Halton SafeGuard

Bringing M.A.R.V.E.L. Demand Controlled Kitchen Ventilation, Halton AirWatch and Halton FireWatch together under one control platform.

Halton's SafeGuard is an IoT connected controls platform to Halton Connect cloud.

Enabling Wellbeing

Form#: BR-046 - 02-2023
Halton SafeGuard

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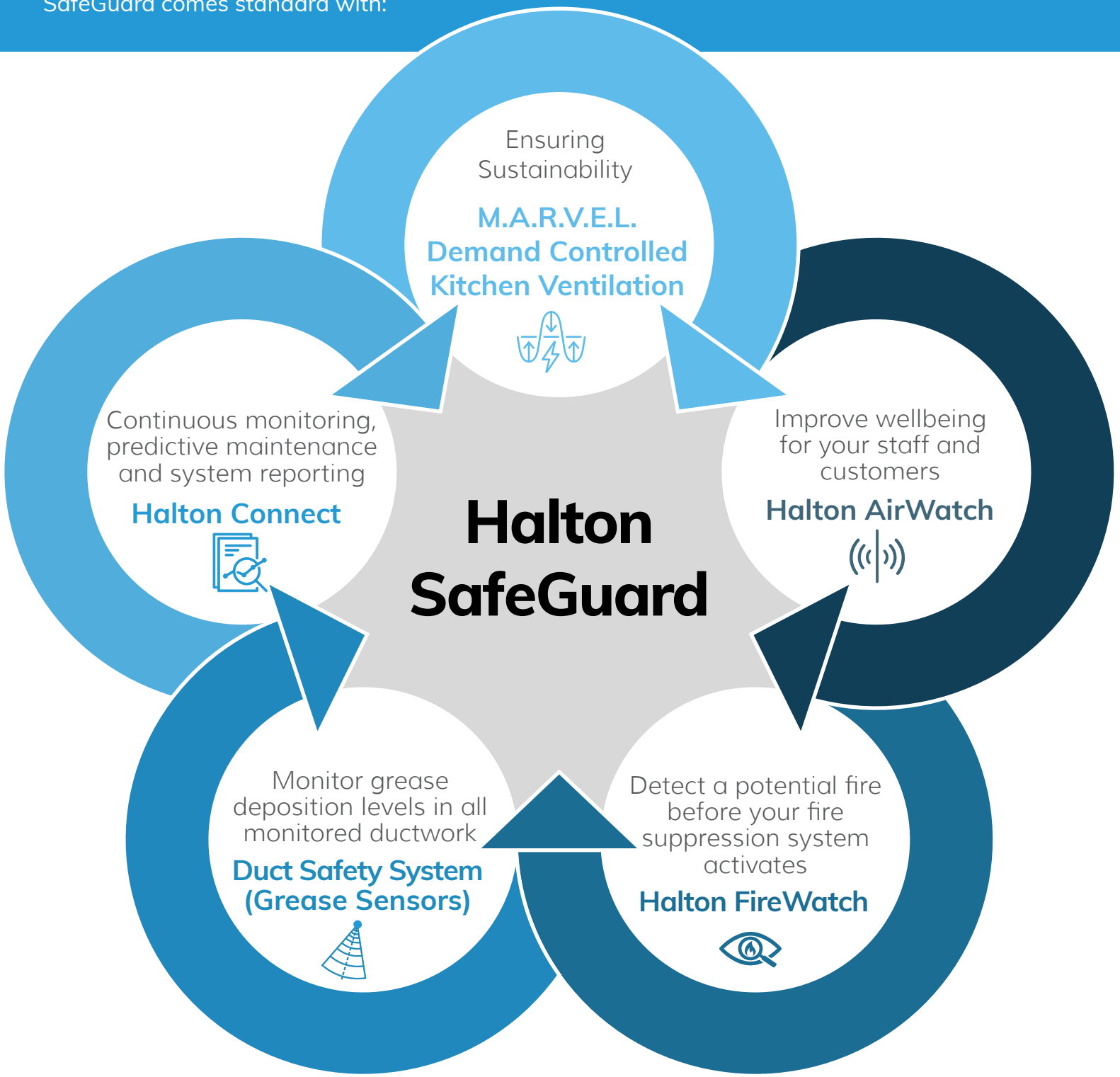
Halton introduces Halton Connect, an IoT-connected platform that addresses today and tomorrow's concerns regarding energy savings, indoor environmental quality (IEQ), and fire risk mitigation with Halton SafeGuard.

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:



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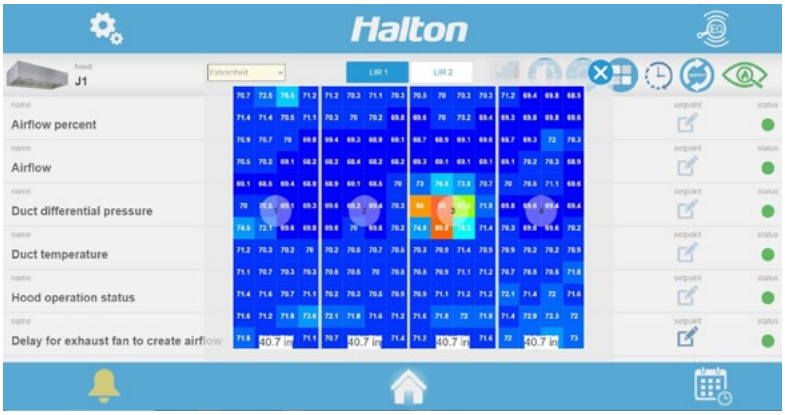
Ensuring sustainability

M.A.R.V.E.L. Demand Controlled Kitchen Ventilation is now part of Halton SafeGuard!

- Saving energy while maintaining optimum indoor environmental quality
- Remote start-up capabilities
- Air balancing report
- Continuous monitoring with monthly performance reports
- Continuous measurements of hoods' airflow
- Each exhaust hood functions independently from the other.
- Seamless integration of with PolluStop (PCU), Make-up Air, Ultra Violet Light, Water Wash or any other Halton accessory on one control platform
- Automated monthly systems reports to Operator

Demand Control Now Equipped with Next Generation Thermal Imaging Sensor

M.A.R.V.E.L. detects over 190 separate temperature points on the cooking surfaces. Instead of averaging, it can identify the current status of the cooking equipment (switched off, heating to cooking, area of heating, temperature, or cooking in progress).



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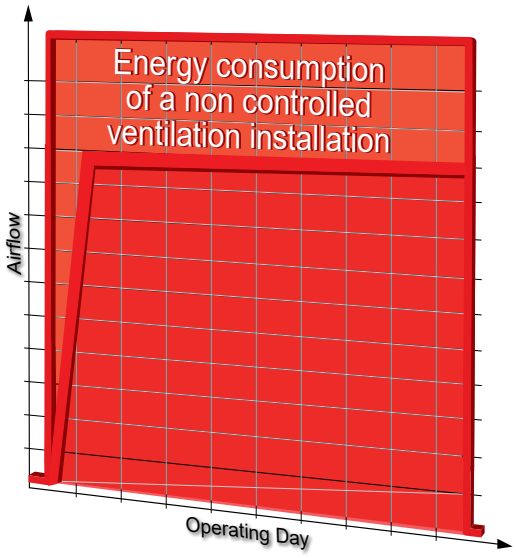
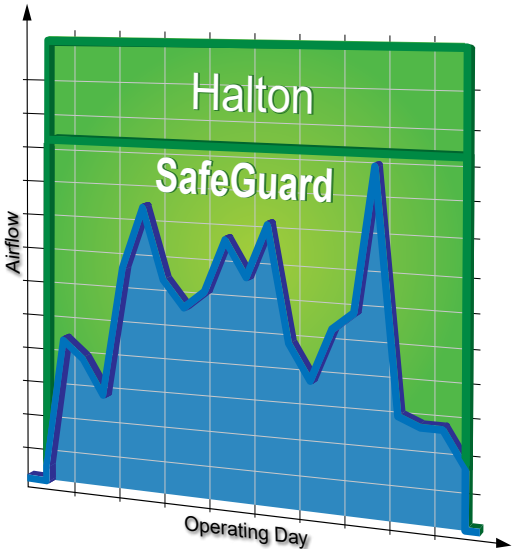
M.A.R.V.E.L., Addressing Space Balance, Building H.V.A.C. Integration and Communication with upper-level Building Management Systems

With Demand Control becoming the norm rather than the exception, managing the changes in exhaust volumes and building pressure has been a challenge. The M.A.R.V.E.L. system directly measures exhaust rates in each hood in real time. This capability allows for an accurate signal for incoming replacement air ensuring space balance as the system varies the exhaust during operation. It also enables M.A.R.V.E.L.'s unique feature that greatly simplifies commissioning of a complex ventilation system. M.A.R.V.E.L. automatically balances supply and exhaust to design airflow, making sure each hood operates at design airflow and replacement air is correctly balanced for each zone.



- The system is self-balancing and automatically adjusts exhaust air volumes and the appropriate makeup air requirement
  - M.A.R.V.E.L. can be designed to create individual supply air zones and deliver it in a way that does not interfere with the cooking operation.
  - For the first time ever the design team can provide a complete exhaust and air distribution system that is synchronized and encompasses all the design criteria needed to excel in the commercial kitchen setting.
  - Ability to output all monitored points and alarms to upper level B.M.S. systems, Native BacNet



Halton SafeGuard

Improve wellbeing for your staff and customers

Halton AirWatch

Indoor Environmental Quality (IEQ) Sensors

Know the Indoor Environmental Quality and have your ventilation system automatically respond to it.

- Indoor Environmental Quality which relates to the health and wellbeing of the occupants of a building space. This includes both exposure to pollutants as well as the thermal comfort of the space.

- In Foodservice, we are primarily focused on the kitchen and dining areas of restaurants.

A suite of IEQ sensors to support Living Building Standards requirements

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.

Maintain your employee's and customers' well-being by monitoring:

Thermal Comfort

- Temperature
- Relative Humidity

Chemical Exposure

- VOC's
  Volatile Organic Compounds
- CO_2
  Carbon Dioxide

Particulate Matter

- PM1
- PM2.5
- PM10

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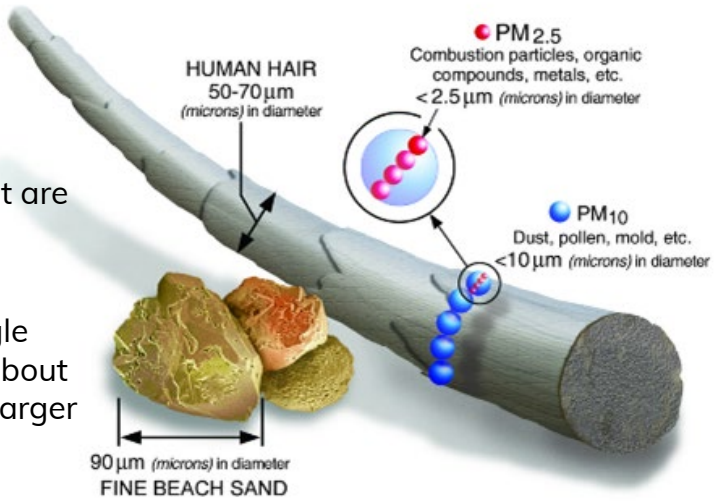
Health Impacts of Particulate Matter (PM)

PM_{10} : inhalable particles, with diameters that are generally 10 micrometers and smaller; and

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

How small is 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.

Source: USEPA, https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm

Halton SafeGuard

Detect a potential fire before your fire suppression system activates

Halton FireWatch

The cost of an unwanted fire suppression system discharge can not be understated.

- System emergency service call to restore fire system, flush piping, reset appliance shutdown
- Business shutdown
- Potential lost revenue due to abrupt restaurant closing/open
- Ventilation system cleaning
- Discard of all food items which may have been exposed to system agent discharge

Halton FireWatch provides a layer of protection and allows for intervention to mitigate unnecessary fire system discharge.

When an alarm is triggered, touchscreen and visual indicator alerts user to the event and the necessary actions to take to avoid a shutdown of equipment or reset if necessary.

Users can manually restore power on site. Instructions explaining why power is disconnected, and how to restore power are shown on the touch screen. Both power disconnection and manual power restore events are recorded locally at the controller level and on the cloud.

Power can be restored manually when alarm conditions are cleared.

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Halton FireWatch, provides a critical layer of monitoring to mitigate fire risk

The system continuously monitors exhaust plenum temperatures.

Halton FireWatch is a 24/7 electronic fire warning system with data backup. It monitors hood plenum exhaust temperature. When an anomaly is detected, a local two stage warning is initiated.

Stage 1

Halton HCL light will flash RED and local alert touch screen allows for intervention by kitchen staff to address alarm

Stage 2

If the warning is not acted upon, both an audible and visual alarm are activated, the fuel source is shut off to the appliances *(Equipment should be manually turned off or if equipped with optional Equipment Shut Down feature, the system will automatically shut off appliances)*

A quick reset of appliances once the dangerous conditions are cleared.

Halton FireWatch does not interfere with the normal operation of the fire suppression system

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Halton SafeGuard

Majority of current fire systems rely on an installer to select an appropriate link based on ratings as shown. To avoid early activation, most installs consist of the highest rated link. In addition, the links are selected prior to the cooking equipment being operational.

Even with recent advances in electrical detection, the underlying principles remain largely unchanged with a digital signal and electronic actuation.

Neither of these systems are capable of monitoring live temperature data and providing feedback to the customer. Benefits of electronic detection are primarily associated with zoning improvements and ease of installation.

Providing peace of mind for your food service facility!

- Mitigate false fire system trips
- Allows for intervention to reduce risk of fire starting
- Potential for insurance premium reduction
- Fully customized system fitting your needs and wants when paired with Edge device add-on
- Cloud based data for insurance companies
- Avoid costly shut down and revenue loss from fire system discharge
- Monitoring and data back-up services, free for the 1st year of use

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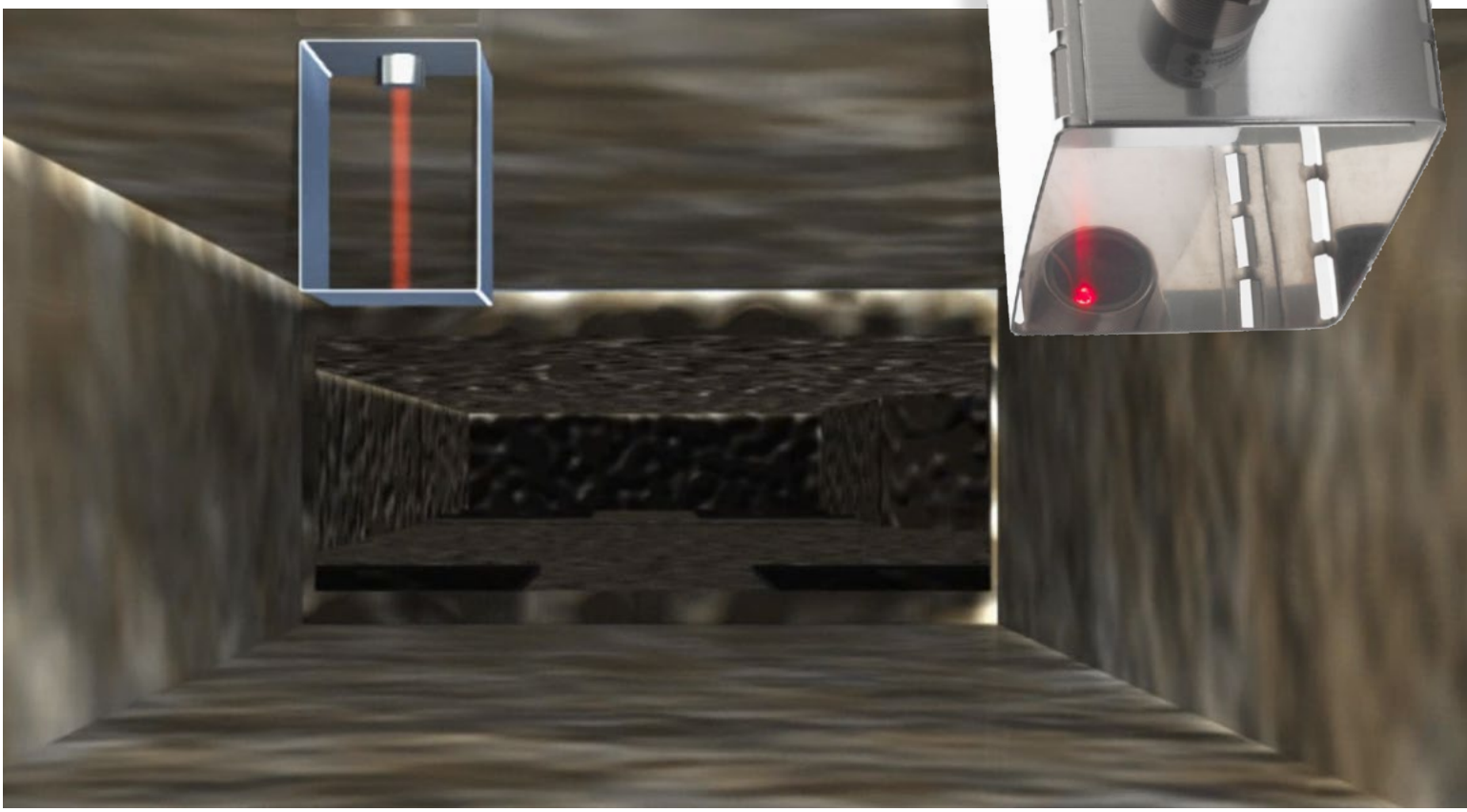
Monitor grease deposition levels in all monitored ductwork

Duct Safety System (KGS)



An ounce of prevention toward preventing a pound of grease from igniting!

Halton offers the Duct Safety System (KGS), a signaling device that monitors the grease deposition levels in all monitored ductwork. Once the grease levels exceeds the programmed threshold as set by NFPA 96 requirements, an alarm is displayed on the system console, alerting the operator that the ductwork needs to be cleaned. Optionally, a signal can be sent to the Building Management System (BMS) via a dry contact closure. This system also gives an indication of whether the cleaning was done satisfactorily.

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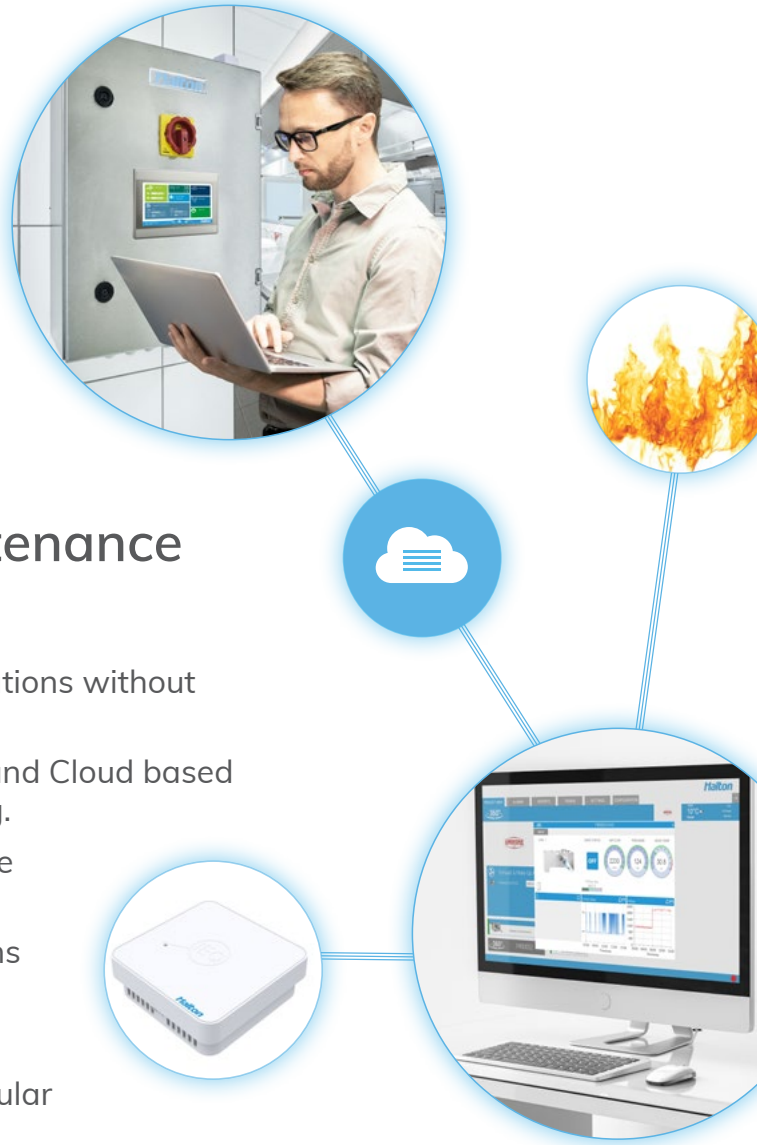
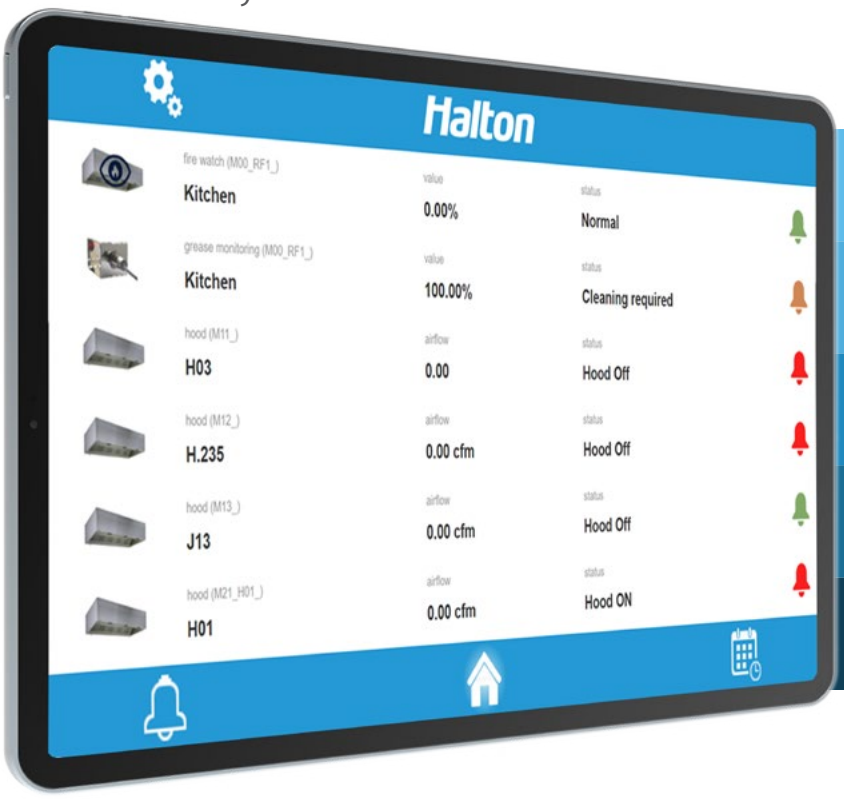
Continuous monitoring, predictive maintenance and system reporting

Halton Connect



Halton's IoT Platform and Maintenance Contracts provides:

- Allows remote diagnostics and program modifications without the need for onsite service company
- The system is available as local communication and Cloud based connection to allow for updates and data logging.
- Automated diagnostic monthly reporting of all the critical systems
- 24/7 monitoring with 24/7 automated notifications for Halton FireWatch
- 24hr account access to your system
- Access the Network Operating Center during regular business hours to schedule maintenance
- Ability to develop custom reports to understand different trends within your restaurant



M.A.R.V.E.L.
Demand Controlled Kitchen Ventilation

Halton AirWatch

Halton FireWatch

Grease Sensors

Monitoring

Halton

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.

Halton Company
101 Industrial Drive
Scottsville, KY 42164, USA
Tel: (270) 237-5600
Fax: (270) 237-5700

Halton Indoor Climate Systems
1021 Brevik Place
Mississauga, ON L4W 3R7, Canada
Tel: (905) 624-0301
Fax: (905) 624-5547

Halton Global Services
1750 Valley View Ln, Ste. 100
Farmers Branch, TX 75234, USA
Tel: (972) 419-5100
Fax: (972) 419-5101

www.halton.com