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*Vita*

# Laboratory Solutions

Enabling wellbeing



# Laboratory solutions

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Exceptionally safe and efficient workspaces for laboratory professionals.



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Entropic's Vita solutions offer intelligent and efficient management of laboratory pressure conditions and thermal comfort in healthcare, research, production and educational laboratories.

## Entropic Vita Lab Solo

Vita Lab Solo is a fast and accurate airflow management solution for all types of fume cupboards and exhausts in laboratories where safety needs to be ensured in all conditions.

- Suitable for all fume cupboards and laboratory exhausts
- Constantly safe operations
- User-friendly control and alarm panel
- Enhanced energy efficiency with occupancy control

## Entropic Vita Lab Room

Vita Lab Room provides intelligent and efficient control of laboratory pressure and thermal comfort for optimal space management.

- Thermal comfort and safety for the entire room
- Energy efficiency
- User-friendly control and alarm panel
- Integrated temperature control

## Entropic Vita Lab Zone

Vita Lab Zone provides enhanced system stability with integrated zonal pressure management. The system ensures constant conditions for the Entropic Vita Lab Solo and Entropic Vita Lab Room solutions.

- Increases safety by preventing zone-to-zone fluctuation
- Enhances energy efficiency by maximum airflow limitation
- Easy design and layout modification with simple installation and maintenance

# Entropic Vita Lab solutions

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## Total solutions for demanding laboratory spaces.

**The Entropic Vita Lab solutions are adaptable, tested and validated. Pre-commissioning and maintenance services for the whole lifecycle of the solution are available.**

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### **Safety above all**

Entropic prides in developing solutions with uncompromised safety.

- Fast and accurate system measurement mechanisms prevent harmful substances from entering the working space
- Seamless interaction between system components guarantees a stable environment at all times
- An easy-to-use touch panel user interface minimises the risk of human errors
- A reliable audio-visual alarm system secures a safe laboratory environment

### **Savings with energy efficiency**

The energy-enhancing solutions of Entropic Vita Lab bring savings during the whole lifecycle of the laboratory.

- Demand-based operations with variable airflow control
- Manual ECO-mode enables the user to adjust the ventilation
- An occupancy sensor reacts to presence in the space and adjusts the airflow
- Energy efficiency can be further enhanced with zonal airflow management

### **Easy installation, commissioning and maintenance**

Entropic ensures fast installation, commissioning and high performance through high-quality maintenance services

- Damper with control box and prewired sensors simplify installation and minimise disturbance on site
- Commissioning on site is made easy through pre-loaded parameters and validation from the Entropic Touch Panel on site
- The solution is tested and validated upon delivery
- Service and maintenance is quick and easy with the Entropic Touch Panel





### Fast response time with high-quality components

The fast and accurate ventilation control of the Entropic Vita Lab solutions is built around Entropic's high-quality dampers, controllers and sensors.

- The dampers are available in several sizes and material options include PVC/PPS, stainless steel and galvanised steel.
- The Entropic Vita Lab controller is the communication hub for the system ensuring seamless interaction between components. The controller is pre-wired and mounted on the damper, which substantially simplifies installation on site.
- Various sensors are used to enhance the accuracy and speed of the measurements.

### Entropic Touch Panel, an intelligent multitool

The Entropic Touch Panel is a user-friendly control panel that is the core of all user functions for different user profiles.

The configuration menu provides access to the commissioning and servicing of the system, such as enabling end-user functions and setting alarm limits.

- All parameters are configured from the touch panel
- Changes can be made rapidly by using the simple menu
- The changes are instantly visible on the screen, allowing easy servicing and maintenance with little disturbance for the laboratory users

The end-user view displays the functions that are available to the user in the day-to-day operation of the system.

- An audio-visual alarm allows the users to take immediate action
- Real-time values and alarm limit are displayed on the screen
- Ventilation, temperature and pressure can be easily adjusted from the touch panel
- The user interface content changes according to the configuration



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# Entropic Vita Lab Solo

The fastest and most accurate airflow management system for all types of fume cupboards.

## Provides safety and energy efficiency through variable airflow control

Suitable for all kinds of fume cupboards and laboratory exhaust applications in research, industrial production and educational laboratories.

- An exceptionally fast response time and constantly stable operations guarantee the safety of laboratory professionals
- Energy efficiency is enhanced by an occupancy sensor and automatic sash closing without compromising safety
- Complies with the European fume cupboard standard EN 14175-6

## Entropic Vita Lab Solo is available in different configurations for various application needs

Advanced solutions meet the requirements for the most demanding laboratory spaces

- Double Sensor Control, a state-of-the-art solution combining speed, safety and adaptation
- Sash Movement Control provides enhanced speed and stability, optimised for traditional control

## Features for Entropic Vita Lab Solo applications

	Face Velocity Control	Dual Position Control	Sash Position Control	Sash Movement Control	Double Sensor Control
<b>For fume cupboards with</b>					
Vertically sliding sash	•	•	•	•	•
Horizontally sliding sash	•				
Vertical & horizontal sash	•				•
High heat load inside		•	•	•	
Low airflow		•	•	•	•
Exceptionally high safety requirements				•	•
<b>Features</b>					
Face velocity measurement	•				•
Constant face velocity	•		•	•	•
Variable airflow control	•		•	•	•
Automatic ECO mode with occupancy sensor	○		○	○	○
Exceptionally fast response time				•	•
Low installation cost	•	•			
Entropic Touch Panel	•		•	•	•

• = standard  
○ = optional

# Double Sensor Control – the optimum solution

**Fast response time – key to minimising the risk of exposure to harmful substances.**

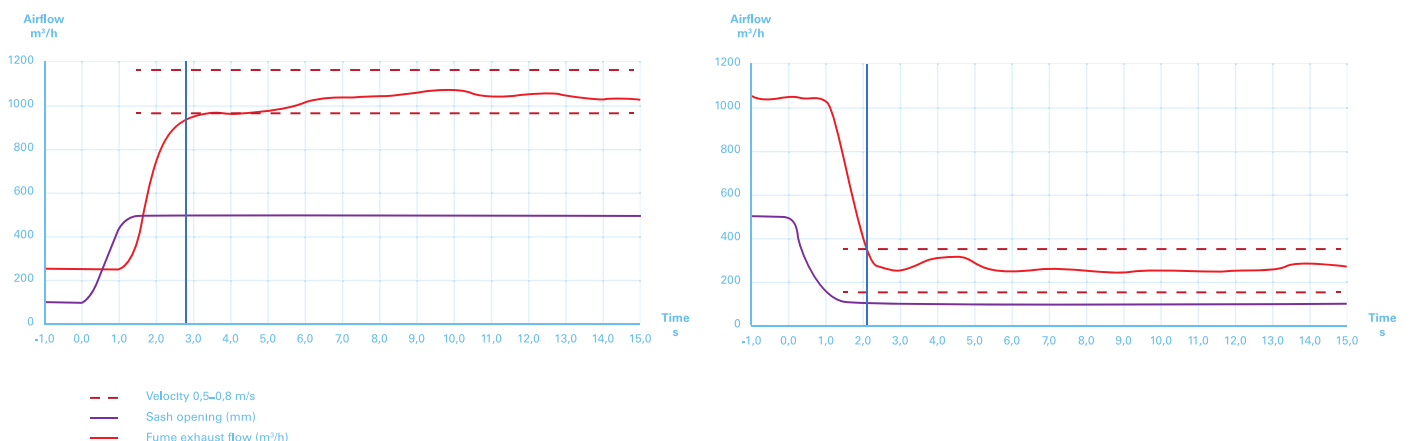
**When a fume cupboard sash is opened, a fast and stable control has a significant effect on the exposure**

- A delay of more than 3 seconds significantly increases the exposure risk
- After 5 seconds, emission concentrations reach their maximum level

**The Entropic Vita Lab Solo Double Sensor Control solution provides the fastest reaction time and system stability**

- Stability is reached in less than 3 seconds
- Tested and validated according to the international standard EN 14175-6
- Combines face velocity measurement and sash window control

## Double Sensor Control, fast and stable operation



A sash sensor with a very quick reaction time ensures that the airflow is adjusted in less than one second ( $< 1$  s) and the system is stabilised in less than three seconds ( $< 3$  s). When the sash sensor has reached the desired level, the face velocity sensor takes over the control in order to maintain the velocity, taking also into account any blockage caused by people or equipment by the sash opening.

# EntropicVita Lab Room

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Intelligent and efficient management of laboratory pressure and thermal comfort.

**Designed for the pressure and airflow control of laboratories where safety, air quality and comfort need to be maintained at the required level**

Suitable for laboratories in healthcare, industry, pharmacies, isolation rooms, operating rooms and other clean rooms.

- Controlled over- and underpressure conditions ensure the safety of the laboratory environment by preventing the dispersal of contaminants
- Continuous control of the room conditions and seamless interaction between the system components provide stable room airflow conditions
- Consistently optimal indoor air quality, air diffusion and thermal comfort

**EntropicVita Lab Room is available in a range of configurations for different applications**

- Room Airflow Control for spaces where the need for pressure control less rigorous
- Total Exhaust Measurement for spaces with zonal management for increased energy efficiency
- Room Pressure Control for spaces where safety requirements are exceptionally high



## Features for Entropic Vita Lab Room applications

	ROOM AIRFLOW CONTROL		TOTAL EXHAUST MEASUREMENT		ROOM PRESSURE CONTROL
	Supply Control	Supply and Exhaust Control	Supply Control	Supply and Exhaust Control	
<b>System-level features</b>					
Indirect pressure (airflow difference) control	●	●	●	●	
Direct pressure control (with room pressure sensor)					●
Air exchange rate control		●		●	●
Temperature control		●		●	●
Advanced temp control (with heating/cooling element)		○		○	○
Automatic ECO-mode (with occupancy sensor)	○	○	○	○	○
Duct pressure control	○	○	●	●	○
Zonal airflow management			●	●	
Cascade control					●
Control freeze *					●
<b>Exhaust design solution</b>					
Single exhaust ventilation	●	●			●
Centralised exhaust ventilation	●	●			●
Centralised, integrated with general room exhaust	●	●	●	●	●

● = standard

○ = optional, requires an additional component

\* Door switch required, not provided by Entropic

# Total Room Control – the optimum solution

## Seamless integration – superior performance

Total room control integrates the Entropic Vita Lab Solo units to the intelligent Entropic Vita Lab Room control system. The integrated solution provides continuous control and monitoring of the room conditions.

Based on continuous measurements from the Entropic Vita Lab damper, the system controls the room pressure by adjusting and maintaining the airflow difference between the supply and exhaust, simultaneously keeping the energy consumption to a minimum.

The Entropic Touch Panel is equipped with a temperature sensor and a user key for adjusting the temperature for maximum comfort. Additional heating and cooling elements can be integrated for advanced temperature control.



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# Entropic Vita Lab Zone

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Enhanced system stability with integrated zonal pressure management.

**Ensures constant conditions for the Entropic Vita Lab Solo and Entropic Vita Lab Room solutions.**

- Constant duct pressure controls supply airflow, enhancing energy efficiency
- Zonal management prevents zone-to-zone fluctuation, giving a steady airflow
- Installation is simple with no internal wiring to fume cupboards
- Flexible and easy layout modifications considerably reduce refurbishment costs
- Entropic Vita Lab Zone simplifies system design

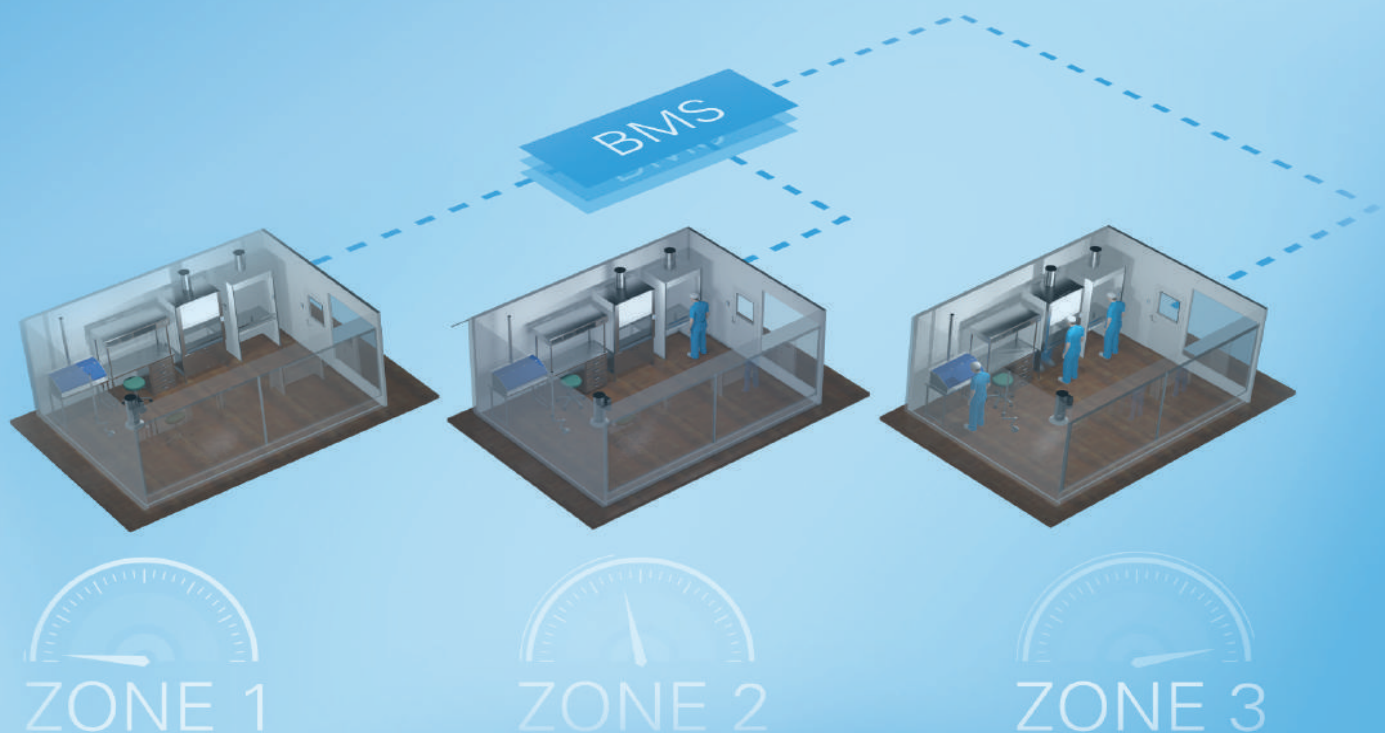


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**The Entropic Vita Lab Zone solution is an intelligent zone management system that makes the adaption of the laboratory space easy.**

The Entropic Vita Lab Zone solution controls the duct pressure inside the room with the Vita Lab Zone controller, ensuring a constant response time for the Entropic Vita Lab system. This guarantees the safety of the user regardless of the conditions outside the laboratory.

The Entropic Vita Lab Zone is also used to limit the total exhaust airflow in order to save energy.





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# Entropic Vita Lab Services

Entropic Vita Lab solutions are delivered as turnkey solutions. Entropic's expertise ensures the best outcome - all the way from early design to commissioning and support throughout the building lifecycle.



Entropic on helps you and the optimal solution for laboratory 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 functionality of your indoor environment.



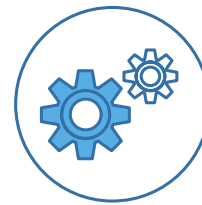
### Entropic Design Studio services

- Co-designing with the customer, defining the requirements and performance targets, matching targets to optimal laboratory solutions
- Entropic CFD simulation for thermal comfort, air quality and system performance analysis
- Entropic Mock-up for system performance and full-scale indoor environment testing conducted.



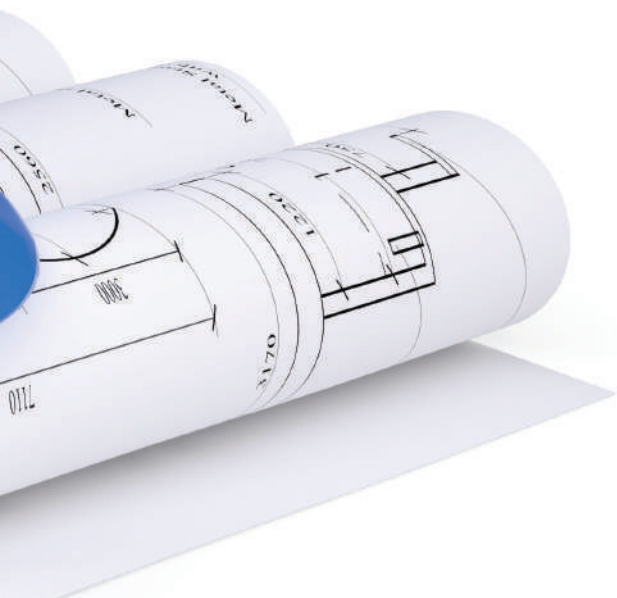
### Entropic Tune services

- Securing the safety and functionality of spaces and working conditions with smooth commissioning service
- Verifying and adjusting the optimal performance of fume cupboard, room and zone systems
- End-user training



### Entropic Life Cycle services

- Regular maintenance service
- Changing of spare parts
- System performance validation and optimization



Vita



# Wherever air quality we take care of everyone

## Your partner in indoor air quality

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Entropic is your lifetime partner from the design of the systems, through 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
- Entropic HIT Design tool and solution documentation

Entropic 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.



# Quality is critical, every breath you take.

## Entropic Vita Solutions

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### **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

### **Entropic 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

# Vita

## Entropic Vita Values

### Putting people first

Entropic 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. Entropic 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 Entropic Vita solution meets the unique demands of your project and the people it serves.

[www.entropic.ie](http://www.entropic.ie)

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