

IQAir Cleanroom Series

The world's No.1 HEPA air cleaning systems for airborne infection control

INCEN AG of Switzerland has been a leading specialist in the field of indoor air filtration for close to 45 years. In the 1990s, the IQAir product line was developed which is now recognized as the world's premier range of mobile high-efficiency air cleaning systems. IQAir's particular strength lies in providing cost-effective de-centralised airborne infection control solutions for hospital and professional health-care applications. The *IQAir Cleanroom Series* (brochure attached) is the dedicated IQAir product line for advanced airborne infection and particulate control. Here is a summary of the main reasons why IQAir systems are used by the world's leading medical and research institutions (see attached reference list) for their critical airborne infection control applications:

1. The *HyperHEPA* filter of the *IQAir Cleanroom* models has been tested and classified in accordance with the world's most stringent filter test norm for HEPA filters - **European Norm EN1822**. The awarded "H13" classification means that the *IQAir Cleanroom* systems have an absolute minimum efficiency of 99.5%, even for the tiniest and most infectious particles known to mankind. With regard to **MRSA bacteria** (average diameter: 0.9µm) or the **SARS coronavirus** (avg. diameter: 0.11), IQAir Cleanroom systems will physically remove these airborne microorganisms from the air with virtually 100% efficiency.
 2. The outstanding filtration efficiency of IQAir's HyperHEPA filter for removal of microorganisms (such as spores, bacteria and viruses) has been tested and verified by the British Government's **Health Protection Agency** (see attached summary).
 3. In a research study by **Nottingham City Hospital, UK** which has been published in the *Journal of Hospital Infection* in April 2006 (see attachment), it was found that the use of an **IQAir Cleanroom H13 model significantly reduced (by 75% to 93%) the environmental MRSA contamination within the patient rooms**, thus reducing the risk of MRSA spreading and infecting other patients.
 4. In response to the SARS crisis, the **Hong Kong Hospital Authority** selected IQAir as the only mobile air filtration solution for SARS patient rooms to protect staff, visitors and patients (see attached case study). Over 150 hospitals, clinics and health-care centres in Hong Kong have been equipped with IQAir systems since 2003.
 5. Each IQAir model is individually tested and certified for actual filtration efficiency and actual air delivery. The individual test results are recorded on a hand-signed **Certificate of Performance** which is supplied with the IQAir system. This provides total quality assurance for critical applications. The HyperHEPA replacement filters of the *IQAir Cleanroom* models are also individually tested and certified to ensure continuing high-efficiency performance after filter replacement.
 6. Each IQAir system can be used as a mobile re-circulation air cleaner, or can be attached to special IQAir ducting adaptors **OutFlow** and **InFlow** to create **negative pressure (containment) or positive pressure (protective) isolation environments** in a matter of minutes. The creation of pressure differentials is by far the most effective way to limit the airborne spread of infectious particles within buildings.
 7. IQAir systems are registered with the **U.S. Food & Drug Administration** as a **Class II medical device**.
 8. *IQAir Cleanroom* models are equipped with **antimicrobial filter media** for advanced infection control.
 9. The outstanding filtration efficiency of *IQAir Cleanroom* systems can be impressively demonstrated with the use of **professional airborne particle counter** (e.g. **ParticleScan**). Such instruments objectively prove that *IQAir Cleanroom* systems actually remove all particles down to a size of 0.3 microns (i.e. 3 times smaller than *Mycobacterium tuberculosis*) with over 99.97% efficiency.
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Cleanroom Series

Professional Control of Airborne Microorganisms and Particulate Matter

The IQAir® Cleanroom Series offers a range of portable, self-contained HEPA air filtration systems designed to meet airborne infection control and particulate contamination challenges in critical indoor environments.

IQAir® systems filter the air by recirculation or by creating true positive or negative pressure environments with special IQAir® ducting adaptors.

Each Cleanroom model **AND** each HyperHEPA® replacement filter is individually tested and certified to guarantee actual filtration efficiency.

The superior filtration efficiency, versatility and mobility make the IQAir® Cleanroom Series the most advanced and cost-effective line of mobile air filtration systems available today.



Professional Control of Airborne Microorganisms & Particulate Matter

The IQAir® Cleanroom Series consists of three high-performance air cleaning models (**Cleanroom 100**, **250** and **H13**). Each model is specifically designed for the removal of solid and liquid airborne particles and aerosols. Due to their certified and guaranteed high filtration efficiency, the systems are predominantly used for airborne infection control in health-care settings and for the control of particulate matter in cleanroom-type applications.



IQAir® Cleanroom 250

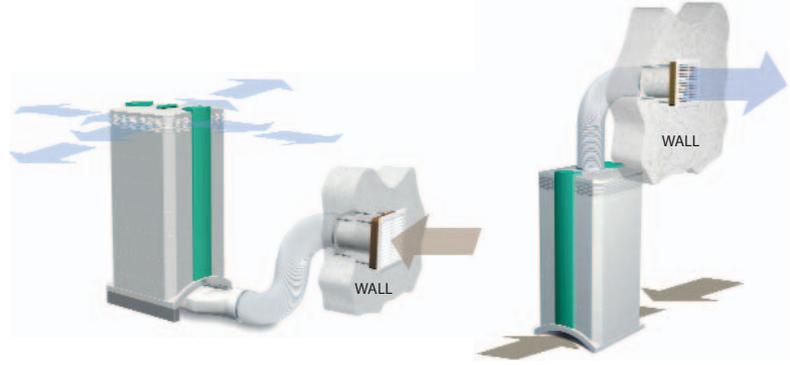
While all 3 Cleanroom models focus on the filtration of airborne liquid and solid particulate matter, the Cleanroom 250 also filters a wide spectrum of gaseous contaminants and odours with its V5-Cell™ filter. The H13 is the largest of the 3 models, offering the largest pre-filter surface area (i.e. longest pre-filter life) and the highest air delivery rate. Each system features antimicrobial pre- and HyperHEPA® filters, as well as anti-tampering arm-locks that prevent the system from being opened by unauthorised personnel or accidentally.

Individually Tested and Certified

To guarantee superior performance, the Swiss manufacturers have taken an uncompromising approach: Each IQAir® HEPA system is individually tested for filtration efficiency and air delivery. The actual test results are documented on a numbered test certificate supplied with each system.

Positive and Negative Pressure Environments

Each IQAir® Cleanroom system can clean the air by recirculation, or can be connected to special IQAir® ducting adaptors to create positive and negative pressure environments. Pressure differentials are particularly beneficial when the containment of harmful microorganisms and particles or the protective isolation of immuno-compromised patients is required.



IQAir® system connected to InFlow™ and OutFlow™ ducting adaptors for the creation of pressure differentials between adjacent areas.

Advanced Controls

The sophisticated control features of IQAir® systems include a microchip controlled filter-life monitor that calculates the remaining filter life, taking actual use and contamination levels into account. An integrated timer allows the system to be programmed to switch on and off at the desired times on the desired weekdays. The patented IQAir® housing design permits quick and safe replacement of individual filter elements without any tools. For added convenience, each IQAir® system can be operated via remote control. If floor space is limited, a special bracket (VMF™) is available that allows the IQAir® system to be wall-mounted.

Medical Applications:

- Protective isolation rooms
- ICUs
- Burn units
- Operating rooms
- Organ transplant wards
- Oncology wards
- Research, IVF & microbiology labs
- TB isolation & anterooms

Commercial Applications:

- FDA-required "controlled environments"
- Medical device manufacturing & packaging
- Food processing & packaging
- Air locks
- Cleanroom gowning rooms
- Critical data storage facilities
- Computer & server rooms



IQAir® Cleanroom H13

IQAir® Cleanroom Series: Features

Air Outlet Diffuser

- returns clean, low turbulence, low velocity air
- **optional:** various outlet adapters to create positive and negative pressure environments or to direct the air flow (OutFlow™)

Antimicrobial Certified HyperHEPA® Filter

- individually tested & certified for actual filtration efficiency
- guaranteed efficiency of $\geq 99.97\%$ at $\geq 0.3 \mu\text{m}$ (HEPA Class H13)
- large filter surface (5.5 m^2) for long filter life
- individually tested & certified HyperHEPA® replacement filters

High-Performance Centrifugal Fan

- air delivery with filters: up to $450 \text{ m}^3/\text{h}$ (H13 model)
- sandwiched between double-walled housing and noise-absorbing filter elements

Antimicrobial Pre-Filter

- fine dust filtration with mini-pleat 55% efficient media at $\geq 0.3 \mu\text{m}$ (ASHRAE 90-95%, Class F8) prolongs life of HyperHEPA® filter
- large filter surface (H13: 5.5 m^2) for long filter life (other models 2.8 m^2)

Dual Air Intake

- maximum distance from air outlet prevents immediate re-intake of cleaned air (short-cutting)
- **optional:** various air intake adaptors to create positive and negative pressure environments (InFlow™ and VM InFlow™) or to provide source capture of contaminants (FlexVac™ and VM FlexVac™)