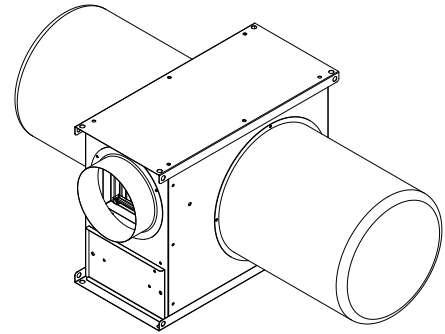


Triton PIV Loft Positive Input Ventilation Unit Installation Guide

Please 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 in accordance with all regulatory requirements. The manufacturer assumes no responsibility for damage to persons or property resulting from failure to observe the instructions contained in this booklet.



Precautions for installation, use & 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.
- Do not touch the appliance with wet or damp hands / feet.
- 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 should be supervised to ensure that they do not play with the device.
- **WARNING:** Never use the unit without the provided flexible ducting.
- **WARNING:** In order to avoid overheating, do not cover / close the air exit.
- 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.

What is in the box

Installation guidance is provided for information only and should be read in conjunction with standard details. Site specific detailing and installation methodology should be considered on a case by case basis.

1. Ventilation unit	5. Diffuser
2. Filter (pre-fitted)	6. Installer label
3. Flexible Duct	7. Dyno-tie
4. Installation Manual	8. Hanging kit

Introduction

The **Triton 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 using the kit provided or roof joist mounting.

Technical Specifications

- Outer fan casing manufactured from pre-coated galvanised sheet steel providing a lightweight construction.
- Supplied diffuser fitted with a discrete aesthetic front fascia manufactured from a robust ABS plastic in white RAL 9010.
- 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 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 walls.
- All fans are individually tested before leaving the factory and are designed and manufactured to procedures defined in BS EN ISO 9001:2015.
- Power Supply 230V – 50 / 60Hz.

Model	Power W max	Sound pressure dB(A) @3m
Triton PIV Loft	29	27

Unit Setting	Normal mode Airflow (L/s)	Power Consumption* (Watts)	Max Filter Change Interval** (Years)
1	17	2.0	10
2	21	2.5	10
3	25	3.3	9
4	29 (default)	3.8	7.5
5	33	4.1	6.5
6	37	4.6	6
7	41	5.6	5.5
8	45	6.5	5

*The power consumption shown is in Normal mode. **Filter change interval is indicative. High pollution and use of Override Boost mode will affect filter life.

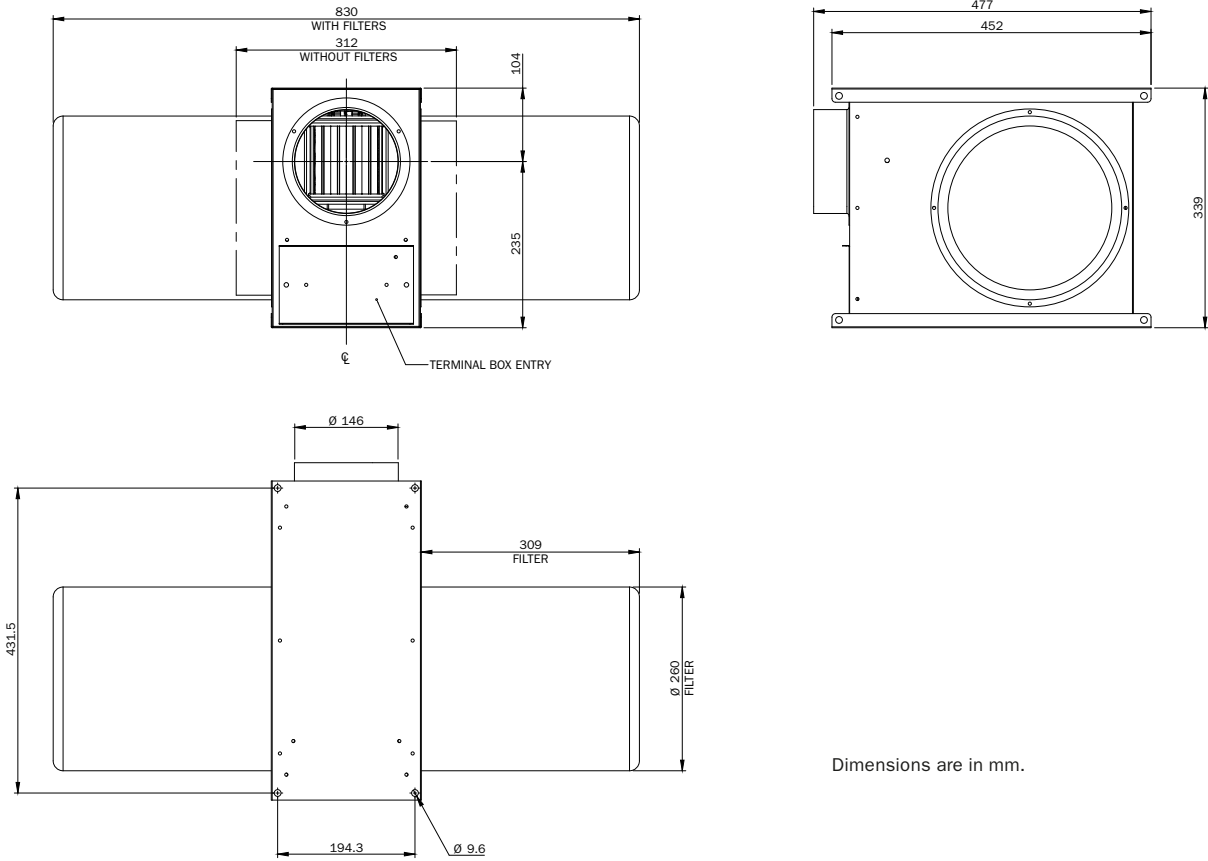
Installation

Prior to installation the loft should be inspected to ensure there is adequate ventilation of the loft. The presence of 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.

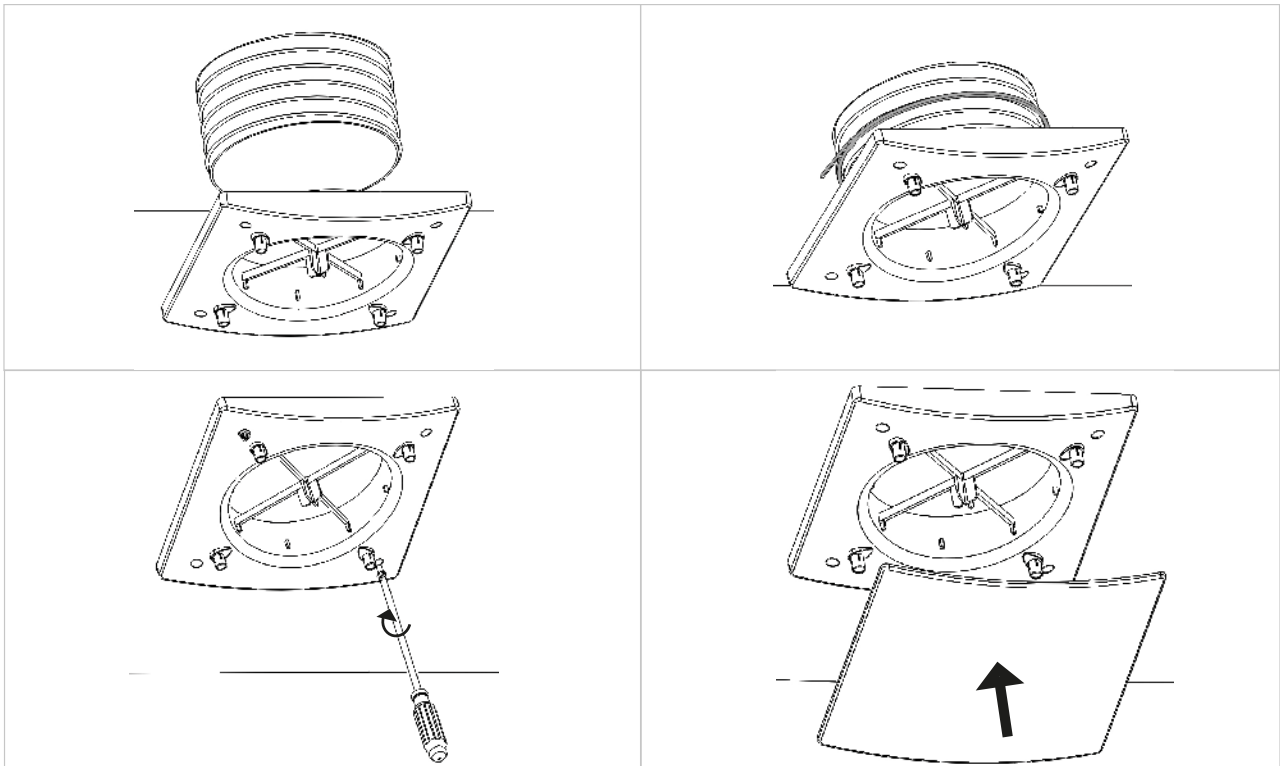
The unit must not be installed in a loft space that is open to another property's loft space e.g. in a terraced home without a barrier between loft spaces.

Dimensions



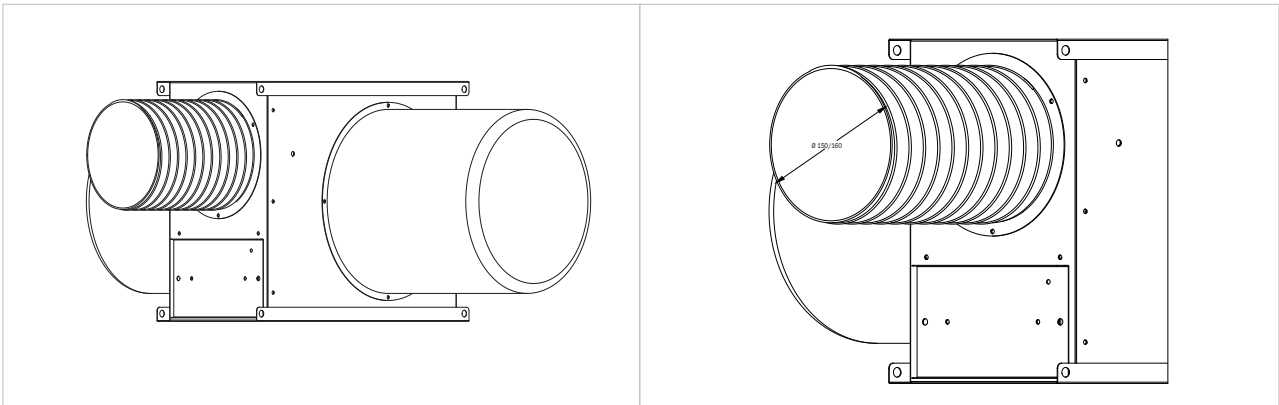
Diffuser

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 PIV if the smoke alarm is activated. Our standard diffuser is not suitable for installation in 3 storey or above homes or fire protected areas. If you require guidance on any of the above, please contact Triton Systems.



PIV Unit

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



Hanging Kit

The Triton PIV Loft is provided with a hanging kit comprising either a steel wire with carabiners or a single nylon cord.

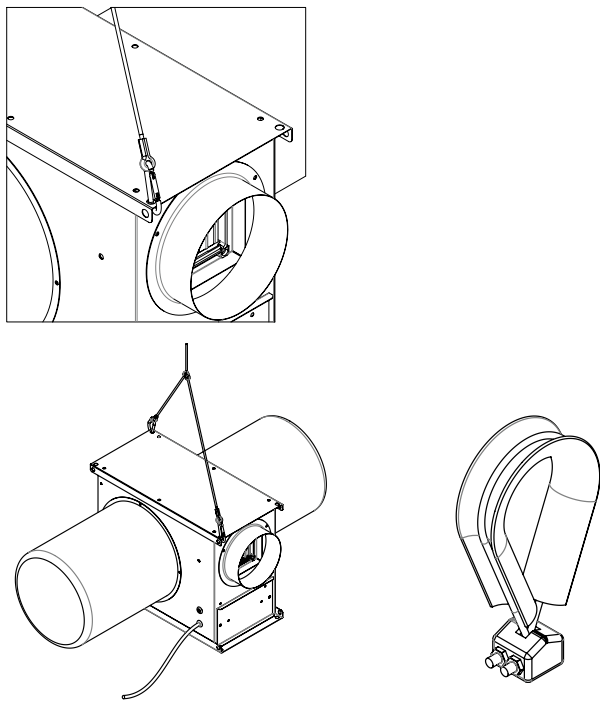
The kit is not intended for use by persons (including children) with reduced physical, sensory or mental capacities or those with a lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the kit from a person responsible for their safety.

Children should be supervised to ensure that they do not play with the device.

Ensure the hanging cord suspends the unit in a safe and accessible location from a suitable and secure fixing point.

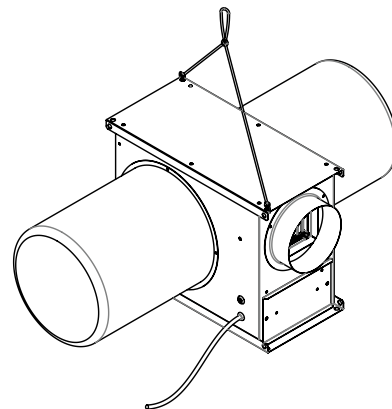
Hanging the unit safely and correctly is the responsibility of the installer. All fixings, and knots in the cord if used, must be secure and strong enough to hold the weight of the unit.

Steel wire with carabiners



1. Ensure that the carabiners are securely attached to diagonally opposite pre-punched holes.
2. To link the 2 ends of the steel wire insert them both into the securing clamp and tighten with a screwdriver.
3. Use loop to hang off of a suitably sized screw/nail.

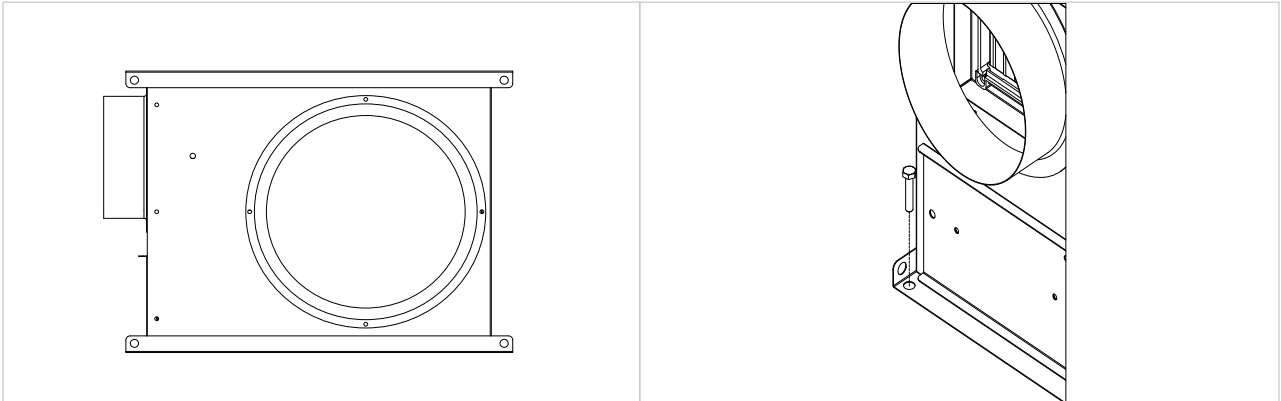
Nylon cord



1. Take the cord thread through diagonally opposite pre-punched holes.
2. Tie a suitable knot at each end to prevent loosening.
3. Take the centre of the cord, pinch and knot creating a loop.
4. Use loop to hang off of a suitably sized screw/nail

Joist Mounting

Suitable screws can be used to secure the unit, through the pre-punched holes in the base to wooden joists. Please ensure that there is at least 150mm clear all around the unit, including the bottom, to allow air to enter the unit via the filters. Please pay particular attention to make sure no mineral wool or other loft insulation material is within 150mm of any part of the unit. Timber spacers on joists may be required to achieve this.



Electrical Wiring

The unit must be earthed.

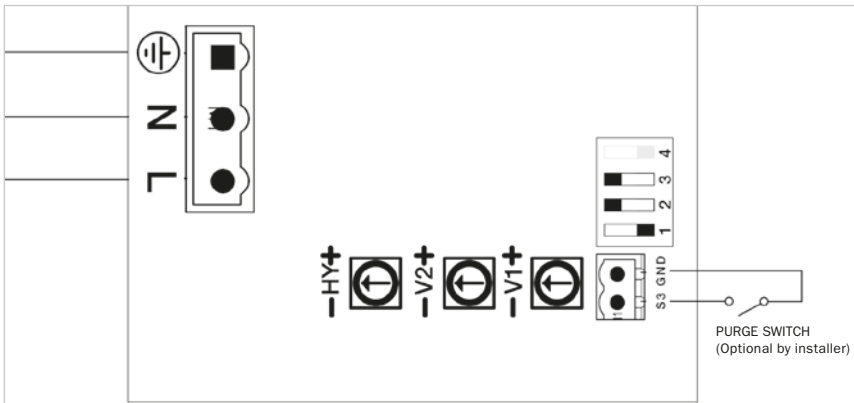
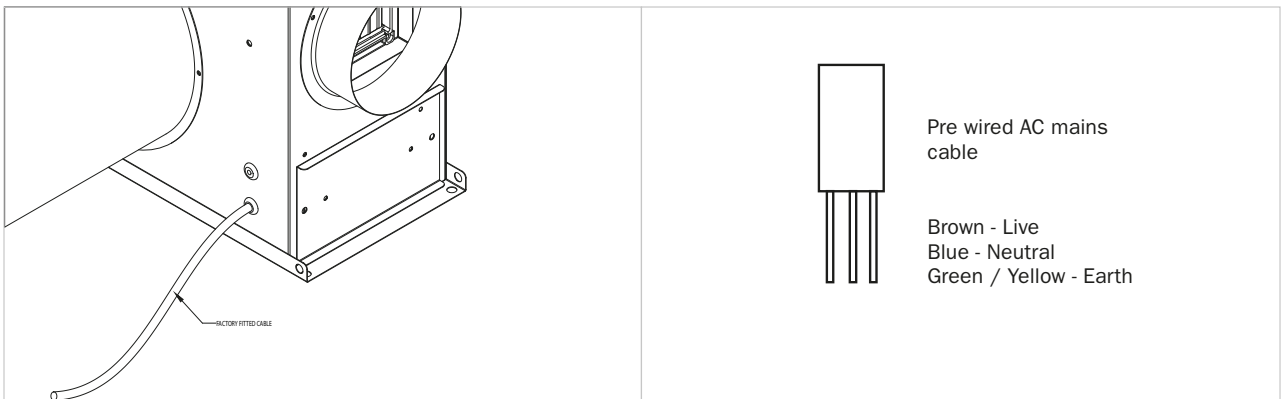


Fig.1 Control box

The Triton PIV Loft power cable has been prewired to aid installation. We recommend power cable termination to a suitable non-switched fused spur. If using additional control cables these should be passed through the spare cable grommet.



OPERATION

Introduction

The **Triton PIV Loft** unit runs continuously in your loft at a low level supplying fresh clean air into your home. 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.

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 until the unit's integral temperature sensor switches it to "Heat Recovery" or "Comfort Control", 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 or Comfort Control Mode

When the Heat Recovery mode function is required, when air in the loft is above the selected trigger temperature, the unit will automatically switch to the selected 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.

When the Comfort Control mode function is required, when air in the loft is above the selected trigger temperature, the unit will automatically switch to the selected reduced speed.

This trigger temperature for either mode 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 increases/decreases is adjustable via the HY trimmer (shown in diagram). The increase/decrease is adjustable between -50% and +50% of the Normal mode speed. The factory default is 0%.

FOR EXAMPLE: The Normal mode speed is set at 29 l/s and the HY trimmer is in the +20% position. When triggered, the increased airflow will be $29 + 5.8 = 34.8$ l/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°C and 40°C, the default when leaving the factory is 26°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.

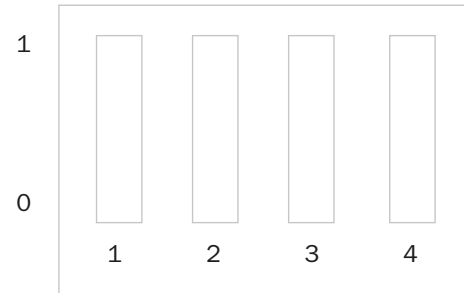
This function can be incorporated at installation stage or later. The unit will function automatically with or without it.

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

Normal Mode Fan Speed Setting

To set the Normal mode airflow rate use the table below to set dip switches as shown in Figure 1 Control box.

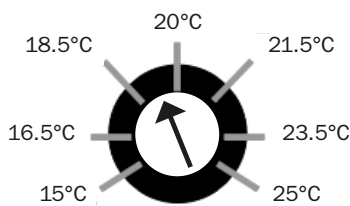
DIP1	DIP2	DIP3	DIP4	Normal mode airflow (l/s)
0	0	0	x	17
0	0	1	x	21
0	1	0	x	25
0	1	1	x	29 (default)
1	0	0	x	33
1	0	1	x	37
1	1	0	x	41
1	1	1	x	45



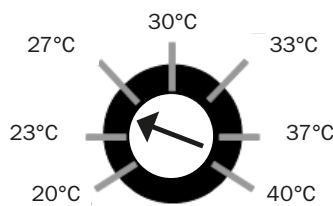
Trimmer Setting

Trimmer Label	Operation	Range	Default
V1	Heat recovery or comfort control mode trigger temperature	15 to 25°C	19°C
V2	Summer standby trigger temperature	20 to 40°C	26°C
HY	% increase / decrease when in Heat Recovery or Comfort Control Mode	-50% to +50% of Normal mode airflow	0

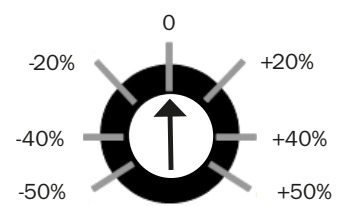
V1



V2



HY



MAINTENANCE

Make sure the mains supply of the unit is disconnected before performing any maintenance. 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 Triton Systems, part code O21-PIV-L-FILT-C.

Filters should be checked annually and cleaned with a vacuum cleaner if required. If a drop in ventilation rates are noticed this could also be an indication the filters need inspecting. The supply air diffuser should require little cleaning. If required the front facia is easily removed and washed under cold water.

Year	Required Maintenance
1 & 2	Inspect, clean diffuser if required.
3, 4 & 5	Inspect, clean diffuser if required, replace filters if required.

Standard Conformity

2014 / 35 / EU Low Voltage Directive (LVD)

2014 / 30 / EU Electromagnetic Compatibility (EMC), in conformity with the following standards:

Electrical Safety: EN60335-1(2012)+A11+A13; EN 60335-2-80(2003)+A1+A2.

Electromagnetic Compatibility: EN 55014-1(2017); EN 55014-2(2015); EN 61000-3-2(2014); EN 61000-3-3(2013).

ErP Directive – Regulations 1253 / 2014 – 1254 / 2014

a)	Mark	–	Manufactured by Elta Fans for Triton Systems
b)	Model	–	Triton PIV Loft
c)	SEC Class	–	C
c1)	SEC warm climates	kWh/m ² .a	-10.7
c2)	SEC average climates	kWh/m ² .a	-25.1
c3)	SEC cold climates	kWh/m ² .a	-50.2
	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	m ³ /h	288
i)	Electric power input at maximum flow rate	W	29
j)	Sound power level (L _{WA})	dB(A)	43
k)	Reference flow rate	m ³ /h	202
l)	Reference pressure difference	Pa	10
m)	Specific power input (SPI)	W/m ³ /h	0.054
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 pre / disassembly instructions	–	www.eltafans.com
t)	Airflow sensitivity to pressure variations	%	10
u)	Indoor / outdoor air tightness	m ³ /h	101
v1)	AEC – Annual electricity consumption – warm climates	kWh	0.4
v2)	AEC – Annual electricity consumption – average climates	kWh	0.4
v3)	AEC – Annual electricity consumption – cold climates	kWh	0.4
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 being 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.

Triton Contact Details:

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