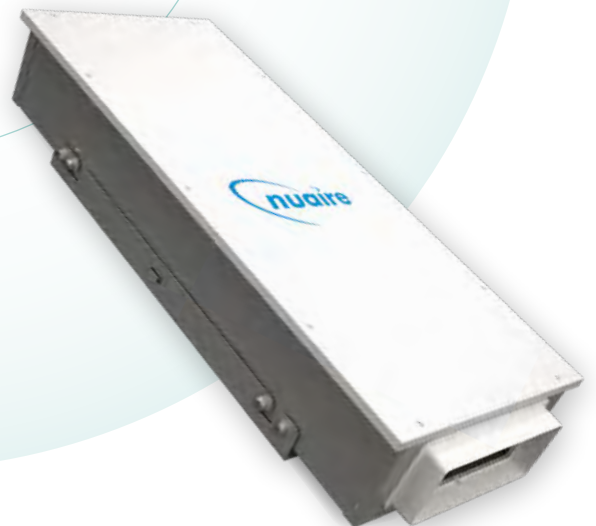




THE
Q-AIRE
RANGE



Improving Air Quality

Nuaire is a market leader in the design and manufacture of fans and ventilation systems. We put our energy into efficient ventilation so you don't waste yours.

With concerns over rising air pollution, Indoor Air Quality (IAQ) has quickly become a serious subject for the building industry. As such, an Air Quality report must now be produced at planning stage, making this issue one that cannot be ignored.

With an increasing focus on Indoor Air Quality, particularly in urban areas where high levels of NO₂ are being measured, higher levels of filtration are required to meet the World Health Organisation (WHO) guidelines.

Nuaire are committed to overcome the issues associated with air pollution by continuing to develop innovative products to keep air pollution out of the home and protect those in polluted areas to safeguard not only their homes, but their health.



Technical Advice

Compliance on SAP PCDB. Stay ahead of the latest building regulations and make the best product and fabric choices.



The Full Service

Help with product selection, detailed parts lists and fast delivery ensure you meet your deadline and budget.



Bespoke Design

Services providing a simple, quick selection or offering advice on compliance with the very latest building regulations and environmental issues.



Proud to
Build British

Our people

are at the heart of Nuaire; we have more than

**400 experienced staff
based at our headquarters,**

*65 technical sales engineers
throughout the UK and Ireland.*

Nuaire is a British company that designs and manufactures innovative ventilation products for the residential and commercial sectors. We are proud to be recognised for our expertise, commitment to innovation and the outstanding quality of our products and customer service.

IAQ VALVE

IAQ-VALVE is a unique solution to tackle pollution inside the home. A supply-valve and a carbon filter in-one, this new technology is small yet powerful. The activated carbon media inside the cartridge is microporous; capable of removing up to 91% of NO₂ and other harmful pollutants, as verified by the BRE.

IAQ-VALVE works as part of a complete system with Nuaire's MVHR Eco range.

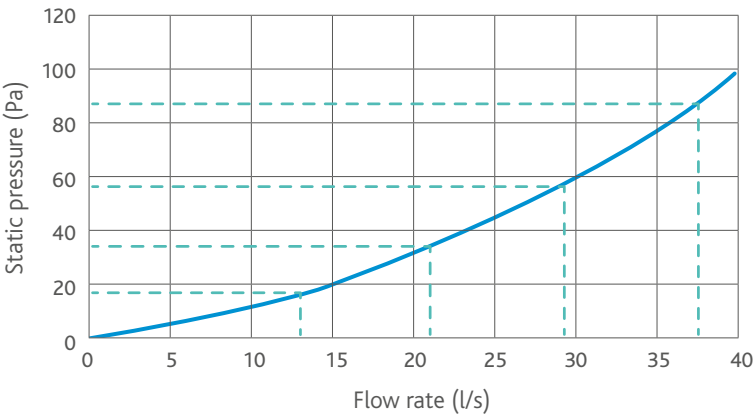
The carbon pellets offer a low pressure drop of 15Pa at 13l/s, maintaining system pressure.

With options to duct vertically or horizontally via a fixed plenum, installation is flexible. Maintenance is simple with no access hatch required and tool-free replacement of the cartridge can be carried out by the homeowner.

The simple way to lock out air pollutants.

Patent Pending

AIR RESISTANCE TEST IAQ-V125



Note: Based on a typical range

Part F Flow Rates and Resistance

Flow	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s
Resistance	7.1 Pa	14.9 Pa	32.5 Pa	54.7 Pa	84.8 Pa

Results of NO₂ reduction

Air flow rate (l s ⁻¹)	Nitrogen dioxide concentration (ppb)		Approx. NO ₂ concentration reduction (%)
	Pre-filter	Post-filter	
5	23	2.5	89
5	66	5.9	91
5	106	9.2	91
10	25	5.5	78
10	49	10.5	79
10	104	21	80
15	27	6.8	75
15	66	15	77
15	105	24	77
20	24	6.0	75
20	63	16	75

ppb = parts per billion

Annual mean NO₂ levels near busy roads can frequently exceed 100 micrograms per cubic metre of air.

Outdoor air quality has a direct impact on the air inside the home.

Consultant Specification

UNIT SPECIFICATION

The carbon filtration for the removal of Nitrogen Oxide/ Dioxide to the dwelling shall be achieved by use of the Q-Aire carbon filter supply air valve IAQ-V125. This air valve is to be positioned in each and connected to Nuaire IAQ-Plenum and within the ceiling void and jointed to the ductwork system. Each air valve shall be adjustable for commissioning, with a lockable feature to ensure the commissioned airflow is always achieved.

The activated carbon shall be contained within a single cartridge that sits in the supply air valve with minimal resistance to the airflow.

The activated carbon filter cartridge shall be up to 91% efficient in the removal of Nitrogen Dioxide (NO₂) ensuring exceptional indoor air quality for the occupant. The filter cartridge shall be easily removable by a simple bayonet connection on the air valve assembly, ensuring a quick release and change of the filter when required. Following the replacement of the filter cartridge the air valve will not require any additional adjustment to maintain the previous designed and commissioned air flow rates.

The IAQ-V125 efficiency shall be confirmed and independently verified by a BRE (Building Research Establishment) test method and the information shall be provided by the filter manufacturer for approval.

- The unit shall be installed within a vacuum formed plenum box, suitable for 204 x 60mm ducting.
- The IAQ-V125 shall be installed in conjunction with the manufacturer's installation and maintenance guidelines.
- The unit shall be offered with a 5 year warranty; 1 year parts and labour, remaining years parts only.

The activated carbon shall have the following minimum qualities:

Bulk density	kg/m ³	480 (+/-5%)
Nominal diameter of cylindrical pellets	mm	4.0
Nominal length of cylindrical pellets	mm	8.0
Moisture content (approx.)	%	3
Crush strength (minimum)	kg	2
Removal capacity for Cl ₂ of own weight	%	10
Minimum design efficiency	%	99.5
Typical air velocity	m/s	0.3 - 2.5
Suitable for relative air humidities	%	10 - 95
Temperature range	°C	-20 - +51

Q-AIRE

V125 / EV125F / EV125FH

The Supply & Extract valve can help solve common problems with MVHR commissioning, balancing and performance. It is available in three versions: Standard Supply and Extract (Q-Aire-V125), filtered extract (Q-Aire-EV125F) or filtered extract with integral humidistat (Q-Aire-EV125FH).

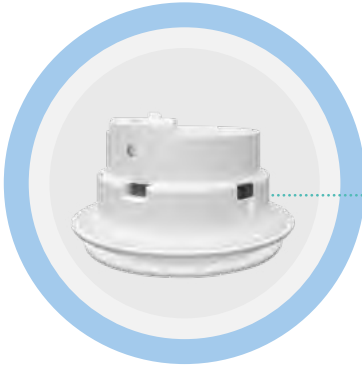
Q-Aire Supply & Extract valve is the only lockable, filtered valve on the market and is fully-compliant with the latest NHBC guidance and Part F domestic ventilation compliance guide.

The filtered extract version removes the need for a ducting cleaning regime and access panels because air is filtered before it enters the ducting.

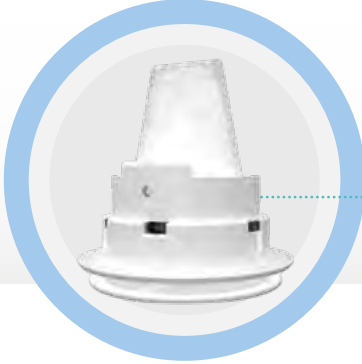
The Supply valve is fully lockable once commissioned and even when the filter is removed and changed, once replaced it returns to the commissioned position.

The valve features a deflector plate, so even if positioned in a corner, or next to a wall, it is able to deflect air event evenly across the room.

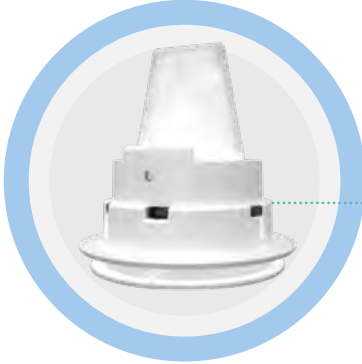
This in-built humidity sensor simply uses the Ecosmart SELV cable to connect back to the MVHR or MEV unit.



Q-AIRE-V125
Supply & Extract Valve



Q-AIRE-EV125F
Extract Valve with filter



Q-AIRE-EV125FH
Extract Valve with filter and fitted integral humidistat

AIR RESISTANCE PERFORMANCE

	Resistance in Pa				
	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s
Q-AIRE-V125 (13mm Gap - Extract)	2	6	14	26	41
Q-AIRE-V125 (13mm Gap - Supply)	2	4	11	20	33
	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s
Q-AIRE-EV125F (13mm Gap - Extract)	4	11	27	48	73
Q-AIRE-EV125FH (13mm Gap - Extract)	4	11	27	48	73

The filter can be quickly replaced by simply removing the damper assembly and changing the filter.

The damper assembly is then put back in place without any adjustment of the commissioned set point. Thus ensuring the system remains commissioned.

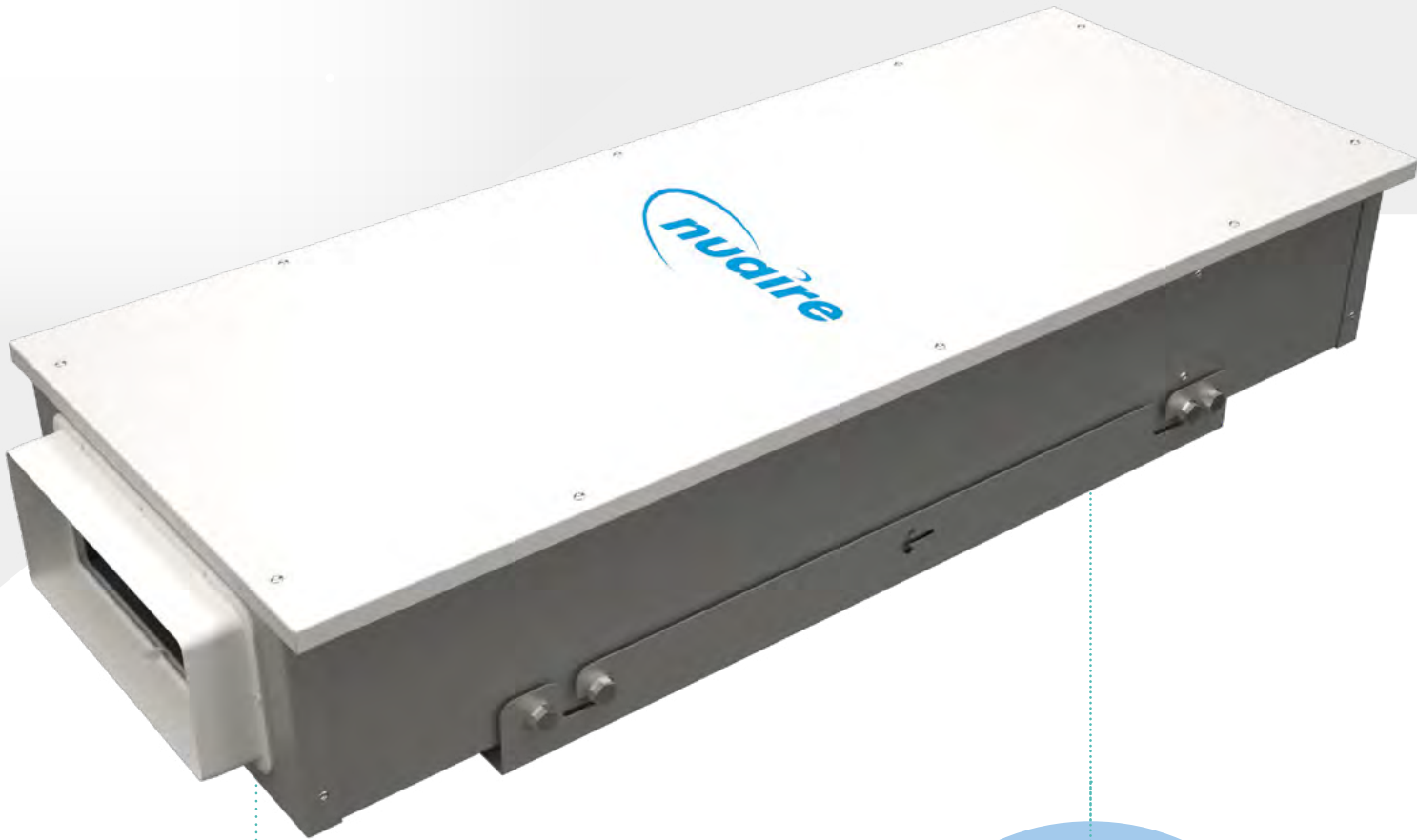
Features and benefits

- ▶ Humidistat – The only filtered extract with built in humidistat
- ▶ Easy install – Same valve for supply and extract
- ▶ Simple commissioning – Lockable position for commissioning
- ▶ Easy maintenance

Q-AIRE

IAQBOX

Nuaire's IAQBOX range offers solutions for urban areas where air pollutants such as NO₂, Carbon Dioxide and other dangerous Particulate Matter need to be filtered before outdoor air enters the property. These specifiable products will refine traditional filtration and ensure that Air Quality planning obligations are met.



Features and benefits

- ▶ High levels of filtration – Up to 99.5% NO₂ filtration
- ▶ Low resistance – MVHR system are not affected
- ▶ Low profile – Flexible installation
- ▶ Carbon filter – Unique single cell design or innovative double size unit with multi-spigot option
- ▶ Pre filters available – Increased Particulate Matter filtration
- ▶ Separate hook in bracket to aid installation

Removes up to
99.5%
of harmful NO₂
and 75% of Particulate
Matter (PM2.5)

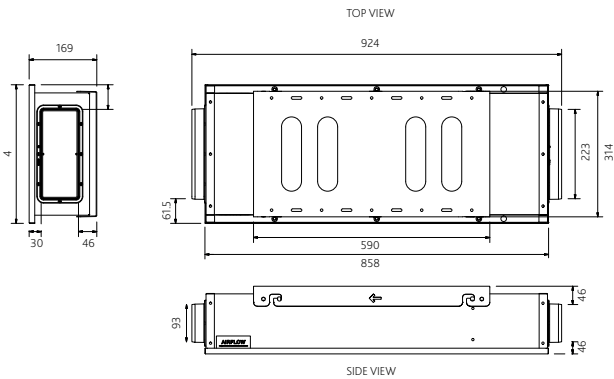
The IAQBOX-S
offers a unique approach
in carbon filtration by
using a single carbon filter
cartridge to filter & clean
polluted outdoor air that
MVHR systems bring in
to properties.

There is a choice of PM2.5 or PM10
pre-filters to further enhance the filtration of
polluted outdoor air, before it enters the property.

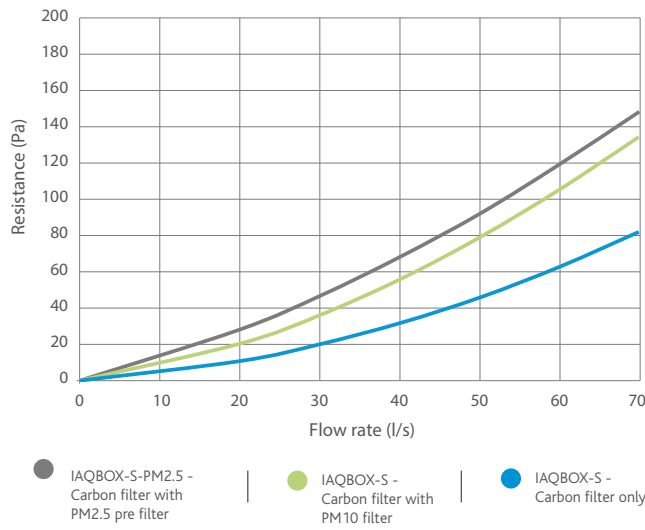
To specify the IAQBOX-S with or without fitted
pre-filters, choose from the following codes in
the table opposite.

IAQBOX-S

Dimensions (mm) - IAQBOX-S Unit



AIR RESISTANCE TEST IAQBOX-S

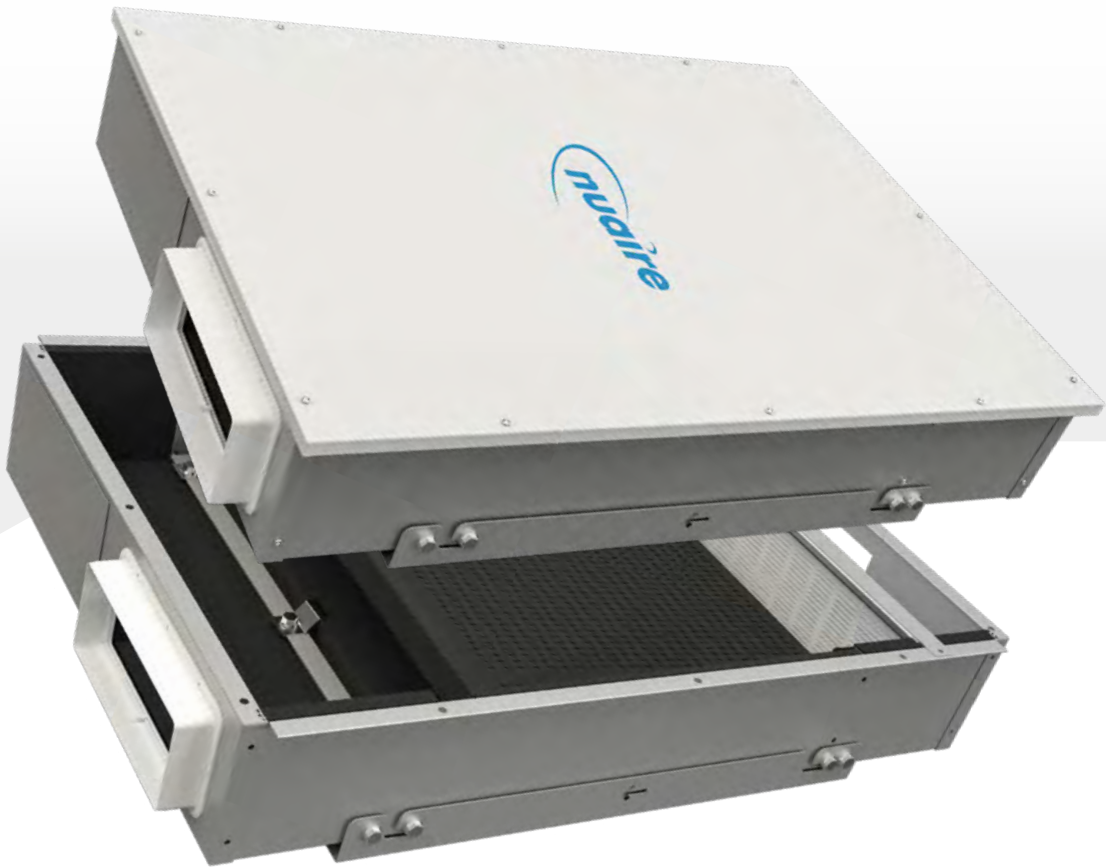


	IAQBOX-S	IAQBOX-S-PM10	IAQBOX-S-PM2.5
NO PRE-FILTER	✓		
PM10 PRE-FILTER		✓	
PM2.5 PRE-FILTER			✓

IAQBOX-D

The IAQBOX-D is Nuaire's unique offering, showcasing a double width unit which allows a larger volume of airflow to pass through the carbon filter resulting in some of the lowest resistances on the market.

This unit also comes with the option of 2 outlet spigots, reducing system pressure and resistance by decreasing the number of duct runs needed to feed to all supply rooms.

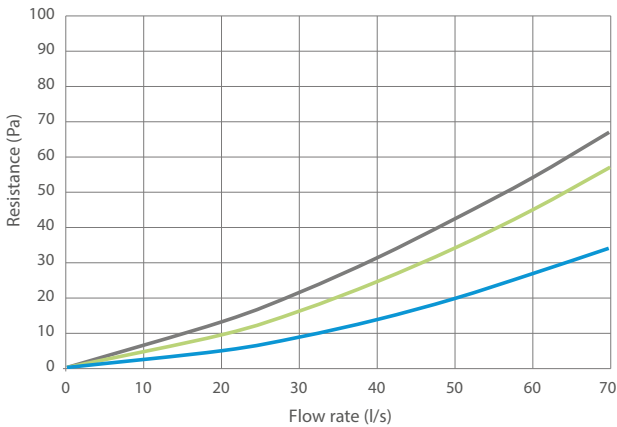


	IAQBOX-D	IAQBOX-D-PM10	IAQBOX-D-PM2.5
NO PRE-FILTER	✓		
PM10 PRE-FILTER		✓	
PM2.5 PRE-FILTER			✓

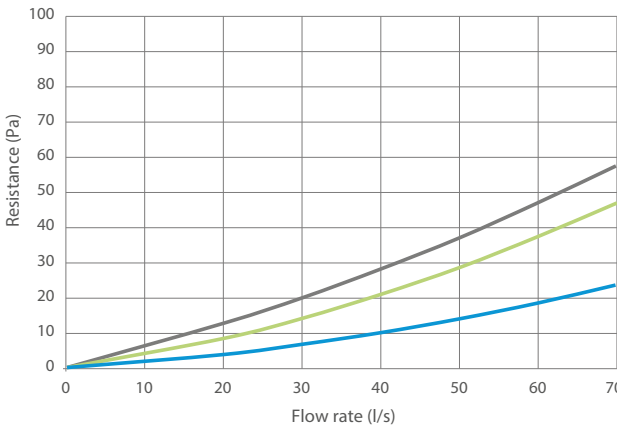
There is a choice of PM2.5 or PM10 pre-filters to further enhance the filtration of polluted outdoor air, before it enters the property. To specify the IAQBOX-D with or without fitted pre-filters please choose from the above codes.

AIR RESISTANCE TEST

IAQBOX-D - 1 Spigot fitted

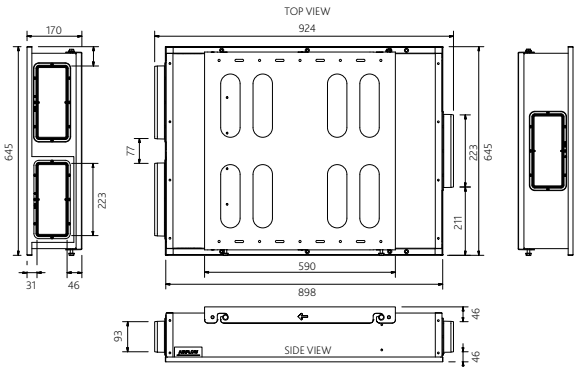


IAQBOX-D - 2 Spigots fitted



● IAQBOX-D - Carbon filter with PM2.5 pre filter ● IAQBOX-D - Carbon filter with PM10 pre filter ● IAQBOX-D - Carbon filter only

Dimensions (mm) - IAQBOX-D Unit



Consultant Specification

IAQBOX-S and IAQBOX-D

The IAQBOX-S and IAQBOX-D (plus pre-filter variant codes) comprise the Q-Aire IAQBOX range and shall be manufactured in sheet metal, with an integral foam lining to reduce noise & provide internal sealing. Each inline filter shall have the ability to have an optional PM10 or PM2.5 pre-filter inserted into the filter box to be capable of additional particulate filtration; particularly from diesel vehicle fumes.

The IAQBOX shall come complete with a removable mounting bracket.

The double size IAQBOX-D range of units have the option to be configured using a single or double spigot on the outlet. Double spigot on the outlet shall provide lower air resistance and further ducting options.

The IAQBOX shall come complete with a plastic construction carbon filter, containing two 30mm (approx.) beds of activated carbon pellets providing a large surface to filter the airflow. The filters shall be easily removed and replaced when required. The filter shall have a minimum efficiency of between 96% and 99.5% effectiveness in the removal of Nitrogen Dioxide.

The unit efficiency shall be confirmed and independently verified by a BRE (Building Research Establishment) test method and the information shall be provided by the filter manufacturer for approval.

The activated carbon shall have the following minimum qualities:

Bulk density	kg/m ³	480 (+/-5%)
Nominal diameter of cylindrical pellets	mm	4.0
Nominal length of cylindrical pellets	mm	8.0
Moisture content (approx.)	%	3
Crush strength (minimum)	kg	2
Removal capacity for Cl2 of own weight	%	10
Minimum design efficiency	%	99.5
Typical air velocity	m/s	0.3 - 2.5
Suitable for relative air humidities	%	10 - 95
Temperature range	°C	-20 - +51

The unit shall be suitable for 220x90mm ducting.

The unit shall be installed in conjunction with the manufacturer's installation and maintenance guidelines.

The unit shall be offered with a 5 year warranty; 1 year parts and labour, remaining years parts only. This warranty is void if the equipment is modified without authorisation, is incorrectly applied, misused, disassembled or not installed, commissioned and maintained in accordance with the details contained in the I&M manual and general good practice.

NOXMASTER

The Noxmaster is a whole-house ventilation system which combines the principles of Positive Input Ventilation (PIV) with a powerful carbon filter technology to prevent highly reactive gases such as Nitrogen Oxides (NOX) and Particulate Matter (PM10 and PM2.5) entering the home. These gases and particles can enter the home through any natural leakage points, i.e. soffits and letter boxes.

Noxmaster removes up to 99.5% of Nitrogen Dioxide and other harmful pollutants generated by traffic emissions. The system delivers clean, filtered air into urban homes, improving air quality to within safe levels recommended by the World Health Organisation (WHO).

What is NOX?

NOX is used as a term for Nitrogen Oxide gases NO and NO₂ that are most relevant for air pollution.

Nitrogen Oxides are released into the atmosphere when fossil fuels are burned (for example, petrol or diesel in a car engine).

What is Particulate Matter?

PM10 & PM2.5 filtration

Particulate Matter size classes are used as evaluation parameters by the WHO (World Health Organisation) and other authorities. These evaluation parameters are incorporated in Air Quality Management reports to ensure the correct filtration is selected based on the requirement within the reports.

PM10

PM10 is the name for coarse dust particles that are 2.5 to 10 micrometres in diameter. The main source is road transport, namely vehicle breaks and tyre wear, and also during combustion of fuel, gas and coal. Tiny particles are inhaled causing major health problems.

PM2.5

PM2.5, known as fine Particulate Matter, is a mixture of solid and liquid particles that are suspended in the air. They are 2.5 micrometres in diameter or smaller, and can only be seen with an electron microscope. Sources include power plants, motor vehicles and wood burning.

Removes up to
99.5%
of harmful NO₂ and
75% of Particulate
Matter (PM2.5)

Patent
Pending

For retro-fit
applications



How it works

Noxmaster is the first time a retrofitable whole-house ventilation system has addressed air quality with carbon filtration.

The Noxmaster operates all year round by continuously drawing air through the filters in the unit and inputting it, at ceiling level, into the property. Noxmaster removes up to 99.5% of Nitrogen Dioxide (NO₂) through two powerful carbon filters. The activated carbon is microporous and has a much larger surface area than its external dimensions suggest. A spoonful of activated carbon equates to the surface of a football field. Through a process known as 'adsorption', the pollutants are

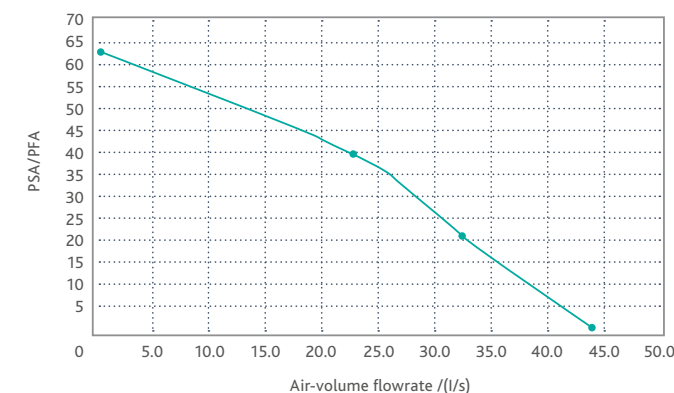
attracted and held on the surface of the carbon, trapping them before they enter the home. The carbon filters have a lifespan of five years and are recyclable. The Noxmaster is fitted with a carbon cartridge and a PM10 filter as standard with the option of PM2.5 filtration in areas with high levels of Particulate Matter.

The unit has the optional extra to be thermostatically controlled to create comfort in the home based on outside air temperature. It has the ability to intelligently utilise the solar gain from the loft space during colder months and draw fresh, cooler air directly from outside during the warmer months.

Features and benefits

- ▶ Unique technology combining PIV and carbon filtration
- ▶ High filtration – removes up to 99.5% of harmful Nitrogen Dioxide (NO₂) and 75% of Particulate Matter (PM2.5)
- ▶ Significantly improves indoor air quality in homes for the occupants
- ▶ Allows occupants to keep windows closed for security and to discourage pollutants entering the home
- ▶ Thermostat is fully adjustable providing comfort for the occupants
- ▶ Aesthetically pleasing modern ceiling diffuser
- ▶ Low maintenance
- ▶ PIV principle prevents condensation and its associated issues
- ▶ Evidence by the BRE demonstrates the principle of PIV is a remedial measure in controlling Radon gas
- ▶ Commissioning can be carried out via the controls cited within the ceiling diffuser
- ▶ Time clock – optimises filtration when levels of pollution are evident
- ▶ Energy-efficient and cost-effective solution
- ▶ Delivered in 2 pods to increase movability and aid easier installation in confined spaces

Noxmaster Performance Graph



IAQ-PURGE

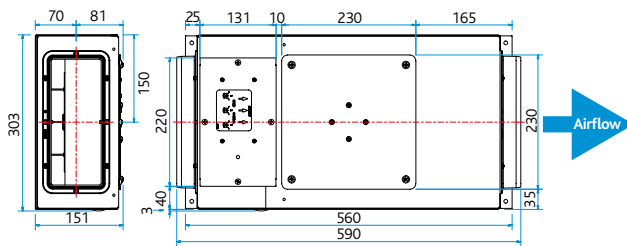
High performance purge ventilation

The IAQ-PURGE has been designed to provide purge ventilation for rapid removal of stale odours and poor quality air from the dwelling to create a healthier living environment or to help combat over-heating problems.

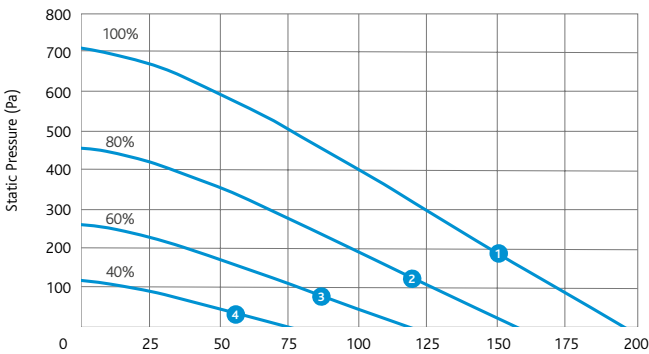
It provides mechanical purge when required, independently or in conjunction with Nuaire's MVHR systems.



Dimensions (mm) - IAQ-PURGE



Duty graph



Electrical & sound

Curve	Maximum power consumption (Watts)		Sound Power Levels dB re 1pW (Frequency Hz)								dBA @3m
			63	125	250	500	1k	2k	4k	8k	
1	113	Open inlet	62	61	68	75	71	65	56	51	
		Open outlet	65	64	74	83	74	72	65	60	
		Breakout	66	65	63	62	53	49	40	31	44
2	58	Open inlet	57	56	63	70	66	60	51	46	
		Open outlet	60	59	69	78	69	67	60	55	
		Breakout	61	60	58	57	48	44	35	26	39
3	24	Open inlet	51	50	57	64	60	54	45	40	
		Open outlet	54	53	63	72	63	61	54	49	
		Breakout	55	54	52	51	42	38	29	20	33
4	7	Open inlet	57	54	58	61	51	45	36	31	
		Open outlet	60	57	64	69	54	52	45	40	
		Breakout	61	58	53	48	33	29	20	<16	31

Please note: Sound data is provided at a particular duty point for 40%, 60%, 80% and 100%. For accurate sound data at a specific speed duty, please use Nuaire's fan selector or call the office on 029 2085 8500.

Consultant Specification

- ▶ The unit shall be fully insulated providing thermal characteristics.
- ▶ The motor and controls shall be accessible via the bottom access panels, enabling quick and easy maintenance.
- ▶ The unit shall have three independently variable speed settings.
- ▶ The unit shall have low energy, high efficiency EC fan/motor assembly suitable for an ambient temperature of 50°C the impellers shall be backward curved centrifugal type.
- ▶ The unit shall be suitable for 220mm x 90mm ducting.
- ▶ The breakout noise level and power requirements shall be as detailed by the unit manufacturer and in accordance with the ventilation equipment schedule.
- ▶ The unit shall be offered with a 5 year warranty. 1 year parts and labour, remaining years parts only.

Ancillaries

Q-AIRE-V125 Supply and Extract Valve



Q-AIRE-V125

Supply & Extract Valve

Features and benefits

- ▶ Handles duties up to 200l/s
- ▶ The most compact size for duty on the market
- ▶ High airflow for purge or overheating ventilation rates
- ▶ All serviceable parts are all accessible from underside
- ▶ Thermally lined for use in supply or extract applications
- ▶ Low profile – only 151mm deep
- ▶ 220mm x 90mm for low resistance duct configurations
- ▶ Three independently controllable speeds
- ▶ Integral mounting bracket/plate
- ▶ 5 Year warranty*

*1 year parts and labour, remaining years parts only.

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CF83 1NA

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