

NEW

# IAQ CARBON FILTER

Twist, clip... and breathe

## The simple way to lock out air pollutants

Air pollution claims an estimated 40,000 lives each year.

Annual mean NO<sub>2</sub> levels near busy roads frequently exceed 100 micrograms per cubic metre of air, far higher than the acceptable European mean level of >40. Outdoor air quality has a direct impact on the air inside the home.

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 NO<sub>2</sub> 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 15l/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.



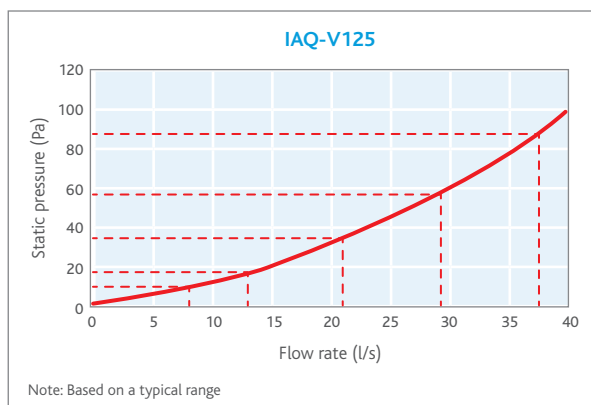
Over 90% NO<sub>2</sub> reduction

### bre Results of NO<sub>2</sub> reduction

Air flow rate (l s <sup>-1</sup> )	Nitrogen dioxide concentration (ppb)			Approx. NO <sub>2</sub> concentration reduction (%)
	Rig Inlet	Pre-filter	Post-filter	
5	24	23	2.5	89
5	24	66	5.9	91
5	23	106	9.2	91
10	26	25	5.5	78
10	28	49	10.5	79
10	27	104	21	80
15	28	27	6.8	75
15	28	66	15	77
15	28	105	24	77
20	24	24	6.0	75
20	25	63	16	75
20	25	103	26	75

ppb = parts per billion

### AIR RESISTANCE TEST



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

# IAQ-V125 CONSULTANT 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 of the habitable rooms and connected to a plenum box within the ceiling. 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 within 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 (NO<sub>2</sub>) ensuring a very good 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.

Each IAQ-V125 shall be capable of supplying and filtering airflow of up to 15 l/sec.

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 activated carbon shall have at least the following minimum qualities:**

Bulk density	kg/m <sup>3</sup>	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 <sub>2</sub> 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 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.