




# Room automation for laboratories

Safety and a pleasant climate for  
life sciences and the healthcare sector.



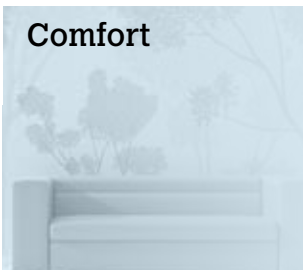
# The SAUTER automation system offers you a comprehensive solution for optimum **safety**, **comfort** and **efficiency** in laboratories.



## Safety

Permanent operational reliability under all conditions:

- Protection of the laboratory staff by maintaining the retention capacity of the fume cupboard
- Safe conditions thanks to fast and precise control of the air volume and the room pressure
- Immediate detection and reporting of faults thanks to reliable monitoring and an efficient alarm concept
- Traceability of events and user interventions thanks to a GMP-compliant monitoring system



## Comfort

Highest comfort levels due to full control of comfort-related parameters:

- Constant sense of well-being thanks to stable temperatures and humidity control
- Silent regulation of the air volume causes no acoustic disturbance
- Increased ability to concentrate on the part of personnel due to the pleasant indoor air quality
- Visual comfort thanks to integrated control of lighting and window blinds



## Energy efficiency

Reduction of energy consumption by improving the air treatment:

- Air volume control with very low differential pressures
- Demand-led ventilation control
- Inclusion of the simultaneity factor
- Reduction in the volume of air in night and absence modes



## Cost efficiency

Comprehensive solution from a single source means cost advantages due to consistency and compatibility:

- Reduction in labour time spent on planning and co-ordination
- Reduction in service and maintenance costs
- Easy adaption of the system in case of refurbishment or changes to the laboratory

# Innovation in laboratory buildings – SAUTER fully speaks **BACnet/IP**

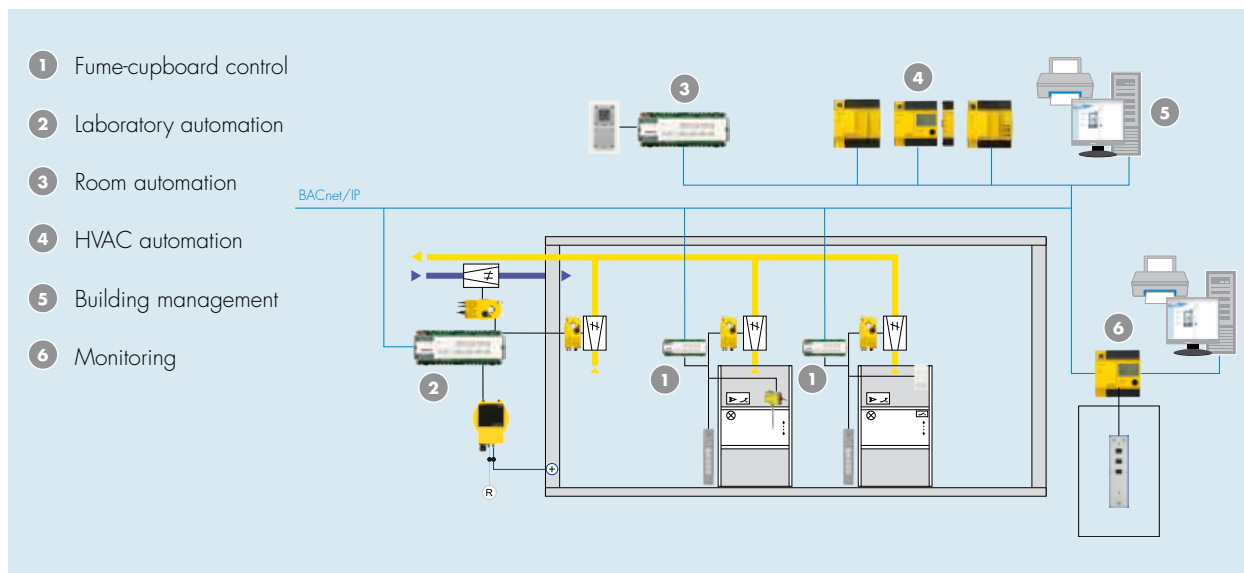
## Everything from a single source.

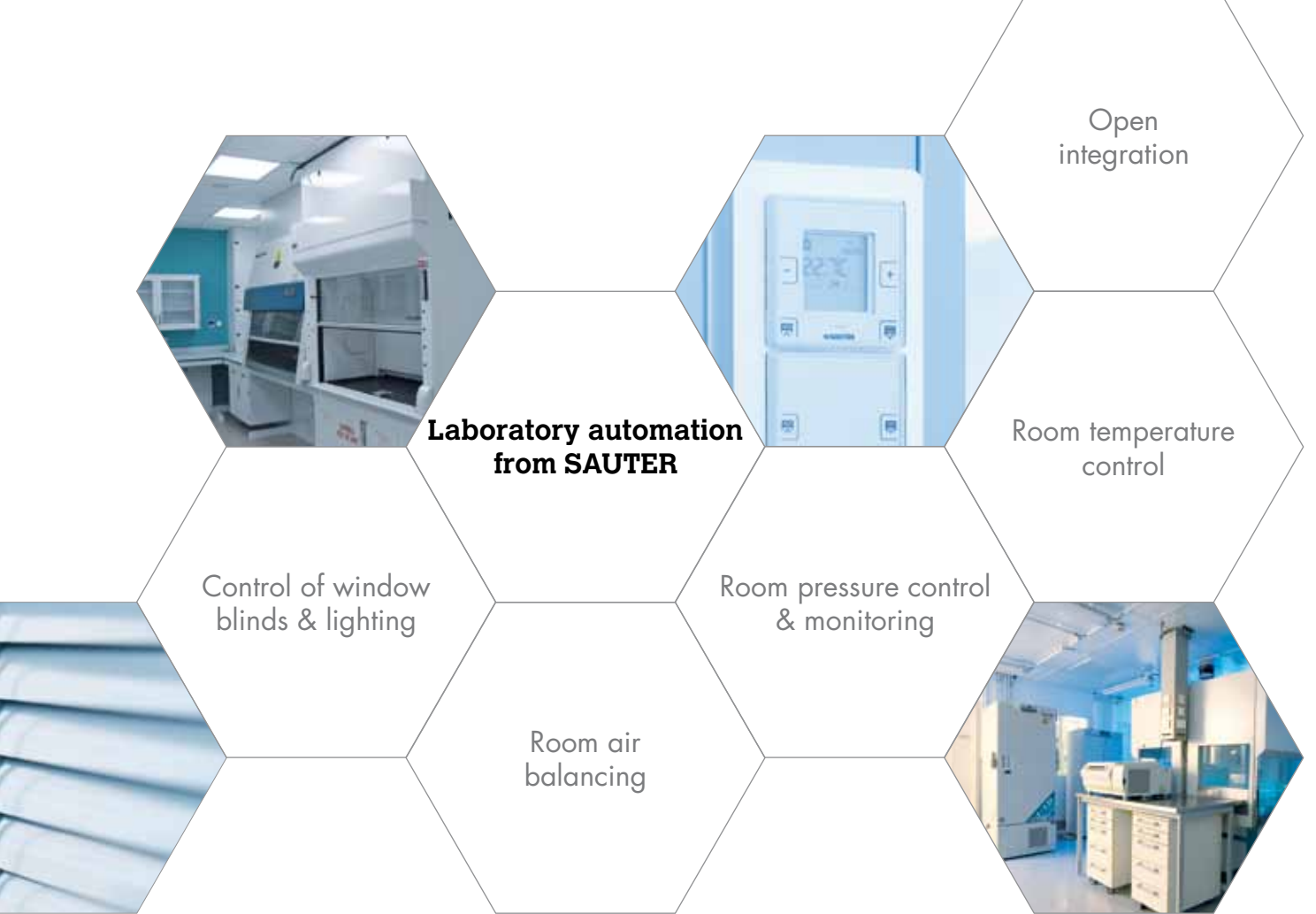
As a long-time partner of renowned pharmaceutical companies and research institutes worldwide, SAUTER has comprehensive know-how in the control and regulation of modern installations. Why not let your clean rooms and laboratories also benefit from this expertise? We take on the complete planning and implementation of your project. With SAUTER, you have complete control from the very beginning.

## Our expertise is the integration of laboratories into a building management system.

The control and monitoring of laboratories and fume cupboards is always a part of the higher-level building management system. Therefore, it is important that the integration of the rooms into the system is complete and open. The certified laboratory automation stations from SAUTER, which are based on the BACnet/IP protocol, enable a simple and direct connection to the building automation network.

Data is transmitted quickly and reliably via Ethernet, which ensures that conditions remain safe in your laboratories at all times. Our monitoring software, novaPro Open, visualises all information in a clear and structured manner. In accordance with the current GMP requirements, all relevant data and all user interventions are recorded without exception and in a tamper-proof manner in a database.





## SAUTER measures up to **your requirements.**

### **Optimal control thanks to proven technology.**

Our customers' requirements are varied: the control of fume cupboards; the regulation of the pressure in laboratories and clean rooms; and the ventilation of critical zones.

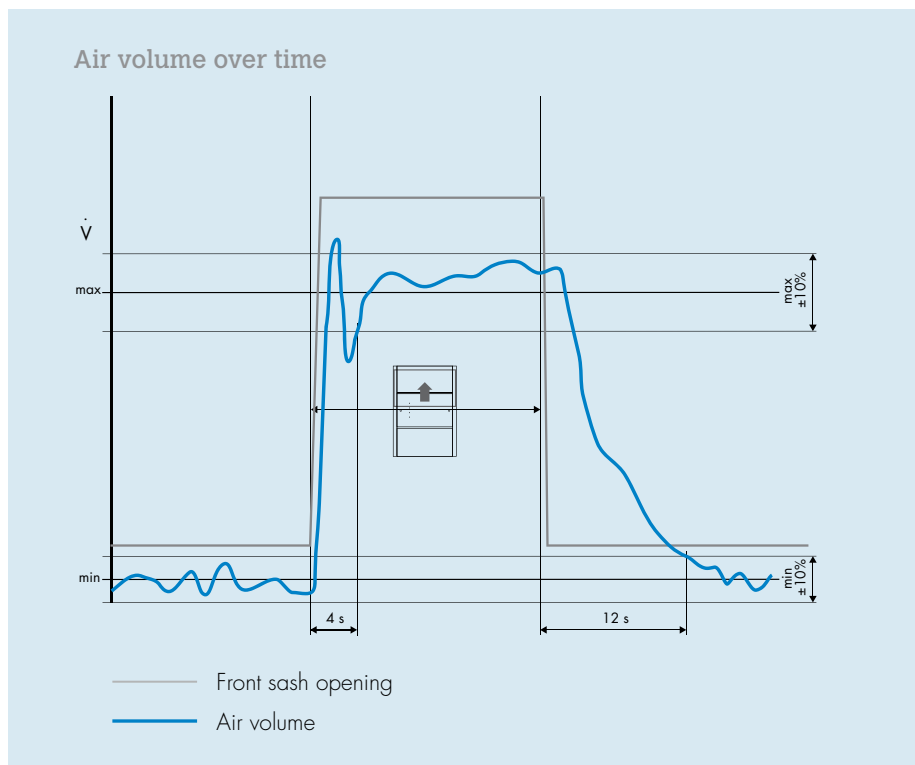
In order to fulfil the strict requirements of the operators and the legal regulations, fast communication is required. This is why SAUTER relies on the BACnet/IP protocol in order to control time-critical applications like room air balancing in the laboratory at all times. In addition, the room pressure, room temperature, window blinds and lighting are all reliably controlled and monitored by the automation stations.

### For safety in the workplace.

By controlling the supply and return air correctly, it is possible to prevent malfunctions during operation and to avoid the leakage and accumulation of harmful substances in the room air. When you decide in favour of SAUTER components, you are choosing reliability and precision.

### Reliable control and monitoring.

The control speed required by European standard EN 14175-6 is reliably fulfilled thanks to the powerful control algorithm and the fast actuator of SAUTER's ASV1 1.5 VAV compact controller. The functional monitoring of the fume cupboard is carried out in accordance with EN 14175-2. This ensures that the laboratory personnel benefit from maximum safety, because the ventilation system and the relevant functions all operate correctly. If there is a risk of the fume cupboard operating in any way unsafely, this is immediately indicated to the users both visually and acoustically on the FCCP100 function indicator.

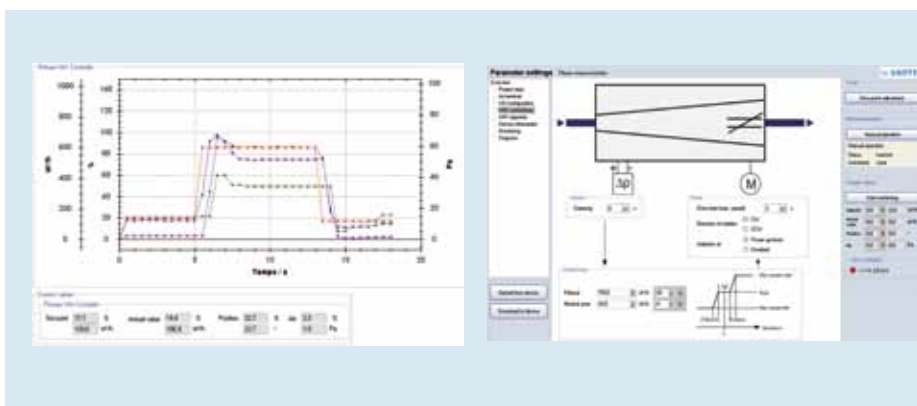
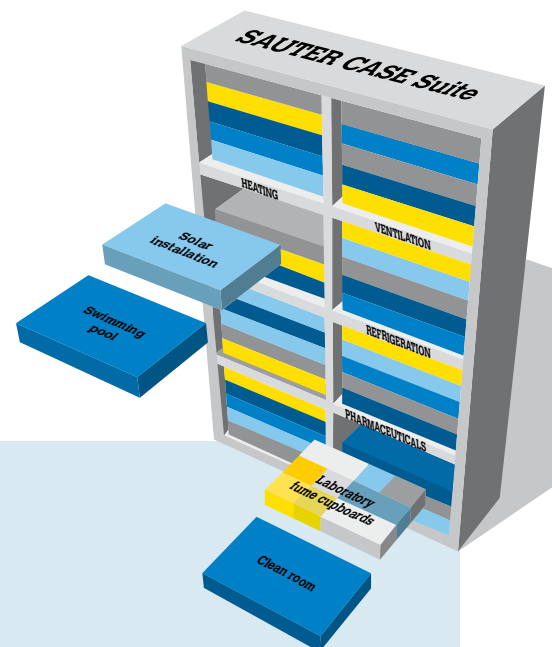


## Time and cost savings thanks to the **homogeneous system.**

### Simple and functional.

The laboratory automation system from SAUTER offers you a homogeneous, open system, from the fume cupboard to the management level. This reduces the number of people involved in the project and, therefore, the man-hours spent on planning and co-ordination.

The networking of the automation stations is greatly simplified by the ready-to-plug connection technology. The automation functions can also be programmed and commissioned very efficiently using the proven solutions and tools of the SAUTER CASE Suite engineering software. This considerably speeds up the project, from the planning stage right through to the actual hand-over.





## Increase your **energy efficiency** with SAUTER.

### **Protect the environment and reduce consumption and costs.**

An important part of SAUTER's philosophy is to reduce energy consumption in buildings. The SAUTER ECO<sup>10</sup> programme supports you in your efforts to cut energy costs and actively protect the environment. Our solutions for laboratory buildings also make an important contribution towards achieving this objective. In a laboratory, fume cupboards are the greatest consumers of energy due to the volume of air used. That's why we use our optimisation strategies to target the use of the right air volume at the right place and at the right time. SAUTER achieves this by, for example, reducing the air volume in the fume cupboard in the night and absence modes, and limiting the maximum volume of exhaust air from the laboratory. These measures help to lower your operating costs significantly.

The innovative differential pressure sensor and the unmatched control quality of the VAV compact controller SAUTER ASV115 also make substantial energy savings possible, because these components ensure stable control up to a differential pressure of 1 Pa. This allows you to achieve maximum savings while benefiting from maximum safety.



1. Centralisation and visualisation of information
2. Comparison with internal and external benchmarks
3. Tailor-made energy concept
4. Demonstration of options for alternative energy
5. Marked reduction in emissions
6. Use of pioneering, networked products and solutions
7. Networking of all specialist installations with open, flexible systems
8. Technological harmonisation of the building shell, the automation system and the plant engineering
9. Users are encouraged to adopt energy-conscious behaviour
10. Guaranteed reduction in operating costs

# The prerequisite for safe and precise control: **SAUTER component technology.**

## **ecos502 laboratory automation station**

This powerful automation station is certified according to the BACnet standard and has the following functions as a BACnet Building Controller (B-BC):

- BACnet/IP communication protocol (EN ISO 16484-5)
- 256 data point objects
- 32 time programmes (schedules)
- 8 calendars
- 16 alarm types (notification class)
- 32 control types (loop)
- 500 COV notifications
- 64 structured views
- Easy integration into the BMS network
- Fast, ready-to-plug networking using Physical Layer Ethernet
- Optimal specifications for the control and maintenance of safe and comfortable conditions in laboratories
- Freely programmable





### **ASV115 VAV compact controller**

The compact damper actuator is distinguished by some extraordinary features:

- Only 3 seconds of running time for 90° damper angle
- Variable running times up to 15 seconds thanks to brushless DC motor
- With 10 Nm torque, it is also suitable for large VAV boxes
- Long serviceable life even if used in extreme conditions thanks to electronic and mechanical torque limitation
- Freely configurable inputs and outputs for many different applications
- Integrated differential pressure sensor with silicone membrane and capacitive method of measurement
- Measurement range 150 Pa or 300 Pa
- Can be used even in contaminated return air because of the static method of measurement
- Highest measuring accuracy even if the differential pressure is very low (1 Pa), such as for night reduction with minimal air volumes
- Automatic positional compensation enables the actuator to be installed in practically any position



### **EGP100 differential pressure transducer**

The differential pressure transducer is used to measure and monitor the room pressure in laboratories. It measures very small differential pressures and air flows:

- Variable measuring range for detecting positive and negative pressures up to  $\pm 150$  Pa
- Stable and precise measurement of differential pressure
- Adjustment and visualisation of the measurements using software
- Automatic voltage/current change-over of the output signal
- With display and LED status indicator
- High IP protection for use in splash-hazard environments



### SVU100 air-flow transducer

The air-flow transducer is used to measure the air inlet speed for fume cupboards with horizontal and vertical front sashes:

- Easy to install in the roof of the fume cupboard
- Flow measurement for air speeds of up to 1.3 m/s
- Reliable detection of the flow direction
- Integrated particle filter to prevent contamination of the sensor element



### SGU100 sash sensor

The sash sensor detects the vertical front sash position on every type of fume cupboard:

- Easy to install on the counterweight of the front sash
- Measurement range of up to 2 m with excellent reproducibility
- Measurement system not subject to wear: low life-cycle costs
- Integrated alarm contacts for excess stroke: reduced installation costs and increased operational reliability
- Self-monitoring function



### FCCP100 control panel

The control panel, as per EN 14175, enables safe operation of your fume cupboard – simply, flexibly and conveniently:

- Flush integration into fume cupboards possible
- ASV115 and SGU100 are parameterised via connectors, without direct access to the device
- Fast and error-free installation thanks to plug-in method



# SAUTER is the expert for **room automation in laboratories.**

**Benefit from our expertise and more than 100 years of experience in measuring and control technology.**

Choose SAUTER. For more than 40 years, we have been focusing on creating innovative building automation systems in order to provide a sense of well-being and a pleasant climate for the environment. We have made it our mission to reduce your costs and your CO<sub>2</sub> emissions. Both you and the environment benefit from this. With the right functions for your laboratory, you can take great strides towards achieving greater energy efficiency. Start now.

## All the advantages at a glance

+ Energy savings	+ Seamless integration into the BMS with BACnet/IP
+ Enhanced comfort	+ Provides the room conditions that are essential for research
+ Sustainable reduction in running costs	+ Traceability (reliable processes)
+ Time savings	+ Reliability of planning
+ Safe working conditions	+ Expertise over the entire life-cycle of the building
+ Investments are protected	+ Smooth project management



**Systems**

**Components**

**Services**

**Facility Management**

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