Safe, energy efficient, comfortable indoor air

Enabling Wellbeing for people

Halton is passionate about indoor environments. The company offers business enhancing solutions for safe, comfortable and energy efficient environments for companies that value wellbeing and productivity of their customers and personnel.

Why? Poor indoor air quality can cause headache, fatigue, nausea, sinus congestion, dryness and irritation of the eyes, nose, throat and skin – just to name a few. Poor indoor air solutions can cause too much noise and a feeling of draft which affects passengers. It can also waste unnecessary amount of energy or use too little of outdoor air.

Quality
Designing and selecting equipment should always be done according to the operational environment. The HVAC installation should always maintain the designed performance level. New technologies from Halton that are utilizing automation enable a supervision and monitoring system that add value to the operators.
Type approvals from all the major classification societies and worldwide references are solid proof about the Halton product quality. As a reliable manufacturer, Halton’s operations comply and are certified according to ISO 9001, ISO 14001, OHSAS 18001.
Halton Marine’s Expertise

Halton Marine provides safety, energy efficiency and comfortable indoor environment for demanding conditions.

Safety
Halton Marine’s products and systems have been designed specifically for marine environments, where safety, robustness and controllability play an important role. Whether it is a question of high-quality fire and gas dampers that prevent the progression of fire in a ductwork or an active smoke control solution that secures escape routes in case of fire, Halton is proud to be your first choice of safety solutions for demanding environments.

Energy efficiency
Halton Marine is the leader in energy efficient HVAC solutions for galleys and cabins on board. In addition to energy efficient products, Halton’s automation technology enables the benefits of demand based ventilation systems with improved indoor air environment. Halton Marine provides energy efficient solutions for both new-builds and retrofits, and carries out comparative measurements and verification tests.

Indoor environment
A good indoor environment has a direct impact on health, wellbeing and productivity. Halton offers a comfortable, silent, user-friendly and individually adjustable indoor air that is energy efficient, safe and easily controllable. Halton’s Innovation Hubs enable proper testing, measuring and verification of indoor environment conditions for different applications. Halton Marine has research facilities where it is possible to test and measure full scale cabin ventilation solutions in different environments and conditions.
Individual cabin ventilation

Silent, user-friendly and energy efficient solutions.
Halton offers HVAC solutions for different types of cabins and rooms. Cabin terminal units with an intelligent automation and a thermostat can operate as stand-alone unit or in a network which enables the indoor air conditions to be controlled, monitored and adjusted by a supervision system.

**Cabin units**

Halton pressure-independent cabin units control and maintain airflow individually in each cabin and thus sound levels and comfort are kept in optimal conditions. The cabin unit is actively monitoring the environment and adapting to the changing conditions. Halton Marine cabin ventilation equipment can be connected to LON, Ethernet or Wi-Fi networks with a dedicated network adapter. Halton cabin units are also available without airflow measurement as pressure dependent units. The manually operated cabin units include re heater and control unit or just a manual damper (manual model) which both allow the manual adjustment of airflow quantity.

**Fancoils**

Halton fancoil is a versatile solution for air treatment and control that has been specifically designed for a silent cabin comfort. The compact design possibilities and excellent performance levels make Halton fancoil solution easily adaptable for different types of projects.

**CABeam**

Halton revolutionizes cabin ventilation by bringing to the market a completely new kind of ventilation solution which offers the next level of comfort what comes to air distribution and HVAC sound levels in cabins. The operating cost for the system is substantially lower than with any mechanical HVAC solution.

**Active smoke control**

Halton Marine cabin ventilation system can be equipped with components and controls that, combined with the ship’s fire alarm system, act as an Active Smoke Control system. In case of fire the solution keeps the escape routes clear from smoke and prevents toxic gases spreading to non-affected areas. Halton’s Active Smoke Control solution is compatible with different kinds of emergency and evacuation strategies.
Network takes it to the next level

What if you were able to control, monitor and adjust cabin indoor climate centralized via network?

Network offers many advantages

In a network, selected HVAC parameters can be managed through a HMI (Human Machine Interface). Network solution opens numerous possibilities to include additional safety and energy efficiency features in cabin ventilation. Units can be adjusted and controlled by a HMI according to customer’s needs. It is also possible to connect additional sensors, e.g. pressure and fire detection in cabin units. All selected parameters and indications are visible on the HMI.

The network also enables optimization of the cabin ventilation system. Halton pressure-independent operation system working in a network enables the lowest energy consumption. It also gives a possibility to trace the trend of each cabin on the HMI. Monitoring and controlling can be done without entering the cabin.

Advanced energy efficiency

The Halton calculator collects the information from each terminal unit and signals to the Air Handling Unit (AHU) to adapt to the demand. Based on the information from terminal units, AHU’s supply air temperature is regulated to cut down unnecessary cooling and prevent unnecessary electrical heating inside the terminal unit. The supply air temperature is kept actively at an optimum level together with humidity control.

With Halton Marine advanced energy efficiency technology it is possible to save up to 35% in cabin HVAC energy consumption.

Halton networks

Halton Marine cabin ventilation solutions can be connected to LON, Ethernet or Wi-Fi networks or a combination of them. Cabin ventilation products operating as stand-alone are easy to connect to a network simply by adding a network adapter.

Halton network solution can be adapted to an existing Ethernet network built on board, which is normally used for other services such as IP-telephone, Internet, multimedia, IP-television etc.
**Network architecture**

Halton Marine offers its services for designing the network architecture.

**Principle architecture of Halton software**

The software offers an overview from a cabin ventilation system, to each cabin that can be individually adjusted, controlled and monitored via network. Halton’s supervision system interface is always built according to the customer’s needs.
HVAC dampers

Safety is the number one priority on board.

Because smoke and toxic gases can be more dangerous than fire itself, it is important that the fire dampers prevent smoke from spreading. Halton is the top manufacturer of gas-tight fire dampers.

A0(60) fire and gas dampers

To prevent the spread of fire, smoke and gas between fire zones, Halton FDB2 dampers include seals for blades that are effective up to 300 °C (572 °F) and thermally-activated seals that expand when the heat rises to 150 °C (302 °F) in ductwork. These unique safety features ensure air tightness and low leakage of Halton FDB2 dampers.

H-Class fire dampers and ATEX dampers

New energy source technologies demand higher integrity protection. Halton offers H-Class and ATEX approved dampers for example for ships that utilize LNG, batteries etc.

Shut-off and airflow control dampers

Halton offers a wide range of products to control and balance the supply of fresh air. When necessary, dampers can be used to shut-off the ventilation ducts (possible emergency situation).

Why Halton Marine dampers?

- Excellent quality recognized by the owners and the major classification societies worldwide
- Manufacturer of over 150 000 classified fire dampers for marine market
- Proven results from independent research institutes: fire tests, leakage tests, shock tests

Non-return and pressure relief dampers

Halton BLD non-return dampers prevent backflow and protect the fan and other system components against pressure. BRD pressure relief dampers regulate overpressure in designated areas and vent excess pressure e.g. in applications of gaseous fire fighting systems.

For demanding conditions

Halton has tested FDB2, FEX, UTG, BRD dampers in demanding cold conditions. The test results show that the dampers operated normally for the full duration of the test and kept their performance level after the test.
Droplet separators

In adverse conditions...

Even the calmest weather conditions contain salty spray particles that must be removed to protect ventilation systems, air handling units, generators and engines. The high-efficient droplet separator results in maintenance, repair and replacement cost savings.

Droplet separators

Halton DSH droplet separators are designed for demanding applications where reliability, easy installation and special design play an important role. Separator vanes are designed to restrict the passage of moisture, salt spray and rainwater e.g. into HVAC systems or engine room intakes. The unique design of the separator vanes enables high efficiency separation.

Halton DSH is used in a wide range of applications, where there are differences in wind speed and direction, levels of local turbulence, rate and droplet size, distribution of rainfall and surface water flow from the surrounding structure.

DSH has been tested at the independent research center according to the EN13030 performance test with A-Class results for louvers subjected to simulated rain. Proven performance data is available.

External louvres

When droplet separation is not needed, an external louvre is effective in preventing objects entering into the ductwork. Louvres can be also used in air intakes.

For cold conditions

Halton offers also high-efficiency droplet separators with heated vanes to keep intake clear during critical weather conditions. A solution for continuous operation during extreme conditions such as real arctic fog is also available. Contact Halton Marine for more information.
High-efficiency galley ventilation

Meet proven reliability, usability and hygienic conditions with low maintenance needs

Halton Marine is the leading supplier of galley ventilation equipment. With many years of experience, Halton Marine provides a wide range of solutions for demanding applications with technological advantages.

Capture Jet³ technology enables maximum capture with reduced airflows, smaller ducts, fans and reduced sound levels

Halton Capture Jet³ prevents the heat and impurities produced by cooking appliances from spreading to a galley. Compared to conventional galley hoods, Capture Jet³ technology enables a hood to operate with up to 45% lower exhaust airflow rates with the same capture efficiency. This opens a possibility to design smaller fans and ductwork. In the supply side, less make up air is needed for cooling purposes, enabling savings in air handling units and chillers. The technology results in savings of weight, space and energy consumption. Capture Jet³ does not necessarily require a separate supply air duct. In this case, a Capture Jet Fan takes the required air from the galley. This also saves space as well as contraction and operational costs.

Water wash system for easy service

Halton KWH, KWT and KW3 hoods are equipped with an automatic washing system that cleans the filters, UV-lamps and the exhaust plenum at programmable time. The washing cycle is automated with a separate control cabinet. KWH, KWT and KW3 are especially designed for high capacity utilization in demanding applications where improved hygienic conditions, safety and reliability play an important role.

M.A.R.V.E.L. demand based ventilation

The Halton M.A.R.V.E.L. system monitors the activity of cooking and optimizes the airflows in galleys. This intelligent system enables substantial savings in energy consumption while keeping the indoor environment conditions at an excellent level. Hundreds of customers worldwide rely on Halton M.A.R.V.E.L.

The best grease filtration in the market

Halton KSA cyclonic filter offers high-efficiency with low pressure drop and sound levels. The equalizing filters spread the airflow into the hood chamber. The remaining particles are eliminated with UV-light technology, resulting in a clean exhaust ductwork. This helps to reduce a serious fire risk and repetitive cleaning of the ducts.
Innovations for cooking on board

MobiChef

Halton’s MobiChef unleashes cooking from any ventilation ductwork. It is a completely autonomous mobile cooking station that can be used with light to medium duty electrical appliances. To prevent spread of smoke, heat and impurities, Halton MobiChef utilizes the Capture Jet technology. The Capture Jets create an air curtain to contain and direct impurities released by the cooking process toward high efficiency filters into an integrated recycling unit.

Halton MobiChef continuously delivers the correct airflow, no more, no less. The speed of the fan is adjusted automatically to compensate for filter pressure losses as the filters get dirty. The exhaust airflow is then kept constant, ensuring that the capture efficiency remains at its maximum level.

JES

The Jet Extraction System (JES) has been specifically designed for the front cooking areas or architectural cooking concepts integrating appliances with medium input power. JES provides full capture and containment efficiency. The combination of glass and stainless steel makes JES aesthetically pleasing and gives cooking areas a unique style.

PolluStop

Non-traditional sites often require uncommon solutions for galley ventilation challenges. There might be strong requirements for the discharge of smoke and grease, high extra costs for exhaust duct runs, limited space etc. to consider.

Halton’s PolluStop advanced air purification system enables you to put a cooking appliances virtually anywhere. They have been specifically designed to efficiently control the emissions of professional kitchens and galleys. Thanks to the PolluStop, grease particles from the hood are neutralized and airborne cooking odours will be so minimal that it can negate the need to discharge the exhaust air at a high level of the ship.
Central vacuum cleaning system

Keeping it clean with minimized disturbance and incredibly low operation costs.
A traditional vacuum cleaner - what a waste! Halton ProClean central vacuum cleaning system is designed to last as long as the vessel. It is not only ecological system but it is super ecological.

System description
Halton has developed a unique module based design of central vacuum cleaning system together with the Technical University of Tampere, Finland. Every Halton ProClean vacuum unit serves multiple simultaneous users. The module design minimizes investment and maintenance. A single fire zone can be operated even with only one central vacuum cleaning unit. A module contains a central unit (complete unit with two stage filtration: cyclone and a fine filter, dust container, control cabinet, automatic filter cleaning), piping, inlet valves, pipe cleaning valves and vacuum cleaning equipment. When a cleaning hose is plugged into an inlet valve, central unit starts. Sensors optimize vacuum power and minimizes power consumption continuously. When unplugged, the system is inactive. The Halton central vacuum cleaning requires minimum maintenance which results in less maintenance costs.

Central unit, inlet valves and cleaning valves are all made of robust materials. Pipelines are designed to withstand vibrations, heavy use and high suction pressure. Halton ProClean is available for new buildings and retrofits.

Advantages
- Ecological, designed to last as long as the vessel
- Usage of Halton ProClean promotes healthier environment by removing hazardous micro dust and not creating dust raising swirlds (proven results)
- Represents green values
- Silent and odor-free operation. No need to isolate spaces during cleaning.
- Lightweight, fast, safe and easy to use
- Frees space for cabins
- Available from components to whole scope including design services and installation
At your service

Halton is at your service throughout the whole life-cycle of ship

In addition to designing and manufacturing products and systems specifically for ships, Halton Marine offers services to test and verify that the adapted solutions match and even exceed the customer needs. Halton increases safety, energy-efficiency, indoor environment conditions with its systems and services.
Design

In addition to extensive product data that helps in the design phase, Halton Marine offers testing and simulation services from full-scale mock-ups, fire tests, leakage tests, shock tests to CFD simulation services. Halton has Innovation Hubs and manufacturing facilities in three continents.

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Halton services

Building

Beyond comprehensive product and system deliveries, Halton offers commissioning services and user trainings.
Halton’s project team is at customer’s disposal during the building stage.
Halton Marine guarantees all its products. Halton Marine can also offer extended warranty service that is tailored to match the needs of the customer.

02
We enable voyage from Pole to pole
Safe, comfortable
wellbeing

energy efficient and comfortable indoor air
About us

Halton Marine

Halton Marine, one of the world’s leading suppliers of marine HVAC, develops, manufacturers and markets reliable, high-quality ventilation solutions specifically designed for shipbuilding, oil & gas, energy and naval applications. Our track record includes deliveries to over 150 major cruise ships, 200 oil & gas projects and 100 naval vessels.

Halton Group

Halton Group specializes in indoor environment solutions, ranging from public and commercial buildings to foodservice facilities. Founded in Finland in 1968, Halton operates today in over 30 countries around the world, with annual sales of €200 million and over 1450 employees. The company has production facilities in Brazil, Canada, China, France, Finland, Germany, Hungary, Malaysia, Norway, United Kingdom and USA.