

CMEV air handling unit

## VEX170H

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Compact unit that can be put together to match the given requirements for process ventilation



#### PRODUCT BENEFITS

- Compact units
- Built-in electric or water heating coil
- Flexible spigot positions

#### REGULATIONS AND COMPLIANCES

Eurovent Certification no. : 16.01.020

#### Principles of operation

VEX100 brings fresh, filtered air into the building and recovers heat from the extract air by means of its highly efficient heating heat exchanger. The incoming air can be heated and/or cooled using a complete range of heating/cooling coils.

VEX100 is suitable for tasks not covered by the Ecodesign Directive and where there is no need for such a high efficiency rating. For instance, for ventilating kitchens, bakeries, etc., where there is typically a surplus of heat but also a requirement for pre-heated supply air to the location.

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**VEX170H****VEX170H****Product description**

VEX100 range

VEX140, 150 and 160 can be ordered in either a Horizontal or Vertical version, whereas VEX170 can only be ordered in Horizontal.

This is a very flexible range of air handling units, which can be ordered as LEFT or RIGHT versions and with spigot locations in the side, top or bottom.

In principle, EXHAUSTO VEX units are designed for use in comfort ventilation - i.e. under ordinary operating conditions.

**Accessories**

| Description  | Variants        |
|--|-----------------|
| Touch panel 3.5  | MHI2-350-TOUCH  |
| VEX170OD   | VEX170OD        |
| Closing damper LS500X600 24V – METU                                      | LS500X60024D    |
| Closing damper LS500X600 24V for outdoor – METU                          | LS500X60024DOD  |
| Closing damper with spring-return 500x600 24V - METU                     | LSR500X60024D   |
| Closing damper with spring return 500x600 24V for outdoor – METU         | LSR500X60024DOD |
| FLF flex connection, LS 500x600  | FLF500X600D     |
| Cover, Belimo damper OD  | ACTUATORBVOD    |
| SIPHONUP<br>SR1K1<br>SR1K3   | SIPHONUP        |
| Syphon heating electric heating wire, 2 metres                           | SIPHONHE02      |
| Syphon water trap, overpressure  | SIPHONOP        |
| CW076X12504U0UD  | CW076X12504U0UD |
| CW050X06004R0IL  | CW050X06004R0IL |
| HW050X08002U0UL  | AFC100E2        |
| Pressure controlled frost protection                                     | DEP             |
| Control system for CCW – with modbus                                     | MCCW            |
| Module for control of external cool/heat pump                            | MXHP            |
| Module for control of external changeover cooling/heating coil           | MCOCW           |
| Return water sensor for external mounting (extra)                        | RPTX            |
| Return water sensor for external mounting – external for retrofitting    | RPTX-AS         |
| Modbus communications module for analogue and digital inputs and outputs | MIO             |
| Connection cable for direct connection of analogue input signal          | AICABLE         |
| Motion sensor for override at comfort level (MIO)                        | PIRB-AS         |
| Motion sensor for override at comfort level (Modbus)                     | MIOPIR2         |
| HW050X08002U0UL  | MIOTSROOM       |
| Temperature sensor for duct incl. modbus communications module           | MIOTSDUCT       |
| CO2 sensor – room (MIO)  | MIOCO2ROOM      |
| CO2 sensor duct (MIO)  | MIOCO2DUCT      |
| RH sensor, room (MIO RH-ROOM)  | MIORHROOM       |
| Pressure sensor for constant pressure regulation                         | MPTDUCT         |
| Motion sensor - digital - excl. MIO                                      | PIR2            |
| HYRK, room humidity sensor   | HYRK            |
| Manual override to comfort mode excl. MIO - incl. cable                  | TIMERBUTTON3    |
| CO2 room sensor analogue 0–10 V (can be reprogrammed)                    | CO2ROOM         |
| CO2 room sensor analogue 0–10 V  | RCO2            |
| HW050X08002U0UL  | RCO21000        |
| CO2 duct sensor analogue 0–10 V (reprogrammable)                         | CO2DUCT         |
| CO2 duct sensor analogue 0–10 V  | KCO2            |
| HW050X08002U0UL  | KCO21000        |
| Air quality sensor - excl. MIO   | RLQ             |
| RH sensor for room - analogue 0-10 V (0-100 % RH)                        | RFF             |
| Web server incl. interface modbus RTU and BACnet MSTP/IP                 | WEBE            |
| Exact WAP KIT  | 4000785         |

**Filters**

| Description                              | Variants |
|--|----------|
| Panel filter for VEX170/-CF – Coarse 85% | FP1702M5 |

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#### General data

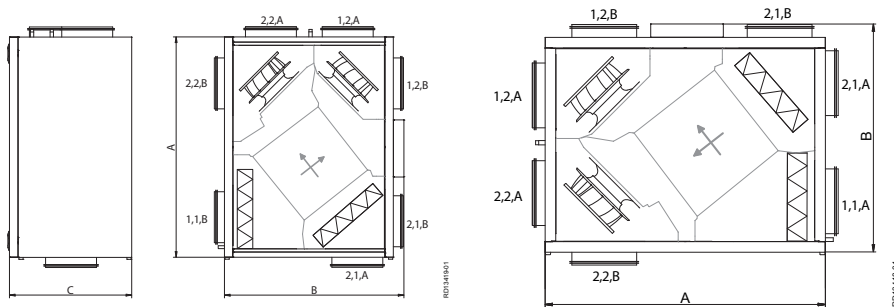
|  |                                 |
|--|---------------------------------|
| Motor class in accordance with IEC TS 60034-30-2 | IE5 (Ultra Premium Efficiency)  |
| Voltage input                                    | 3 x 400 V                       |
| Regulation                                       | Variable via motor control (MC) |
| Control signal with control system               | Modbus                          |
| Control signal with third party control system   | 0-10 V DC                       |
| Fluid temperature (air)                          | -40°C....+40°C                  |
| Ambient temperature range                        | -30°C....+50°C                  |

#### Fan data

|   |            |
|---|------------|
| Max. Total efficiency (A-D) (%)                     | 60,4       |
| Efficiency level requirements                       | 62N (2015) |
| ECO efficiency level during optimal operating point | 66,6N      |
| Overload protection                                 | Built-in   |

#### Dimensional data

|   |   |
|---|---|
| A (mm)                                  | 2200  |
| B (mm)                                  | 1895  |
| C (mm)                                  | 1240  |
| Connection, horizontal measurement (mm) | 600   |
| Connection, vertical measurement (mm)   | 500   |
| Weight (kg)                             | «> with cross-flow heat exchanger type A: 665 kg > with standard cross-flow heat exchanger: 626 kg» |
| Weight for transport                    | 411 kg (excl. doors, heat exchanger and fan sections)   |



Dimensional drawings for VEX100H = horizontal version and VEX100V– vertical version respectively – both shown with round ducts.

#### Airflow data

|                     |      |
|---------------------|------|
| Minimum airflow     | 660  |
| Max. airflow (m³/h) | 7920 |

#### Electrical datas

|                                      |       |
|--------------------------------------|-------|
| Voltage (V)                          | 3x400 |
| Frequency (Hz)                       | 50    |
| Max. power of electrical coil 1 (kW) | 31,2  |
| Max. power of electrical coil 2      | 46,8  |
| Maximum current - unit (A)           | 17,5  |
| Maximum current - first coil (A)     | 62,5  |
| Maximum current - second coil (A)    | 85    |
| Max. electrical output of unit (kW)  | 9,2   |
| Power consumption (kW)               | 4,619 |

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## Installation



MEKANISK YDEEVNE: In accordance with ds/en 1886 and certified by Eurovent

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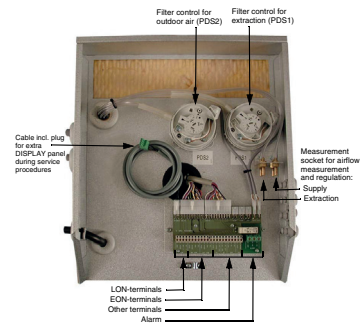
- > Strength of unit housing: D1 (M)
- > Tightness at negative pressure of -400 Pa: L1 (M)
- > Tightness at positive pressure of +700 Pa: L1 (M)
- > Filter bypass leakage: F9 at negative and positive pressure
- > Thermal transmittance: T2 (M)
- > Thermal bridging factor: TB3



The cabinets are made of Aluzinc AZ185 class C4 according to EN/ISO 12 944-2 and insulated with 50 mm mineral wool. This results in a low noise level to the surroundings/setup room. The panel construction minimizes the formation of thermal bridges in the unit.



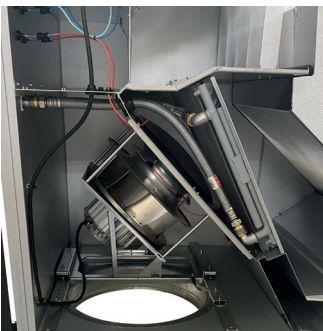
The motor sections are mounted in vibration dampers, which means less noise and vibration in the ducts, and there is no need to install flexible connections between the unit and the duct system. The motor sections are retractable for easier service. The motors are EC type with very high efficiency, meeting the requirements of the EcoDesign directive.



The aggregate is equipped with EXHAUSTO's EXstream impeller, one of the market's leading impellers in terms of low energy consumption and low noise level.

The easily accessible connection box with built-in supply isolator and circuit breakers ensures easy access for connection and adjustment.

The filter panels are easy to replace and can be ordered as filter class Coarse 85% (M5) or ePM1 55% (F7) according to ISO 16890.



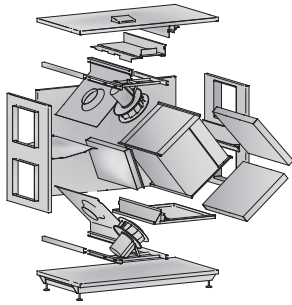
VEX100-serien leveres med integreret eftervarmeplade, enten til vand eller el



VEX140 - VEX160:  
Montagesokkel med fødder, der kan justeres i højden - 130 - 160 mm.  
Montagesoklen er standard for VEX170.

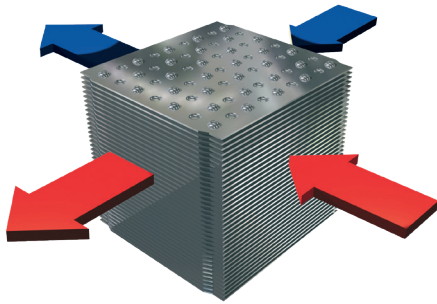
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VEX100 IS AVAILABLE AS A SPLIT VERSION. With some projects, limited space means that internal transport of the air handling unit is difficult or impossible. This is why the VEX100 is available as a split version. It means that the air handling unit can be assembled and tested at the factory as normal – just without sealant. The air handling unit can therefore be easily taken apart at the installation site, transported as single sections, assembled, sealed and commissioned.

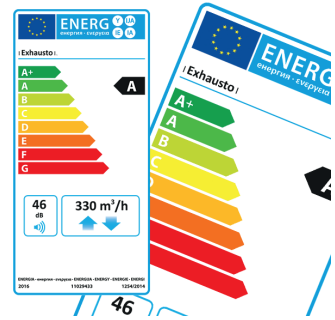
The table below shows the dimensions of the largest section (crossflow heat exchanger) and largest cabinet section, so that it can easily be determined whether there is sufficient space to allow internal transport.



Cross-flow heat exchanger in aluminium with moderate pressure drop and high temperature efficiency. The crossflow heat exchanger ensures full separation of airways, preventing transfer of odours or pollutants to the supply air.

The crossflow heat exchanger makes the unit suitable for process ventilation, though not in a corrosive environment.

The combination of modern EC motors and the EXHAUSTO motor controller delivers extremely low energy consumption and with the EXstream impeller, a high output is achieved.



An energy label that states the energy class of the air handling unit in relation to defined operating conditions is available via our product calculation programs.

Curve

