

Healthcare

Air Management Services



Howorth - Pure Protection

For more than 150 years, the Howorth name has represented technical creativity and expertise in air engineering and its application to climatise and control the working environment.

The Howorth Air Technology Group specialises in the engineering of “Clean Air” for the healthcare and pharmaceutical industries.

The company manufactures the internationally renowned Exflow™ Range of Surgical Ultra Clean Ventilation Canopies and designs and manufactures bespoke containment equipment including Airflow Containment Booths, High Containment Barrier Isolators, Material Pack-out Systems and other ancillary containment equipment.

Additionally, Howorth, through its subsidiary companies, manufactures a full range of filter replacements and provides air handling units and duct cleansing plus full theatre sterilisation programmes.

Aftermarket & Service Division

With 150 years experience in providing clean air solutions, a Maintenance Agreement with Howorth ensures that both our own equipment and other manufacturers’ equipment continues to operate safely and efficiently long after installation and handover.

Being the original equipment manufacturer, we carry extensive stocks of replacement parts supported by a vast technical knowledge base and are able to use these resources to support our Service Engineers.

Howorth Service Engineers are expertly trained, highly qualified and properly equipped with tools and equipment plus regularly calibrated measuring devices (certificates available). With these they provide our customers with the highest quality levels of service and maintenance available in the market place. Agreements can be individually tailored to ensure that visits take place during planned maintenance shut-downs. This approach guarantees minimal disruption to equipment operation.



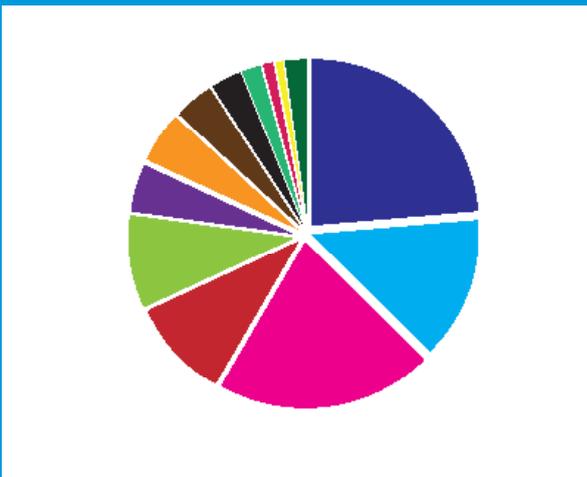
Air Management & Infection Control

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Nosocomial infections are a major concern to healthcare professionals and the public alike. While headlines typically focus on MRSA and C. difficile, there are many other pathogenic micro-organisms.

Within the operating theatre, Surgical Site Infections (SSIs) are a major cause for concern as they are associated with considerable and serious morbidity.



Research indicates that the level of airborne bacteria within an operating theatre is directly proportional to the level of post-operative infection. It is generally accepted that “clean surgery” with a moderate or high



risk of infection should be carried out in an ultra clean atmosphere. The agreed international definition of ‘ultra clean’ is air containing less than 10 Colony Forming Units per cubic metre (< 10 CFU/m³).

Howorth, through its collaborative work with Sir John Charnley, is acknowledged as one of the pioneers of aseptic surgical technology. The widespread use of the Howorth Exflow™ Ultra Clean Ventilation (UCV) system has helped reduce post-operative infection rates in orthopaedic surgery from in excess of 10% to below 1%.

An Exflow UCV when utilised as part of a well maintained HVAC system will ensure that air in the “clean zone” contains less than 10 CFU/m³. This figure typically reduces to 5 CFU/m³ when the surgical team are wearing modern occlusive gowns and masks. Tests have also indicated that a further reduction to levels of around 1 CFU/m³ are possible by utilising Howorth’s “Body Exhaust” system.

The effective operation of a UCV system is wholly reliant on the regular maintenance of the entire supply HVAC system from inlet to exhaust. Should any part of the system, whether AHU, filters, ductwork, dampers, heaters or chillers fail or operate sub-optimally, then the UCV’s ability to provide clean air will be compromised.

Validation and Servicing

Increased health risks to patients will occur if ventilation systems do not achieve and maintain the required standards. The link between surgical site infection and theatre air quality has been well established (Source HTM 03-01).



Experience

In our 150 year history we have learnt many things, the most important of which is to ensure our customers get outstanding levels of product support and aftermarket service.

All of our installation, commissioning and service teams utilise only fully trained, skilled personnel. We use genuine factory approved OEM spares, with guarantees on all our work coming as standard.

Service and Validation

Regular servicing, validation and preventive maintenance of your clean air systems and other theatre equipment is not only a legal obligation, but makes economic sense as well.

Howorth's maintenance packages can be tailored to suit the level of support you require, from parts-only to all-inclusive, multi-year service contracts and anything in between, including a number of emergency call-out options.

The Engineering Health Technical Memorandum 03-01 'Specialised Ventilation for Healthcare Premises' (HTM

03-01 Part B), dictates that operating theatres and their accompanying ventilation systems should be inspected quarterly and have their performance fully validated annually. As the leading supplier of UCV systems, Howorth is uniquely positioned to be able to provide a comprehensive aftermarket service.

Included within the annual validation to both conventional and ultra clean operating theatres, Howorth engineers will complete a full survey of the air handling plant, along with air volume measurements of the full theatre suite, room differential pressures, mechanical and electrical function checks, alongside a standard service to the ultra clean canopy including velocity profiling and HEPA filter DOP testing.

On completion of the theatre validation, a full comprehensive report will be submitted.

Other services such as clean room and aseptic suite validation, servicing of safety cabinets, ductwork cleaning and (with our sister company Westbury Filtermation) supplying and installing a wide range of filters and spares, makes Howorth Air Technology a one-stop-shop for all your clean air requirements.

Theatre Refurbishments and Upgrades

In under a month, you could have a virtually new operating theatre, complete with Exflow™ Ultra Clean Ventilation, and fully compliant with HTM 03-01.

Increase Throughput, Reduce Infection Levels

Howorth has refurbished hundreds of operating theatres, transforming them in just a few weeks into state-of-the-art, Ultra Clean, fully HTM compliant facilities.

Whether you are planning to extend an existing structure, convert a redundant area into a new operating department or upgrade an old facility, we have the experience and expertise to make your plans a reality.

Turnkey Solutions

Howorth's cost effective design, manufacturing and comprehensive installation service will provide additional clinical capacity with minimum downtime.

Upgrade your existing facilities to a high performance Ultra Clean operating theatre, quickly and economically. Fully Compliant with HTM 03-01 standards, we can provide:

- Ultra Clean Exflow ventilation system
- Medical Gas Pendants
- Surgical Lighting
- Theatre Control Panels
- Isolated/Uninterrupted Power Systems
- Flooring and Ceiling Replacement
- Decoration

Our theatres are fully commissioned and validated, sterilised and ready for operational use.

Audits, Surveys and Designs

Without charge or obligation, we will undertake an initial feasibility study, develop a layout proposal and produce budgetary pricing. As part of this free service we can typically offer:

- Audit of current facilities to assess their potential for compliance with current regulations
- Physical site inspection
- Testing to measure performance against design criteria
- Full written proposal, including budget pricing
- Layout drawings and schematics
- Provisional project schedule

We can then work with you to develop a more detailed design in order to furnish you with a fixed price quotation.



Ventilation Hygiene

HTM 03-01 requires that all critical ventilation systems are inspected quarterly and their performance measured and verified annually.



Critical Ventilation Systems

HTM 03-01 requires that all critical ventilation systems are inspected quarterly and their performance measured and verified annually. Systems serving the following areas are considered critical:

- Operating theatres of any type, including rooms used for interventional investigations (for example catheter laboratories).
- Patient isolation facilities of any type.
- Critical care, intensive treatment or high dependency units.
- Neonatal units.
- Category 3 or 4 laboratories or rooms.
- Pharmacy aseptic suites.
- Inspection and packing rooms in sterile services departments.
- MRI, CAT and other types of emerging imaging technologies that require particularly stable environmental conditions to remain within calibration.



Inspection and Monitoring

Howorth can offer a full inspection and monitoring service for all your ventilation systems. Inspections are carried out by our fully trained engineers and technicians.

- Digitally produced reports
- Endoscopic & traditional inspection
- Microbiological sampling
- Remote CCTV video surveys
- IAQ & LEV testing





Ventilation Hygiene

In addition to inspection & monitoring, we are also able to provide a full ductwork and ventilation system cleaning service.

Our hygiene service has been developed in accordance with HVCA (Heating and Ventilation Contractors Association) guidelines and the Health and Safety Executive document “Workplace Health, Safety and Welfare Regulations 1999”.

Upon completion of your Ventilation System clean, we will issue a ‘Certificate of Service’ along with a full report detailing the following:

- The Systems cleaned
- Recommendations for keeping the systems clean
- Cleaning methods used
- Photographic support
- Additional works carried out (if any)
- Recommendations for future testing and cleaning
- Recommendations for fan maintenance
- Certification

Ventilation Engineering

Even with a proactive inspection process in place, systems can break-down, require maintenance or need upgrading. Howorth can carry out repairs and maintenance to ductwork for both supply and extract ventilation systems. We have over thirty years of experience in the design, repair, installation and maintenance of supply and extracted ducted systems, AHUs, natural ventilation and commercial HVAC systems.



- Replacement and new installation of filter housings
- Repair to filter frames & filter housings for both air conditioning plant & extract plant
- Modifications to existing ductwork systems
- Installation of access doors
- Deep cleaning of cooling water, hot water pre-heat & recirculation coils. All coils are deep cleaned & combed
- Service & repair of air handling unit motors
- Installation & repair work to drive belts, pulleys, safety guards and isolators
- Rebalancing of fan units, both centrifugal & axial
- Servicing & cleaning of fan coil units & fan conductors
- All types of fans installed, serviced and repaired

Westbury Filtermation

Nowhere is the quality of filtration more important than in the healthcare environment. Howorth can now guarantee that quality through the supply of our own inhouse filtration products.

Westbury Filtermation, one of the UK’s leading manufacturers of air filters, is an affiliate of Howorth Air Technology.

We manufacture and supply a full range of Air Filtration Products, including panel and pleated filters, bag filters, grease filters, grease filter casings, activated carbon filters, HEPA & ULPA filters, rigid pocket long life filters and washable filters.



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