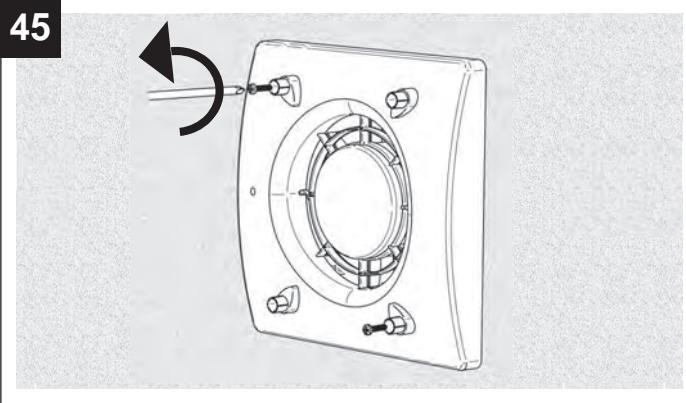
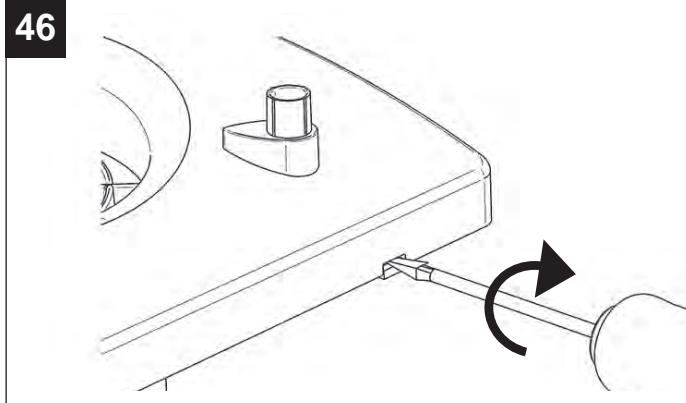


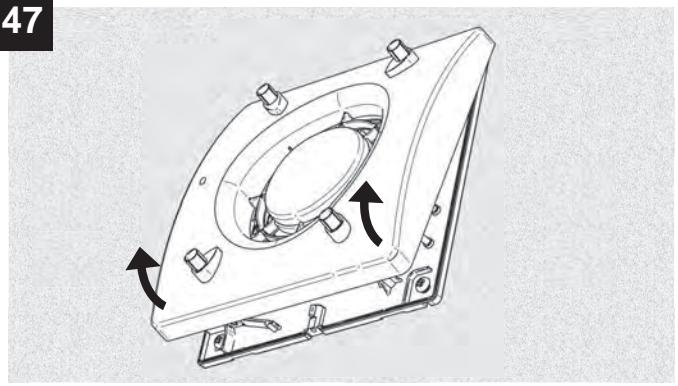
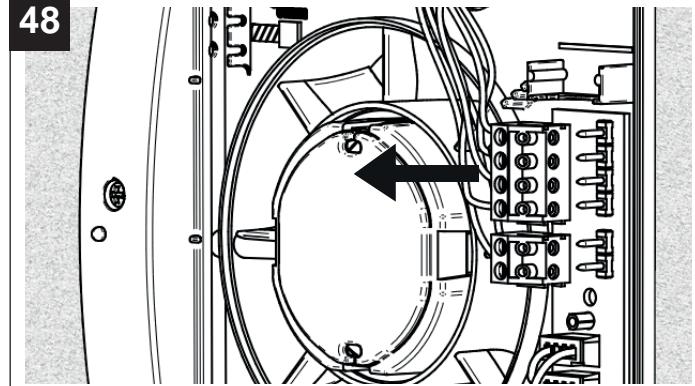
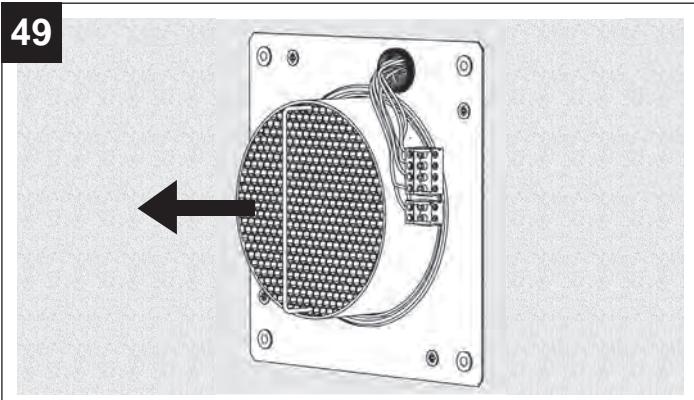
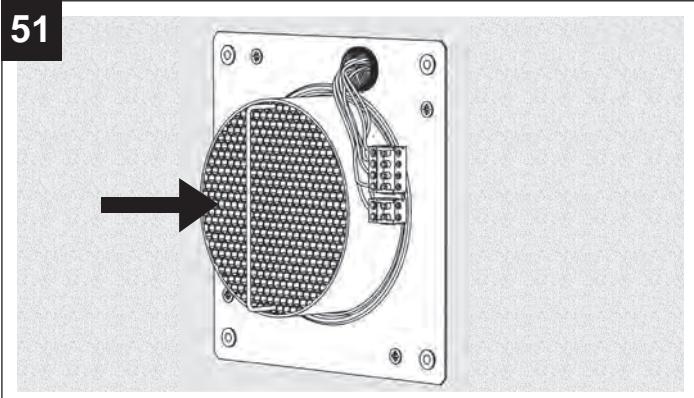
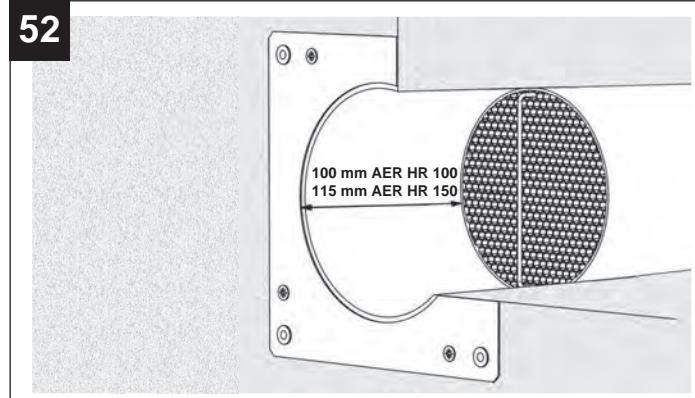
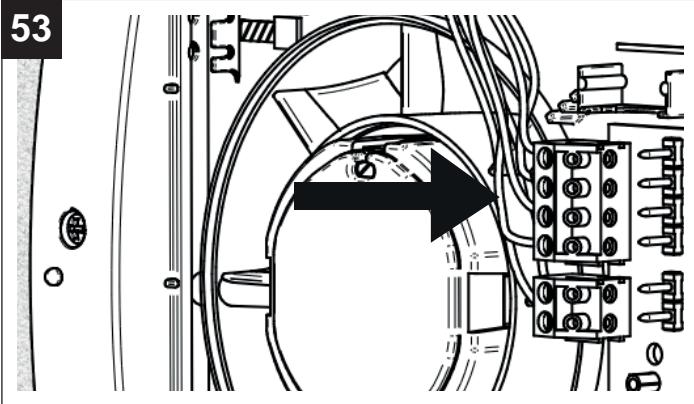
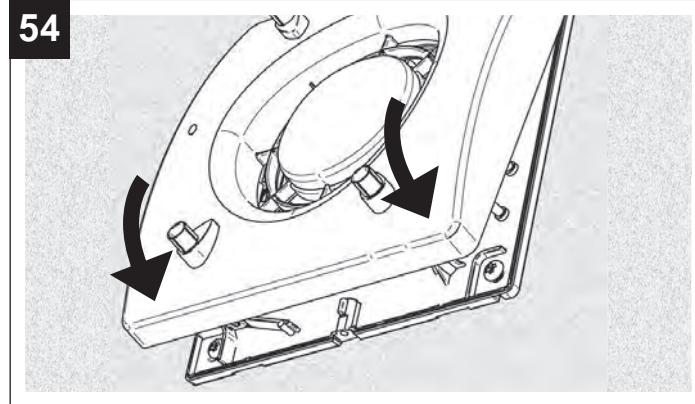
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HEAT EXCHANGER CLEANING (EXTRAORDINARY MAINTENANCE)

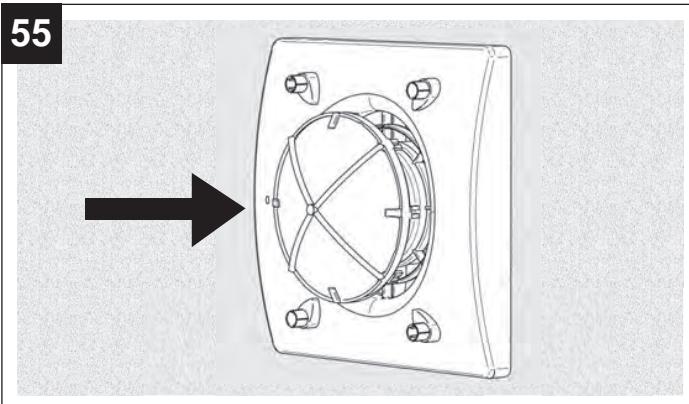


IT MUST BE CARRIED OUT ONLY BY TECHNICALLY QUALIFIED PERSONNEL.

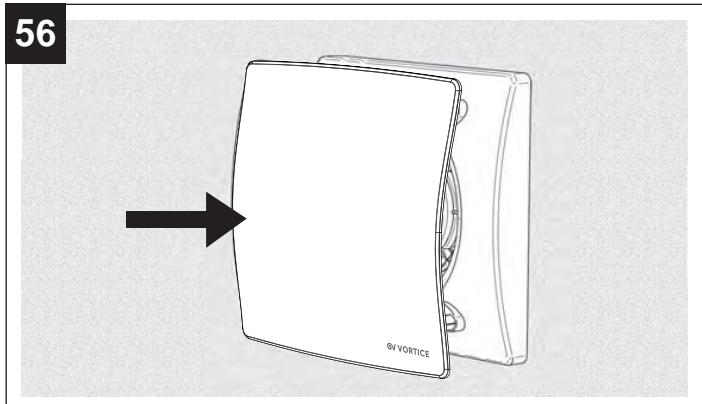
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47**48****49****50****51****52****53****54**

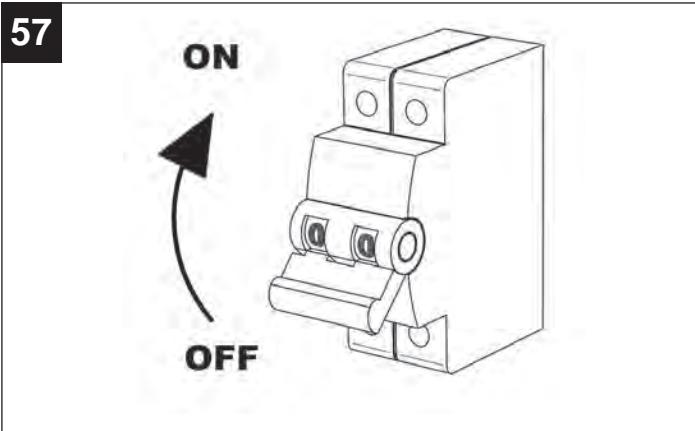
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WARRANTY

Thanks for choosing a VORTICE product.

This unit is covered by a 5-year warranty applicable only to products installed and used in the United Kingdom UK and Republic of Ireland.

The warranty starts from the date of purchase of the products which must be proved by the purchaser by means of a suitable fiscal document issued by the seller (receipt or invoice), indicating the date of purchase and the product model purchased.

This warranty covers any defect or break down that arises due to faulty materials or construction, provided the unit was correctly installed and operated according to the instruction manual.

Any defects and/or failures arising from:

- a) normal wear and tear of the product or its components
- b) incorrect or improper use of the product, contrary to the instructions and warnings provided by VORTICE;
- c) installation of the product contrary to the instructions provided by VORTICE or in any case contrary to the latest standards in force for the installation of electrical products;
- d) incorrect connection to the power supply network or power supply voltage different from that envisaged for the appliance, or different from the limit established by the CEI standard (+/- 10% of the nominal value);
- e) incorrect and/or deficient maintenance and/or maintenance carried out contrary to the instructions provided by VORTICE;
- f) maintenance and/or other interventions carried out by unauthorised personnel or by persons not authorised by VORTICE;
- g) failures resulting from incorrect transport or storage conditions of the product not attributable to VORTICE;
- h) tampering and modification of the product by a party other than VORTICE or not expressly authorised by the latter in writing.

are excluded from this warranty.

Please see here your unit serial number

CONF.	COLL.

To claim under terms of warranty please contact:

Technical Support: technical@vortice.ltd.uk

VORTICE LIMITED
Beeches House
Eastern Avenue
Burton on Trent
DE13 0BB

Tel: +44 (0) 1283 492949
Fax: +44 (0) 1283 544121

Providing a receipt as proof of purchase indicating date and name of the seller together with this page containing the serial number of the product.



VORTICE S.p.A. si riserva il diritto di apportare tutte le varianti migliorative ai prodotti in corso di vendita.
VORTICE S.p.A. reserves the right to make improvements to products at any time and without prior notice.
VORTICE S.p.A. se réserve le droit d'apporter toutes les variations afin d'améliorer ses produits en cours de commercialisation.
VORTICE S.p.A. behält sich vor, alle eventuellen Verbesserungsänderungen an den Produkten des Verkaufsangebots vorzunehmen.
VORTICE S.p.A. se reserva el derecho a hacer cambios en los productos para su mejora en cualquier momento sin previo aviso.
VORTICE S.p.A. 公司 股份有限公司 保留在产品销售期间进行产品改良的权利。

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