Lo-Carbon PoziDry Pro

Positive Input Ventilation Unit

Installation and Wiring Instructions

Stock Ref. N°

476310 – PoziDry Pro
476311 – PoziDry Pro with Heater

220-240V~50Hz

Vent-Axia®

PLEASE READ INSTRUCTIONS IN CONJUNCTION WITH THE ILLUSTRATIONS.
PLEASE SAVE THESE INSTRUCTIONS

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Vent-Axia

Installation and Wiring Instructions for the Lo-Carbon PoziDry Pro Positive Ventilation Unit.

IMPORTANT:
READ THESE INSTRUCTIONS BEFORE COMMENCING THE INSTALLATION

SAFETY AND GUIDANCE NOTES

1. DO NOT install this product in areas where the following may be present or occur:
   1.1. Excessive oil or a grease laden atmosphere.
   1.2. Corrosive or flammable gases, liquids or vapours.
   1.3. Ambient temperatures higher than 40°C or less than -5°C.
   1.4. Possible obstructions which would hinder access or removal of the Fan.
   1.5. Relative humidity above 90%
   1.6. Sudden ductwork bends or transformations close to the Unit.
2. All wiring to be in accordance with the current I.E.E. Regulations, or the appropriate standards of your country and MUST be installed by a suitably qualified person.
3. The fan should be provided with a 3A fused, isolator switch capable of disconnecting all poles, having a contact separation of at least 3mm.
4. Ensure that the mains supply (voltage, frequency, and phase) complies with the fan's rating label.
5. The fan should not be used where it is liable to be subjected to direct water spray.
6. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
7. Children should be supervised to ensure that they do not play with the appliance.
8. Precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances.

A. INTRODUCTORY NOTES

The Vent Axia Lo-Carbon PoziDry Pro is a positive input ventilation unit, designed to be installed in the loft of a dwelling to continually supply filtered fresh air into the building.

The system consists of a fan unit, an **optional** heater unit and a diffuser with a short length of flexible ducting.

The Lo-Carbon PoziDry Pro has two fully adjustable speed settings; 'Trickle' and 'Normal'. These speeds are set during installation; there are 5 pre-set speeds or an option allowing the speeds to be chosen manually from 10L/s to 60L/s.

The Lo-Carbon PoziDry Pro uses a sensor to monitor the temperature in the loft, automatically adjusting the air volume when necessary.
'Trickle' speed is automatically selected when the ambient loft temperature is less than 18°C.
'Normal' is automatically selected when the ambient loft temperature is between 18 and 27°C.
If the ambient loft temperature exceeds 27°C, the Lo-Carbon PoziDry Pro will automatically switch to standby (no airflow).

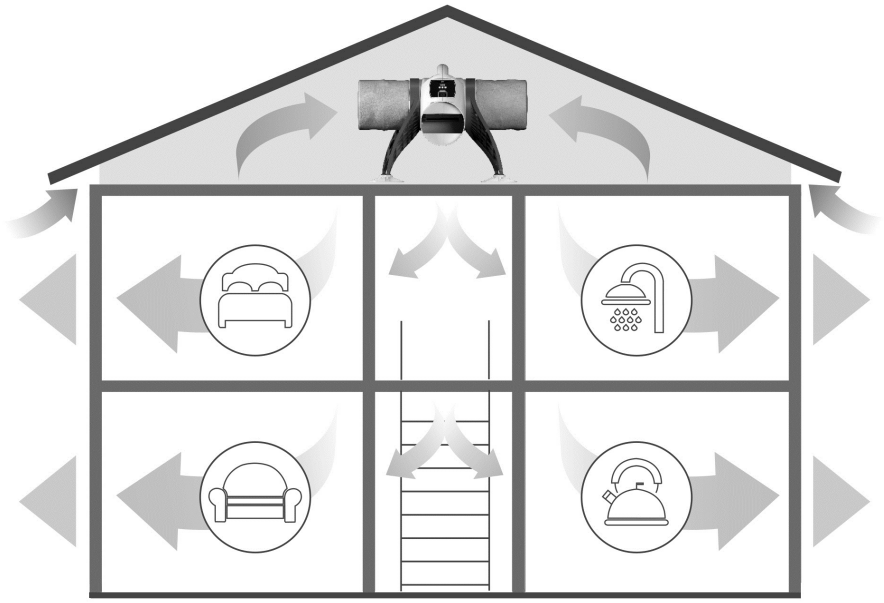
For the model supplied with a heater unit (476311), the element is activated by default when the loft air temperature is below 10°C; the system will then work to maintain an input air temperature of 10°C. This temperature threshold can be adjusted between 5°C and 20°C during commissioning.
The heater unit can be installed either to the fan unit or directly to the diffuser spigot.

The unit also incorporates a data logging function. This function will display total runtime of system, time spent in trickle speed, time spent in normal speed, approximate energy consumption of the fan and approximate energy consumption of the heater unit. This data is non-resettable.

B. INSTALLATION

TYPICAL INSTALLATION

Fig.1.



Lo-Carbon PoziDry Pro UNIT:

Prior to installation ensure that the loft is adequately ventilated. The following tips can be used as a basis for this. However this is not an exhaustive list.
Ensure that any ridge vents, tile vents and continuous air gaps are not blocked. These may not be present in older properties; however there should be enough 'leakage' to accommodate the requirements of the Lo-Carbon PoziDry Pro unit.
One method of checking this is by entering the loft, closing the loft hatch, switching off the lights and looking for any daylight penetration. If daylight is visible it is reasonable to assume that there is adequate ventilation within the loft.

There may well be occasions where a loft is so well sealed that additional ventilation may need to be provided by the owner/occupier. This will not only assist the operation of the Lo-Carbon PoziDry Pro, but may also help to prevent future expensive structural damage caused by inadequate air movement. It should be noted that there can never be too much ventilation in a loft.

Ensure that all water tanks are covered and sealed.
Check that all water pipes are lagged.
Ensure that any extract fans are discharging to the outside and not into the loft.
Check that the loft hatch is tightly sealed.
Ensure that all holes in the ceilings are sealed, i.e. ceiling light fittings etc.
A visual inspection of any flues or chimneys for leakage in the loft should be carried out by the installer.
If any leakage points are found, or if there is any doubt at all, the installer should advise the house owner/provider as soon as possible and seek instruction from them before proceeding with the installation.

Flexible ducting is supplied as standard. Ensure that this is pulled out and does not allow any moisture to collect; it should be a smooth single curve to the grille. If the application requires a fixed 90 degree bend, straight ducting may be used. See Spares and Accessories on page 10.

Hanging method:

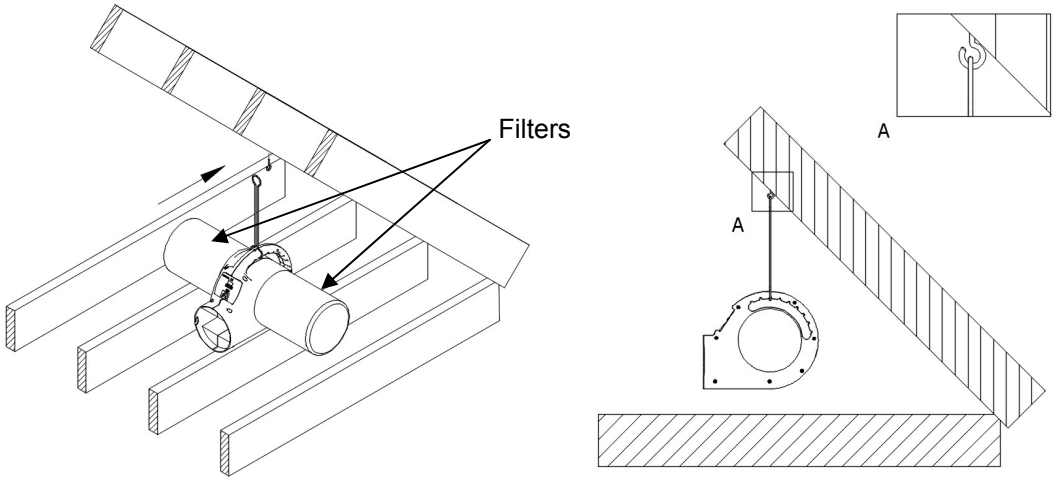
The Lo-Carbon PoziDry Pro can be hung from a roof beam (Fig. 2). Fix the screw eye to a convenient roof beam. Use the cord provided to loop through the eye and around the handle on the unit, there are various notches for the cord to run through, tie the two ends together using a suitable knot such as an over hand or fisherman's knot.

Ensure that the route for the flexible ducting has gentle bends and that the duct cannot be crushed.

Fit the filters to the unit. **Please make sure that the filters are fitted correctly. This will ensure that all the fresh air entering the dwelling has passed through the filter first.**

Ensure that the screw eye is attached to the beam strongly enough and that the beam is in sufficient condition to withstand the load. The unit weight is approximately 4 kg.

Fig.2.



Floor mounting:

Attach the mounting legs to the unit, two per side.

Find a suitable location to fix the unit near to where the diffuser is to be located. Ensure that the route for the flexible ducting has gentle bends and that the duct cannot be crushed Fig.3.

The legs and feet can be adjusted to suit ceiling joists of varying spans. Adjust the legs and feet so that the unit spans over two joists. Secure the feet to the joists with screws, Fig.4. In the unlikely event that the legs cannot span the ceiling joists affix the unit to a wooden board or two lengths of timber which can then be screwed to the joists.

Fit the filters to the unit. **Please make sure that the filters are fitted correctly. This will ensure that all the fresh air entering the dwelling has passed through the filter first.**

Fig. 3.

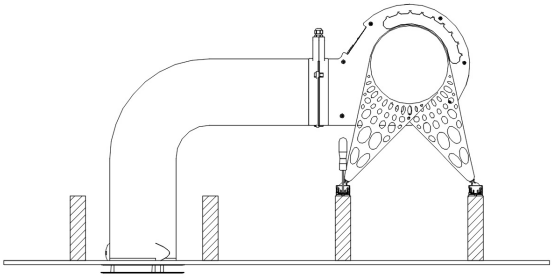
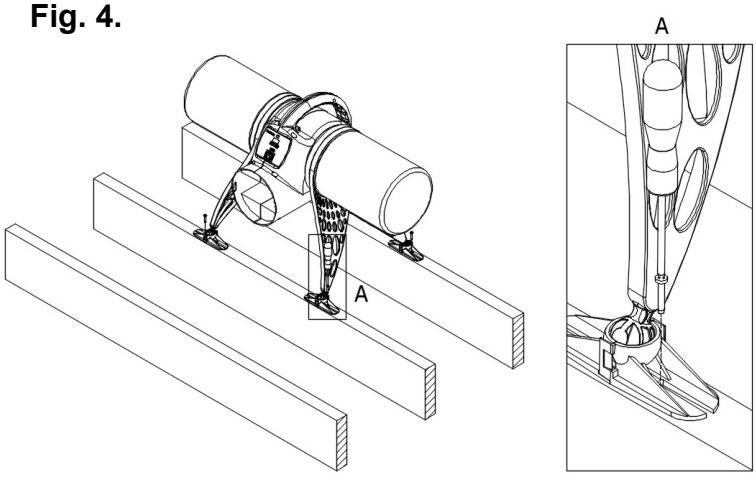
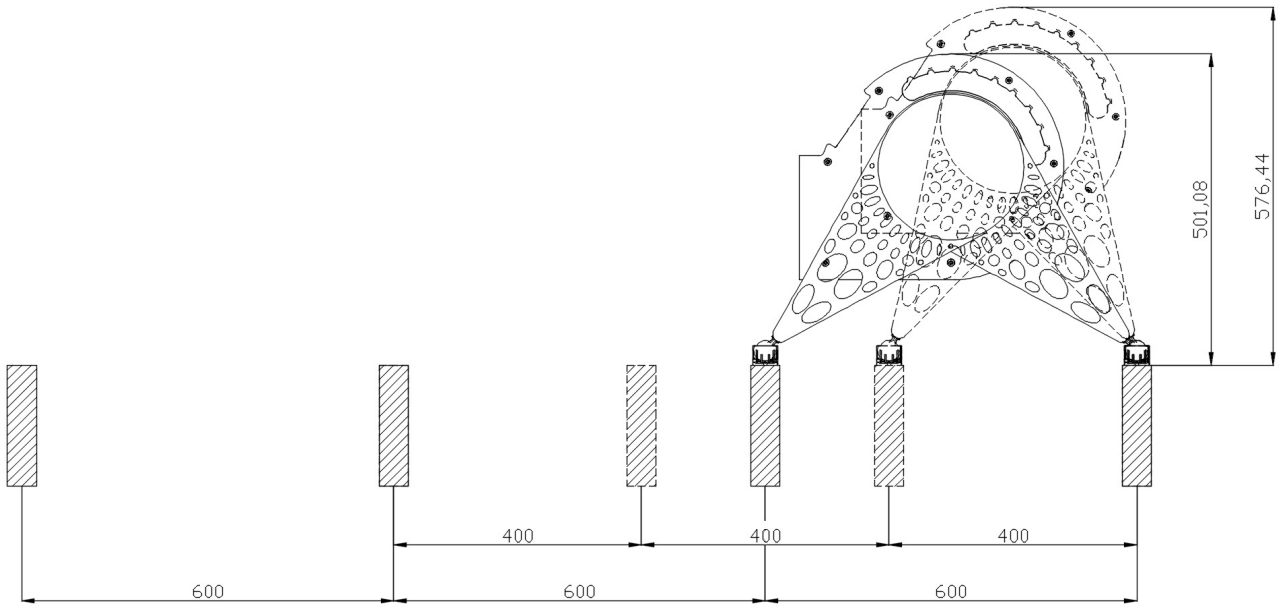


Fig. 4.



400-600mm Joist Dimensions with Unit Clearance Heights



DIFFUSER GRILLE:

The diffuser must be carefully sited to ensure the maximum effectiveness of the system. This grille should be fitted in the ceiling of a common area, ideally above the landing so that the incoming air can reach all the rooms.

Cut the flexible ducting to a suitable length, where possible stretch the ducting to its maximum extent and ensure that there is one continuous smooth bend to the diffuser. The ducting **must** remain a minimum of 1m in length.

Remove the loft insulation from the location of the diffuser and cut a 200mm dia hole in the ceiling.

Pull the plastic diffuser plate off the spigot base (Fig .5). Position the spigot base in the ceiling hole and mark the fixing hole positions. Drill and insert the appropriate fixings (e.g. plasterboard rawlplugs; not supplied) into these holes to suit No. 8 screws.

Pass the spigot base through the ceiling hole and fix it to the ceiling with 1-1/2 inch long No. 8 screws (not supplied). Attach the plastic diffuser plate to the spigot base using the magnets. Fit the free end of the flexible ducting to the diffuser spigot using the worm drive clip supplied.

The Lo-Carbon PoziDry Pro should not be situated within 1m of a smoke detector, however if this is not possible the Lo-Carbon PoziDry Pro has provisions to blank off the airflow for up to two sides of the diffuser. To do this, cut the closed cell foam material to size (Fig.6) and utilising the self adhesive backing, stick the foam strip to the metal base. Once securely located, put the plastic diffuser plate in place using the magnetic attachments.

Blanking off one side only reduces the flow by about 6%, but blanking off two sides reduces the flow by about 20% and so if two sides are blanked off then you should consider increasing the fan speed to maintain the appropriate airflow.

Fig. 5.

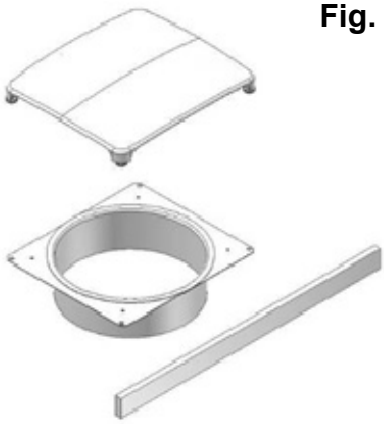
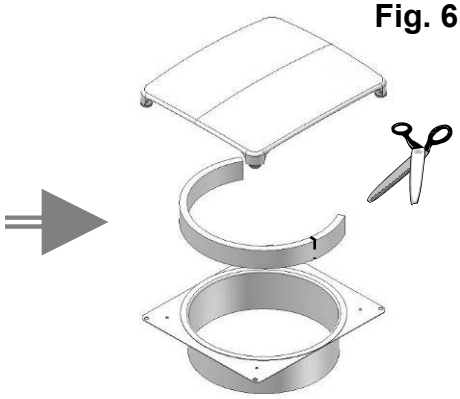
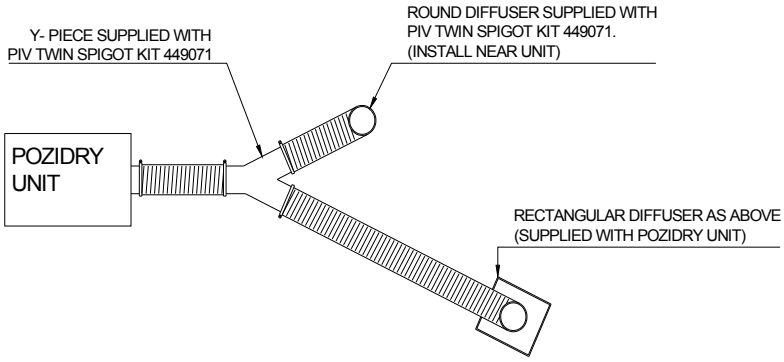


Fig. 6.



IMPORTANT
(Read only if installing with PIV twin spigot kit Ref:- 449071)

Ensure that the round adjustable diffuser supplied with the kit is installed nearer to the PoziDry Pro unit than the rectangular diffuser. This allows both flows to be balanced.



Heater Unit

The heater unit can be mounted either to the unit or to the diffuser spigot see Fig. 7, where fitted to the unit there are locating pins that fix the heater to the unit using a bayonet fitting. The power and sensor cables must be plugged in to the front of the fan unit, see Fig 8.

Fig. 7.

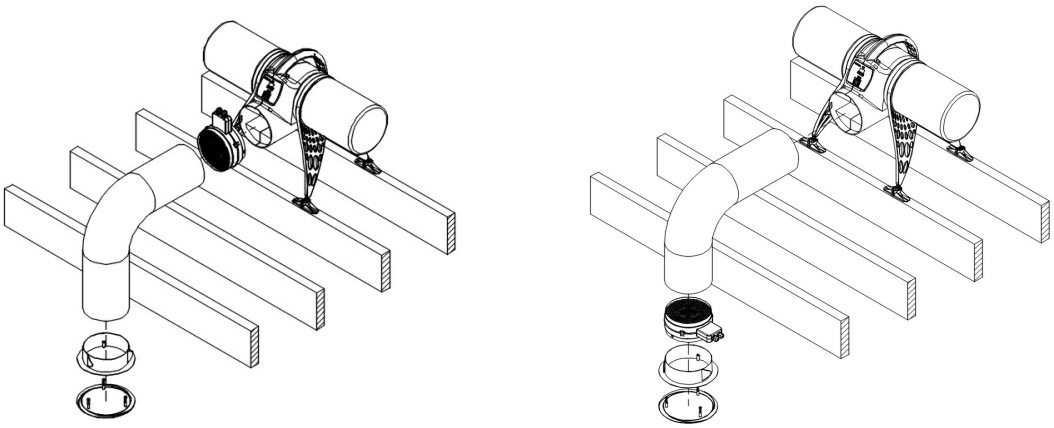


Fig. 8.

C. WIRING

WARNING: THE POSITIVE VENTILATIION UNIT AND ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING THE INSTALLATION / OR MAINTENANCE.

Mains supply voltages (220-240V ac) are present in this equipment which may cause death or serious injury by electric shock. Only a qualified electrician or installer should connect the power supply to this unit.
The Lo-Carbon PoziDry Pro is designed for operation from a single-phase alternating current source (220-240V AC).

A 2 m integral mains flying lead is connected to the unit for connection to a 3A switched fused spur. It should be capable of disconnecting all poles, having a contact separation of at least 3mm.

PoziDry Pro & PoziDry Pro with Heater unit:

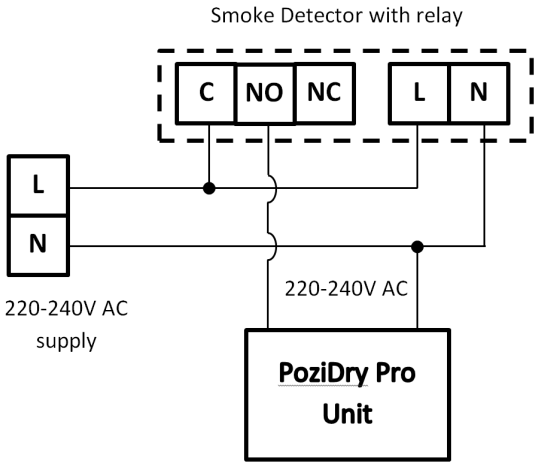
- Ensure the local AC power supply is isolated.
- The product has a pre-wired flying lead. Connect the brown core to Live and the blue core to Neutral.

- Use cable clamps and clips to secure the cable, as appropriate.
- Maximum heater power 500 W and motor power 13 W.

In order to have the product switch off in the event of a fire it must be wired using smoke alarm with a relay system.

Use Fig.9 as a reference and refer to the instructions provided by the manufacturer of the smoke alarm and relay in order to wire the unit correctly.

Fig.9 **FOR REFERENCE ONLY**



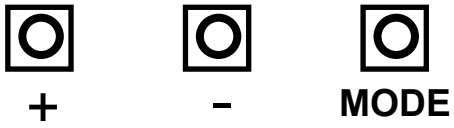
D. START UP SEQUENCE

When the unit is switched on it will first run through a period of system checks. During this time the display will show various system parameters before the fan motor starts. After 10 seconds the product will be ready for commissioning.

E. COMMISSIONING

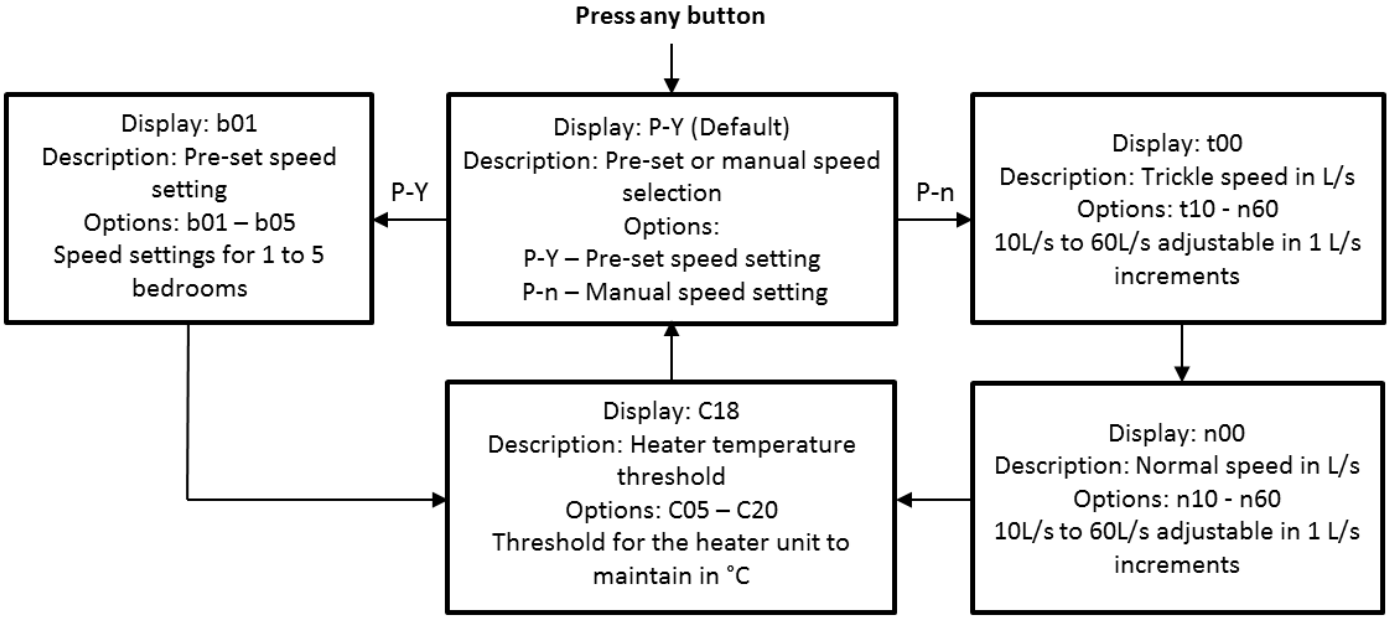
Accessing the Commissioning Menu
If the fan is powered and the display is not lit then press any button to access the menu. After 20 seconds without menu activity the display will switch off, any changes to the settings will then be applied.

There are three buttons on the front of the unit:



The + button is used to increase the value of a setting, the – button is used to reduce the value of a setting and the Mode button moves to the next menu item.

Commissioning Menu Structure



Speed Settings

The Lo-Carbon PoziDry Pro has two speed settings, '**Trickle**' and '**Normal**'.
'**Trickle**' speed is automatically selected when the ambient loft temperature is **below 18°C**.
'**Normal**' is automatically selected when the ambient loft temperature is **between 18°C and 27°C**.
If the ambient loft temperature exceeds 27°C, the Lo-Carbon PoziDry Pro automatically switches to standby (no airflow).

The speed settings on the Lo-Carbon PoziDry Pro are fully adjustable between 10L/s and 60L/s via the manual speed setting option. Alternatively there are 5 Pre-set speeds, the speed settings relate to the number of bedrooms with, for example, setting b03 being for a three bedroom dwelling. For the approximate flow rates at each setting see Fig.10. The PoziDry Pro must be set to provide adequate ventilation according to Part F of the building regulations.

Fig.10

	Trickle		Normal	
No. Bedrooms	L/s	Power (W)	L/s	Power (W)
1	13	2.2	25	3.6
2	17	2.6	31	4.8
3	21	3.2	38	5.5
4	25	3.6	44	7.5
5	29	4.3	50	11.5

The table shows a set up representative of a good low resistance install. When F7 filters and/or a long duct run are used it may be necessary to use the manual speed selection to meet the required flow rate.

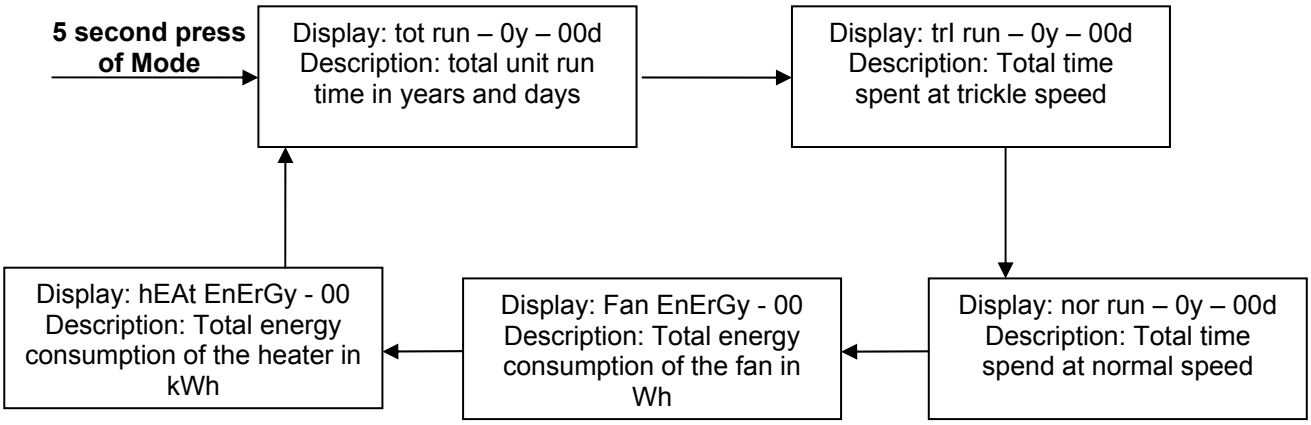
It is the responsibility of the installer to ensure that appropriate speeds are selected.

F. SERVICING AND MAINTENANCE.

The fan motor uses sealed ball bearings, and does not require further lubrication.
Apart from filter change the Lo-Carbon PoziDry Pro contains no user serviceable parts.
Under normal conditions; i.e. away from main roads and industrial areas it is recommended that the filter is checked annually and cleaned or replaced as necessary. Otherwise change as required.
The filter may be gently cleaned with a vacuum cleaner or washed in a soapy water solution and allowed to air dry before re-fitting. Do not dry the filter in a tumble dryer. **When re-fitting make sure that the filter is fitted correctly. This will ensure that all the fresh air entering the dwelling has passed through the filter first.**

Accessing Data Logger Menu

To access the menu of data that the unit stores press and hold the mode button for 5 seconds. The menu structure is shown below, press mode to move to the next item:



To exit the menu press **MODE** for 5 seconds or wait for the screen to switch off.

Below is a list of spares and accessories available for the Pozidry Pro:

Spares and Accessories	Part Number
F7 FILTER PACK	476401
HEATER UNIT	477626
1X REPLACEMENT MOUTNING LEG & FOOT	477627
HANGING KIT	477628
REPLACEMENT G4 FILTER PACK	477629
PIV TWIN SPIGOT KIT	449071
200mm DIAMETER 2m FLEXIBLE DUCTING	477748

Disposal
This product should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority for recycling advice.

The Vent-Axia Guarantee

Applicable only to products installed and used in the United Kingdom. For details of guarantee outside the United Kingdom contact your local supplier.

Vent-Axia guarantees its products for five years from date of purchase against faulty material or workmanship. In the event of any part being found to be defective, the product will be repaired, or at the Company's option replaced, without charge, provided that the product:-

- Has been installed and used in accordance with the instructions given with each unit.
- Has not been connected to an unsuitable electricity supply. (The correct electricity supply voltage is shown on the product rating label attached to the unit).
- Has not been subjected to misuse, neglect or damage.
- Has not been modified or repaired by any person not authorised by the company.

IF CLAIMING UNDER TERMS OF GUARANTEE

Please return the complete product, carriage paid to your original supplier or nearest Vent-Axia Centre, by post or personal visit. Please ensure that it is adequately packed and accompanied by a letter clearly marked "Guarantee Claim" stating the nature of the fault and providing evidence of date and source of purchase.

Vent-Axia

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TECHNICAL SUPPORT: Tel: 0344 8560594 Fax: 01293 532814
For details of the warranty and returns procedure please refer to www.vent-axia.com or write to Vent-Axia Ltd, Fleming Way, Crawley, RH10 9YX

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