

The IQAir® Dental Series



Professional Air Cleaning for Dental Environments

- Helps to protect dentists, dental staff and patients from harmful air pollutants
- Controls bacteria, viruses and drill aerosols
- Helps to implement infection control measures
- Reduces unpleasant odors
- Filters toxic mercury vapor
- Reduces exposure to disinfectant compounds
- Controls airborne latex allergens



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 are being exposed to a wide variety of air pollutants during their routine dental work. The use of chemicals and the execution of dental procedures itself leads to daily exposure. Even relatively low exposure levels to toxic compounds can, over time, lead to discomfort and serious health problems. Airborne microorganisms can also increase the risk of the transmission of infectious diseases.

Microbiological Air Contaminants



The air in a dental surgery is a carrier of a variety of microbiological particles. These contaminants are generated mainly during dental procedures. The use of high-speed drills and ultrasonic scaling equipment launches tiny moisture droplets

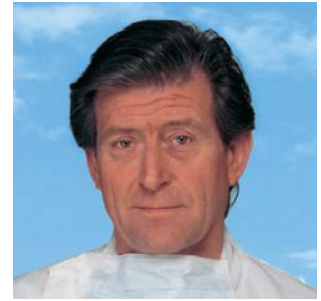
that contain blood, saliva and filling particles. These droplets are between 0.5 and 5 micrometers (μm) in diameter, and are light enough to stay airborne for hours. Bacteria and viruses, which are contained in these microdroplets, are easily inhaled and constitute a potential source of infection to the dentist, dental staff and patients.

Mercury (Hg)

Numerous studies show that dentists and their staff have higher than average levels of inorganic mercury (Hg) in their blood and urine. Since mercury is odorless and transforms from solid to gas at room temperature, the dangers of chronic exposure to mercury can easily remain undetected. Mercury vapor 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 vapor 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 vapor into the room.

Disinfectants

Chemical disinfectants are being used in the dental practice to decontaminate hands, instruments and surfaces. Disinfectants that kill germs, viruses, and fungi spores often contain formaldehyde, glutaraldehyde or phenol.



Aldehydes are well-known for their sensitizing potential and their inhalation toxicity. Exposure to aldehydes 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 odor is often the only sign that unhealthy air pollutants are present.

Latex Allergens

The use of protective latex gloves can cause allergic reactions due to body contact or inhalation of latex allergens. These allergens attach themselves 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 developed to deal with exactly those contaminants commonly found in dental environments. The result is cleaner and healthier air for dentists, their personnel and patients. Both air cleaning devices also support a meaningful infection control strategy. Two distinct IQAir Dental models are available:



IQAir Dental Hg FlexVac
Direct source-capture of drill aerosols and mercury vapor for peace of mind

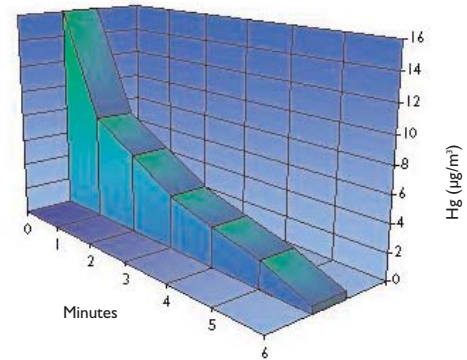


IQAir Dental Pro
Room air filtration for a wide range of dental pollutants

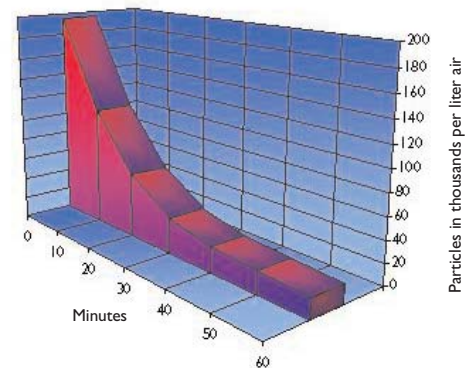
The **IQAir Dental Hg FlexVac** captures mercury vapor and drill aerosols right at the source. A flexible suction duct helps to remove harmful aerosols and mercury vapors before they can be inhaled or disperse in the ambient air. The unit's outstanding ability to reduce room levels of mercury has been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

The **IQAir Dental Pro** cleans the air in a dental office by constant recirculation. Usually positioned in a room corner, the air is drawn in through the bottom arches of the unit, passes through five filter stages and is returned clean to the room through the top diffuser. The Dental Pro is an all-purpose dental air cleaner designed to help remove VOCs, mercury vapor, formaldehyde, glutaraldehyde and many other gaseous contaminants and odors.

The final filter stage of both models consists of an high-efficiency post-filter which traps even the smallest of particles and microorganisms, such as viruses.



Reduction of mercury vapor with IQAir Hg in a 34.5 m³ (1220 cu.ft.) room at an air flow rate of 220 m³/h (130 cfm)



Reduction of particle concentrations with the IQAir Dental series in a 34.5 m³ (1220 cu.ft.) room at an air flow rate of 220 m³/h (130 cfm)

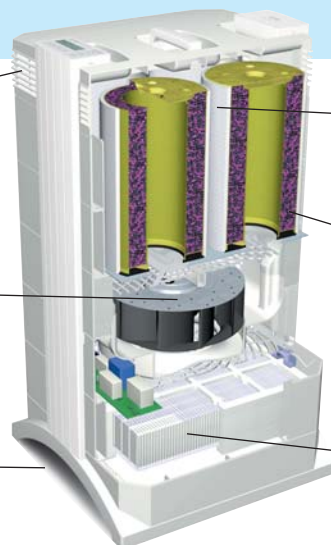
Advanced Air

Cleaning Technology

320° Air Outlet
returns low turbulence filtered air

High-Performance Centrifugal Fan
with an air handling capacity of 1200 m³/h (700 cfm)

Air Intake
draws in polluted air from both sides (Dental Pro)



Post-Filter Sleeves

- electrostatically charged fibers
- captures dust from gas filter media
- up to 99% efficiency at 0.3 µm

Gas Phase Media Cartridges

- **Dental Hg FlexVac** contains special mercury binding media
- **Dental Pro** contains wide-spectrum media to help remove VOCs, mercury vapor, formaldehyde, glutaraldehyde and many other gaseous chemicals and odors.

High-Efficiency Pre-Filter

- HEPA-type pre-filter holds back aerosols, dust, viruses and germs

Model Overview

IQAir Dental Hg Flex Vac

The mobile source-capture system with flexible, self-supporting suction arm. Positioned ca. 30 cm (1 ft.) away from the patients head, it draws in:



- Mercury vapor
- Drill aerosols
- Bacteria
- Viruses
- Latex allergens

IQAir Dental Pro

The mobile recirculating air cleaning system specially developed to filter those gases and particulates found in dental office air:



- VOCs
- Microorganisms
- Formaldehyde, glutaraldehyde
- Disinfectant vapors
- Mercury vapor
- Odors
- Dust particles

IQAir® - The Choice of Hospitals and Laboratories

The advanced nature of the IQAir product line is documented in numerous patents, which have been granted or are pending in the United States, Europe and Asia. These patents cover the revolutionary modular housing design, filter design and the sophisticated control panel, which allows the detailed programming of the IQAir to suit your requirements.



Hospital infection control units, laboratories and cleanroom facilities around the world rely on IQAir to maintain their air quality requirements



Two U.S. Patents

Intelligent Filter Life Monitor
tracks the life of each separate filter to maximize performance and yield

Easy Scroll Menu
allows access to a unique range of menu options found on no other air cleaner

AUTOMATIC TIMER: ON
07:00 → 20:00

Automatic Timer
allows hourly and daily programming



Advanced Control Panel
Unique air cleaning power at your finger tips



Remote Control
for convenient operation

Indicator LEDs
light up when it is time to replace individual filters

Swiss Precision & Quality



Every IQAir system is an example of Swiss precision-engineering, superior craftsmanship and the result of ongoing research and development. With a 40-year history, IQAir has the experience and expertise to build the best value for money air cleaning devices and to provide specialized filtration solutions for even the most challenging indoor applications.

One Year Warranty

The IQAir Dental Series is an investment in clean air for many years to come. IQAir is proud to cover the Dental Series in the United States and Canada for one year against defects in parts and labor. Filters are consumables and exempt from this warranty.

The indoor air quality (IAQ) improvements that can be achieved with IQAir devices 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.

© 2000 IQAir. All rights reserved. Technical specifications are subject to change without prior notice. IQAir is the registered trademark of the IQAir group. Dental Pro and Dental Hg FlexVac are trademarks of the IQAir group. Covered by U.S. patent 6,001,145. Other U.S., European and Asian patents pending. Swiss Made.