

Halton AirWatch

The Indoor Environment Quality sensor
ensuring your staff and customer
Wellbeing



Enabling Wellbeing

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Halton

The first of its kind multi-factor sensor to assess the Indoor Environment Quality of commercial kitchens

Cooking is recognized as a heavy source of indoor pollution in commercial kitchens, just as cleaning operations.

Some researchers have shown that for every 1000 pounds (454 kg) of hamburger cooked on conveyor broilers, 25 pounds (11 kg) of emissions are created. Fatty foods cooked with high heat (especially with open flames) or frying but, all cooking appliances release pollutants.

Additional pollutants may include VOCs (Volatile Organic Compounds), fine particles, CO₂ (gas combustion), and other substances and pollutants that are harmful to health.

When the kitchen is equipped with highly efficient hoods or ventilated ceilings, most of the pollutants are captured and removed. However, as efficient as the capture devices are, they are never 100%. Unusual use of cooking appliances may also lead to abnormal pollutants emissions. Some small cooking or preparation equipment are not “covered” by any exhaust device, yet they can emit pollutants. How to address these facts?

The growing need to save as much energy as possible makes airflow optimization technologies a must in any commercial kitchen. Again, as efficient and reactive as they are, how can you be sure the savings are not at the expense of the air quality?

Lastly, cleaning products also release pollutants, mainly VOCs. And yet, they are often used when the ventilation works at a low level.

Halton's AirWatch sensor was designed to address all these challenges and place the Indoor Environment Quality and health of the kitchens' staff at the forefront.

When combined with M.A.R.V.E.L. airflow optimization technology, the Halton AirWatch sensor enables the best balance between energy savings and Indoor Environment Quality.

Good to know: Our Air Quality Index model and sensors selection is based on recommendations of various environmental authorities, including World Health Organization (WHO), EU Air Quality Directive, EU Common Air Quality Index, and WELL V2 Air Quality Monitoring and Awareness standard.





Health Impacts of Particulate Matter (PM)

PM₁₀ : Inhalable particles with diameters that are generally 10 micrometers and smaller.

PM_{2.5} : Fine inhalable particles with diameters that are generally 2.5 micrometers and smaller.

How small are 2.5 micrometers?

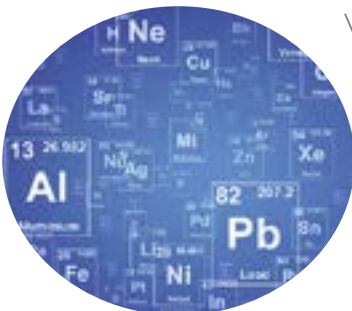
Think about a single hair from your head. The average human hair is about 70 micrometers in diameter – making it 30 times larger than the largest fine particle.



Exposure to such particles can affect both your lungs and your heart. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including:

- Premature death in people with heart or lung disease
- Nonfatal heart attacks
- Irregular heartbeat
- Aggravated asthma
- Decreased lung function
- Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing

The Volatile Organic Compounds (VOCs)



Volatile organic compounds, or VOCs, are gases that are emitted into the air from products or processes [...] Some can react with other gases and form other air pollutants after they are in the air (American Lung Association).

Breathing VOCs can irritate the eyes, nose, and throat, cause difficulty breathing and nausea, and damage the central nervous system and other organs. Some VOCs can cause cancer (American Lung Association).

In commercial kitchens, the odors are mainly carried by the VOCs (in addition to particles).

Benefit from the best balance between significant and smart energy savings and staff wellbeing improvement

M.A.R.V.E.L. represented the highest energy savings potential out of all the other airflow optimization technologies. Thanks to Halton AirWatch sensor, it does it while always keeping an eye on the Indoor Environment Quality and the impact it has on the kitchen staff's Wellbeing and working conditions.

All these innovative technologies are 24/7 monitored thanks to Halton Connect web portal. Between the energy savings and the Indoor Environment Quality, the priority can be safely given to the Halton AirWatch sensor.

If the ventilation levels are often manually increased because of an Air Quality decrease, it generally means that one of the factors contributing to a good pollutants capture is not correct and needs to be adjusted.

In any case, everything can be adjusted remotely by our technicians.

Halton AirWatch Sensor and M.A.R.V.E.L. the energy savings are not made at the expense of the staff's health and comfort, and vice versa.

It is genuinely a question of an ideal balance between energy savings, staff wellbeing, and productivity.





Halton AirWatch is included with Halton SafeGuard

Halton introduces Halton Connect, an IoT-connected platform that addresses today and tomorrow's concerns regarding energy savings, indoor environmental quality (IEQ), and fire risk mitigation with Halton SafeGuard.

The platform combines industry-leading technology that puts critical information in the operator's hands while automatically responding to sensor input, a Food Service industry first. Halton SafeGuard comes standard with:



ABOUT US

Halton Group is the global technology leader in indoor air solutions for demanding spaces. The company develops and provides solutions for commercial and public premises, healthcare institutions and laboratories, professional kitchens and restaurants as well as energy production environments and marine vessels. Halton's mission is to provide its end-users with safe, comfortable and productive indoor environments that are energy-efficient and comply with sustainable principles.

The company was founded in Finland in 1969. Today, Halton Group has production units in ten and R&D units in eight countries. Licensed production is carried out in four countries. Halton Group employs nearly 1500 people in over 30 countries. The company's turnover in 2016 was approximately 200 million euros. For more information, visit www.halton.com.

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