

Vita

Isolation
solution

Isolation solution

Stable, silent and comfortable healing conditions for patients.



Isolation rooms are one of the most demanding spaces in the hospital environment. Accurate room air pressure control by ventilation is one of the critical tasks to manage. The Halton Vita Iso ventilation solution is designed to provide enhanced safety and comfort for patients and staff in isolation environments.

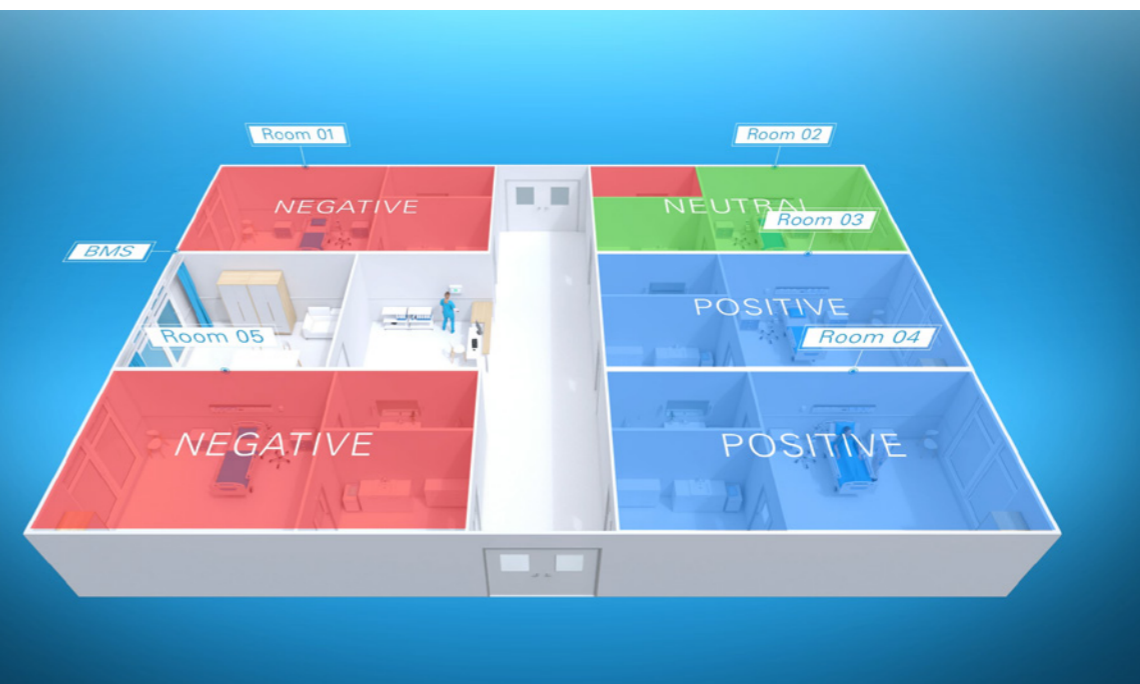
The standout feature of the Halton Vita Iso solution is the option to change the pressure modes of rooms on a ward between neutral, positive and negative in accordance with the status of the current patient. This offers a high level of flexibility and ease in managing the available capacity in the hospital.

Patients require different types of isolation depending on their medical status, whereby the nature of the isolation is controlled via ventilation and air pressure in the room. If patients present an infection, they require infection isola-

tion with negative pressure (under pressure in the patient room). Where patients have reduced immunity, they need protective isolation with positive pressure (overpressure in the patient room). Quite often, patients must be isolated physically, but do not need a barrier created by ventilation; in these cases, contact isolation with neutral pressure is sufficient.

By providing the option to adjust the pressure modes, the Halton Vita Iso solution offers flexibility in the use of patient rooms and is thus adaptable to current needs in the hospital. Room pressure is not predefined by the design of the ward but can be adjusted on an as-needed basis, ensuring that no room is ever left unused.

Additionally, by selecting neutral pressure for contact isolation or normal patient room usage, the amount of air-flow is reduced, improving comfort and saving energy. The service mode setting functions as an intermediary stage each time the mode is changed, allowing the necessary cleaning procedures to be carried out.



[Watch Halton Vita Iso Animation](#) ▶

Protective airflow



In the isolation environments the medical staff is highly exposed to infections from patients. To reduce the risk and enhance the protection of the medical staff Halton created Vita Iso solution with unique protective airflow pattern. The supply airflow is designed to generate an airflow pattern that prevents bacteria exhaled by the patient from entering the breathing zone of medical staff what increases their safety.

Halton Vita diffusers equipped with or without HEPA filters together with airflow dampers and control system maintain desired cleanliness and pressure in the spaces. The diffusers are covered with antibacterial epoxy-polyester powder paint that prevents microbial growth. Easy filter change through the front panel makes the diffusers friendly for the user.

Halton Vita HEPA diffusers are available with two types of front panels: with adjustable nozzles and with perforation. Typically supply air diffusers are with nozzle front panel and exhaust air diffusers with perforated front panel.



Remote controlling and a range of alarms

Panels displaying real-time room conditions are provided to aid the daily control and monitoring of rooms in the isolation department. Medical staff can monitor and adjust the conditions in isolation rooms via a supervisory panel. The panel provides an overview of all isolation rooms as well as detailed information of the status of individual rooms.



The information provided for each isolation room:



Operating pressure modes:

- negative
- positive
- neutral
- service.



Alarms:

- pressure level
- airflow rate
- temperature
- door status
- filter pressure loss.



Measurement values:

- room pressure difference
- airflow rates
- room temperature
- filter pressure.

Medical staff can also monitor and change the conditions in each isolation room individually thanks to the panel by the door of each room. The panel displays the pressure mode, pressure level and alarm status, enabling staff to effectively monitor the current conditions in the room. The wall panel can also be configured to display temperature and airflow rate.



The Halton Vita Iso solution includes a range of alarms to inform medical staff about unusual events in the room and enable a quick response. All alarms in the Halton Vita Iso solution are triggered when the measured values either exceed or go below the set limit values.

The Halton Vita Iso solution includes:

1. Room air pressure alarms for anterooms and patient rooms
2. Ventilation airflow rate alarms for anterooms and patient rooms
3. Room air and supply air temperature alarms
4. Door open-alarm
5. Filter pressure loss alarm (forwarded to BMS only)

The Halton Vita Iso solution allows staff to monitor all doors and react to each type of alarm individually. The status of each alarm is indicated locally using a wall panel, traffic light panel or alarm panel. In addition, alarm signals are automatically transmitted to supervisory panel and the building management system.

A traffic light panel is installed in the anteroom to indicate whether the conditions in the patient room are satisfactory at the current time.

Building Management System (BMS) connectivity

Halton Vita Iso controls can be connected to a BMS to indicate all of the required variables and values for multiple isolation rooms. This includes:

- The operating pressure mode of each isolation space
- Alarm status - alarms are assigned to one of three importance levels: high importance alarms, safety alarms, service alarms
- Measurement values: room pressure difference, airflow rates, room air temperature, supply air temperature, filter pressure, room air relative humidity
- Operating parameters, such as alarm limits and delays
- Control parameters

A lifetime journey with Halton

Halton ensures the best outcome from early design to validation and support throughout the building lifecycle.



Halton helps you find the optimal solution for isolation environments at the design phase and verifies excellent system performance at the handover. During building use, our services offer a proactive and user-centric tool for managing the safety and comfort of your indoor environment.



Halton Design Studio services

- Co-designing with the customer, defining the requirements and performance targets, matching targets to optimal OR solutions
- Halton CFD simulations for thermal comfort, air quality and system performance analysis
- Halton Mock-up for system performance and full-scale indoor environment testing conducted in Halton Innovation Hubs
- Simulated operations carried out in Halton's full-scale operating room



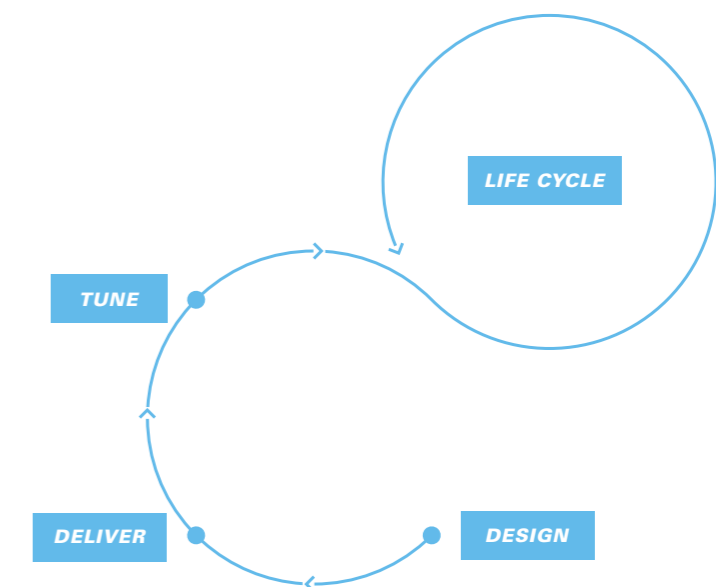
Halton Tune services

- Securing the safety and functionality of spaces with smooth commissioning and optimal system performance validation services
- Ensuring safe and comfortable working conditions with space cleanliness and indoor climate validation services
- End-user training for all solutions



Halton Life Cycle services

- Continuous validation and fine-tuning services for guaranteeing the safety, hygiene and comfort of spaces
- Regular maintenance services for all Halton Solutions
- System performance evaluation and optimization



Vita

Wherever air quality is critical, we take care of every breath you take.

Your partner in indoor air quality

Halton is your lifetime partner from the design of the systems, through the construction process to annual maintenance. Our services cover your project from end to end, ensuring the best solution for all your needs.

- Project design and support
- Pre-validation with mock-up or CFD modelling
- Commissioning and performance validation
- Annual maintenance
- Halton HIT Design tool and solution documentation

Halton Vita Solutions

Demanding spaces

- Operating rooms
- Laboratories
- Patient environments
- Isolation rooms
- Hospital pharmacies

Specialised needs

- Outdoor air intake hygiene
- Fire and smoke safety
- Air diffusion and thermal comfort
- Solutions for hospital kitchens

Halton Vita solutions are designed for

- Maximum safety, reliability and comfort for professionals and patients
- Easy and intuitive system use and monitoring with smart controls and interfaces
- Optimised energy efficiency with demand-based system operation

Halton is a key supplier for all indoor air solutions in the ultra-modern Nya Karolinska Solna University Hospital in Sweden – the world's largest PPP hospital with LEED Gold certification. Illustration: White Tengbom Team.

Vita

Halton Vita Values

Putting people first

Halton Vita solutions are made for people who depend on them. From laboratory and pharmaceutical professionals to doctors, nurses and their patients, our first responsibility is the safety, comfort and wellbeing of these people and their environment.

Passion for better solutions

We are driven by our customers' needs, and demanding spaces demand better solutions. Halton Vita solutions are designed, produced and delivered to the highest standards of safety, quality and efficiency.

Solving each challenge together

Delivering the best solutions for demanding spaces requires great flexibility, a commitment to continuous development, and close cooperation with our customers. Together, we can ensure that every Halton Vita solution meets the unique demands of your project and the people it serves.