39 Fitzjohn's Avenue, Camden
Air Quality Mitigation

Air Quality Response 20th June 2019

WYG have undertaken detailed dispersion modelling to assess the effects of Air Quality upon the surrounding area and at the proposed residential development at 39 Fitzjohn's Avenue, London Borough of Camden (LBC). WYG's Air Quality Assessment was dated 29th May 2019 and an additional Comments Response Document was provided on the 18th June 2019.

The results of the technical modelling has shown that levels on site are predicted to be a maximum value of 35.49 µg/m³. The above maximum prediction at the proposed residential development is below the NO_2 Air Quality Objective (AQO) of 40 µg/m³ using standard best practice methodology and therefore, mitigation would not expect to be provided.

However, to reduce exposure to pollutants at the proposed residential development, additional mitigation will be provided in order to satisfy concerns raised by Gabriel Berry-Khan, Senior Sustainability Officer at LBC.

Mechanical Ventilation fitted with Nitrosorb Filters

AAC Eurovent Nitrosorb Filters (or similar) will be installed in the mechanical ventilation for each residential unit. Please find the data sheet for this proposed mitigation in Appendix A. These filters have shown reductions in internal levels of 75.43% of the external concentration (page 7 of the document).

With the above measures in place, it is considered that there is no risk that future occupants of the development would be exposed to levels of NO_2 within proposed units.

Appendix A Nitrosorb Data Sheet

LEADERS IN AIR & LIQUID PHASE FILTRATION TECHNOLOGY

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AAC NITROSORB®

INDOOR AIR NO_2 FILTRATION SYSTEMS

Residential

Commercial

Educational

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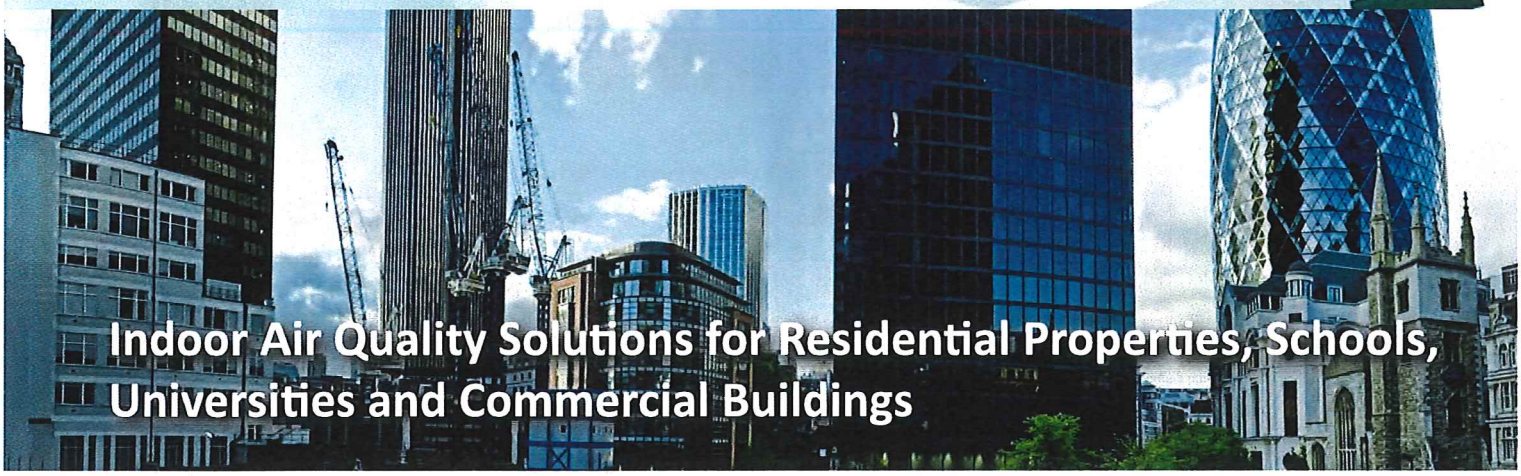


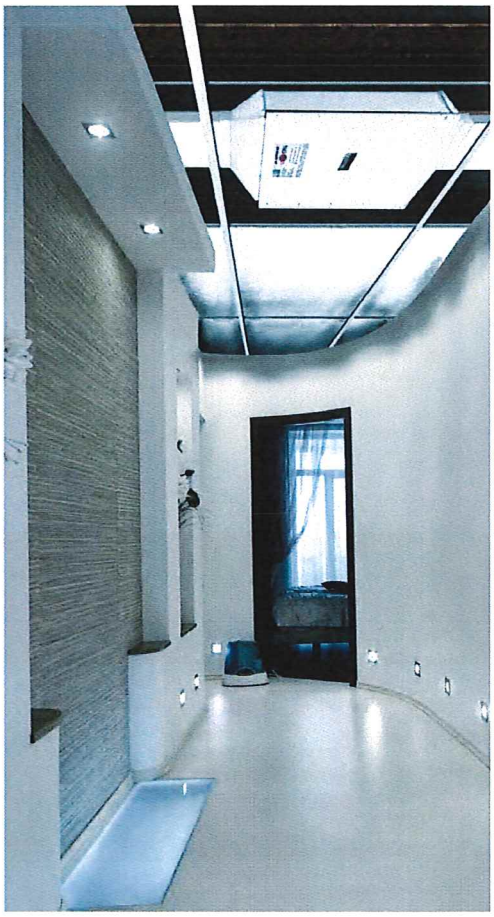
Indoor Air Quality Solutions for Residential Properties, Schools, Universities and Commercial Buildings

Indoor Air NO_2 Filtration Systems

The European Union Air Quality and Clean Air for Europe 2008/50/EC (CAFE) Directive set stringent NO_2 levels for designated Air Quality Management Areas.

At AAC Eurovent we design and manufacture cutting edge NOx filters.

AAC NITROSORB® filters provide planners, developers and mechanical consultants with an effective and sustainable NO_2 mitigation solution for indoor air projects in new build and retrofit residential, commercial and educational schemes, where NO_2 concentrations exceed the accepted level of 40ug/m^3



Our high performance solutions offer a number of key benefits:

- Suitable for residential, commercial and educational applications
- Suitable for both new build and retrofit schemes
- Widely accepted by planners in Air Quality Management Areas
- Recommended for use by leading UK air quality consultants
- Routinely specified by mechanical consulting engineers
- Solutions available to suit both Mechanical Ventilation Heat Recovery systems and centralised Air Handling plant
- Offer a very low pressure drop
- Can be supplied in both horizontal and vertical air flow orientations
- Range of standard units available to suit most applications
- Bespoke design service also available
- Compatible with the AAC Colourcell® media filter system
- Transparent viewing panel for ease of inspection
- Available in either Plain Galvanised or Electric Powder Coat finish

Address: *AAC Eurovent Ltd, AAC House, Unit K, Maybrook Industrial Estate, Maybrook Road, Brownhills, West Midlands, WS8 7DG*
UK ***Tel:*** *0800 999 4884* | ***Fax:*** *08444 77 4797* | ***International Callers Tel:*** *+44 (0) 1543 379823*
Email: *sales@aaceurovent.co.uk* | ***Website:*** *www.aaceurovent.co.uk*

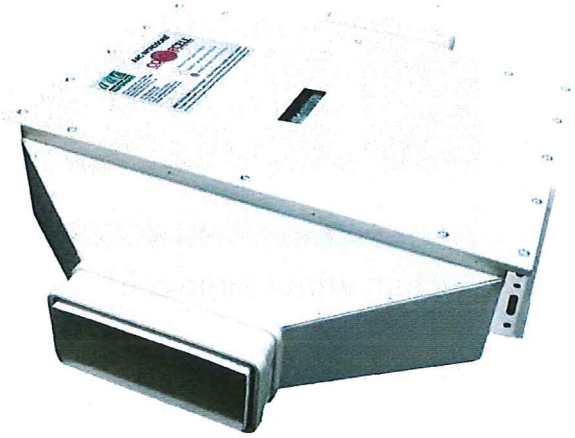
Indoor Air NO_2 Mitigation for Mechanical Ventilation Heat Recovery Units

For residential apartments where individual ventilation systems are connected to an MVHR system, we recommend the AAC Swiftpack® NITROSORB® filter system.

AAC Swiftpack® NITROSORB® Filter System

The AAC Swiftpack® NITROSORB® filter system incorporates AAC NITROSORB® media into the AAC PR™ range of media filter cells.

This compact, high performance solution is suitable for both horizontal and vertical airflows, is designed for use with a wide a range of volume flow rates, and can be accommodated in a false ceiling void as low as 100mm.



The units meet the low pressure drop requirements of MVHR units installed under part F of the Building Regulations and when situated downstream from the MVHR (recommended) offers the benefit of longevity, alongside low pressure drop, with no increased energy consumption from the indoor ventilation system.

PM10 or PM2.5 particulates can also be easily removed by the installation of a suitably rated particulate pre-filter, thus enabling the unit to comply with the particulate aspect of the legislation.

Features & Benefits

- Independently MCERTS tested and verified
- Accepted by planners as an AQMA NO_2 mitigation measure
- Compatible with MVHR units
- G3 after-filter fitted as standard
- Optional PM10/PM2.5 filter can be installed into the unit
- Smart remote system monitoring available
- Compact design, allowing for easy installation
- Bespoke design service available

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NO_2 Mitigation for Commercial and Educational Schemes with Air Handling Units

The AAC NITROSORB® filter system can easily be installed into an AAC Swiftkit® or an AAC Skeleton™ frame, to meet the requirements of larger commercial and educational buildings served by AHUs.

These systems can then be connected to the AHU, or if space allows, fitted within it.

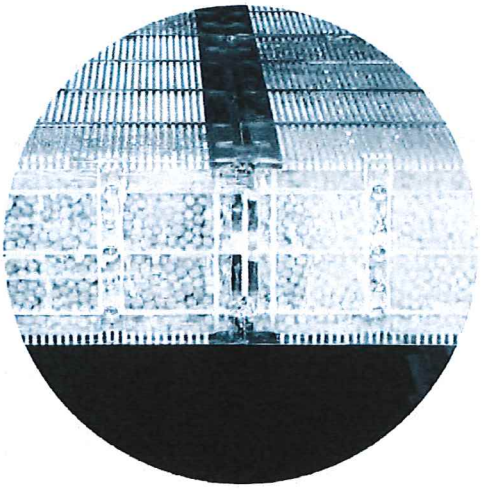
AAC Swiftpack® NITROSORB® Filter System with Colourcell®

Our unique AAC Colourcell® media filter system is designed to save time and money by providing end users and maintenance technicians with a clear indication of the status of the NITROSORB® media and notification when the media replacement should be carried out.

AAC Colourcell is a patented, transparent filter cell containing a media formulated to react to changes in the condition of installed AAC NITROSORB® media, by undergoing a series of visible changes in appearance from white (new media) to pink (spent media). Our units are able to feature a transparent viewing panel for ease of inspection.

The result can be further verified by analysis of a media sample in the laboratory.

COLOURCELL®
MEDIA FILTER SYSTEM



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AAC EQUINOX® - NO_2 Monitoring & Data Acquisition

AAC EQUINOX® is a NO_2 monitoring & data acquisition solution designed to work seemlessly with the AAC Swiftpack® NITROSORB® filter system, continuously measure the efficiency and performance in reducing indoor air levels of NO_2. In addition to the monitoring of NO_2, AAC EQUINOX® has the capability to monitor: carbon monoxide, temperature, relative humidity and noise.

The Limitations of Conventional NO2 Monitoring

Low data resolution (monthly data from diffusion tubes) and prohibitive costs have rendered conventional air quality monitoring techniques unsuitable for the continuous monitoring of NITROSORB® filter efficiency. AAC EQUINOX® has been developed as a bespoke solution to deliver a continuous monitoring system that offers planners and end users a low cost, reliable and accurate way to continuously measure the efficiency and performance of installed AAC Swiftpack® NITROSORB® filter systems.

About the AAC Swiftpack® NITROSORB® Filter System

The AAC Swiftpack® NITROSORB® filter system is a unique NO_2 mitigation solution designed to assist developers, planning consultants, consulting engineers and local authority planning departments to comply with the **EU Directive 2008/50/EC (the CAFE Directive) European Union Air Quality and Clean Air for Europe 2008.**

The role of AAC NITROSORB® in NO_2 reduction is well established, and the solution is regularly specified by consulting engineers for residential, school and commercial projects in Air Quality Management Areas where there is a planning requirement to mitigate NO_2 from the indoor air.

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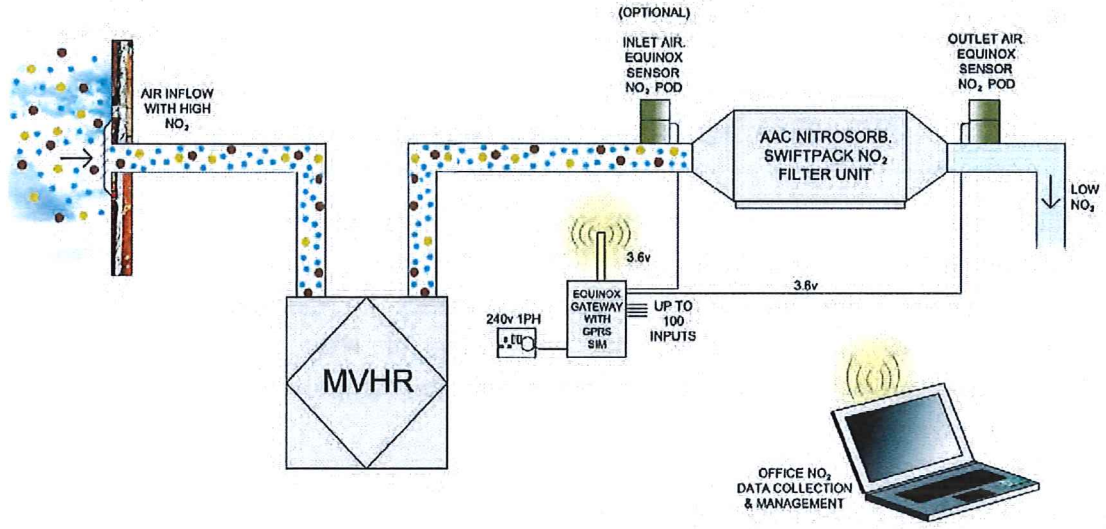
What is EQUINOX®?

AAC EQUINOX® is a wireless NO_2 monitoring system which operates using an electro-chemical NO_2 sensor on the filter discharge. A second optional sensor can also be fitted on the filter inlet if required.

How Does EQUINOX® Work?

AAC EQUINOX® is designed to communicate over a wireless ZigBee protocol. The EQUINOX® units can be deployed in a network, or mesh which only requires a single gateway hub to communicate data from the entire network back to the central server.



The schematic drawing above illustrates how EQUINOX® is positioned to provide end users with the critical information needed to measure the efficiency and performance of their installed AAC Swiftpack® NITROSORB® filter system.

Why choose the AAC EQUINOX®?

- A high quality, accurate, low cost solution with low maintenance and running costs
- Simple to install and easy to understand
- Remote analysis with set point alarm providing media replacement alerts
- Provides reliable assurance to end users that the filters are performing well and protecting them

AAC EQUINOX® and AAC COLOURCELL®

AAC EQUINOX® is designed for use in conjunction with the AAC COLOURCELL® media filter cell technology, which offers end users an important visual indication of the condition of the installed NITROSORB® media. In practice these changes take place over a 2-5 year period, but by monitoring changes in the appearance of the COLOURCELL® filter media, end users and maintenance personnel are able to easily determine when the NITROSORB® filter media may require to be changed, by way of a transparent viewing panel included in our NIROSORB® filter units.

AAC EQUINOX® is available either for purchase or very affordable low cost hire.

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Case Study

Location: Brentford, London, 7th Floor Building, off the A40
AAC EQUINOX® Assessment Period: 3/9/2015 -18/9/2015

The Problem

Continuous poor air quality in this area, with spikes in excess of 200ug/m^3.

The Solution

A large AAC Swiftpack® NITROSORB® system was installed on the roof of the property, in conjunction with an AAC EQUINOX® system.

The red line in the graph overleaf represents the inlet/upstream concentration and the blue line shows the downstream concentration after the AAC Swiftpack® NITROSORB® filter unit.

The horizontal line indicates the 40ug/m^3 acceptable limit, and the pink line represents exceedance for a short period of time where the AAC Swiftpack® NITROSORB® filter unit passes air above the 40ug/m^3 NO_2 level, due to some extraordinarily high spikes in the overall air quality.

The Result

The average inlet concentration is 70.4ug/m^3 and the average downstream concentration is 17.3ug/m^3 demonstrating a filter efficiency of 75.43%.

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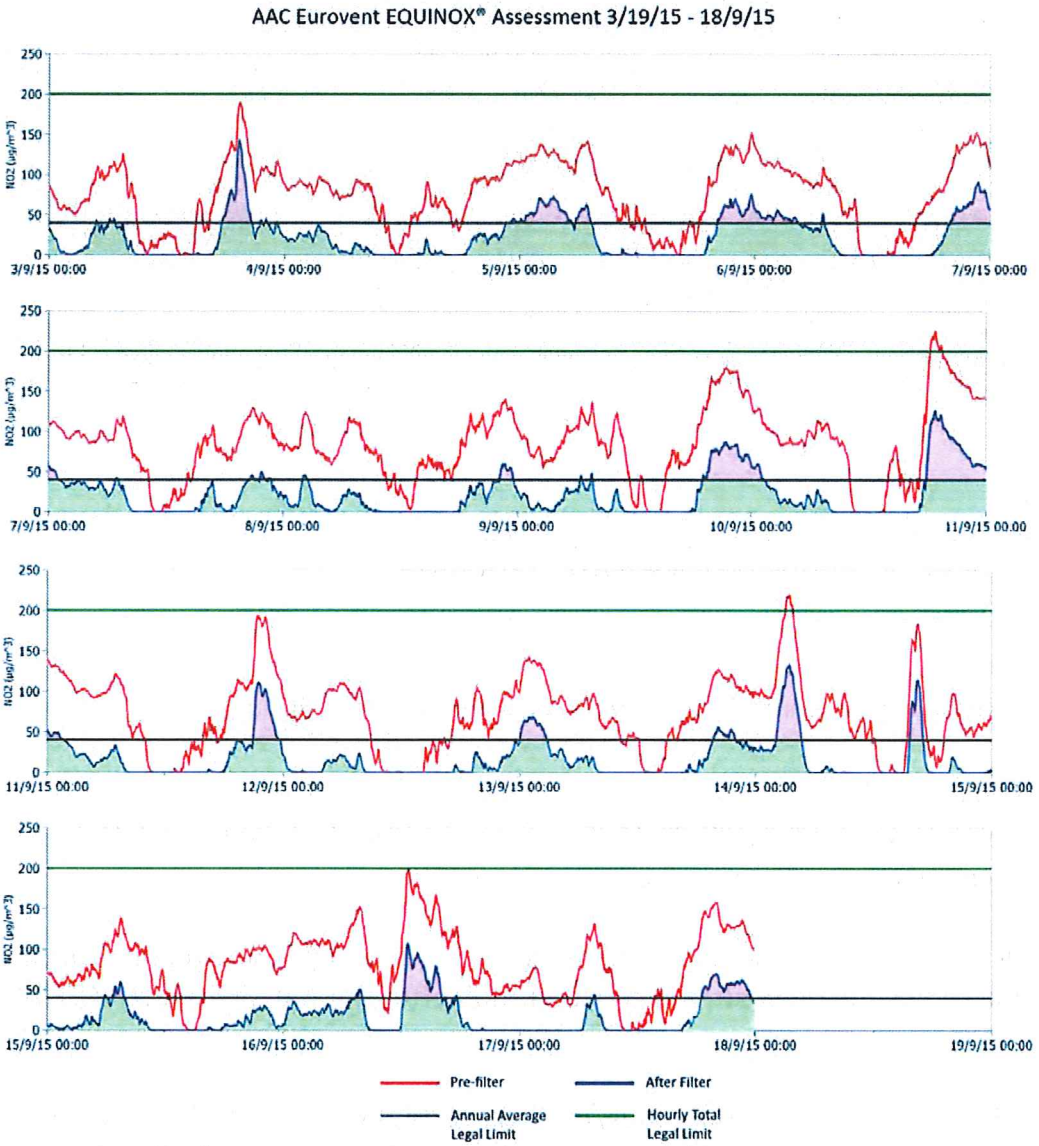
AAC EQUINOX® NO_2 Monitoring & Data Acquisition

The effectiveness of AAC EQUINOX® in monitoring of the AAC Swiftpack® NITROSORB® filter system is clearly demonstrated in the graph below.



	Before Filter	After Filter
Study Mean Average (µg/m³)	70.4	17.3
Exceedances of 200µg/m³ Hourly Averaged	2	0
Filter Efficiency (%)	75.43	

To find out more about the role of AAC NITROSORB® and AAC EQUINOX® in NO_2 mitigation, call: 0800 999 4884 or email: sales@aaceurovent.co.uk

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