

EVC - Efficient Ventilation Control

Increase the efficiency of your ventilation system



Fresh air is essential for people to feel good and to increase the lifetime of your computers and machines. By investing in an energy efficient ventilation system from Systemair you get a healthy indoor environment while reducing your operating costs. Additionally, it prepares you for future environmental requirements and thus increases the value of your property. In other words, pure profit.

Systemair provides professional ventilation solutions for all types of buildings, from single- and multi-family buildings to shopping centers, hospitals and industrial facilities. We adapt the solution to your particular type of business. Regardless if it is a new construction or a retrofit project, our products are second to none in quality, reliability and length of service life. You can always trust that Systemair delivers energy efficient ventilation solutions for health, comfort and success.

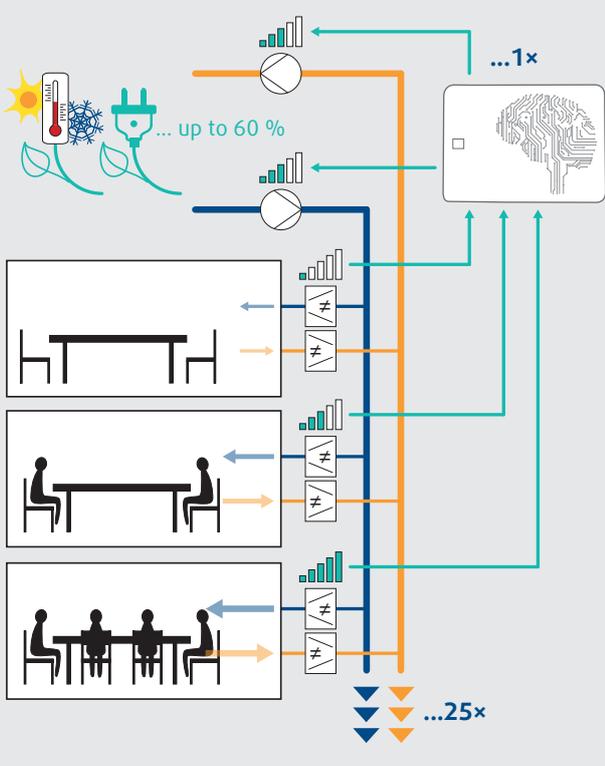
Fresh air is pure profit.



Demand controlled ventilation

The demand controlled ventilation is a powerful instrument that influences many aspects of room climate quality like temperature, humidity, CO₂, VOC or particles content and others. For many years our customers and we could experience these quality benefits in public buildings, offices, sporthalls, hospitals and homes. Systemair always stands for quality, but as well for efficiency. EVC will boost the efficiency of your demand oriented climate control to a higher level.

Providing a simple and complete overview and communication interface



Boost your efficiency!

The traditional concept of high room air quality achieved by demand oriented VAV-system becomes now much more efficient.

Bring only as much air to the room as it is required to meet the room air quality demand at every moment.

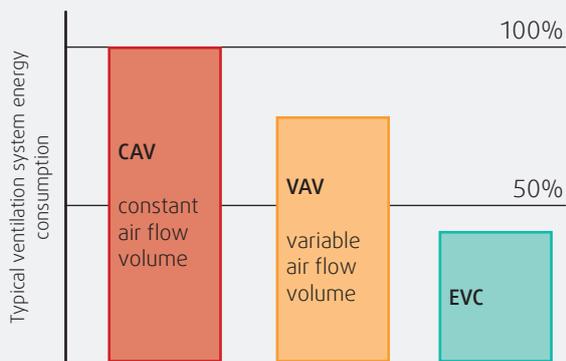
Produce only as many disturbing air flow control side effects like noise, as it is unavoidable to meet the room air quality demand at every moment.

Produce only as much of high quality air as it is required to meet the actual air volume demand of all the ventilated rooms at every moment.

Spend only as much energy as it is required to produce high quality air to meet ventilation demands of the rooms at every moment.

Spend only as much of financial resources, engineering, installations, Automation and maintenance, to meet the demand on high efficient automated controlled ventilation system.

Discover the EVC.





EVC – The efficient solution for best indoor climate

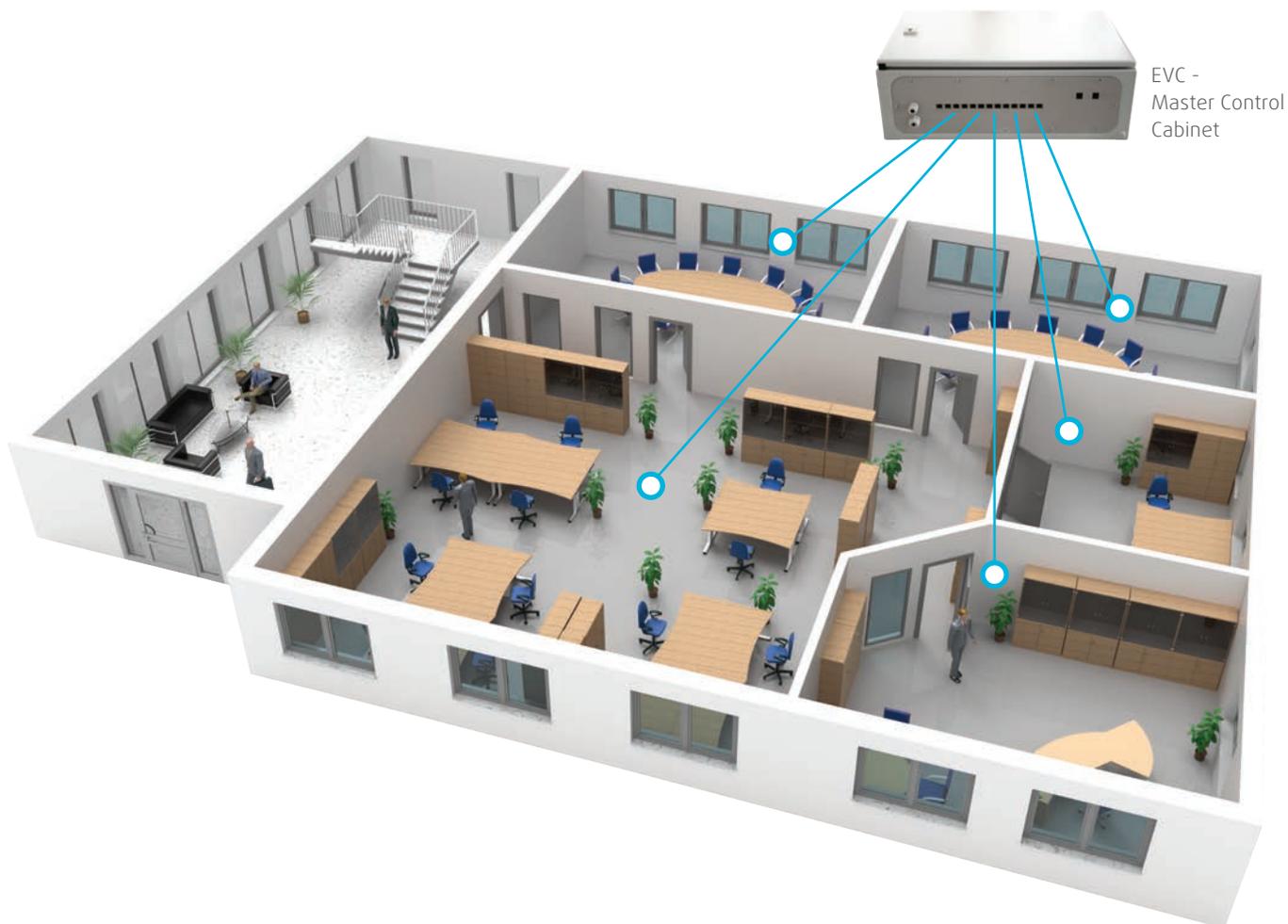
The EVC (Efficient Ventilation Control) is used to minimize electrical power consumption of fans and thermal energy in a central ventilation system with several rooms or zones and variable volume flows (on demand).

The EVC is designed as a control accessory for Systemair Geniox, Topvex and SAVE air handling units. It detects and optimizes the damper position of volume flow controllers in a ventilation system in order to obtain the lowest possible fan speed for each operating status. As a result, the electrical power consumption of the fans and the thermal energy in the ventilation unit decreases.

Compared to constant pressure controlled systems, up to 60 % of the energy costs for the fan operation can be saved.

The dampers in the individual rooms / zones are adjusted according to the requirements of CO₂, VOK, temperature or presence. The damper positions are correlated to real volume flows. The addition of all volume flows results in a setpoint value for the fan speed in the ventilation unit used with the lowest possible pressure loss in the duct system.

Schematic structure



Highlights

1

Minimizing the static air pressure in the duct to a level that can still cover the ventilation requirements.

2

Reduction of the fan power to a minimum that barely covers the ventilation requirements.

3

Up to 60 % energy savings possible.

4

Significant reduction of installation time due to supplied and pre-assembled cables with connectors.

5

On-site wiring errors almost impossible.

6

Simple and convenient commissioning and system maintenance via PC or tablet.

7

Low planning effort due to simple system design: only 1x central control cabinet and 1x zone set per zone.

8

Only 1 central control cabinet required for up to 25 separate rooms or zones with up to 4 air handling units.

9

Minimization of pressure loss and noise development as damper positions are always as open as possible.

10

Full compatibility with Systemair Geniox, Topvex and SAVE air handling units, which are controlled by a MODBUS signal.

EVC - Master control cabinet



The central control cabinet of the EVC system is used for connection of room / zone HUBs, as well as an interface to the air handling unit control and the building control system.

The central unit of the control cabinet is a freely

programmable automation station. It is used to regulate, control, monitor and optimize the air quality in the individual rooms / zones of a building, combined with a significant reduction in operating costs. Integration of heating / cooling functions is also possible.

Up to 25 room / zone HUBs can be connected and managed via the central HUB integrated in the control cabinet. The central HUB handles the supply of the individual room / zone HUBs and provides the interface for Modbus communication for each HUB. The connection from the central control cabinet to the zone HUB is made via standard network cable with RJ45 plug.

The integrated switch / router enables the connection of up to four ventilation units and serves as an interface for the central access to visualize and adjust the individual parameters via a browser-supported user interface.

The communication of stationary or mobile devices with the EVC system can be made wired or wireless.

The connections of the room / zone HUBs and the LAN connections are pluggable and led to the outside. This avoids the wiring in the control cabinet, which considerably simplifies and speeds up the installation.

Individual zone regulation

The room / zone HUB is designed for the connection of a room controller, two volume flow controllers, a CO₂, VOC or humidity sensor, a heating and cooling valve, a change-over sensor, a motion detector and a condensation monitor or window contact.

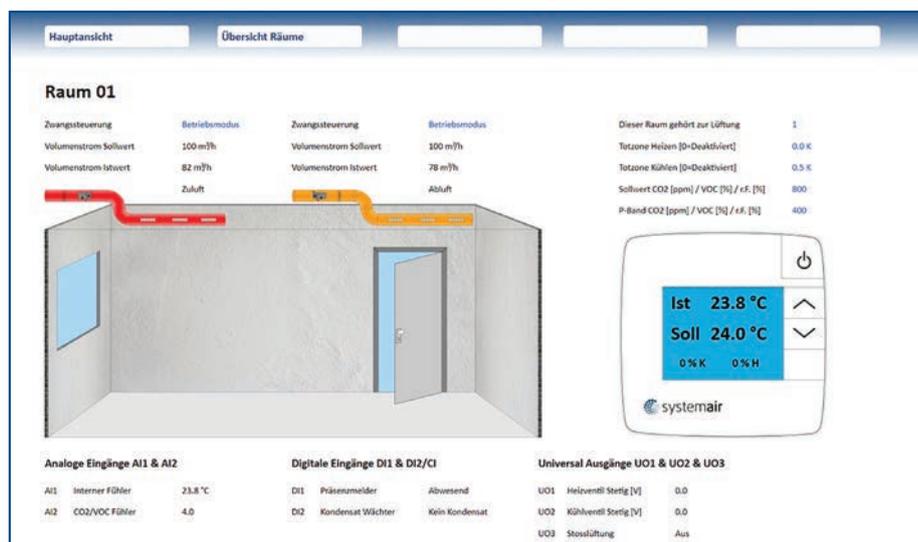
The HUB module is used to supply power to the connected actuators and sensors, as well as signal distribution. Factory-made, the HUB is delivered in a surface-mounted housing. After removal from the housing, the basic board is also suitable for mounting on a DIN rail.



Visualization via web browser

Thanks to the already integrated and pre-parameterized WiFi router, the EVC system can be connected to a computer, tablet or smartphone via LAN oder WLAN.

All relevant parameters can therefore be easily and conveniently monitored and adjusted via webbrowser.



Overview of the individual components

Article-no.	Typ	
157470	EVC-MC-25/4	Master Cabinet for 25 zone / 4 Air handling units
157471	EVC-MC-13/2	Master Cabinet for 13 zone / 2 Air handling units
	EVC-RZHC Set	Room- / Zone HUB Set for heating / cooling
157472	inclusive	1 x EVC-RZHC-HUB Room- / Zone HUB with cabinet 1 x EVC-ASRC-1 Adapter set for room controller RC-C3DOC 2 x EVC-DC-10 Damper connection cable 10 m 1 x EVC-RCC-10 Room connection cable 10 m for EVC-ASRC-1
157475	EVC-RCCE-10	Extension cable EVC-RCC-10

