

Triton PIV Wall Positive Input Ventilation Unit Installation Guide

Introduction

The Triton PIV Wall is a positive input ventilation unit suitable for installation on a wall for dwellings without a loft space. It continuously supplies fresh air through a discharge diffuser, that should be situated in the central hallway or landing. The unit has multiple options for the inlet spigot; on both sides and the back of the unit allowing multiple installation options. The unit can also be configured to discharge air from the left or right hand side.

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.

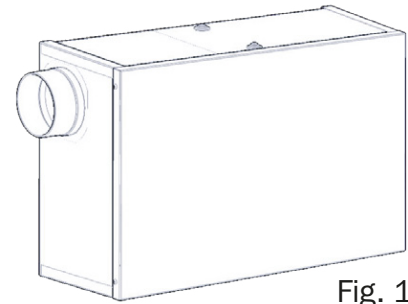


Fig. 1

Technical Specifications

- Outer fan casing manufactured from powder coated galvanised sheet steel providing a lightweight construction.
- 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.
- G2 filter fitted as standard with large surface area to provide long filter life and efficient filtration of incoming air.
- 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	Power W max	Sound pressure dB(A) @3m
Triton PIV Wall	28	27

Unit Setting	Inlet grille (5m duct 2x bends)		Outlet grille	
	Flow Rate	Watts	Flow Rate	Watts
1	13	3.7	14	4.5
2	17	4.8	17	5.2
3	21	6.4	21	6.9
4	25	9.2	25	9.3
5	29	11.1	29	12.7
6	33	16.8	34	16.8

The power consumption shown is Normal mode.

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.
- **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.

OPERATION

Unit Setting

The **Triton PIV Wall** unit runs continuously a low ventilation level supplying fresh clean air into your home. This fresh air dilutes the stale and humid air in your home 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 supplying until the unit's integral temperature sensor switches it to "Standby" mode, or the "Override Boost" mode (if connected via a suitable switch) is activated by the occupants.

This rate is set via 3 RATE dip switches shown in the wiring diagram, when leaving the factory this is set to 21l/s.

Energy Saving Mode

When the temperature of air being brought into the home is above an adjustable temperature the unit will automatically switch to a lower speed. This lower speed will reduce the energy used by the ventilation unit and the amount of uncomfortably warm air being brought in. This temperature can be selected for conditions where condensation is less likely to occur such as the summer months.

This trigger temperature is adjustable between 15-25°C, via V1 trimmer (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 fan speed is adjustable between via the HY trimmer and can be set to between -50% and 50% of the trickle speed.

FOR EXAMPLE: The trickle is set at 21l/s, HY trimmer set to -20%: when triggered the boost will be $21 + (-4.2) = 16.8$ l/s.

It is recommended that the Heat Recovery Mode (boost above 0%) is not used for the Wall mounted PIV and the boost increase is set at or below 0% (default).

Summer Standby Mode

The summer shutdown function limits the chance of the house overheating when temperatures outside reach a level that is uncomfortable. The unit will essentially switch off when the 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 V2 trimmer (shown in the wiring diagram) between 20° 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.

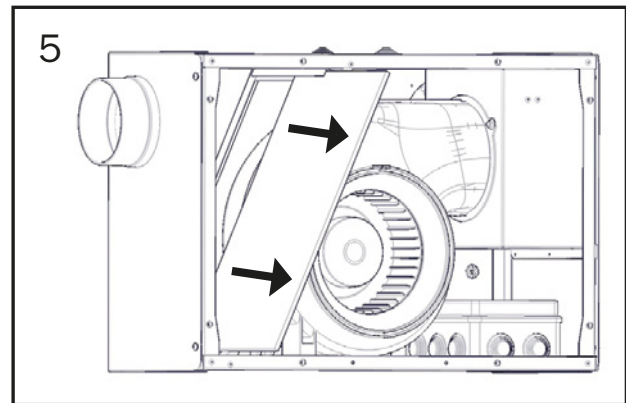
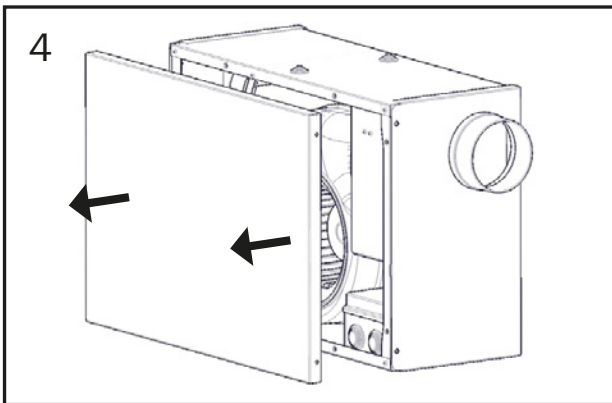
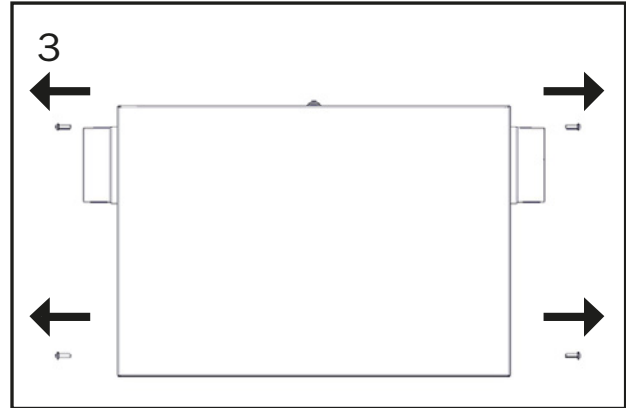
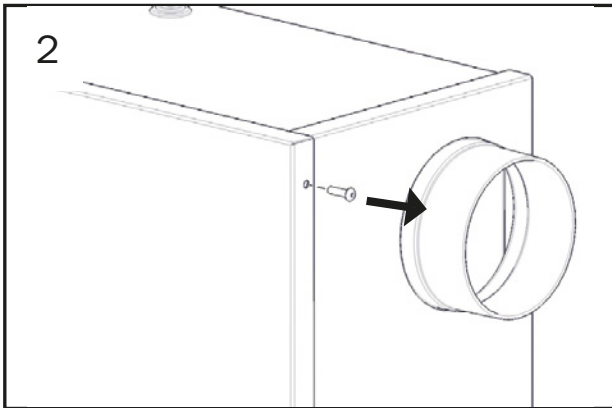
MAINTENANCE

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 unit require changing according to the filter change period. When the filters are dirty less air will be supplied by the 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.

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

The filter should be checked regularly to determine if it needs cleaning or replacement. External environmental conditions will determine how often the filter will need to be cleaned or replaced. Reduced airflow, perhaps accompanied by an increase in noise level, may provide indication that the filter needs to be cleaned or replaced. The filter should be inspected and cleaned or replaced as required at intervals not exceeding 2 years and always replaced at intervals not exceeding 5 years.



Standard Conformity

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

Electrical Safety

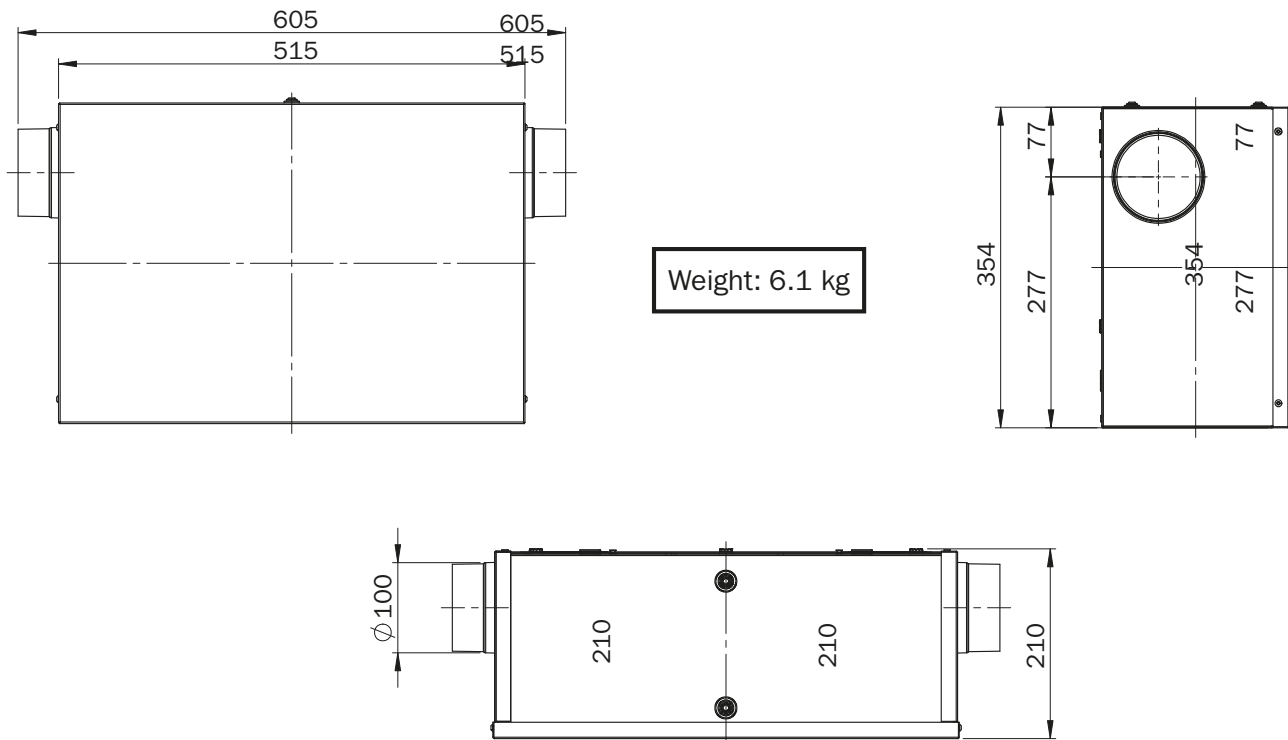
EN60335-1(2008); EN 60335-2-80(2005); EN 60335-2-80/A2(2009)

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



Installation

Duct work should be kept as simple as possible minimising duct length and the number of bends. This will optimise the unit's effectiveness.

Ducting from the external to the unit should be kept as short as possible as condensation can form on the cold ductwork if it is not insulated.

The unit comes fitted with round 100mm spigots for easy fitment of round rigid ducting. If rectangular 110x54 ducting is required a rectangular to round adaptor can be fitted directly to the spigot. To do this the spigot must be cut to 25mm length.

Enough room needs to be allowed to access the side screws for maintenance. Allen keys are supplied with every unit to minimise the space requirement.

The blades of internal grilles fitted in the central hallway should be pointing upwards to better spread the fresh air.

The unit should be connected to a smoke alarm to stop the unit in the event of a fire to stop the spread of smoke and prevent evacuation. Guidance should be sought from Approved Document B (Fire Safety).

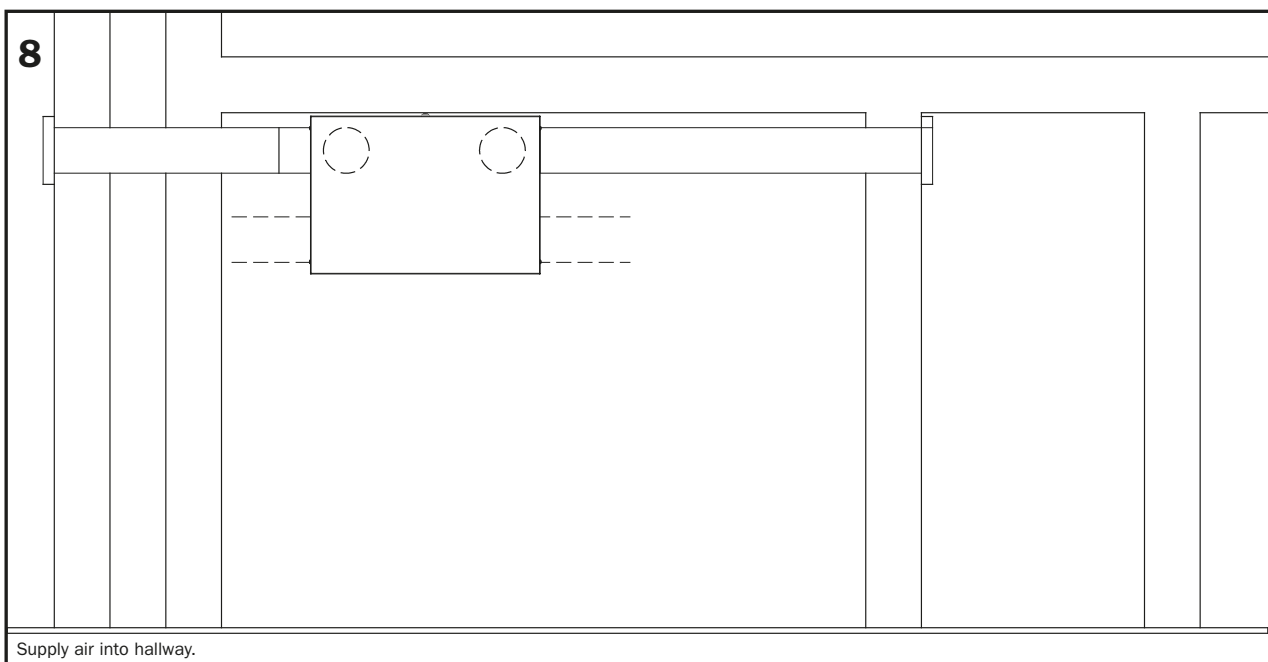
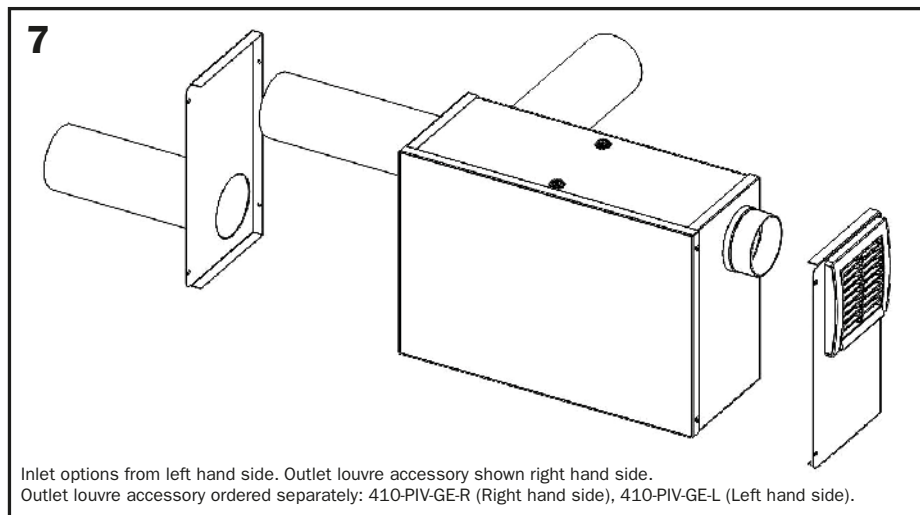
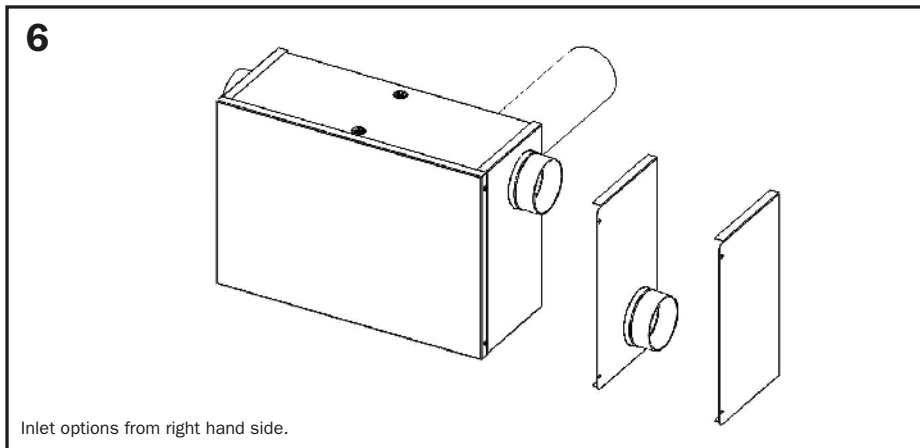
When the ducting is passed through fire boundaries adequate fire protection should be incorporated. Guidance should be sought from Approved Document B (Fire Safety).

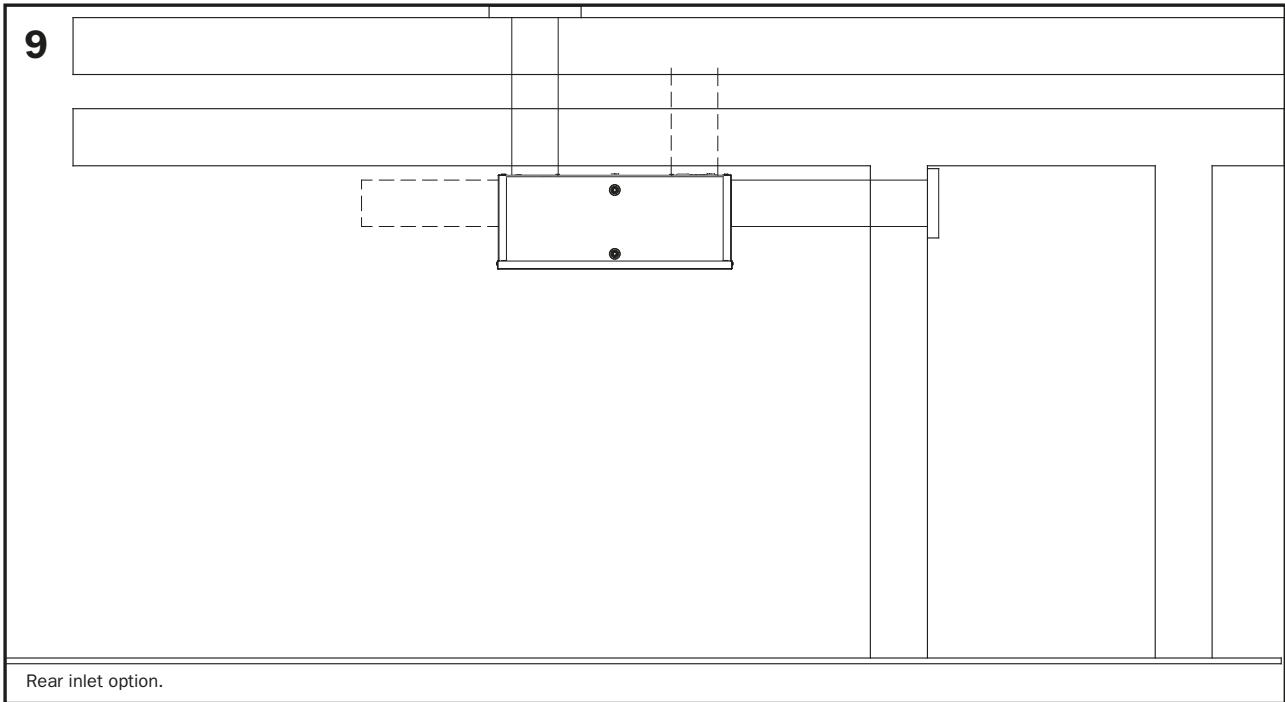
What is in the box

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	6. Installer label
2. Filter	7. 1x Extra end panel (inlet bottom left or outlet top right)
3. O&M Manual	8. 1x Extra end panel (inlet bottom right or outlet top left)
4. 4x Screw + wall plug	9. 1x Blank panel (if back inlet used)
5. 4x Wood screw	

IPIV Unit





Wall Mounting

Before mounting ensure the desired location leaves enough room for access and maintenance. There are multiple mounting configurations make sure you have decided on the most suitable before drilling any holes.

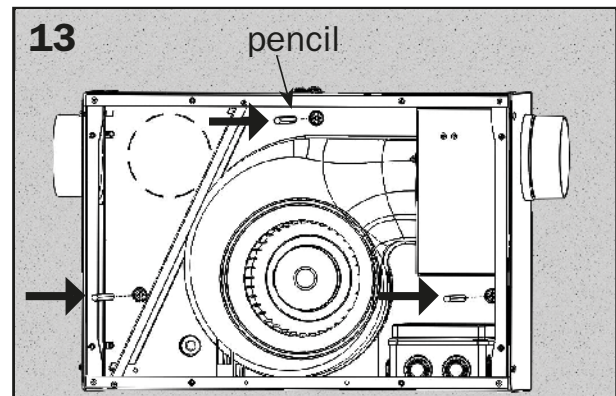
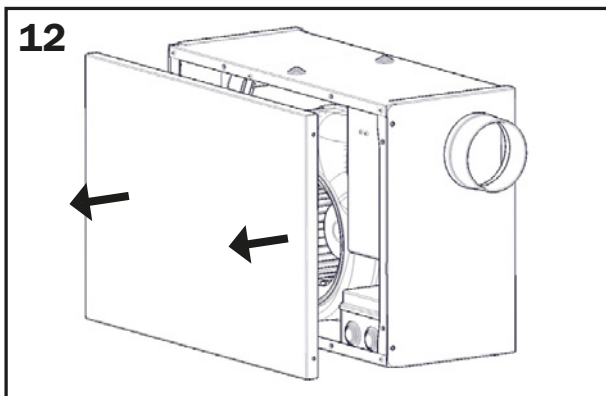
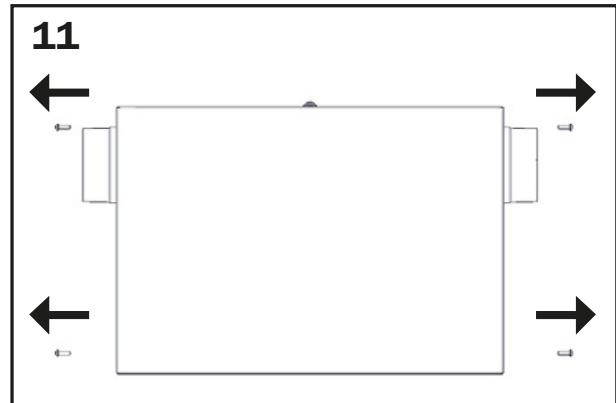
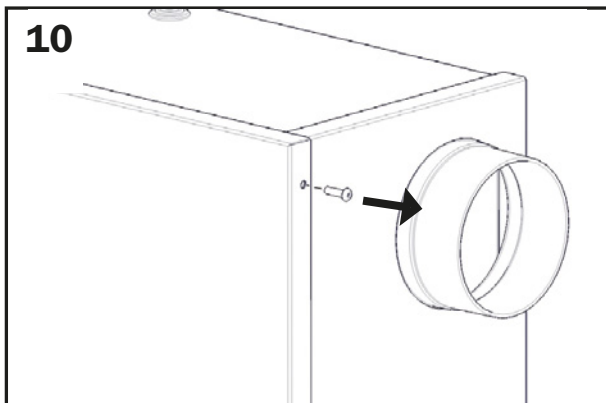
The back panel can be removed and offered up to the wall ensuring that is level. The mounting hole positions can now be marked and rear duct entry if required.

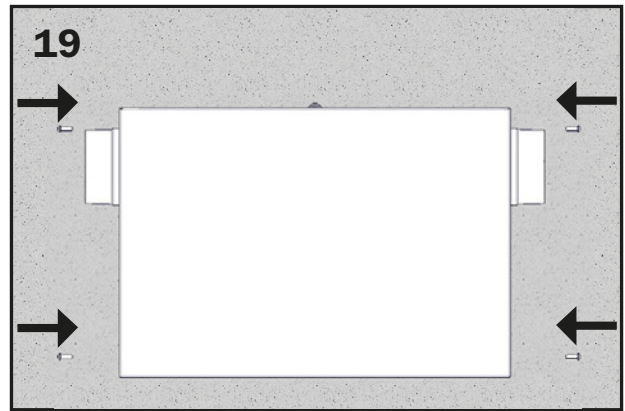
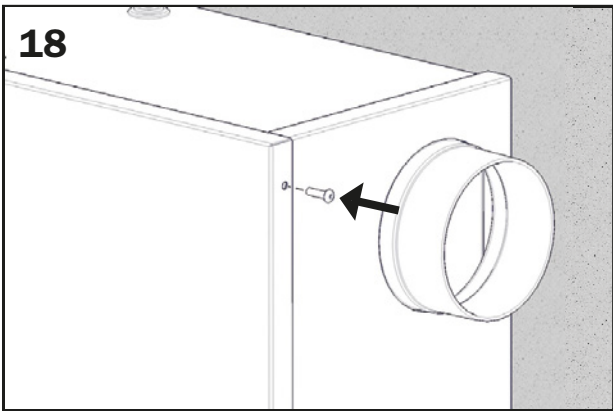
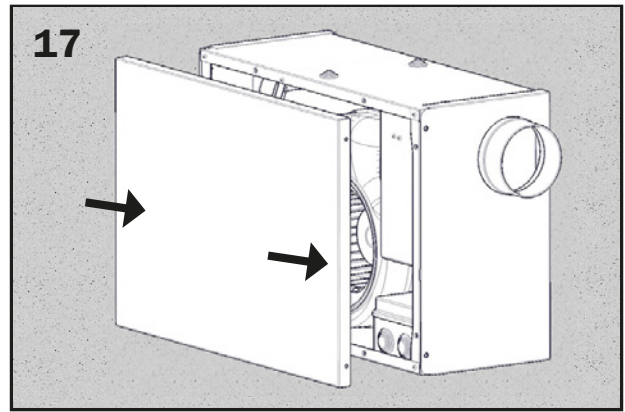
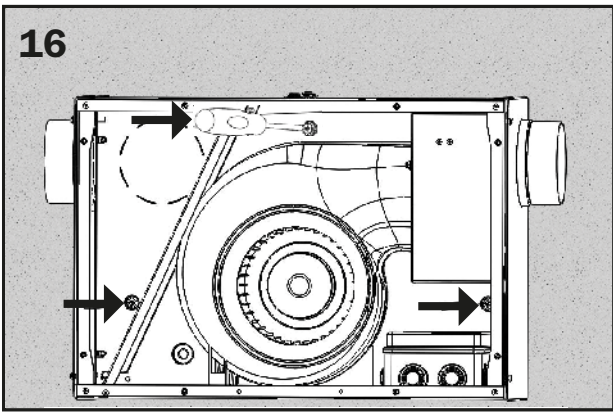
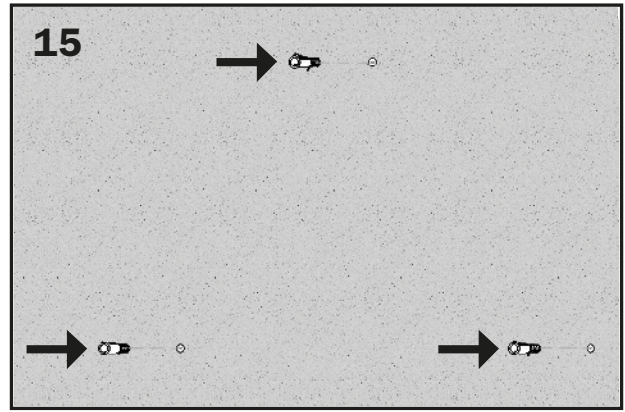
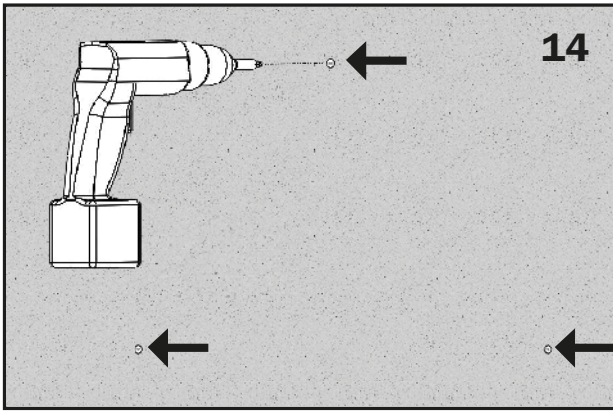
Drill the marked holes and insert the supplied wall plugs.

Double check the holes line up with the rear panel and reassemble the unit in the desired configuration.

Lift the unit up and align the mounting holes with the wall plugs.

The supplied screws can then be screwed in securing the unit to the wall.





WARNING: Air outlet only on top.

Electrical Wiring

The unit must be earthed.

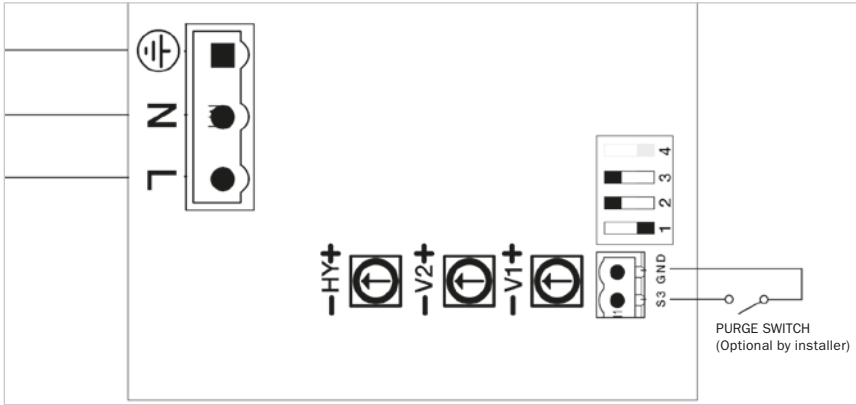
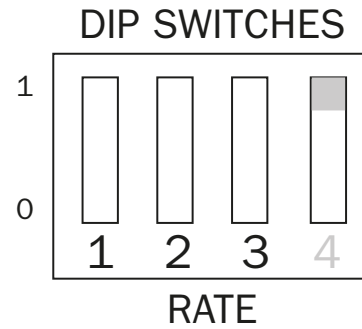


Fig. 20 Control box

Normal Mode Fan Speed Setting

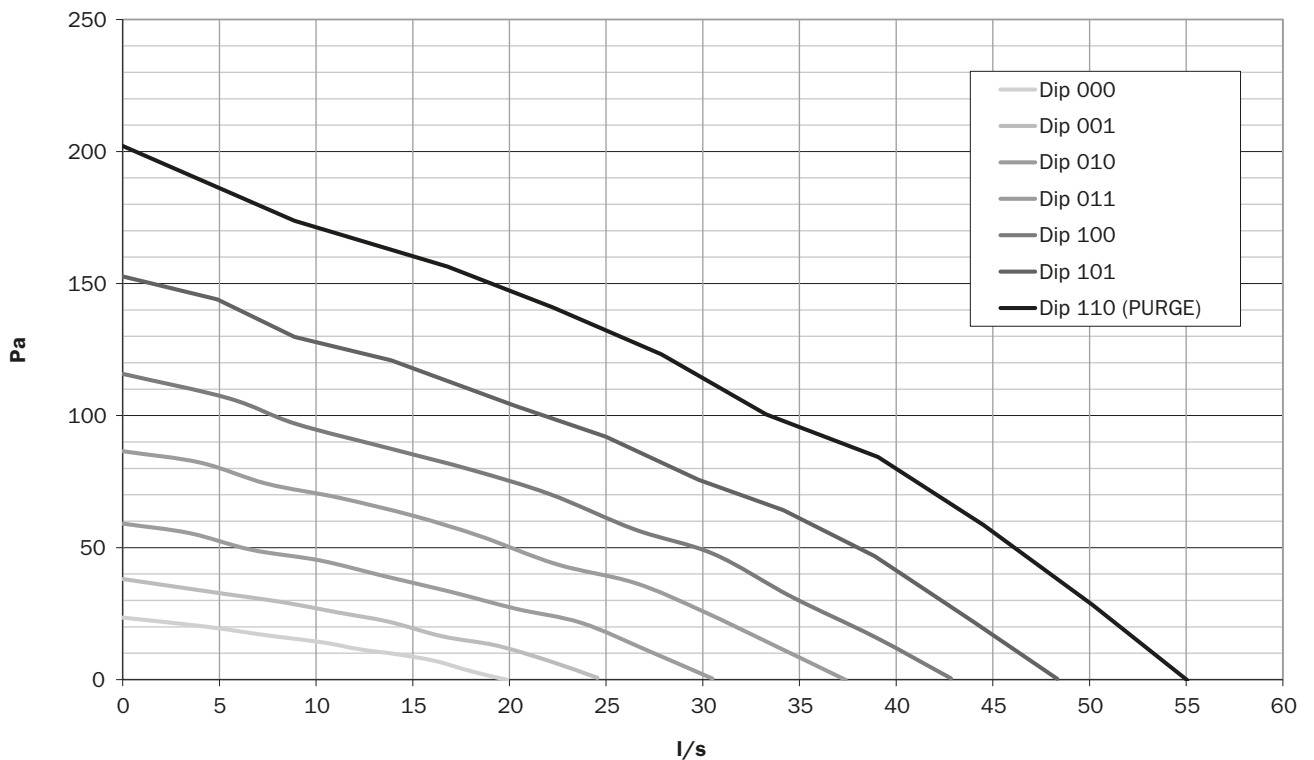
To adjust the trickle flow rate use the dip switches shown in the diagram of figure 20.

DIP1	DIP2	DIP3	DIP4
0	0	0	x
0	0	1	x
0	1	0	x
0	1	1	x
1	0	0	x
1	0	1	x
1	1	0	x



PLEASE NOTE: Do not change the setting of DIP4 switch.

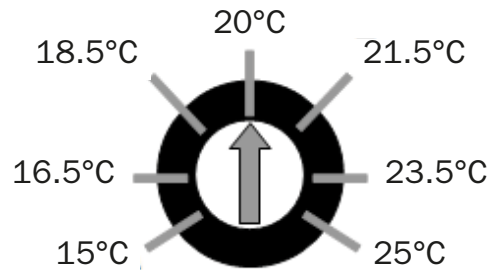
Triton PIV Wall



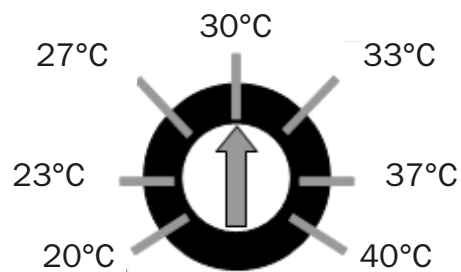
Trimmer Setting

Trimmer Label	Operation	Range	Default
V1	Heat recovery trigger temperature	15 to 25°C	19°C
V2	Summer standby trigger temperature	20 to 40°C	25°C
HY	% change of Heat Recovery mode	-50% of trickle to 50% of trickle	0

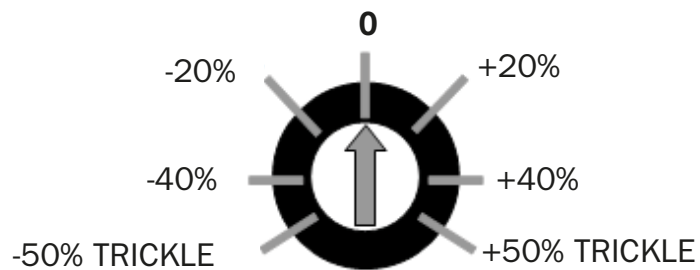
V1



V2



HY



ErP Directive – Regulations 1253 / 2014 – 1254 / 2014

a)	Mark	–	Manufactured by Elta Fans for Triton Systems
b)	Model	–	Triton PIV Wall
c)	SEC Class	–	B
c1)	SEC warm climates	kWh/m ² .a	-10.6
c2)	SEC average climates	kWh/m ² .a	-26.1
c3)	SEC cold climates	kWh/m ² .a	-53.1
	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	120
i)	Electric power input at maximum flow rate	W	635
j)	Sound power level (L _{WA})	dB(A)	43
k)	Reference flow rate	m ³ /h	84
l)	Reference pressure difference	Pa	50
m)	Specific power input (SPI)	W/m ³ /h	0.119
n1)	Control factor	–	0.65
n2)	Control typology	–	Local demand control
o1)	Maximum internal leakage rate	%	N/A
o2)	Maximum external leakage rate	%	2
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	%	N/A
u)	Indoor / outdoor air tightness	m ³ /h	N/A
v1)	AEC – Annual electricity consumption – warm climates	kWh	0.9
v2)	AEC – Annual electricity consumption – average climates	kWh	0.9
v3)	AEC – Annual electricity consumption – cold climates	kWh	0.9
w1)	AHS – Annual heating saved – warm climates	kWh	12.8
w2)	AHS – Annual heating saved – average climates	kWh	28.3
w3)	AHS – Annual heating saved – cold climates	kWh	55.4

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:

Triton Systems
Units 3 – 5 Crayford Commercial Centre, Greyhound Way, Crayford, Kent DA1 4HF

Tel: 01322 318 830

Fax: 01322 524 017

Email: info@tritonsystems.co.uk

www.tritonsystems.co.uk