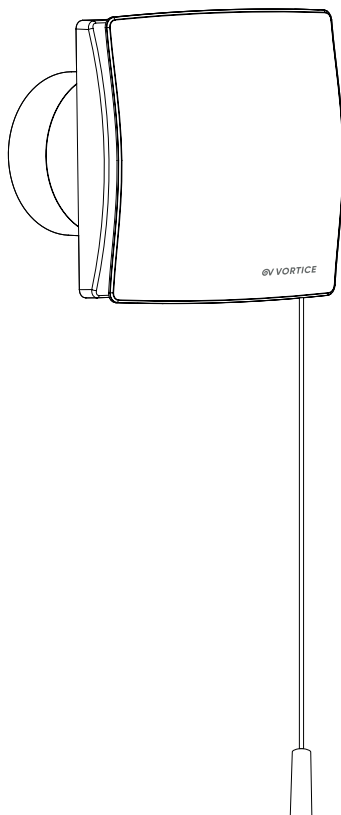




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# AER DMEV 100

# AER DMEV 100 SELV



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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

#### 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

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'AER DMEV 100' is a decentralised mechanical ventilation unit designed to ensure air extraction in small/medium-sized rooms. Suitable for wall, window and ceiling ducted system installation (fig. 1).

### 2.1 Main features:

- Material: high quality, impact and UV-resistant ABS colour RAL 9010.
- Front cover removable for cleaning without the use of tools.
- High efficiency aerodynamic fan with "winglet" blades to optimise quietness and efficiency.
- Single phase EC Brushless motor for energy saving, with integral thermal protection.
- Motor mounted on high quality ball bearings.
- Selectable minimum speed for continuous running and intermediate speed.
- Option to boost from minimum speed through switched live connection or integral pull cord.
- Selection of the installation type (through wall or in-room).
- Selection of smart humidity control and intelligent run-on timer.
- Selection of constant air flow mode.
- Suitable for continuous running.
- The fan is double insulated: no earth connection is required.
- IPX4 (wall installation); IPX2 (ceiling installation).
- Power supply 220-240V~ 50/60Hz

### 2.2 'AER DMEV 100 SELV' model

The AER DMEV 100 unit is also available in the SELV version, with separate power supply box (Fig.19).

## 3 Compliance

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- These appliances are designed for use in residential and commercial properties.
- 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.
- The appliance must be installed by a professionally qualified electrician only.
- Ensure that the electrical system to which the appliance is connected complies with applicable standards.
- 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 the backflow of gas from the gas exhaust pipe or other fuel-burning appliances into the room.

## 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.
- Ensure adequate air return into the room in compliance with existing regulations in order to ensure proper device operation.
- The appliance must expel the air outside through its own duct
- 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 cord becomes damaged, it must be replaced by the manufacturer or its technical assistance service, or in any case by a person with similar qualifications, in order to prevent any risk.
- 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.
- Should the appliance be dropped or suffer heavy impact, have it checked without delay by a VORTICE authorised Technical Support Centre.
- 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.
- Be sure not to damage hidden electrical cables when installing the unit.
- 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.
- Maintenance instructions must be followed to prevent damage and/or excessive wear to the appliance.



### OBLIGATION

- Follow the safety instructions to prevent any harm to the user.



### PROHIBITION

- Do not use this appliance for functions other than those described in this booklet.
- Do not leave packaging within reach of children or individuals with disabilities.
- Do not operate the appliance where inflammable vapours or substances are present (alcohol, insecticides, petrol, etc.)
- Do not make modifications of any kind to this appliance
- Do not expose the appliance to the weather (rain, sun, etc.).
- The appliance must not be immersed in water or any other liquid.
- DO NOT use this unit where there is, excessive dust, or an air rich in fibre, oil grease are present.
- Do not stand objects on the appliance.
- The appliance cannot be used to pilot the operation of water heaters, stoves, etc.; neither must it drain into the hot water ducts of such appliances.
- Do not obstruct the fan or exhaust grille to ensure optimum air passage.



### 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.
- Operating temperature: from 0°C up to +40°C.

- The flow of extracted air must be clean (i.e. free of grease, soot, chemical and corrosive agents and explosive or flammable mixtures).



## OBLIGATION

- Switch off the system main switch when:
  - an operating fault is detected.
  - it is needed to clean the external parts of the product.

## 5 Installation types

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Refer to fig. 1.

## 6 Mounting and wiring diagrams

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Figg. 2÷32.

## 7 Supply box mounting and wiring diagram (AER DMEV 100 SELV)

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Figg. 20÷32.

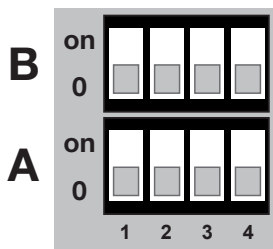
## 8 Maintenance and cleaning

---

Figg. 33÷37.

## 9 Operation

- Upon power-up, the unit runs at the minimum continuous speed.
- If humidistat or timer is activated, the unit runs at the intermediate speed.
- If the external switch is activated, the unit runs at the maximum speed.
- After the external switch is off, the unit continues to run at the intermediate speed for a period of time, then it returns to the selected minimum speed (or to the intermediate speed in case humidistat or run-on timer operation is on).



The functionalities can be set/enabled through the Dip Switches A and B on the electronic circuit.

**Attention: during this operation the unit needs to be disconnected from the main power supply.**

### 9.1 Minimum continuous speed

Upon power-up, the unit runs at the minimum continuous speed settable from 0 to 58m<sup>3</sup>/h (i.e. from 0 to 16l/s) by means of the switches as per table Dip Switch A.

### 9.2 Intermediate speed

The unit runs automatically at the intermediate speed settable from 29 to 72m<sup>3</sup>/h (i.e. from 8 to 20l/s) by means of the switches as per table Dip Switch A.

The intermediate speed can be activated when either of the below conditions have been met:

- the humidistat has been activated;
- the run-on timer has been activated.

### 9.3 Maximum speed

The maximum speed fixed, at 90m<sup>3</sup>/h (i.e. 25l/s) in through-wall or 72m<sup>3</sup>/h (i.e. 20l/s) in in-room installation, can be activated through integral pull cord, external switch, remote ambient sensor or light switch. the LED on the front support lights up

### 9.4 Installation type

Based on the selected installation type, the unit scales its speed (minimum, intermediate and maximum) to obtain the selected air flow rates.

1. **Through-wall** installation: unit is typically mounted on an external wall or window and discharge direct to the outside.
2. **In-room** installation: unit is typically mounted on the ceiling or internal wall which are ducted to the outside.

**NOTE: motor runs at a higher speed when In-room installation is selected.**

The installation type can be selected by means of the switches as per table Dip Switch A.

# AER DMEV 100 / AER DMEV 100 SELV

DIP SWITCH A						min speed		intermediate speed		max speed	
1	2	3	4		installation	m³/h	l/s	m³/h	l/s	m³/h	l/s
0	0	0	0	default	through-wall	18	5	47	13	90	25
0	0	on	0		through-wall	18	5	29	8	90	25
0	on	0	0		through-wall	29	8	47	13	90	25
0	on	on	0		through-wall	29	8	40	11	90	25
on	0	0	0		through-wall	40	11	47	13	90	25
on	0	on	0		through-wall	47	13	58	16	90	25
on	on	0	0		through-wall	58	16	72	20	90	25
on	on	on	0		through-wall	0	0	47	13	90	25
0	0	0	on		in-room	18	5	47	13	72	20
0	0	on	on		in-room	18	5	29	8	72	20
0	on	0	on		in-room	29	8	47	13	72	20
0	on	on	on		in-room	29	8	40	11	72	20
on	0	0	on		in-room	40	11	47	13	72	20
on	0	on	on		in-room	47	13	58	16	72	20
on	on	0	on		in-room	58	16	72	20	72	20
on	on	on	on		in-room	0	0	47	13	72	20

## 9.5 Constant flow

DIP SWITCH B		
1	Constant flow operation	
on	enabled	
0	disabled	default

When the constant flow operation is enabled, the unit speeds up or slows down depending on the variations of the resistances caused by long length ducting or external windy conditions.

The constant flow operation can be enabled/ disabled by means of switch 1 of Dip Switch B.

## 9.6 Humidistat

DIP SWITCH B		
2	Humidistat	
on	disabled	
0	AUTO	default

The unit is equipped with a humidity sensor that operates in AUTO mode, i.e. the humidistat, which records the humidity levels, triggers if there is a steep variation of the humidity and if humidity level is over 65%.

If the humidistat is activated, the unit runs at the intermediate speed and continues to run for a fixed time of 5 minutes after the humidity level stabilizes.

The humidistat can be enabled/ disabled by means of switch 2 of Dip Switch B.



## 9.7 Run-on timer

DIP SWITCH B		
3	timer	
on	disabled	
0	AUTO	default

The unit is equipped with a run-on timer. When the external switch is turned off, the unit continues to run at the intermediate speed for a period of time defined as follows:

- if the external switch is activated for less than 3 minutes, the unit does not run-on;
- if the external switch is activated for between 3 and 10 minutes, the unit runs on for 5 minutes;
- if the external switch is activated for between 10 and 20 minutes, the unit runs on for 10 minutes;
- if the external switch is activated for over 20 minutes, the unit runs on for 15 minutes.

When the time is expired, the unit returns to the minimum continuous speed. The run-on Timer can be enabled/disabled by means of switch 3 of Dip Switch B.

## 10 Disposal

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

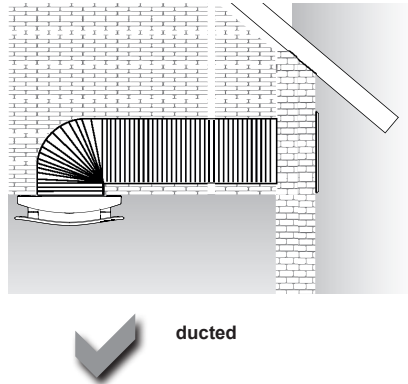
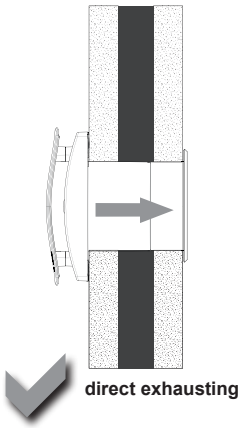
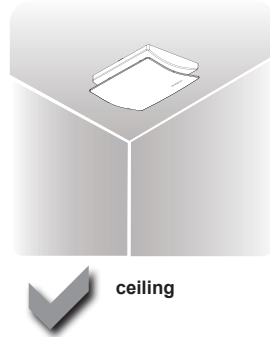
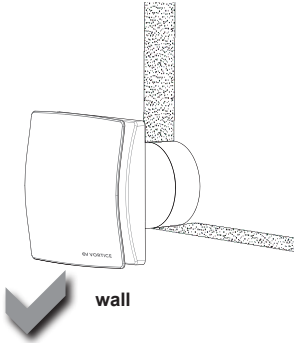
The crossed-out wheeled bin symbol on the appliance indicates that, at the end of its life, the product should not be discarded together with household waste but must be taken to a separate collection point for electrical and electronic equipment. This will avoid negative effects on the environment and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

# INSTALLATION

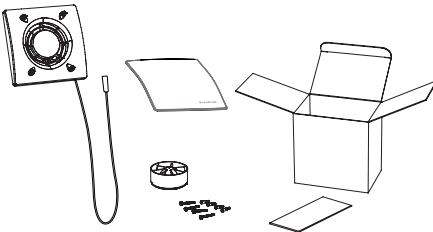
1



# MOUNTING AND WIRING DIAGRAM

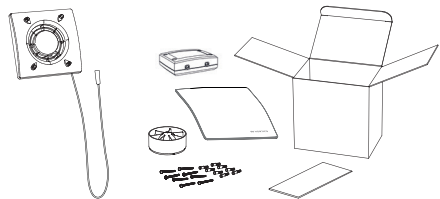
2A

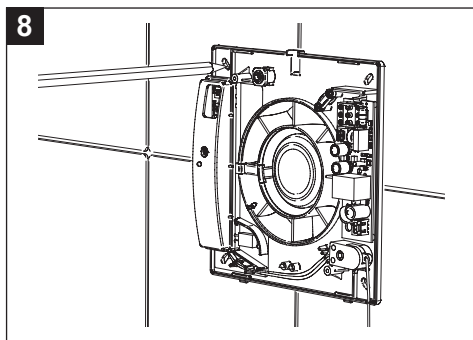
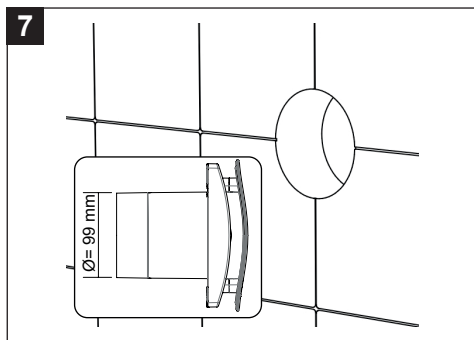
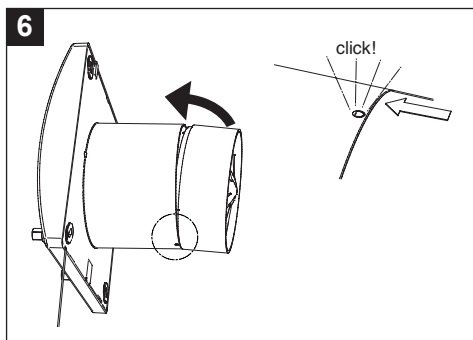
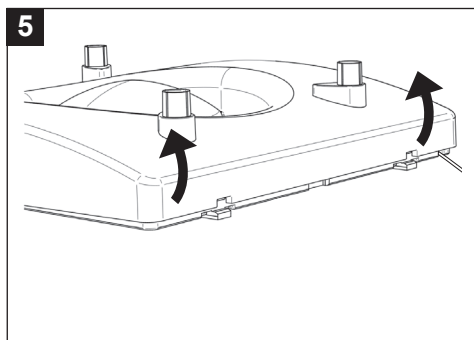
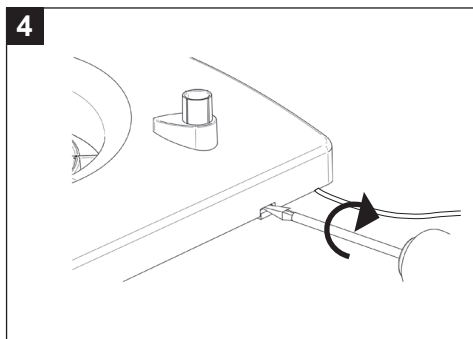
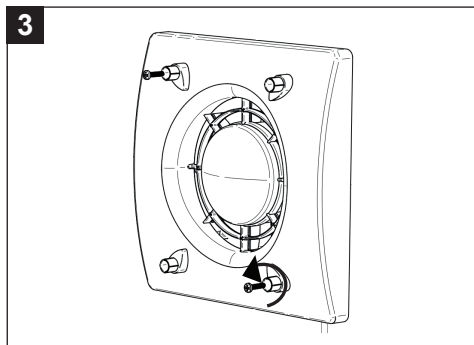
AER DMEV 100



2B

AER DMEV 100 SELV





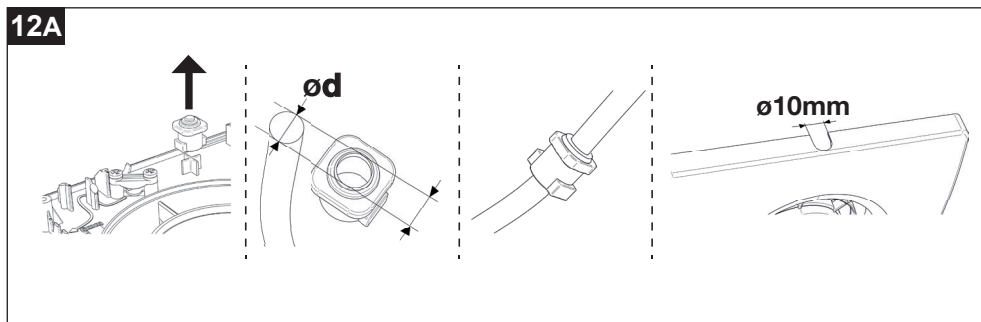
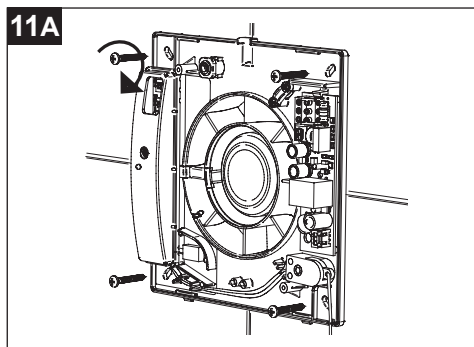
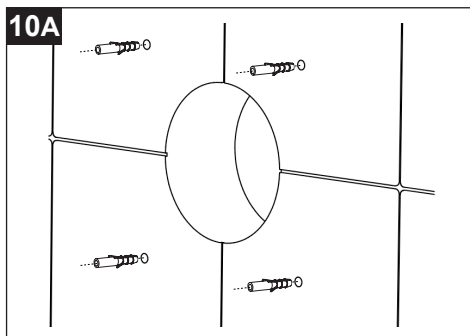
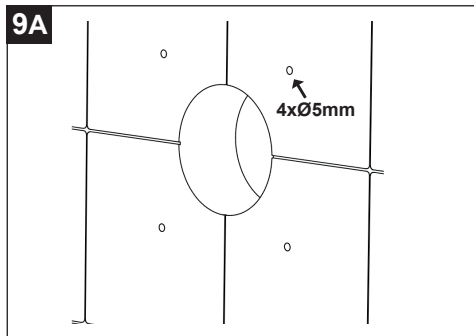
## SURFACE CABLE

Type and specifications of the cables that can be used:

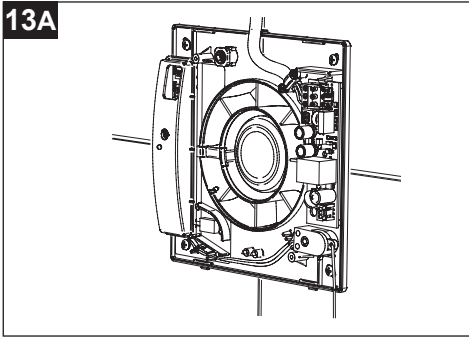
**H03VV-F ; H05VV-F**

2 X 0,5 ÷ 1,5 mm<sup>2</sup> (for installation without external boost switch).

3 X 0,5 ÷ 1,5 mm<sup>2</sup> (for installation with an external boost switch).



**13A**



**PLEASE REFER TO WIRING DIAGRAMS AT FIG.14A / 14B FOR THE CORRECT WIRING.**

## RECESSED CABLE ENTRY

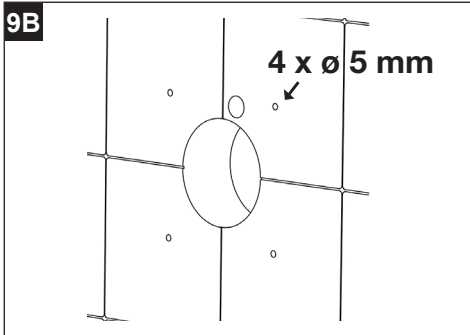
Type and specifications of the cables that can be used:

**H03VV-F ; H05VV-F**

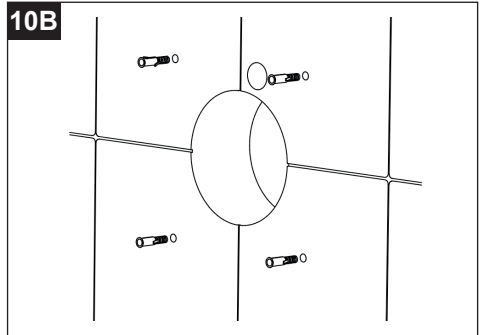
2 X 0,5 ÷ 1,5 mm<sup>2</sup> (for installation without external boost switch).

3 X 0,5 ÷ 1,5 mm<sup>2</sup> (for installation with an external boost switch).

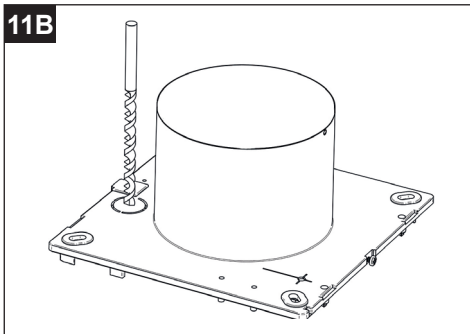
**9B**



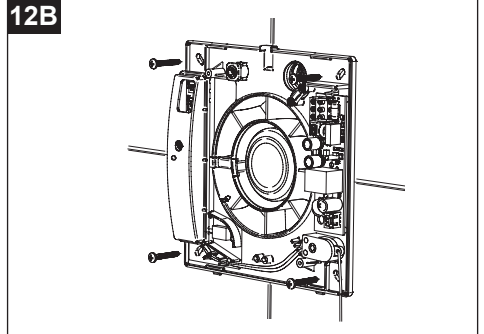
**10B**



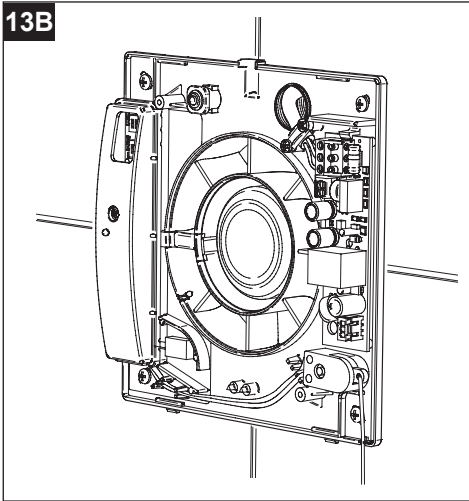
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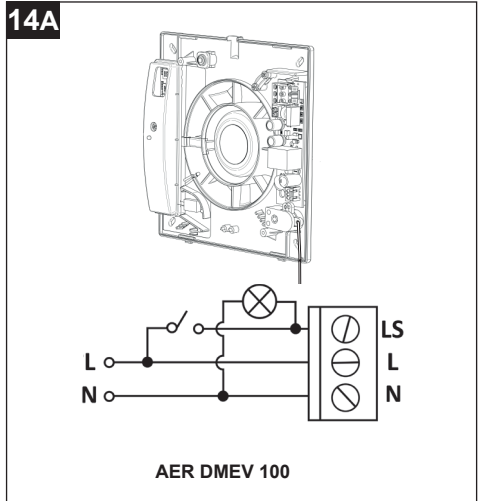
**12B**



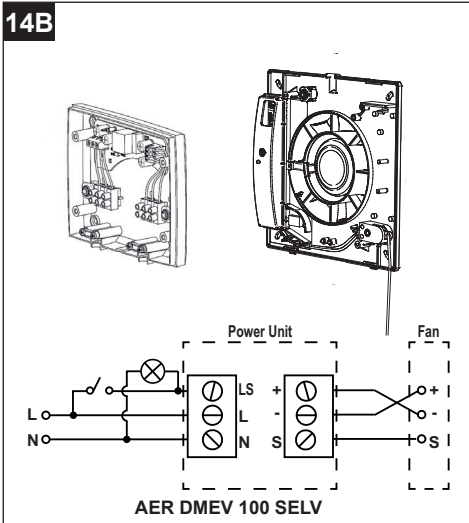
13B



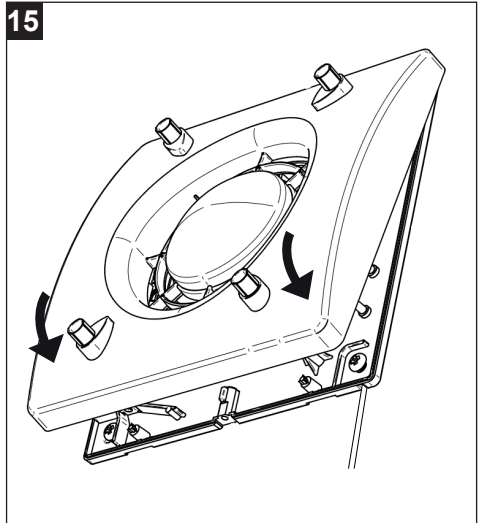
14A



14B



15

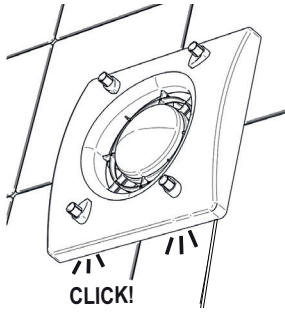


**ATTENTION: WHEN WIRING TO THE PCB TERMINALS, DO NOT OVERTIGHTEN THE SCREWS: MAXIMUM TORQUE 0,15 NM.**

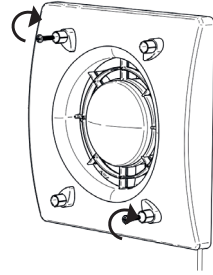


**THE UNIT IS PROVIDED WITH AN INTEGRAL PULL-CORD TO SELECT THE BOOST SPEED. IN THIS CONFIGURATION THE SWITCHED LIVE TERMINAL CONNECTION IS NOT REQUIRED.**

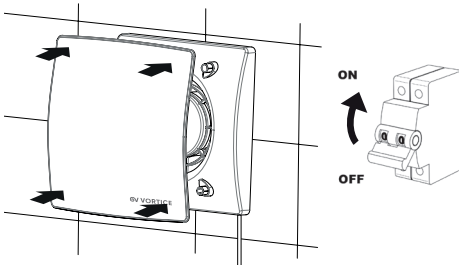
16



17

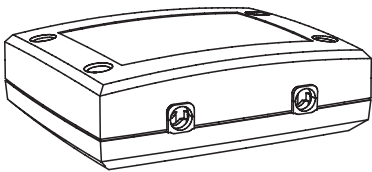


18

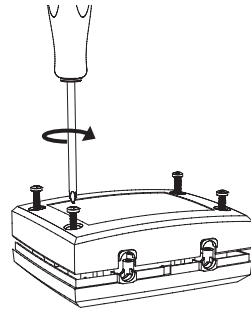


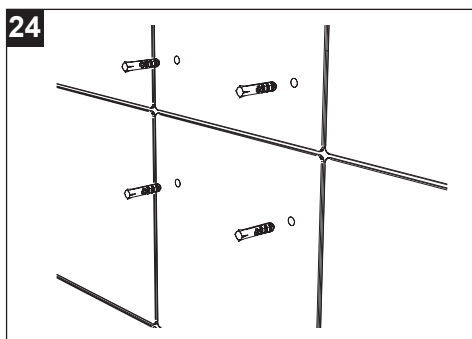
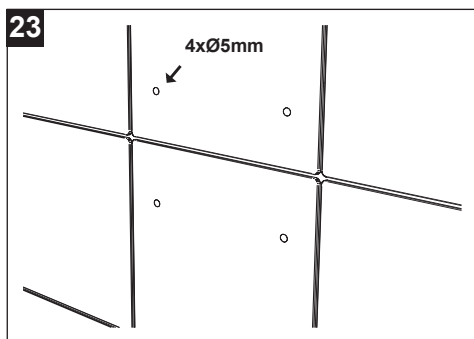
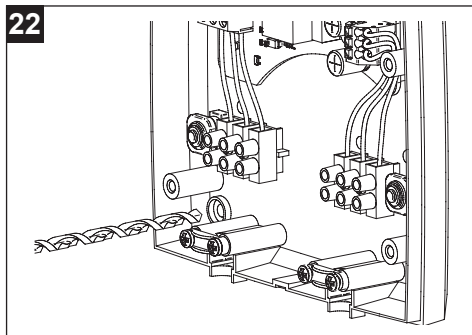
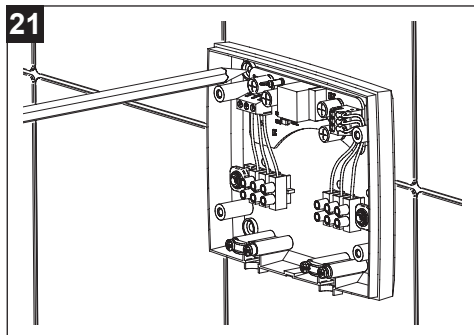
## MOUNTING AND WIRING DIAGRAM SELV POWER SUPPLY UNIT

19



20





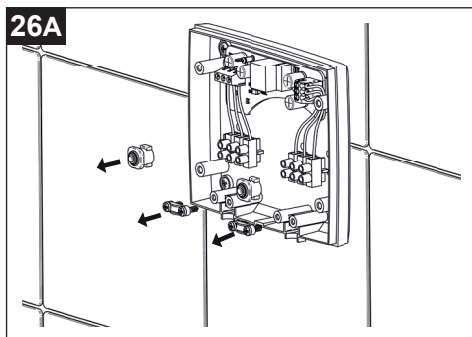
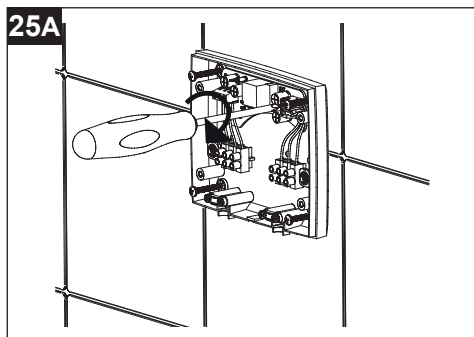
## SURFACE CABLE

Type and specifications of the cables that can be used:

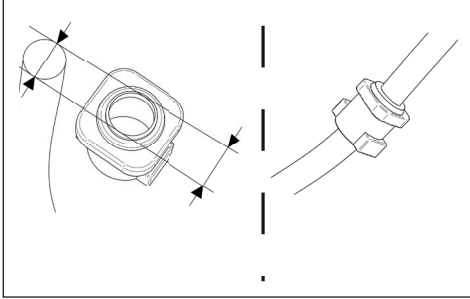
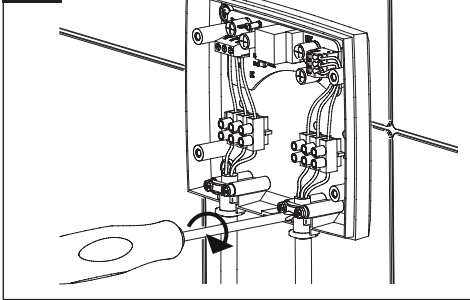
**H03VV-F ; H05VV-F**

2 X 0,5 ÷ 1,5 mm<sup>2</sup> (for installation without external boost switch).

3 X 0,5 ÷ 1,5 mm<sup>2</sup> (for installation with an external boost switch).





**27A****28A**

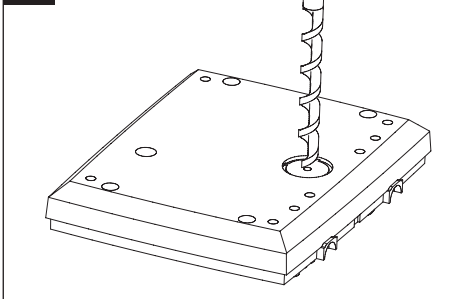
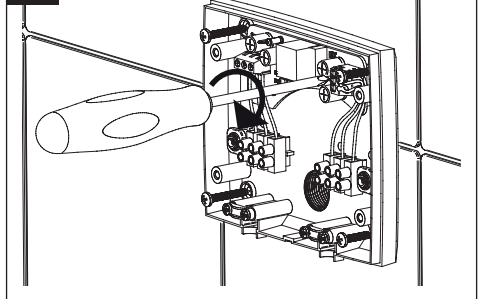
## RECESSED CABLE ENTRY

Type and specifications of the cables that can be used:

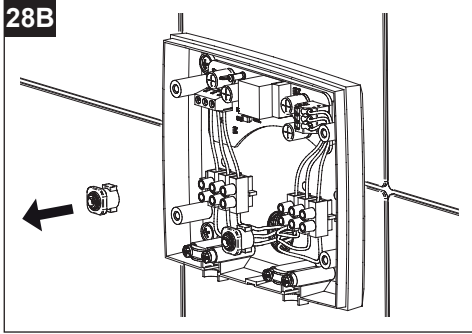
**H03VV-F ; H05VV-F**

2 X 0,5 ÷ 1,5 mm<sup>2</sup> (for installation without external boost switch).

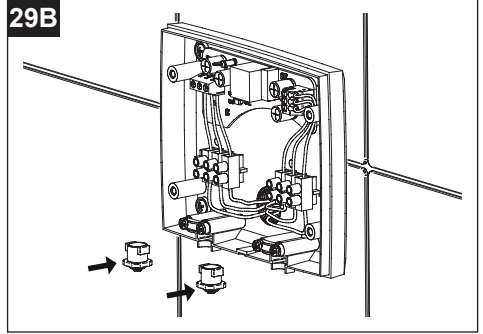
3 X 0,5 ÷ 1,5 mm<sup>2</sup> (for installation with an external boost switch).

**26B****27B**

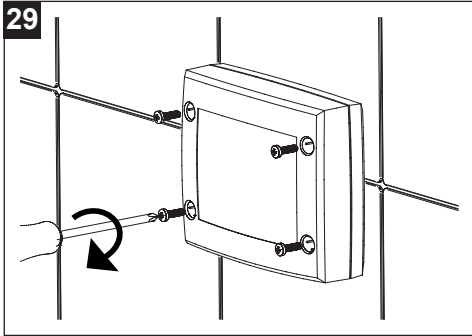
**28B**



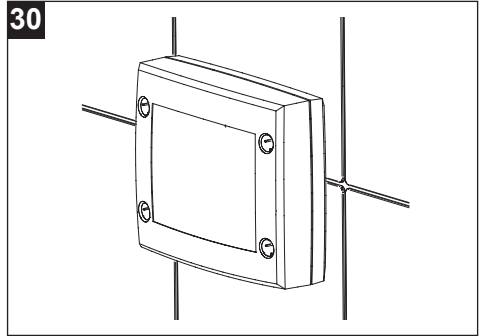
**29B**



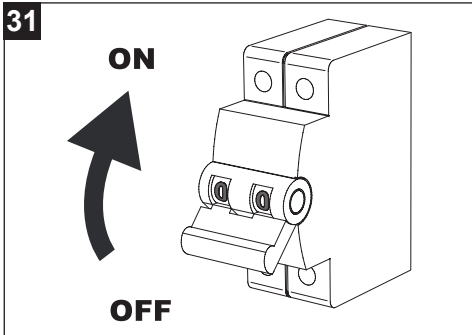
**29**



**30**

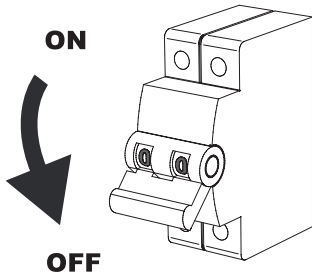


**31**

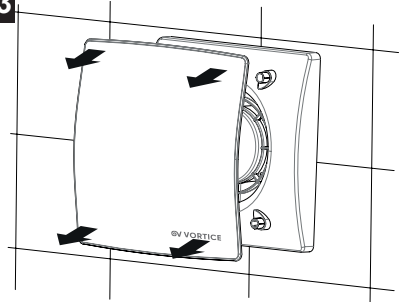


## MAINTENANCE / CLEANING

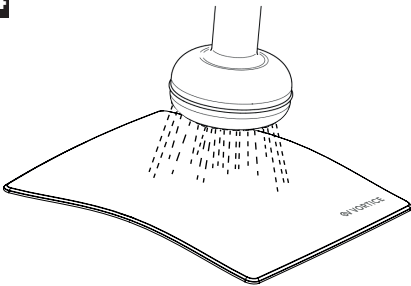
32



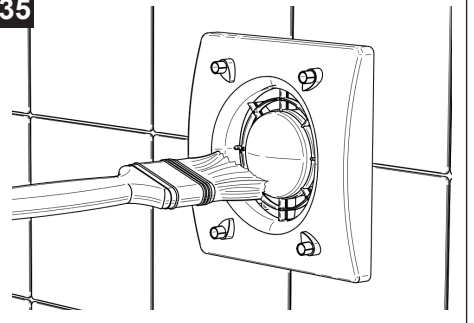
33



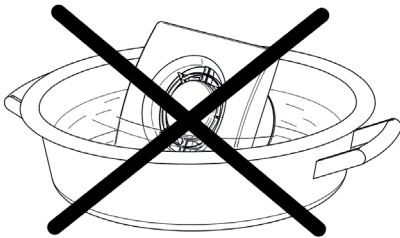
34



35



36







# 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.
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To claim under terms of warranty please contact:

Technical Support: [technical@vortice.itd.uk](mailto:technical@vortice.itd.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.  
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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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