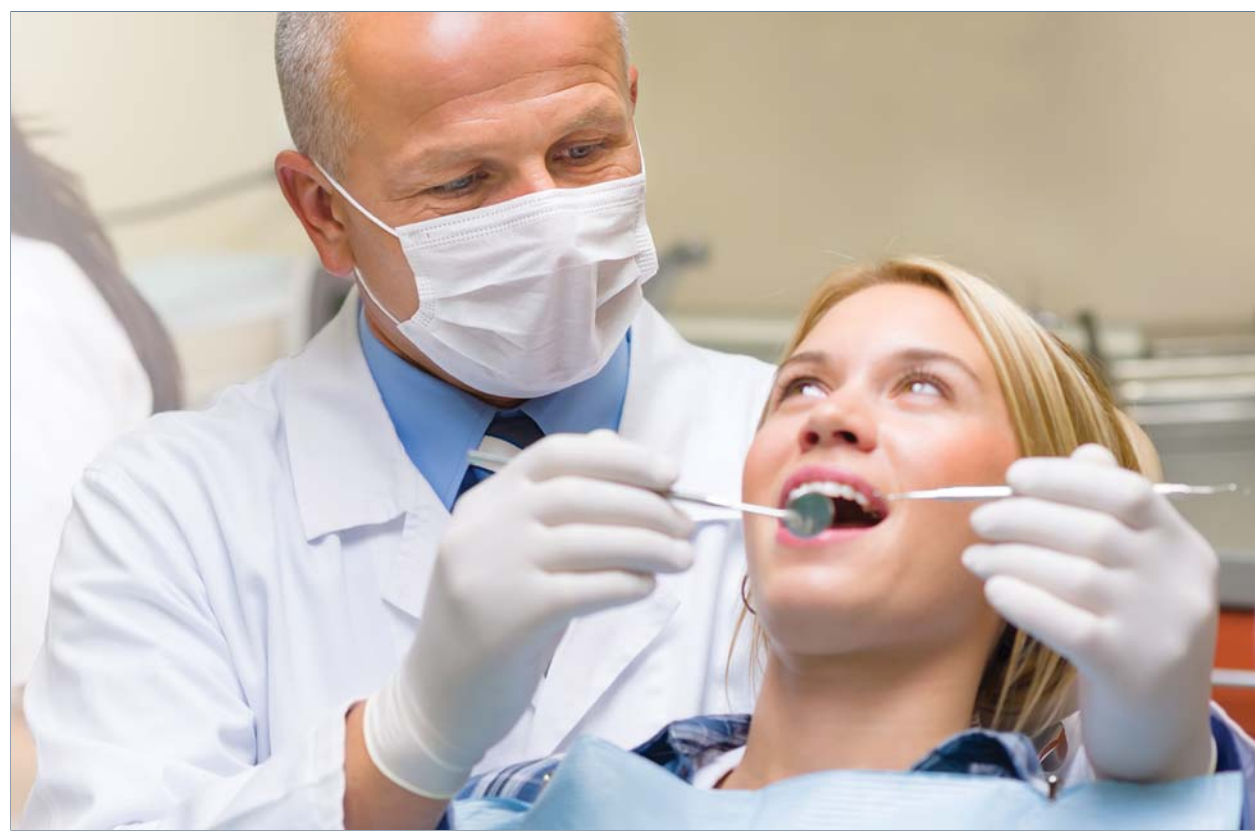


**IQAir® New Edition**

# Dental Series

## Professional Air Cleaning for Dental Environments



- Helps to protect dentists, dental staff and patients from airborne infections
- Filters toxic mercury vapour
- Removes unpleasant odours
- Helps to implement infection control measures by controlling airborne bacteria, viruses and drill aerosols
- Reduces exposure to disinfectant compounds
- Controls airborne allergens



 **Swiss Made**

## Air Quality – A Critical Issue in Dental Environments

The air we breathe can have a tremendous impact on our health and comfort. Dentists, staff and patients can be exposed to a wide variety of air pollutants during routine dental work. The use of chemicals and the execution of dental procedures itself can lead to significant daily exposure. Even relatively low exposure levels to toxic compounds can, over time, lead to serious health problems. Exposure to airborne microorganisms can also increase the risk of infectious disease transmission in dental offices.

### Microbiological Air Contaminants



The air in a dental surgery acts as a carrier of a variety of microbiological particles. The generation of these contaminants within a dental practice occurs mainly during dental procedures. The use of high-speed drills and ultrasonic scaling equipment generates fine aerosols which consist of moisture droplets

that contain blood, saliva and filling particles. These droplets are usually between 0.5 and 5 micrometers ( $\mu\text{m}$ ) in diameter, and are light enough to stay airborne for hours. Bacteria and viruses which are contained in these micro-droplets are easily inhaled and constitute a potential source of infection to the dentist, staff and patients.

### Disinfectants

Chemical disinfectants are being used in the dental practice to decontaminate hands, instruments and surfaces. Disinfectants that kill germs, viruses, and fungal spores often contain aldehydes (especially formaldehyde and glutaraldehyde) or phenol. Aldehydes are well-known for their sensitising potential and their inhalation toxicity. Exposure to aldehyde at low doses on a continuous basis may lead to chronic toxic effects, the symptoms of which are mostly unspecific (nausea, impairment of the memory, motivation, reactivity or dexterity). Even less toxic alcoholic compounds, such as ethanol, isopropanol, and n-propanol, can cause irritation of the respiratory tracts and the mucous membranes. An unpleasant disinfectant odour is often the only indication that unhealthy air pollutants are present.

### Mercury (Hg)



Numerous studies show that dentists and their staff have higher than average levels of inorganic mercury (Hg) in their blood and urine. According to the WHO\* there is no evidence that there is a safe level of mercury in the body that does not kill cells and harm body processes. Since mercury is odourless and trans-

forms from solid to gas at room temperature, the dangers of chronic exposure to mercury can easily remain undetected. Mercury vapour is not only released and potentially inhaled when dental amalgam is placed, but also when these fillings are removed. The dental practice itself can become a secondary source of mercury vapour exposure to dentists and staff. Over the years, mercury may have gotten into floors, cracks of chairs or sinks and may now continuously release mercury vapour to the room.

### Latex Allergens

The use of protective latex gloves can cause allergic reactions due to inhalation of latex allergens. These allergens adhere to the talcum powder particles of the glove and can thus become airborne.

### X-Ray Development Chemicals

For the development of x-ray films several organic chemicals, such as glutaraldehyde, are being used. These chemicals give off gases that can contribute to the contamination of the ambient air in dental environments.

## IQAir® – The Source of Clean Air in Dental Environments

The IQAir Dental Series has been specifically developed to deal with contaminants commonly found in dental environments. IQAir high-efficiency air cleaning systems feature state-of-the-art filtration technologies which effectively remove harmful airborne contaminants and unpleasant odours. Two distinct IQAir models are available: the IQAir Dental Hg™ and the IQAir Dental Pro™.

### IQAir Dental Hg™

This IQAir system is usually combined with the FlexVac™ Source Capture Kit. The flexible, self-supporting suction arm of the FlexVac can be positioned close to the patient's head to remove:



- Mercury Vapour
- Drill Aerosols
- Bacteria
- Viruses
- Latex Allergens

### IQAir Dental Pro™

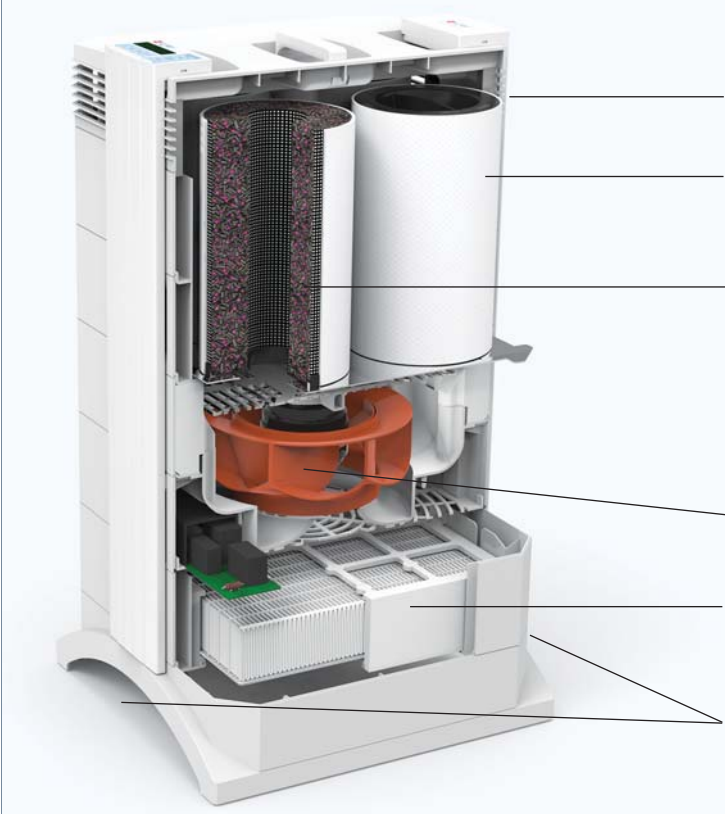
This mobile recirculating air cleaning system has been specially developed to filter those gases and particulates found in the ambient air of dental environments, such as:



- VOCs
- Microorganisms
- Formaldehyde, Glutaraldehyde
- Disinfectant Vapours
- Mercury Vapour
- Odours
- Dust Particles

\* World Health Organization (WHO), 1991, Environmental Health Criteria 118, Inorganic Mercury, p.36, WHO, Geneva.

## Professional Filter Technology for Reliable Protection



### IQAir® Dental Series: Features

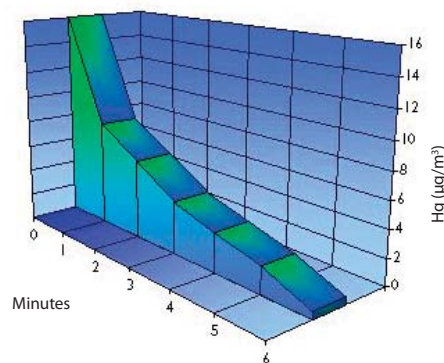
- 320° Air Outlet**
  - Returns low turbulence filtered air
- Post-Filter Sleeves**
  - Electrostatically charged fibre
  - Provide final particle filtration
- Gas Phase Filter Cartridges**
  - IQAir Dental Hg cartridges contain special mercury binding media
  - IQAir Dental Pro cartridges contain wide spectrum media to help remove VOC's, mercury vapour, formaldehyde, glutaraldehyde and many other gaseous chemicals and odours
- High-Performance Centrifugal Fan**
  - Offers an air handling capacity of 1200 m<sup>3</sup>/h (700 cfm)
- True HEPA Pre-Filter**
  - 99% efficiency for particulates ≥0.3 μm
  - Removes viruses, bacteria, ultra-fine particles etc.
- Air Intake**
  - Draws in polluted air from both sides

## Effective Source-Capture Technology

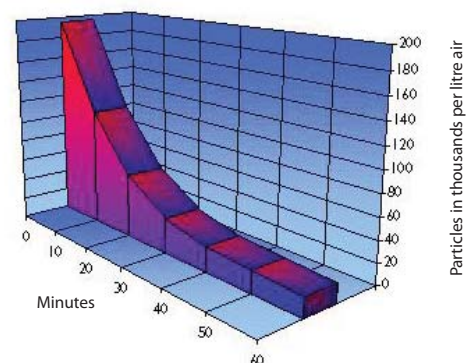
The IQAir Dental Hg™ with FlexVac™ captures mercury vapour and drill aerosols right at the source. A flexible suction duct can be positioned to remove harmful contaminants before they can be inhaled or disperse in the ambient air. The system's outstanding ability to reduce room levels of mercury and particulates has been documented in a research report by the renowned Institute of Hygiene at the University of Heidelberg, Germany.



*IQAir Dental Hg with FlexVac  
Direct source-capture of drill aerosols  
and mercury vapour.*



*Reduction of mercury vapour with IQAir in a room of 34.5 m<sup>3</sup> at an air flow of 220 m<sup>3</sup>/h.*



*Reduction of particle concentrations with IQAir in a room of 34.5 m<sup>3</sup> at an air flow of 220 m<sup>3</sup>/h.*

## Advanced Multi-Stage Filtration

First, the polluted air is drawn in through a high-efficiency pre-filter where it is stripped of bacteria, viruses, allergens and larger aerosols.

Next, the air enters the four filter cartridges where a wide variety of gaseous contaminants are removed with special gas control media. Depending on the model these gas filters remove VOCs, mercury vapour, formaldehyde, glutaraldehyde, odours and many other chemical contaminants.

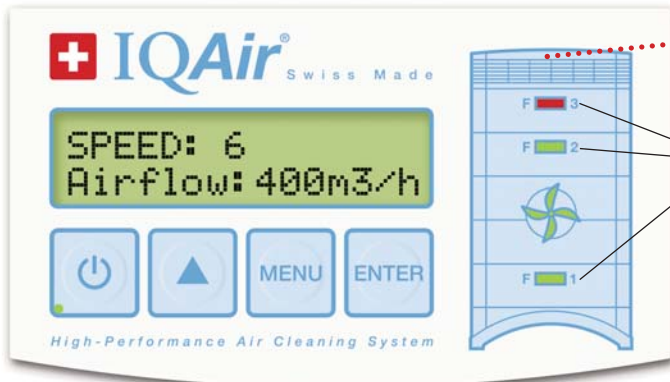
The final filter stage consists of an electrostatically charged post-filter which traps even the smallest of particulate pollutants and microorganisms.





## Sophisticated Controls

IQAir's user-friendly control panel with LCD enables easy access to unique programming and menu options.



The sleek ultra-thin remote control allows convenient operation from several meters distance.

Three filter life LEDs on the control panel provide a visual signal when it is time to replace a filter.

6 fan speed settings allow the selection of the most suitable performance/sound ratio.



**Individually certified** – IQAir applies the highest quality control standards. Each air purifier is individually tested for filtration efficiency and air delivery. The results are recorded on a hand-signed Certificate of Performance supplied with every IQAir model.

REMAINING LIFE  
FILTER 1: 3012h

**Intelligent filter life monitor** – calculates when it is time to replace filters, taking actual use, fan speed and programmed pollution levels into account.



The patented IQAir housing design permits quick and safe replacement of the individual filter elements without any tools.

AUTO TIMER: ON  
07:30 → 18:00

**Advanced timer programming** – allows the system to switch on automatically at specified times, weekdays and fan speeds.



The supplied deluxe casters allow the system to be moved effortlessly from room to room. Once the system is positioned, two caster locks ensure that it remains in place.

## The Leading Air Filtration Specialist

For over 50 years, the IQAir Group has been an industry leader for indoor air quality.

IQAir systems are built exclusively in Switzerland to the highest quality standards and in accordance with strict international norms.

Leading institutions around the world are relying on IQAir to protect against airborne infectious diseases, toxic chemicals and particulate contaminants.

Whenever the best air quality is required, IQAir provides a powerful solution.



Contact your IQAir Authorised Dealer for more information:



Commercial Air Filtration  
by AllergyCosmos

[www.iqair.com/uk](http://www.iqair.com/uk)

The indoor air quality (IAQ) improvements that can be achieved with IQAir® systems depend not only on the system performance, but also on factors which are specific to that particular indoor environment, such as room size, type and concentration of contaminants and source intensity. Consult a qualified IAQ specialist to determine an effective and comprehensive IAQ strategy. Source control and ventilation should be considered first in solving any IAQ problem.

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