



WORKING FOR A HEALTHIER FUTURE

Specialist Hospital Ventilation Services



Why Use IOM?



IOM is a leading international provider of health and safety solutions to industry, commerce, public sector and professional bodies.

We offer a comprehensive range of complementary services, enabling us to provide practical solutions to a broad spectrum of occupational health and hygiene concerns.

Whether your requirement is for on-site measurement and monitoring, strategic advice, expert opinion or multi-disciplinary research, IOM will be delighted to help.



Our Company

Working for a Healthier Future

At IOM (Institute of Occupational Medicine) we deliver the broadest range of workplace health services in the UK today. We have over 100 specialist staff strategically located across three UK locations. We work for thousands of organisations and our clients are reassured that with IOM they can access some of the most experienced, independent health and safety experts in the country.

IOM helps employers deliver world class workplace practices:

- We understand the factors that affect human health in the workplace and the wider environment.
- We identify and promote practices which can improve the health of workers and the wider population.

We support companies in diverse industries in dealing with risks from established workplace hazards such as noise, chemicals, asbestos, heat, dust or vibration. Emerging risks from new technologies such as those involving nanomaterials are also assessed. Our support also extends to Expert Witness services.

Good health means good business. As experienced consultants and scientists we understand what organisations need to do to protect their employees and their businesses. We therefore go beyond workplace compliance and establish true best practice and accurate insight into workplace health issues in your organisation.

Our clients benefit from some of the foremost experts in their fields. We have an international reputation for excellence in research, services and consulting activities across all industry sectors from high technology to heavy industry. An understanding of workplace health is critical to every business. At IOM we ensure your organisation is at the very forefront of this understanding, as we work together for a healthier future.

Specialist Hospital Ventilation Services

Controlling Airborne Infection in Hospital and Medical Facilities

Regular monitoring for the functional integrity of all forms of ventilation in operating theatres and cleanroom environments is a fundamental requirement. Based on our extensive Occupational Hygiene experience, IOM has established a specialist team to deliver this key service.

At IOM, we already work for many of the UK's NHS Trusts, who rely on us to deliver the very best in Specialist Hospital Ventilation Validation and Verification Testing services.

As an independent authority with authorising engineers, experienced occupational hygienists and ventilation technicians, we support the design, validation and verification of ventilation systems within hospital and associated healthcare environments.

Providing UK coverage from our Stafford and Edinburgh offices, we offer extensive knowledge and expertise in the sector and will ensure the necessary validation and verification work is carried out to fit in with your tight theatre schedules. The key tasks undertaken are airflow measurements, pressure cascades, particle counting, microbiological sampling, and auditing of air handling units.

The services we provide include:

- Ventilation Validation and Verification
- Authorising Engineer Design Review
- Independent Review
- Support to Systems Refurbishment
- Microbiological Monitoring
- Training





1. Ventilation Validation and Verification

Independent Microbiological Reassurance

New and old healthcare ventilation systems vary in complexity and any design or performance shortcomings can have potentially serious consequences in the battle to control airborne infection. Hospital engineers, theatre managers and infection control departments can rely upon assistance from IOM to comply with HTM03-01 and HTM2025 in critical decision making that affects patient care in operating theatres and general healthcare environments.

Our services are relevant to the following surgical, recovery and related areas:

- Ultra-clean and conventional operating theatre suites
- Day theatres and minor procedures rooms
- Recovery areas and hospital wards
- ITU and HDU departments
- Sterile Service Departments including IAP rooms
- Aseptic suites and Isolation rooms
- Mortuaries
- Healthcare clinics
- Pharmacies
- IVF treatment suites
- Category 2 and 3 laboratories

As independent monitoring experts with a full microbiological lab support service, we are a trusted supplier to many of the UK's NHS trusts and private hospital groups.

2. Authorising Engineer Design Review

Independent Consulting Services in Design and Maintenance

IOM provide Authorising Engineer (Ventilation) Services to a number of hospitals within the public and private sectors, via our in house Chartered Engineer / Member of IHEEM.

Too frequently, architects and designers incorrectly interpret the HTM's and HBN's resulting in errors in construction design and in the installation of critical ventilation systems in areas such as operating theatres. Once built, it becomes difficult and expensive to alter the layout to make it compliant.

At IOM we review designs while they are still at the planning stage and assist in making alterations to layout and ventilation requirements, before the build or refurbishment takes place. This is a relatively simple process and saves an enormous amount of time and trouble as a project progresses.

Our service therefore provides an independent consultative approach to ensure the integrity of the ventilation system is reflected in the design, positioning, and maintenance programmes. Specifically, this service includes:

- Appointment / selection of Approved Person (AP)
- Reviewing validation / verification documentation and methods
- Audit of ventilation systems
- Assisting hospitals in prioritising programmes of improvements and the development of a five year plan
- Review of training requirements for Approved Persons and Competent Persons
- Provision of training
- Review and approval of project designs

3. Independent Review

Auditing Air Handling Systems

IOM audit the ventilation system from the air inlet through the air handling unit and supply ductwork to the critically ventilated area. Similarly the extract ventilation system is inspected through to discharge.

IOM reviews the information against HTM 03-01 or in some cases HTM 2025, and against the design parameters.

The review process enables the client to be aware of the status of the systems in relation to current guidelines. Where deficiencies are found IOM can then assist in helping to determine the risk to patients, to staff and to the organisation.

This process may result in providing reassurance or in planning the replacement or refurbishment of existing facilities.



4. Systems Refurbishment

Upgrading Non-compliant Ventilation Systems

Many hospitals have old ventilation systems and non-compliant critically ventilated areas such as operating theatres.

There are significant costs involved both financially and in terms of downtime when replacing facilities. Upgrading or refurbishment is in many cases now the preferred option.

IOM provide help and advice in:

- Modifying existing layouts;
- Assessing ventilation requirements;
- Refurbishing of the air handling units.

5. Microbiological Monitoring

Controlling Air-borne Bacterial Risk in Theatres

IOM is UKAS accredited for airborne microbiological sampling in conventional operating theatres and sterile service IAP rooms. Incubation and enumeration of the sample plates is carried out in our microbiological laboratory.

The benefits of airborne microbiological sampling during the validation and verification process include reassurance of the cleanliness of the ventilation system and the effectiveness of the filtration system within the air handling units.

HTM03-01 requires 'at wound site' monitoring under UCV canopies following validation to determine the level of colony-forming units / cubic metre (cfu/m³).

IOM specialises in at wound site monitoring using a combination of Casella airborne bacteria sampler (ABS) and sterile silicone tubing. Additionally peripheral sampling locations under the canopy are monitored during the theatre list. Following monitoring the sample plates are incubated and enumerated by IOM in our microbiological laboratory.

At wound site monitoring is frequently undertaken to provide assurance that the UCV canopy and clinical procedures are effective in controlling the level of bacteria at wound sites, particularly deep wounds such as occur during orthopaedic hip and knee replacement surgery.

6. Training

Ensuring On-Site "Competent Person" Expertise

We can offer full Competent Person (Ventilation) training and a shorter ventilation maintenance course for maintenance staff. Training is carried out by a qualified tutor with many years' experience working in the healthcare ventilation field. Both courses are assessed and successful delegates will be issued with a certificate of attendance.

CP (Ventilation) Course

This 5 day course is intended to help engineers gain the skills and knowledge required to become a Competent Person (Ventilation), CP(V). Although attendance on this course may be a factor, any appointment to CP(V) is based on individual skill levels and specific knowledge of the relevant ventilation systems.

On successful completion of the course, delegates will be able to:

- Review the purpose, design, function and suitability of ventilation systems;
- Identify and measure system components, controls, airflows and pressures;
- Correctly carry out planned audits, maintenance and checks;
- Carry out basic psychrometric measurements and calculations.

Ventilation Maintenance Course

This is a three day course and is focused on Maintenance Engineers, the particular skills and knowledge required to maintain ventilation systems and to assist the CP(V) in fault finding or verification activities. It differs from the 5 day course in that there is no focus on control systems and building management system design, nor audit training or psychrometric measurements.



**IOM – working for a healthier future across
a wide range of workplace health needs.**

- Specialist Hospital Ventilation
- Occupational Hygiene (COSHH and LEV)
- Nanotechnology Safety
- Environment and Public Health
- Expert Witness Services
- Lab Services
- Human Factors
- Research
- Asbestos in Soils
- Training



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