

PIV Positive Input Ventilation Unit

Operation

The PIV provides home ventilation and condensation control using the Positive-Input Ventilation principle. Essentially the concept is to introduce fresh, filtered air into the dwelling at a continuous rate, encouraging movement of air from inside to outside.

To achieve this, the unit is mounted in the loft space, drawing air through the filters and inputting it, at ceiling level, into the property.

PIV units are fitted with an internal temperature sensor. This sensor continuously monitors the temperature in the loft, boosting the air volume when the loft temperature is above set level 19°C (heat recovery mode).

If the loft temperature becomes excessive i.e. 24°C the unit will switch to standby mode (no airflow).

Performance

Figure 1.

Loft Temp	Airflow L/S	Power W	Sound dBA @ 3m
19°C	25	5.8	15
19°C	35	7.3	15
19°C	45	10.4	18
19°C	55	15.3	20
19-23°C	35	7.3	15
19-23°C	45	10.4	18
19-23°C	55	15.3	20
19-23°C	60	17.8	21
24°C+	0	1.6	0
Boost	72	27.4	24

Important notes to installers

The units successful operation depends entirely upon installation being strictly in accordance with these instructions.

Read this guide in its entirety before installation, and then repeat the exercise step by step to ensure satisfactory completion.

Installation of the PIV unit may be achieved by a suitable craftsman, but the provision of the electrical supply and the connection of the unit to the mains must be carried out by a qualified electrician.

The unit has a unique 5 years parts and labour guarantee which is conditional on the following:-

- The unit is installed strictly in accordance with this guide.
- The unit filters are replaced at the recommended intervals.

I. Loft Inspection

Ensure that the loft has adequate ventilation. Look for ridge vents, tile vents, eaves vents and continuous air gaps etc. making sure none are blocked. In older properties these vents may not be provided. However, there should be enough 'leakage' to accommodate the requirements of the PIV unit. A useful way of checking such lofts is to close the hatch, switch off the lights and look for any daylight penetration. If you can see daylight it is reasonable to assume that the loft has sufficient ventilation.

There may be occasions where a loft is so well sealed that additional ventilation may have to be provided by the owner/occupier.

This will not only assist the operation of the PIV unit, but will help prevent possible expensive structural damage caused by inadequate air movement in the loft itself.

Note: there cannot be too much ventilation into the 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 outside and not into the loft.
- Check that the loft hatch is tightly sealed.
- Ensure all holes in the ceilings are sealed i.e. ceiling light fittings etc.
- A visual inspection of flues or chimneys for leakage in the loft should be carried out by the installer. If leakage points are found, or if there is any doubt, the installer should advise the house owner/provider and seek instruction from them before installation.

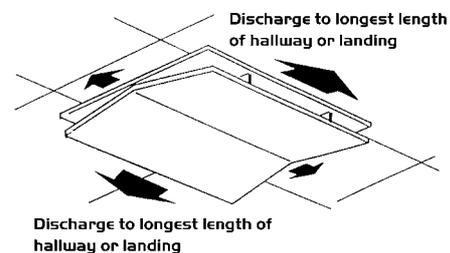
2. Siting the Diffuser

The diffuser has a unique air throw pattern and it must be located correctly in the central hallway in single story properties or in the ceiling of the top floor landing on 2 or more storey dwellings.

As can be seen (Fig. 1), the diffuser discharges air from all four sides along the underside of the ceiling. The majority of the air is discharged through the two longer open sides and it is vital that the diffuser is positioned to ensure these two sides discharge the air down the longest lengths of the hallway or landing.

Obstructions within 1m of the diffuser will cause a poor airflow pattern and unacceptable draughts. Up to two sides of the diffuser may be closed off using the foam strips supplied.

Figure 2.

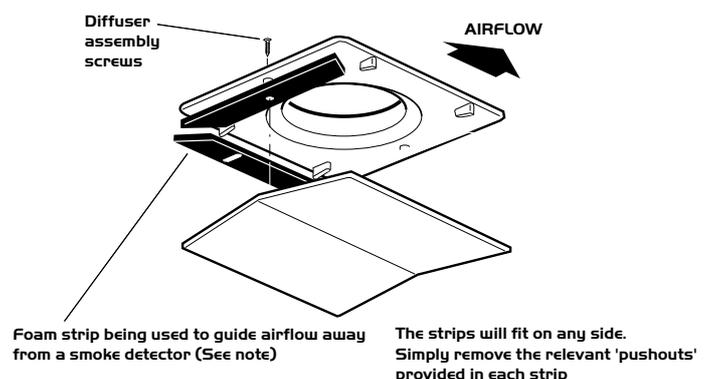


3. Fitting the Diffuser

Cut a circular hole 225mm diameter in the ceiling between two joists. Position the diffuser frame and secure to the underside of the ceiling with the 1/2" x 8 csk screws and plugs provided.

Attach the diffuser plate to the frame using the two 1" x 8 csk screws and plugs provided.

Figure 3.



Note : Smoke Alarms

It is important that the diffuser is not positioned within 1m of a smoke alarm.

However, a smoke alarm may be located in the middle of the underside of the diffuser.

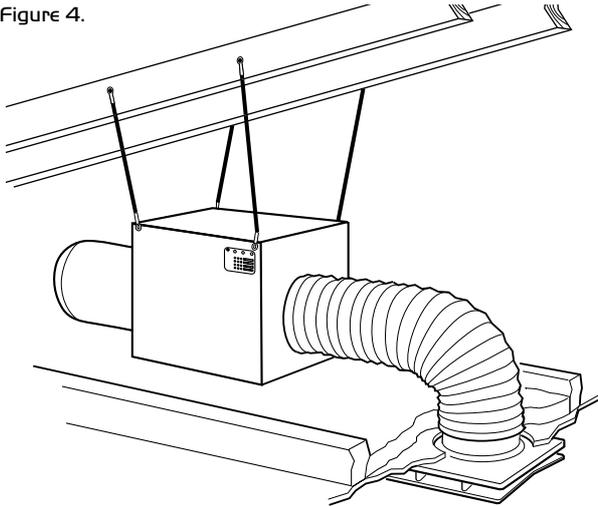
4. Fitting the PIV Unit

The standard method of installation is to suspend the unit from a convenient roof beam via the cords supplied (4-off). See Fig. 4. (Note: the unit weight = 6.5 kg).

The method of fixing the cord to the roof timber is the responsibility of the installer.

The flexible ducting fitted to the fan unit is connected to the outlet diffuser spigot by securing the end over the spigot using the tie band supplied. Ensure all duct joints are air tight.

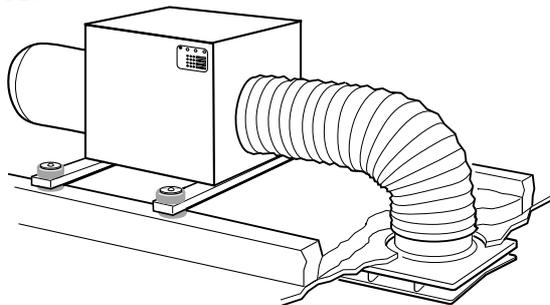
Figure 4.



5. Optional AV mounting

The AV kit (Part number 771393) is necessary to complete a joist mounted installation. Lower the unit with the battens attached (not supplied), onto the joists. See Fig. 5.

Figure 5.

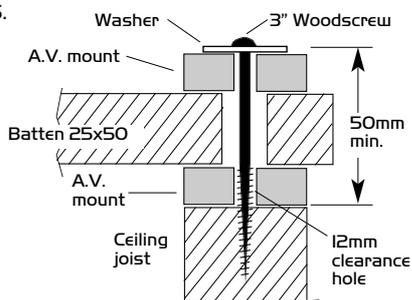


Mark and drill the 12mm dia. clearance holes required in the ends of the battens and place anti-vibration mounts (supplied) above and below each batten fixing point. Using the four large screws and special washers, fix the unit to the joists. See Fig.6.

Do not over tighten fixings. The distance from the top washer to the joist when installed must not be less than 50mm.

Note: The installer is responsible for providing two 50mm x 25mm timber battens for installation across joists.

Figure 6.



6. Filter replacement

The filter has an area of 0.235m² and should be replaced after two and a half years. New filters can be purchased direct from Nuair using the following code: 040718.

7. Electrical connection

The electrical connection of the unit must be carried out by a qualified electrician.

Electrical details:-

Voltage:	240V lph 50Hz
Consumption:	1.6W(min) 27W (max)
Fuse rating:	1 Amp

The unit is supplied with a pre-wired power supply with a metal bracket incorporating fixing holes. These should be used to fit the power supply to a suitable surface e.g. a wooden joist. The three core mains cable from the power supply should be connected to a fixed wiring installation, via an isolator, in accordance with current IEE wiring regulations.

8. Starting the unit

When power to the unit is switched on one of the three LED's will flash simultaneously. Press the setting button once and let go, and the unit will start to run. You can now press the button to sequence through the available settings.

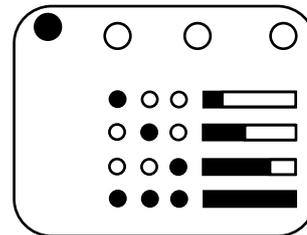
9. Flowrate settings

The four air volume (speed) settings switch is located on the side of the unit. Figure 7 shows the LED's illuminated, indicating the corresponding air volume for the unit.

For example, a one bedroom bungalow with one person would be adjusted to the lowest setting (one LED on the left).

A five bedroom detached house with seven people could be set to the highest (all three LED's illuminated).

Figure 7.



10. Optional boost facility

The unit air volume can be manually boosted to maximum speed by wiring a simple one way switch (part number 771532) to the PCB (located under the top cover). By switching the 'boost' all other functions are over-ridden.



The EMC Directive 89/336/EEC
With modification 92/31/EEC
The Low Voltage directive 73/23/EEC