

## Air handling unit

### VEX1050CS

#### VEX1050CS

The compact VEX1000CS series with counterflow heat exchanger in horizontal design. With 9 sizes, up to 7375 m³/h and wide accessories range.



VEX1000CS Duo (VEX1030CS - VEX1080CS)

#### PRODUCT BENEFITS

- Compact design - High performance with minimal space requirement
- All models from VEX1010CS to VEX1030CS fit through a standard door
- Removable functions and integrated surfaces make installation, maintenance and cleaning easy

#### REGULATIONS AND COMPLIANCES

Eurovent Certification no. : 16.01.020

#### Principles of operation

VEX1000 brings fresh, filtered air into the building and recovers heat from the exhaust air using the high-efficiency heat exchanger. The incoming air can be heated and/or cooled using a complete range of integrated cooling and heating coils.

VEX1000 is a compact aggregate designed to deliver the highest possible air capacity with the least possible space requirement.

VEX1000CS is available with several types of counterflow heat exchangers:

- Separate airflows ensure against leakage between indoor and outdoor air
- Optimised defrost function
- Counterflow exchanger options with several fin spacings provide optimal possibilities for good performance and air quantity match
- Option to select enthalpy counterflow exchangers that recover moisture in the air for better indoor climate and minimal condensation
- Low aggregate suitable for both new build and renovation

#### Product description

The compact series with counterflow heat exchanger in horizontal design. With a total of 9 unit sizes for air volumes up to 7375 m³/h and a wide accessories programme, you will easily find a VEX1000 that fits your exact needs. We call it Perfect Fit.

The Eurovent-certified VEX1000 series is equipped with high-efficiency and energy-friendly components. All components are easy to pull out for inspection, service, repair or cleaning.

VEX1000 modules are optimised to deliver the highest possible air capacity with the least possible space requirement. All models from VEX-1010CS to VEX1030CS fit through a standard door. If you need more air capacity or you have extra limited access conditions, the product can be supplied as SPLIT, where the unit is assembled after inbound transport.

VEX1000CS has an optimised modulating defrost function that ensures an effective unit also in winter if there is a need for defrosting the heat exchanger.

VEX1000 is supplied with integrated EXcon+ automatik which has built-in WiFi connection for quick connection with tablet, HMI or PC. New intuitive user interface makes installation, balancing and adjustments of the indoor climate in your building easy and fast.

#### Fields of application

Multi-occupancy residential housing, New, Refurbishment, Non-residential buildings, Schools

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Supplementary characteristics

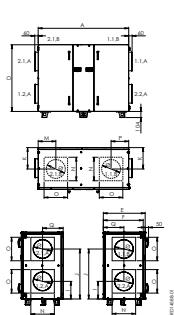
- 1x230V or 3x400V
- Duct acoustic silencers
- Outdoor unit (Roof, base, door stop, joinery cover ad damper motor, electric heater for control box)
- Shut-off dampers
- Integrated coils (Water, EL, DX)
- External casing for DX and combined water heating and cooling coil with drip tray and droplet separator
- Counterflow heat exchanger with electric enthalpy membrane and epoxy coating
- Choice between bag and panelfilter
- Choice between integrated EXcon+ control, controller ready or without control
- Flexible duct CONNECTIONS
- Possibility for discharge and/or extract spigot located on top
- Class 3 dampers

Filters

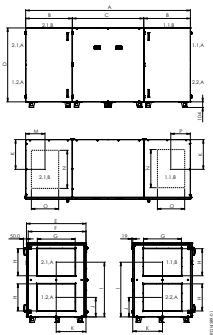
| Description                         | Variants    |
|-------------------------------------|-------------|
| Bagfilter 1184x592 ePM10 65% (M5)   | #FB10000113 |
| Bagfilter 1184x592 ePM1 65% (F7)    | #FB10000114 |
| Bagfilter 1184x592 ePM1 85% (F9)    | #FB10000115 |
| Panelfilter 1184x592 ePM10 75% (M5) | #FP10000113 |
| Panelfilter 1184x592 ePM1 55% (F7)  | #FP10000114 |
| Panelfilter 1184x592 ePM1 80% (F9)  | #FP10000115 |

Dimensional data

|             |      |
|-------------|------|
| A (mm)      | 3050 |
| B (mm)      | 865  |
| C (mm)      | 1320 |
| D (mm)      | 1368 |
| E (mm)      | 1309 |
| N (mm)      | 700  |
| O (mm)      | 500  |
| Weight (kg) | 481  |



Abmessungen VEX1000CS Monoblock



Abmessungen VEX1000CS Trioblock

Airflow data

|                         |      |
|-------------------------|------|
| Minimum airflow         | 700  |
| Max. airflow ErP (m³/h) | 5545 |

Electrical datas

|                                     |       |
|-------------------------------------|-------|
| Voltage (V)                         | 3x400 |
| Frequency (Hz)                      | 50    |
| Maximum current - unit (A)          | 4,2   |
| Max. electrical output of unit (kW) | 2,9   |

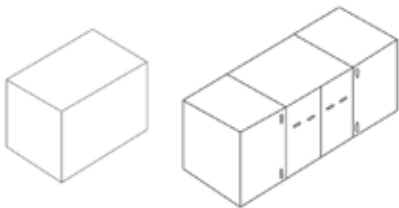
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Regulatory data

|                                           |     |
|-------------------------------------------|-----|
| Strengt of unit housing                   | D2  |
| Tightness at negative pressure of -400 Pa | L1  |
| Tightness at positive pressure of +700 Pa | L2  |
| Filter bypass Leakage                     | F9  |
| Thermal transmittance                     | T2  |
| Thermal bridging factor                   | TB2 |

Installation



VEX1000CS is delivered fully tested in either 1 or 3 modules from the factory.

VEX1010 to VEX 1030CS are delivered as a single module, while VEX1045CS to VEX1065CS are delivered in three modules. This makes VEX1000 easy to transport to the installation site.

MECHANICAL PERFORMANCE: According to DS/EN 1886 and certified by Eurovent

- > Strength of unit casing: D2 (M)
- > Tightness at negative pressure of -400 Pa: L1 (M)
- > Tightness at positive pressure of +700 Pa: L2 (M)
- > Filter bypass leakage: F9 at negative and positive pressure
- > Thermal transmission: T2 (M)
- > Thermal bridge factor: TB2



VEX1000CS is delivered fully tested in either 1 or 3 modules from the factory.

VEX1010 to VEX 1030CS are delivered as a complete module, while VEX1045CS to VEX1065CS are delivered in three modules.

The product can be delivered on adjustable bases or mounted together on a base.

A quick guide is included, which instructs on easy and fast assembly of the product. Detailed instructions as well as service guides are easily accessed via the QR code on the front of the unit.

For projects with extra limited access conditions, VEX 1000 can be delivered as SPLIT, where the unit can be easily and quickly disassembled, transported into the building and reassembled.

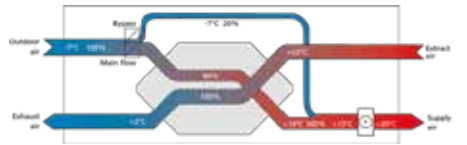
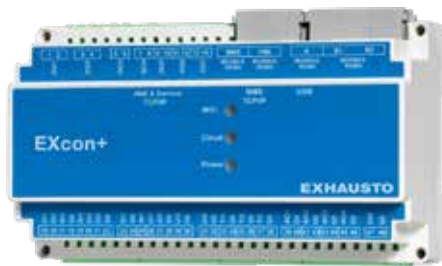
Flexible placement of control box

Control and electrical panel are included in a separate control box, which can be mounted beside the unit or on the wall, up to 10 m from the VEX unit. This way the box can be placed where it is most appropriate regarding service and maintenance.



VEX1000CS is available with the option of DISCHARGE and/or extract air outlet positioned at the TOPP of the unit to provide greater flexibility at the installation site.

## Air handling unit

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VEX1000 can be supplied with 3 automation options:

- > Integrated EXcon+ automation (Standard) – The unit is equipped with EXcon+. All internal electrical and automation components in the unit are connected to the supplied automation box and factory end-tested.
- > Controller Ready (Option) – All internal electrical and automation components in the unit are connected to an electrical and automation box, prepared for mounting alternative automation according to the customer's own choice. (External automation components are not included)
- > Without automation (Option) – the unit is delivered without automation box, automation, electrical wiring and sensors. The customer is responsible for electrical and automation. (CONTROLS and fans for rotary heat exchanger, fans and dampers are included)

The new EXcon+ automation ensures optimal control of the indoor climate in virtually all application areas.

The intuitive user interface adapted to predefined user groups and optimized calendar function ensures easy and quick setting and adjustment of the indoor climate.

EXcon+ automation is used to control, among others, air volumes, heating and cooling. How and when the automation switches between the built-in functions is set in the operating program. The program can, if necessary, be overridden by temporary forced controls, after which it returns to the active operating program.

Choosing EXcon+ provides, in addition to a wide range of standard control modes, the possibility to use EXHAUSTO's patented Automatic Leakage Control (ALC™) and Dynamic Pressure Control (aDCV).

- > Automatic leakage control (ALC™) provides the possibility to get all the advantages of a rotary heat exchanger without transfer of contaminated air via the heat exchanger.

- > Dynamic pressure control (aDCV) enables optimisation of operation with constant pressure regulation of ventilation systems with variable air volumes. Through the patented adaptive pressure regulation, up to 20% energy savings can be achieved compared to a demand-controlled system with constant pressure regulation (DCV).

EXcon+ automation can be controlled from control panel, Building Management System or web server over network or via integrated WiFi. WiFi is easily accessed from your tablet or PC by following the quick guide, which is supplied with the automation box.

EXcon+ network communication supports BacNet over TCP/IP and MODBUS over RS485 or TCP/IP.

> Maximum heat recovery. Minimum defrosting. VEX 1000 with EXcon+ uses intelligent, pressure-controlled bypass defrosting, which is only activated when there are actual signs of ice formation. This avoids unnecessary defrosting cycles, reduces energy consumption, and keeps heat recovery at a high level. When EXcon+ detects signs of ice formation in the heat exchanger, the bypass damper gradually opens, so that some of the cold outdoor air is directed around the heat exchanger. The warm extract air then helps to quickly melt and remove the ice in the heat exchanger. The illustration shows an example where 20 % of the air is directed through the bypass, while 80 % continues to pass through the heat exchanger and is heated. This ensures energy-efficient operation with minimal energy loss. The modulating control only opens the bypass damper to the extent necessary. The result is high comfort, reliable winter operation and maximum energy efficiency. To maintain the desired supply air temperature, it is recommended to use a reheating coil.