

# PIV ONE Plus+

## Whole-House Positive Input Ventilation Unit

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### **INSTALLATION, MAINTENANCE & USER GUIDE**

Read this manual carefully before using the product and keep it in a safe place for reference. This product was constructed up to standard and in compliance with regulations relating to electrical equipment and must be installed by technically qualified personnel. The manufacturer assumes no responsibility for damage to persons or property resulting from failure to observe the regulations contained in this booklet.

# PRECAUTIONS FOR INSTALLATION, USE & MAINTENANCE

## TRANSPORT AND STORAGE

01. Do not leave the device exposed to atmospheric agents (rain, sun, snow, etc.).
02. Duct connections/duct ends must be covered during storage and installation.

## INSTALLATION

03. After removing the product from its packaging, verify its conditions. Do not leave packaging within the reach of children or people with disabilities.
04. Beware of sharp edges. Use protective gloves.
05. 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 or tumble dryer.
06. If the environment in which the product is installed also houses a fuel-operating device (water heater, methane 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.
07. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
08. The electrical system to which the device is connected must comply with local regulations.
09. 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.
10. For installation an omnipolar switch should be incorporated in the fixed wiring, in accordance with the wiring rules, to provide a full disconnection under overvoltage category III conditions (contact opening distance equal to or greater than 3mm).
11. Ensure adequate air return into the room in compliance with existing regulations in order to ensure proper device operation.

12. 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.

## USE

13. The device should not be used for applications other than those specified in this manual.
14. 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.
15. Cleaning and user maintenance shall not be made by children without supervision.
16. Do not touch the appliance with wet or damp hands/feet.
17. The device is designed to intake clean air only, i.e. without grease, soot, chemical or corrosive agents, or flammable or explosive mixtures.
18. Do not use the product in the presence of inflammable vapours, such as alcohol, insecticides, gasoline, etc.
19. The system should operate continuously, and only be stopped for maintenance/service.
20. Do not obstruct ducts or grilles to ensure optimum air passage.
21. Do not immerse the device or its parts in water or other liquids.
22. Operating temperature: 0°C up to +40°C.

## SERVICE

23. Although the mains supply to the unit has been disconnected there is still risk for injury due to rotating parts that have not come to a complete standstill.
24. Beware of sharp edges. Use protective gloves.
25. Use original spare parts only for repairs.

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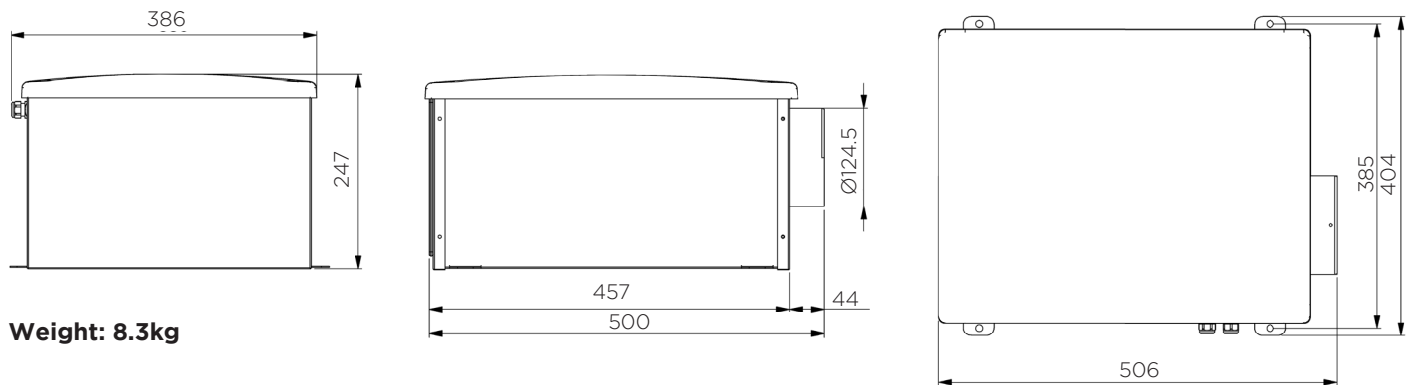
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# INTRODUCTION

The PIV ONE Plus+ is a loft mounted whole-house Positive Input Ventilation unit equipped with an integrated heating element, designed to introduce fresh, clean and filtered air into the central hallway or landing of a dwelling without the need of a ducting system. Suitable for floor or ceiling installation.

## DIMENSIONS



Dimensions in mm.

## TRANSPORT AND STORAGE

The appliance is delivered in one carton box.

The appliance should be stored and transported in such a way that it is protected against physical damage that can harm spigots, casing, display etc.

It should be covered so that dust, rain and snow cannot enter and damage the unit and its components.

**WARNING:** Make sure that specific warnings and cautions in the “Precautions for Installation, Use & Maintenance” are carefully read, understood and applied.

# INSTALLATION

**WARNING:** Make sure that the mains supply to the unit is disconnected before performing any installation, service, maintenance or electrical work. The installation and service of the unit and complete ventilation system must be performed by an authorised installer and in accordance with local rules and regulations. If any abnormality in operation is detected, disconnect the device from the mains supply and contact a qualified technician immediately.

**IMPORTANT:** The unit must be installed according to these instructions.

## WHERE/HOW TO INSTALL

- PIV ONE Plus+ units are meant for indoor installation.
- The unit should be mounted horizontally.
- Mount the unit on a flat surface (ceiling or floor).
- It is important that the unit is completely levelled before it is put into operation.
- When choosing the location it should be kept in mind that the unit requires maintenance regularly and that the inspection panel should be easily accessible.
- Leave free space for opening the removable panel and for removal of the main components.

**NOTE:** Make sure that enough space is left around the unit to allow easy maintenance (access to the filters, terminal box and for removal of the inspection panel).

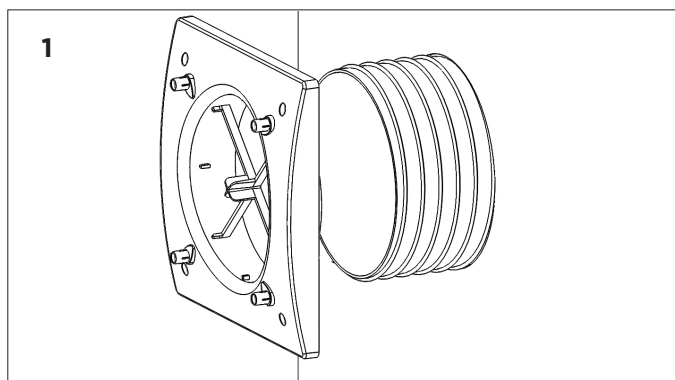
## BOX CONTENTS

Check the contents of the box to make sure all items are present:

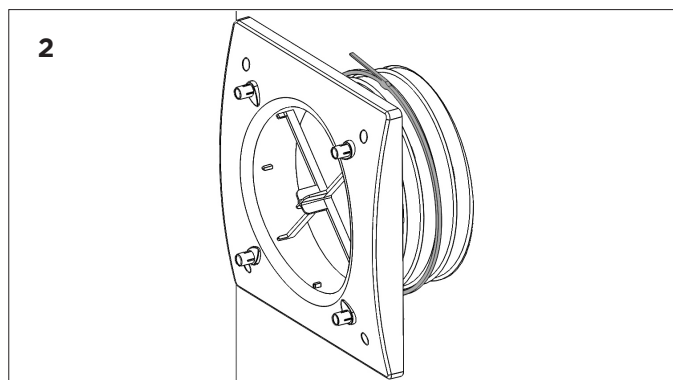
- 1.** Ventilation unit, **2.** Pre-Filter, **3.** Duct, **4.** Manual, **5.** Diffuser, **6.** Screws + wall plugs, **7.** 2 x Metal clamps, **8.** 2 x Mylar flap

## DIFFUSER INSTALLATION

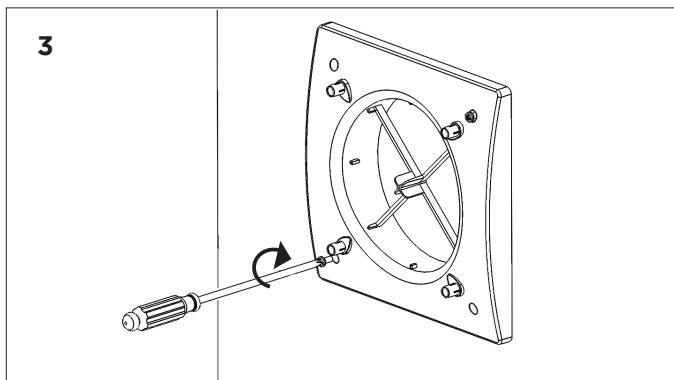
When fitting the diffuser near a smoke alarm, the blanking plates provided must be fitted to avoid blowing air over the smoke alarm and affecting its operation. If the unit is installed in a dwelling 3 storeys or above, it should be linked to a smoke alarm in such a way that power is removed from the unit if the smoke alarm is activated. Our standard diffuser is not suitable for installation in 3 storey or above homes or fire protected areas. Because the unit is fitted with a heating element, for the best efficiency the flexible duct should be the shortest possible. Alternatively you can use a thermal insulated duct (accessory available on request).



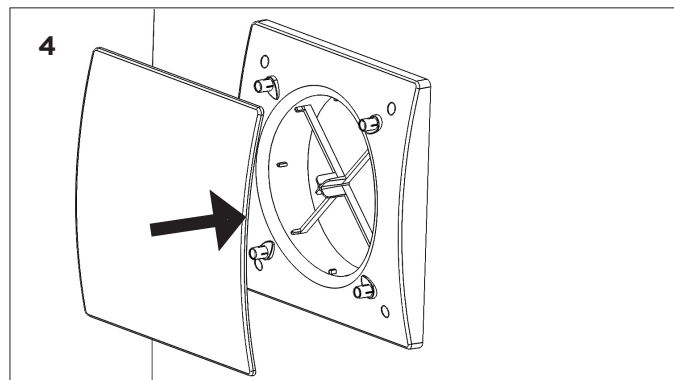
Cut an opening in the wall or ceiling for the supplied ducting, ensure the hole is wide enough to accommodate the metal clamp. Insert the ducting through the wall, leaving enough slack for the diffuser connection.



Use a metal clamp to secure the ducting to the diffuser.



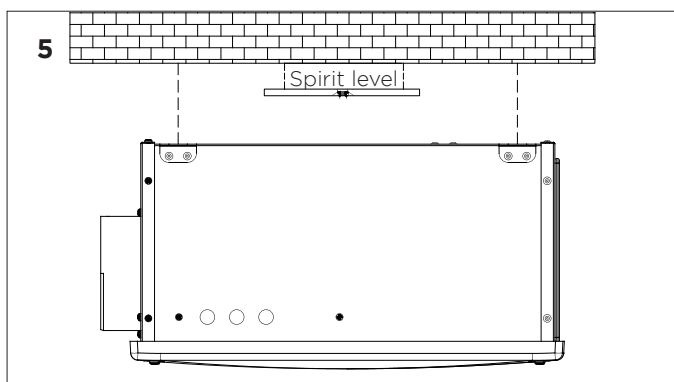
Push the clamped excess ducting back through the hole and affix the diffuser base to the wall or ceiling.



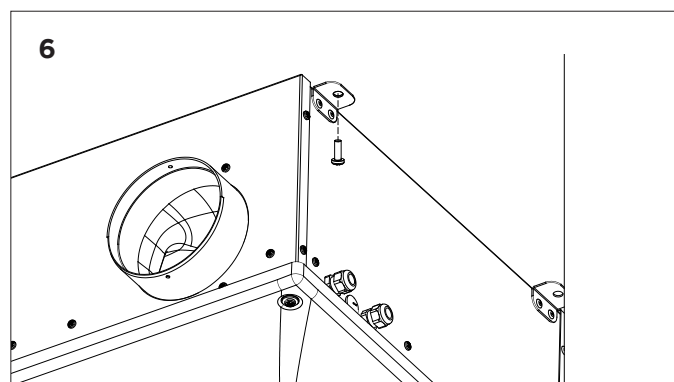
Push on the removable front cover.

## CEILING INSTALLATION

The unit must be installed in the following position.



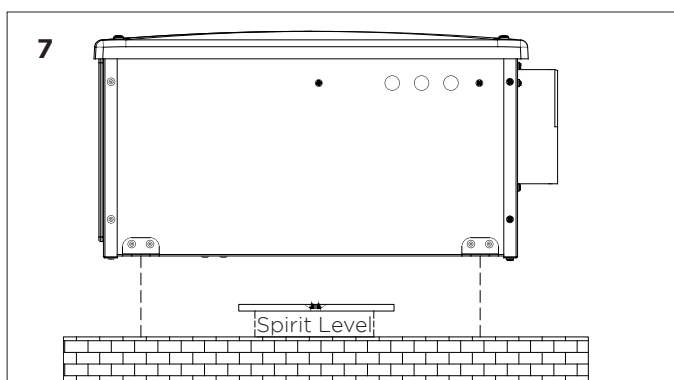
Prepare the surface where the unit is to be mounted. Make sure that the surface is flat, levelled and that it supports the weight of the unit. Perform the installation in accordance with local rules and regulations.



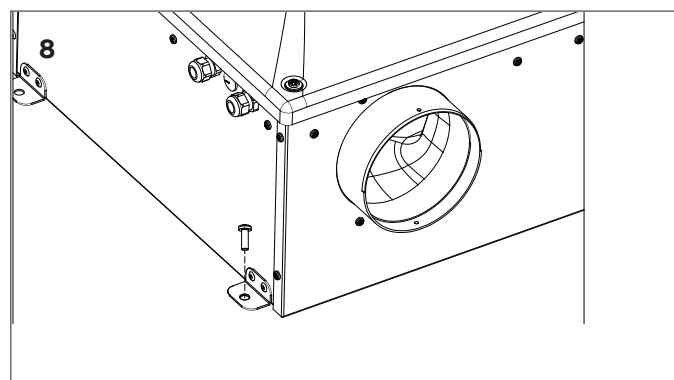
Use appropriate screws (not supplied) to fix the unit to the ceiling. It is recommended to fit the unit with anti-vibration mounts (not supplied).

## FLOOR INSTALLATION

The unit must be installed in the following position.



Prepare the surface where the unit is to be mounted. Make sure that the surface is flat, levelled and that it supports the weight of the unit. Perform the installation in accordance with local rules and regulations.



Use appropriate screws (not supplied) to fix the unit to the ceiling. It is recommended to fit the unit with anti-vibration mounts (not supplied).

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# ELECTRICAL CONNECTIONS, COMMISSIONING & OPERATION

**WARNING:** Make sure that the mains supply to the unit is disconnected before performing any installation, service, maintenance or electrical work. The installation and service of the unit and complete ventilation system must be performed by an authorised installer and in accordance with local rules and regulations.

**WARNING:** The unit must be earthed.

The unit has various modes of operation which can be chosen by dip switch selection.

Modes of operation:

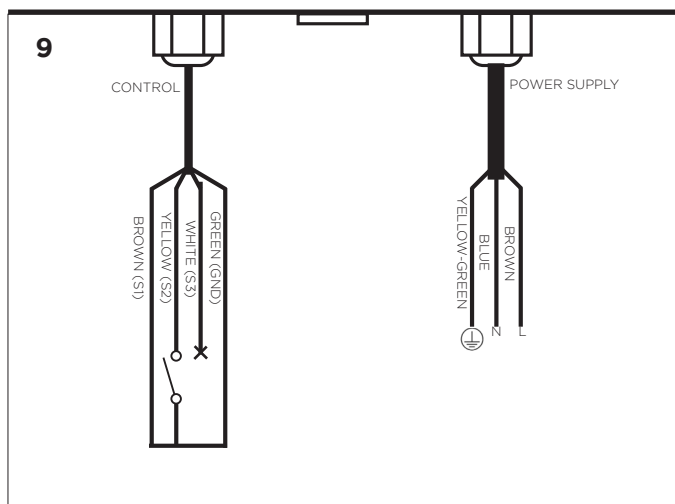
- Continuous running speed
- Boost Speed
- Heat Recovery Mode
- Summer stand-by mode
- Heater set point
- 2 speed operation with optional P1 CONTROL SWITCH

## PRE-CABLED ELECTRIC CONNECTIONS

The PIV ONE Plus+ is wired internally from factory for a remote switch (not supplied).

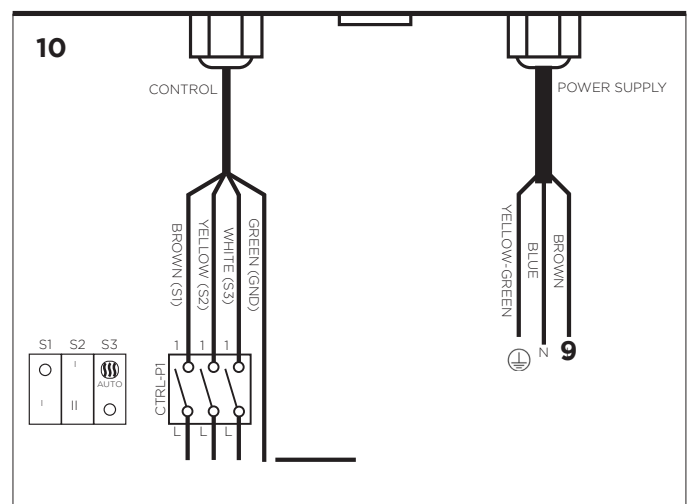
Unit comes pre-wired with:

- mains supply cable (3-core: brown, blue, yellow/green).
- wiring cable to remote switch (4-core: green, white, yellow, brown).



Wiring diagram with a remote dedicated switch (not supplied).

**Please note:** the heating element cannot be deactivated, it remains in AUTO mode.



Wiring diagram with optional P1 CONTROL SWITCH (available separately).

**Please note:** the optional P1 CONTROL SWITCH allows the heating element to be deactivated.

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## CONTINUOUS RUNNING SPEED

The unit will run at the speed set via dip switch 1-2-3 as indicated in table A until the integral temperature sensor switches it to “Heat Recovery” or “Summer Stand by” mode.

**TABLE A**

DIP1	DIP2	DIP3	Low speed	
			m³/h	l/s
0	0	0	104 (default)	29 (default)
0	0	1	61	17
0	1	0	76	21
0	1	1	90	25
1	0	0	119	33
1	0	1	133	37
1	1	0	148	41
1	1	1	162	45

## HEAT RECOVERY MODE

When the air in the loft is above a trigger temperature threshold, the unit will automatically switch to an increased speed. The trigger temperature threshold can be set using the dip switch 7-8 as shown in table D. It is usually adjusted to 1°C above the temperature the home is heated to. The increase of the speed can be set using the dip switch 5-6 as shown in table C.

For example: the low speed is set at 104m³/h and the intermediate speed is set in configuration 01 (i.e. +20%), when triggered the intermediate speed will be  $104 \times 1.2 = 124.8 \text{ m}^3/\text{h}$ .

**TABLE C**

DIP5	DIP6	Intermediate speed increase (%)
0	0	0* (default)
0	1	+20*
1	0	-20*
1	1	-40*

\* % of increase compared to the low speed.

**TABLE D**

DIP7	DIP8	Thr °C
0	0	19 (default)
0	1	21
1	0	23
1	1	25

TABLE C DIP SWITCHES

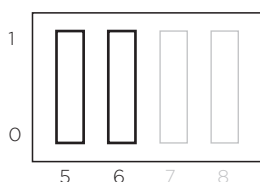
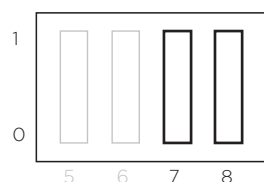


TABLE D DIP SWITCHES



## BOOST SPEED

The maximum speed can be activated by means of a remote dedicated switch (fig. 9) and can be set via dip switch 4 as shown in table B.

**TABLE B**

DIP4	Maximum speed	
	m³/h	l/s
0	216 (default)	60 (default)
1	180	50

TABLE A DIP SWITCHES

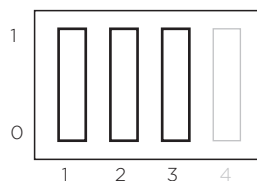
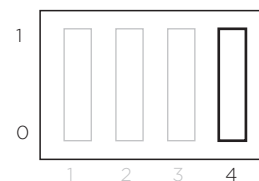


TABLE B DIP SWITCHES



## SUMMER STAND-BY MODE

When the air in the loft is above a trigger temperature threshold, the unit will switch off to prevent undesirable warm air being introduced unnecessarily in to the home. The trigger temperature threshold can be set using the dip switch 9-10 as shown in table E.

**TABLE E**

DIP9	DIP10	Tss (°C)
0	0	26 (default)
0	1	30
1	0	35
1	1	40

## ACTIVATION OF THE HEATING ELEMENT

The unit is fitted with a heater that tempers incoming air when required. The desired temperature can be set using the dip switch 11-12 as shown in table F.

**TABLE F**

DIP11	DIP12	Theat (°C)
0	0	10 (default)
0	1	13
1	0	15
1	1	18

TABLE E DIP SWITCHES

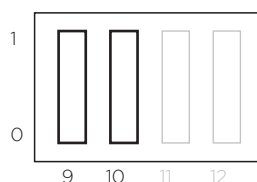
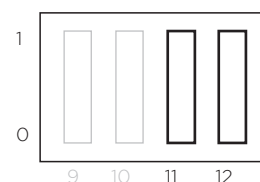


TABLE F DIP SWITCHES



**2-SPEED OPERATION VIA CTRL-P1 SWITCH** (Accessory available on request.)

S1 switch: the unit can be switched on (I) or off (O).

S2 switch: the continuous running (low) speed is activated by pressing position I, the maximum speed is activated by pressing position II.

S3 switch: activates the automatic operation of the heating element (AUTO) or deactivates it completely (O).

S1	S2	S3

Wiring diagram as in fig. 10.

**MODBUS CONTROL**

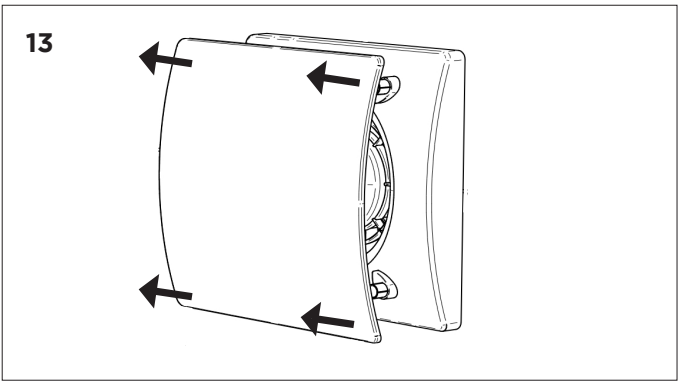
The unit can be controlled via Modbus (Modbus RTU over RS485). For specification, contact our customer service.

**MAINTENANCE**

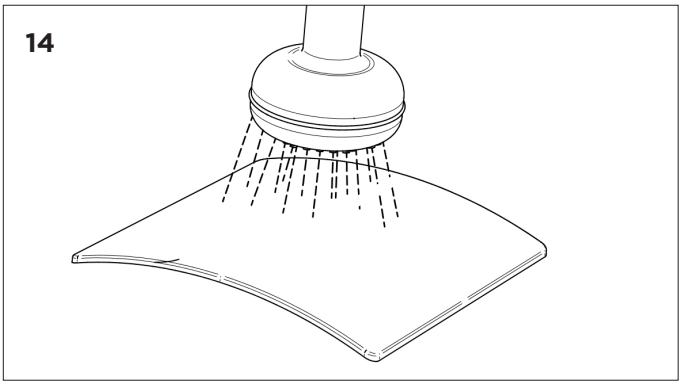
**WARNING:** Make sure that the mains supply to the unit is disconnected before performing any installation, service, maintenance or electrical work.

Follow the steps below for maintaining your PIV ONE Plus+.

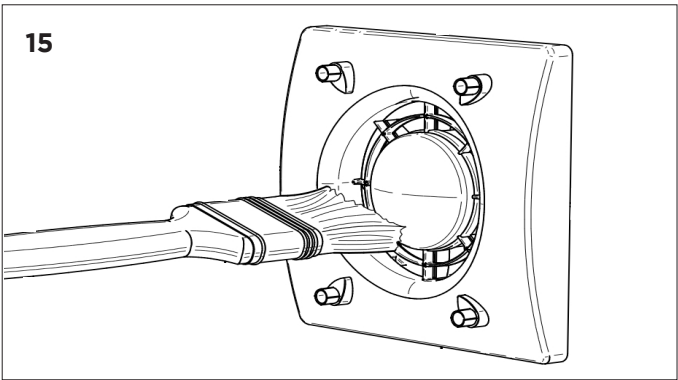
- 1. Clean the pre-filter with a vacuum cleaner.
- 2. Clean the G4 filter with a vacuum cleaner.
- 3. Filters should be replaced every year, however the actual need to do so will vary depending on indoor and outdoor ambient conditions and how often it is cleaned.
- 4. Clean the diffuser as shown in the diagrams below.



Remove the front cover.



Wash the front cover.



Remove any dirt from the unit with a soft bristled brush.

**MAINTENANCE/CLEANING REGISTER**

	FILTER CLEANING	FILTER REPLACEMENT
DATE		
DATE		
DATE		
DATE		



## ErP DIRECTIVE - REGULATIONS 1253/2014 - 1254/2014

a) Mark	-	ELTA TRADE	
b) Model	-	<b>PIV ONE Plus+</b>	
c) SEC class	-	C	E
c1) SEC warm climates	kWh	-10.3	-6.3
c2) SEC average climates	kWh	-24.6	-16.8
c3) SEC cold climates	kWh	-49.7	-35.2
Energy label	-	No	
d) Unit typology	-	Residential - unidirectional	
e) Type of drive	-	Multi speed drive	
f) Type of Heat Recovery System	-	Absent	
g) Thermal efficiency of heat recovery	%	N/A	
h) Maximum flow rate @100Pa	m <sup>3</sup> /h	216	
i) Electric power input at maximum flow rate	W	400	
j) Sound power level (L <sub>WA</sub> )	dBA	43	
k) Reference flow rate	m <sup>3</sup> /h	162	
l) Reference pressure difference	Pa	10	
m) Specific power input (SPI)	W/ (m <sup>3</sup> /h)	0.089	
n1) Control factor	-	0.65	0.85
n2) Control typology	-	Local demand control   Central demand control	
o1) Maximum internal leakage rate	%	N/A	
o2) Maximum external leakage rate	%	N/A	
p1) Internal mixing rate	%	N/A	
p2) External mixing rate	%	N/A	
q) Visual filter warning	-	N/A	
r) Instructions to install regulated grilles	-	Check the instruction booklet	
s) Internet address for pre/disassembly instructions	-	www.eltatrade.co.uk	
t) Airflow sensitivity to pressure variations	%	6	
u) Indoor/outdoor air tightness	m <sup>3</sup> /h	67	
v1) Annual electricity consumption - warm climates	kWh	0.6	1.0
v2) Annual electricity consumption - average climates	kWh	0.6	1.0
v3) Annual electricity consumption - cold climates	kWh	0.6	1.0
w1) Annual heating saved - warm climates	kWh	11.9	8.7
w2) Annual heating saved - average climates	kWh	26.2	19.2
w3) Annual heating saved - cold climates	kWh	51.3	37.6

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## WARRANTY

Our 5 year warranty is provided only to customers who purchased directly from us. If you purchased elsewhere then please contact them directly and they will let you know their warranty procedure. Our warranty covers repair or replacement of defective goods only. It does not cover any labour costs associated with defective product or component removal or installation, nor does it cover the cost of sending goods back to us for inspection. Our warranty is subject to storage, installation, commissioning, inspection and maintenance having been carried out in accordance with our Installation and Maintenance Instructions (supplied with each product) and which are also available to view, save or print from our website.

Scan the QR code or visit **[www.eltatrade.co.uk/warranty](http://www.eltatrade.co.uk/warranty)** to view further warranty information.

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## DISPOSAL AND RECYCLING

Information on disposal of units at the end of life.

This product complies with EU Directive 2002/96/EC. The symbol of the crossed-out dustbin indicates that this product must be collected separately from other waste at the end of its life. The user must, therefore, dispose of the product in question at suitable electronic and electro-technical waste disposal collection centres, or else send the product back to the retailer when purchasing a new, equivalent type device.

Separate collection of decommissioned equipment for recycling, treatment and environmentally compatible disposal helps to prevent negative effects on the environment and on health and promotes the recycling of the materials that make up the equipment.

Improper disposal of the product by the user may result in administrative sanctions as provided by law.

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**ELTA** >>>  
**TRADE**

Elta Trade is brought to you by Elta Fans Ltd. 46 Third Avenue,  
Kingswinford, West Midlands, DY6 7US. Manufactured in Italy.

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## PIV ONE Plus+ USER GUIDE

**NOTE: The installer should go through the user guide with the home occupants and leave this with them for their reference.**

### WHAT IS A FLUX HR?

The PIV ONE Plus+ is a loft mounted whole-house Positive Input Ventilation unit, designed to introduce fresh, clean, and filtered air into the central hallway or landing of your home.

### HOW DOES IT WORK?

The fan is designed to work on a continuous basis supplying filtered air into your home. Please see "Fan operation" confirmed by Installer.

### WHAT ARE THE BENEFITS?

The PIV ONE Plus+ helps prevent condensation dampness related problems and to control other indoor air pollutants in your home.

### HOW DO I OPERATE THE FAN?

Your PIV ONE Plus+ will have been set up by the Installer to operate in one of a number of ways. The Installer should indicate the method of "Fan operation" by ticking the appropriate box on the back of this sheet.

### DOES IT NEED SERVICING?

The fan filter and diffuser need to be serviced regularly to maintain optimum performance in line with the instructions in the Installation & Maintenance manual which is available to download from our website.

### HOW MUCH DOES IT COST TO RUN?

There are several variables that can determine the annual electrical running costs of the PIV ONE Plus+, however, at typical electricity costs as of June 2023, you should expect the fan to cost between £2-3 per year to run under normal conditions.

### WHAT IF I THINK THERE IS A PROBLEM WITH THE FAN?

If you are a tenant, please report it to your landlord. If you are not, please contact the company you purchased the fan from.

### IMPORTANT NOTE

PIV ONE Plus+ fans are designed to run continuously. The power supply to the fan should only be disconnected if a fault is detected or suspected or when the fan is being maintained. Prolonged and/or repeated power interruption can create a health and safety risk and invalidate the fan warranty.



## PIV ONE Plus+ USER GUIDE

### FAN OPERATION

Installer to tick as appropriate.

☐ The fan is fully automatic and will continuously supply filtered air into your home. The unit will increase speed when loft temperatures are high to support home heating and switch off where high loft temperatures would bring unwanted warm air into the home. A heating element is automatically controlled dependant on the air temperature.

☐ The fan is fully automatic and will continuously supply filtered air into your home. The unit will increase speed when loft temperatures are high to support home heating and switch off where high loft temperatures would bring unwanted warm air into the home. A heating element is automatically controlled dependant on the air temperature. In addition, a remote "boost" switch has been installed to allow maximum speed to be operated.

☐ The fan is fully automatic and will continuously supply filtered air into your home. In addition, it is linked to a switch to provide a choice of two preset speeds and operation of the heating element, either automatic where the unit shall switch on the heater dependant on the air temperature, or it is switched off.

☐ Other (Installer to specify here)

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Scan the QR code for product and warranty information.