

# Installation manual

## PIV LOFT

### Positive input ventilation unit



Fig. 1

#### Introduction

The Elta PIV LOFT is a positive input ventilation unit suitable for installation in a loft. It continuously supplies fresh air through a single discharge diffuser, situated on the ceiling of the top floor in a central hallway or landing.

The unit is suitable for hanging or floor mounting.

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.

#### TECHNICAL SPECIFICATIONS

- Outer fan casing manufactured from powder coated Aluminium providing a lightweight construction.
- Supplied diffuser fitted with a discrete aesthetic front fascia manufactured from a robust ABS plastic in white RAL9010.
- An ultra-quiet EC motor/fan assembly for energy saving, mounted on ball bearings that guarantee a longer product life and is suitable for cold climates.
- G4 filter fitted as standard with large surface area to provide long filter life (5-10Years) and efficient filtration of incoming air.
- Supplied with quality flexible duct to connect fan and diffuser.
- Single duct connection to supply fresh clean air without the need to create holes in external brick walls.
- Supplied with suspension kit for hanging
- All fans are individually tested before leaving the factory and are designed and manufactured to procedures defined in BS EN ISO 9001:2008.
- Power Supply 230V – 50/60Hz

Model	Airflow I/s	Power W max	Sound pressure dB(A) @3m
PIV LOFT	106	36	27

Unit setting	“Normal Mode” Airflow I/s	“Heat Recovery” Airflow I/s	“Normal” Mode Power Consumption Watts.	Max Filter Change Interval Years
1	17	17-34 (default 26)	2,0	10
2	21	21-42 (default 31)	2,5	10
3	25	25-50 (default 37)	3,3	9
4	29 (default)	29-58 (default 43)	3,8	7,5
5	33	33-66 (default 49)	4,1	6,5
6	37	37-70 (default 55)	4,6	6
7	41	41-70 (default 61)	5,6	5,5
8	45	45-70 (default 67)	6,5	5

## PRECAUTIONS FOR INSTALLATION, USE AND MAINTENANCE

- The device should not be used for applications other than those specified in this manual.
- After removing the product from its packaging, verify its condition. In case of doubt, contact a qualified technician. Do not leave packaging within the reach of small children or people with disabilities.
- Do not touch the appliance with wet or damp hands/feet.
- The device is not intended for use by persons (including children) with reduced physical, sensory or mental capacities or those with a lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the device from a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the device.
- Do not use the product in the presence of flammable vapours, such as alcohol, insecticides, gasoline, etc.
- If any abnormalities in operation are detected, disconnect the device from the mains supply and contact a qualified technician immediately. Use original spare parts only for repairs.
- The electrical system to which the device is connected must comply with applicable regulations.
- 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.
- Operating temperature: 0°C up to +40 °C.
- Do not leave the device exposed to atmospheric agents (rain, sun, snow, etc.).
- Do not immerse the device or its parts in water or other liquids.
- Turn off the main switch whenever a malfunction is detected or in case of cleaning/maintenance.
- For installation an omnipolar switch should be incorporated in the fixed wiring, in accordance with the wiring regulations, to provide a full disconnection under overvoltage category III conditions (contact opening distance equal to or greater than 3mm).
- Do not obstruct the fan or exhaust grille to ensure optimum air passage.
- Ensure adequate air supply into 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, 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.
- 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.

## OPERATION

### Unit Setting

The PIV Loft unit runs continuously in your loft at a low level supplying fresh clean air into your stairwell. This fresh air dilutes the stale and humid air in your house and is a great way to prevent and even cure condensation dampness and mould problems.

The unit setting is selected by the installer to suit the size, layout, thermal properties and moisture production in the home. Getting this setting right is very important and is often based on the experience of the installer. It is as important not to over ventilate as it is to under ventilate a home. Elta Fans Residential team has much experience in setting PIV units and can be contacted anytime for advice.

The unit has numerous automatic speed adjustments to optimise ventilation and energy use.

### Normal Mode

The unit will run in this mode for the vast majority of its time supplying until the unit's integral temperature sensor switches it to "Heat Recovery" or "Standby" mode, or the "Override Boost" mode (if connected via a suitable switch) is activated by the occupants.

This rate is set via 3 dip switches shown in the wiring diagram, when leaving the factory this is set to 29l/s.

### Heat Recovery Mode

When the air in the loft is above a trigger temperature the PIV unit will automatically switch to an increased speed. This increase in speed takes advantage of otherwise unused energy in the roof space and brings it inside the house potentially reducing heating bills.

This trigger temperature is adjustable between 15-25°C, via trimmer V1 (shown in the wiring diagram) the default when leaving the factory is 19°C. It is usually adjusted to 1°C above the temperature the home is heated to

The amount the fan boosts is adjustable via the HY trimmer (shown in diagram) the increase is adjustable between 0% and 100% of the trickle speed.

FOR EXAMPLE: The trickle is set at 29l/s, HY trimmer is in the halfway position (default). When triggered the boost will be 29+14.5=43.5l/s.

### Summer Standby Mode

The summer shutdown function limits the chance of the house overheating when temperatures in the loft reach a level that is uncomfortable. The unit will essentially switch off when the loft temperature reaches a "Standby" trigger temperature to save energy and prevent undesirable warm air being introduced unnecessarily in to the home.

Some customers wish to have their unit operating all year round e.g. for Radon Gas control or pollen filtration during summer. That's why an adjustable trigger temperature has been incorporated.

This temperature set point is adjustable via trimmer V2 (shown in the wiring diagram) between 20 and 40°C, the default when leaving the factory is 25°C.

#### Override Boost Mode

The unit's automatic controls can be overridden to operate the unit at its maximum airflow by means of a user switch.

The override boost can be triggered via a dedicated external volt free switch connecting GND and S3 terminals (shown in diagram). Purge operation overrides any other speed settings.

This function can be incorporated at installation stage or later. The unit will function automatically with or without it.

To prevent excessively warm air being supplied to the home and to protect the components of the PIV unit, it will not operate above 40°C.

### **MAINTENANCE**

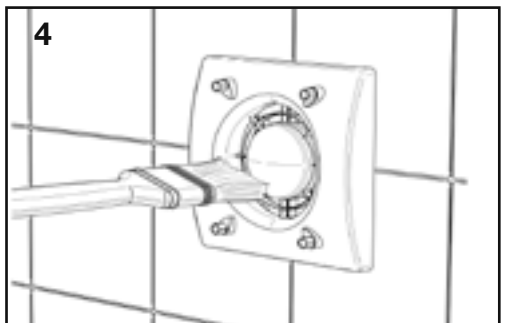
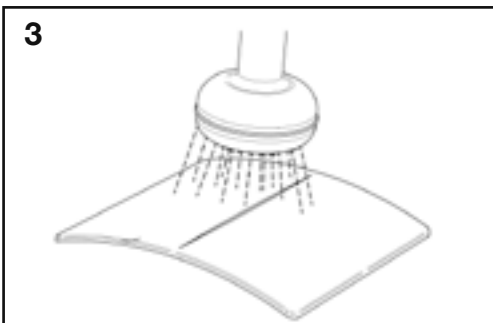
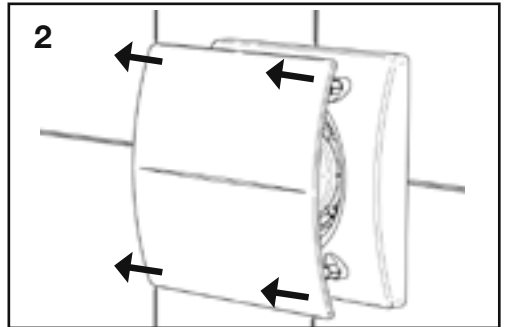
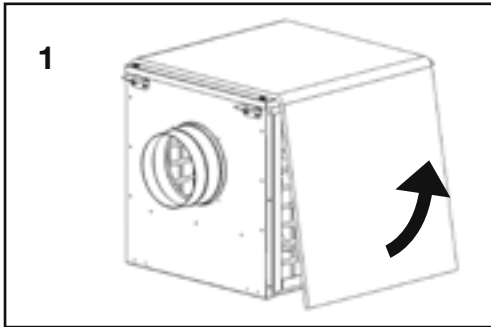
Make sure the mains supply of the unit is disconnected before performing any maintenance.

The maintenance must be carried out by a qualified technician and in accordance with local rules and regulations

Filters of the PIV unit require changing according to the filter change period. When the filters are dirty less air will be supplied by the PIV unit and impact the effectiveness of the unit. In areas of high pollution e.g. beside main roads more regular replacement may be required. Filters can be supplied by Elta Fans, part code - 021-PIV-FILT.

Filters should be checked annually or if a drop in ventilation rates are noticed.

The exhaust diffuser should require little cleaning, if required the front facia is easily removed and washed under cold water.



## STANDARD CONFORMITY

2014/35/EC Low Voltage Directive (LVD)  
2014/30/EC Electromagnetic Compatibility (EMC),  
in conformity with the following standards:

Electrical Safety

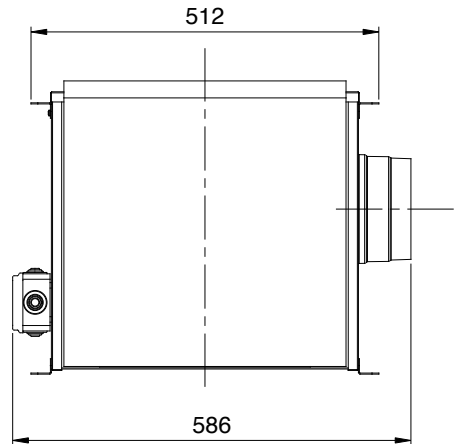
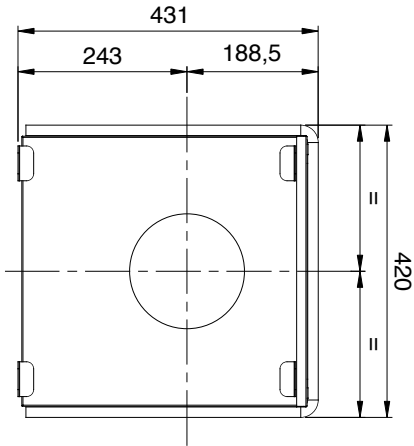
EN60335-1(2008); EN 60335-2-80(2005); EN 60335-2-80/A2(2009)

Electromagnetic Compatibility

EN 55014-1(2006)+A1+A2; EN 55014-2(1997)+A1(2001)+A2(2008)+IS1(2007)

EN 61000-3-2(2006)+A1(2009)+A2(2009); EN 61000-3-3(2008).

## DIMENSIONS (mm)



## INSTALLATION

Prior to installation the loft should be inspected to ensure there is adequate ventilation of the loft. The presence of drafts or daylight is a good indication of a loft that is suitably ventilated. Advice should be obtained if the loft is tightly sealed.

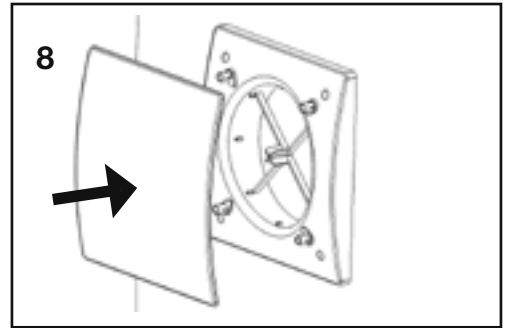
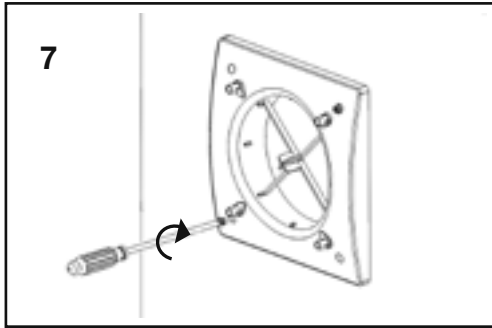
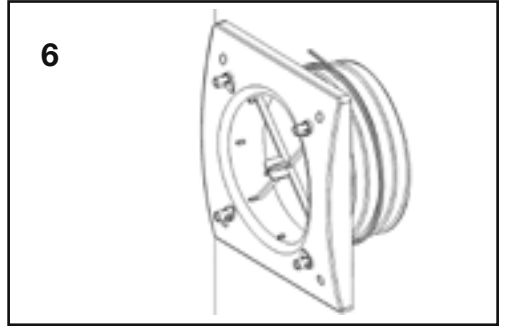
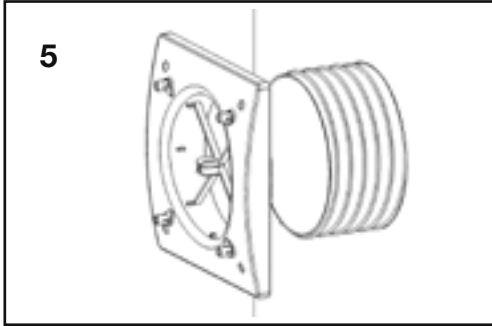
There should be no leaks from the house into the loft. Extractor fans should not discharge straight into the loft, loft hatches and holes for ceiling lights should be adequately sealed.

## WHAT IS IN THE BOX

1. Ventilation unit	6. 4x Screw + wall plug
2. Filter	7. 4x Wood screw
3. Pipe	8. Installer label
4. O&M Manual	9. 2x Metal clamp
5. Diffuser	10. 2x Mylar flap

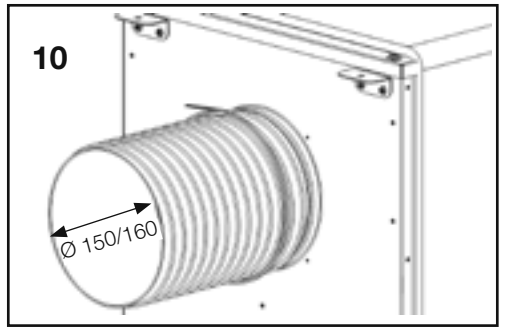
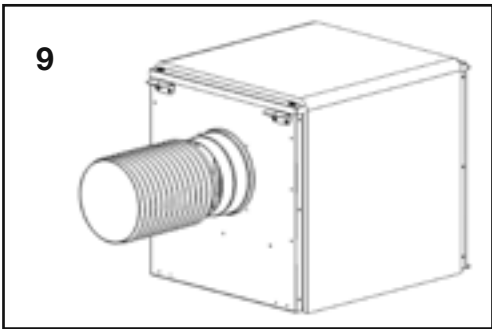
## DIFFUSER

When fitting the diffuser near a smoke alarm the blanking plates provided must be fitted to avoid blowing fresh air over the smoke alarm and effecting its operation. If the PIV unit is installed in a dwelling 3 storey or above, it should be linked to a smoke alarm in such a way that power is removed from the PIV if the smoke alarm is activated. Our standard diffuser is not suitable for installation in fire protected areas. If you require guidance on any of the above, please contact Elta Fans.



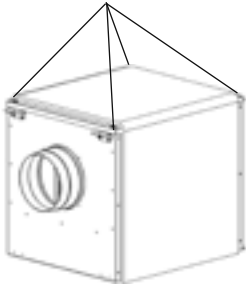
## PIV UNIT

Ensure that flexible ducting is pulled tight and is not kinked or crushed. This will impact the performance of the unit and may cause noise.



## HANGING METHOD

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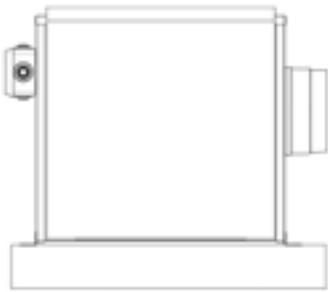


Use the hanging cord to suspend the unit from a suitable fixing in a roof beam.  
Hanging the unit is the responsibility of the installer. All fixings must be secured enough to hold the weight of the unit.

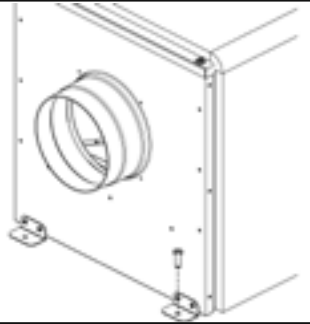
## FLOOR MOUNTING

Remove the fitted brackets from the top and fix them at the bottom (pre-set holes).

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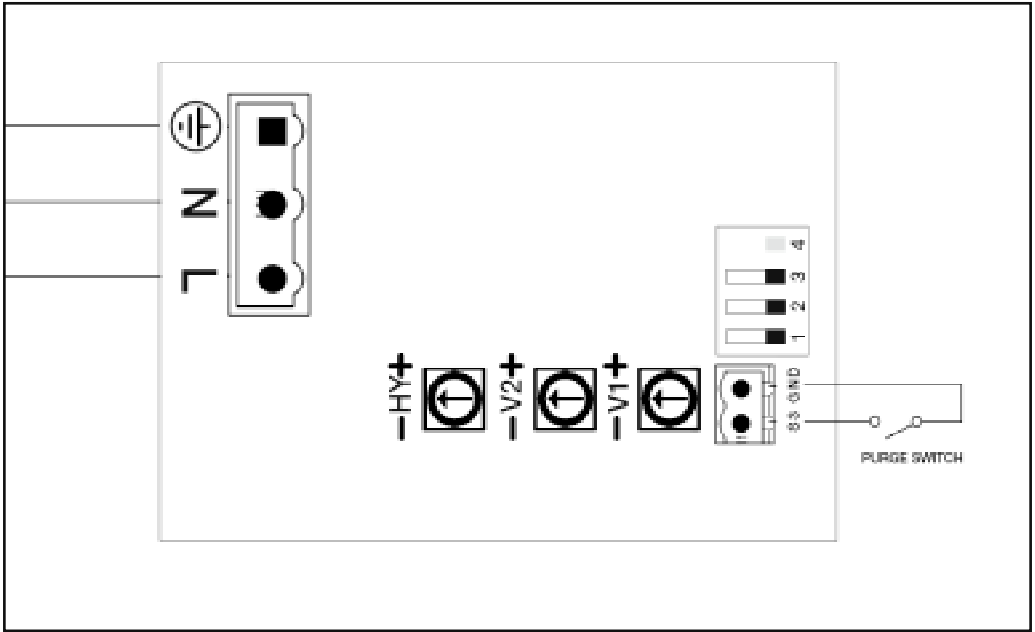


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## ELECTRICAL WIRING

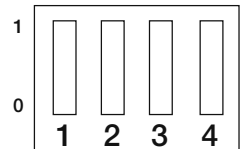
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## FAN SPEED SETTING

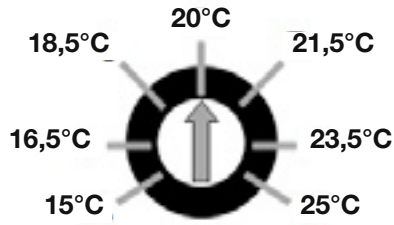
To adjust the trickle flow rate use the dip switches shown in the diagram.

DIP1	DIP2	DIP3	DIP4	Trickle Volume (l/s)
0	0	0	x	17
0	0	1	x	21
0	1	0	x	25
0	1	1	x	29 (default)
1	0	0	x	33
1	0	1	x	37
1	1	0	x	41
1	1	1	x	45

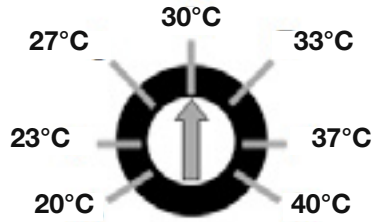


Trimmer label	Operation	Range	Default
V1	Heat recovery trigger temperature	15÷25°C	19°C
V2	Summer standby trigger temperature	20÷40°C	25°C
HY	% increase of Heat Recovery mode	0÷selected trickle	half of selected trickle

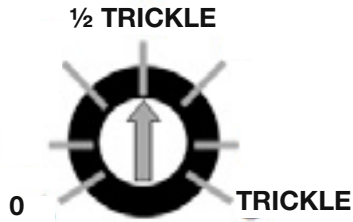
V1



V2



HY





# ErP Directive - Regulations 1253/2014 1254/2014

a)	Mark	-	ELTA FANS
b)	Model	-	<b>PIV LOFT</b>
c)	SEC class	-	C
c1)	SEC warm climates	kWh/m <sup>2</sup> .a	-10,6
c2)	SEC average climates	kWh/m <sup>2</sup> .a	-24,9
c3)	SEC cold climates	kWh/m <sup>2</sup> .a	-50,0
	Energy label	-	Yes
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	m <sup>3</sup> /h	312
i)	Electric power input at maximum flow rate	W	36
j)	Sound power level (L <sub>WA</sub> )	dBA	43
k)	Reference flow rate	m <sup>3</sup> /h	237
l)	Reference pressure difference	Pa	10
m)	Specific power input (SPI)	W/m <sup>3</sup> /h	0,062
n1)	Control factor	-	0,65
n2)	Control typology	-	Local 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 preassembly/disassembly instructions	-	<a href="http://www.eltafans.com">www.eltafans.com</a>
t)	Airflow sensitivity to pressure variations	%	10%
u)	Indoor/outdoor air tightness	m <sup>3</sup> /h	101
v1)	AEC - Annual electricity consumption - warm climates	kWh	0,5
v2)	AEC - Annual electricity consumption - average climates	kWh	0,5
v3)	AEC - Annual electricity consumption - cold climates	kWh	0,5
w1)	AHS - Annual heating saved - warm climates	kWh	11,9
w2)	AHS - Annual heating saved - average climates	kWh	26,2
w3)	AHS - Annual heating saved - cold climates	kWh	51,3

## **GUARANTEE**

The product is offered with a five year warranty.

First year of warranty covers parts and labour, following this period the warranty covers replacement parts only based on maintenance having been carried out in accordance with our literature and terms and conditions of sale.

Proof of Purchase, Periodic inspection and maintenance will be required in the event of any warranty claim.



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