

1 AIR HANDLING UNITS

CMEV air handling unit

VEX330H2

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One of the most compact air handling units with counter flow heat exchanger on the market. Optimised design in terms of temperature efficiency, airflow and energy consumption.



PRODUCT BENEFITS

- Compact, high-performance unit
- Same unit, Left/Right
- EXact2, advanced control system

REGULATIONS AND COMPLIANCES

Eurovent Certification no. : 16.01.020

Principles of operation

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

Where ventilation solutions are required for rooms with high air humidity - e.g. due to humidification, we recommend you make a test calculation with one of our calculation programs. If the calculation shows a risk of condensation after the heat exchanger, an assessment must be made whether the operating conditions can be changed, or whether the unit must be modified to allow condensate to drain off. This is particularly relevant for VEX100CF.

Contact EXHAUSTO for advice on this.

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VEX330H2**VEX330H2****Product description**

One of the most compact air handling units with counter flow heat exchanger on the market. Optimised design in terms of temperature efficiency, airflow and energy consumption. Despite being very compact in size, ease of servicing is a key feature.

The VEX330H is ideal for residential ventilation, where the air is separated via the ventilation system, removing the risk of odours and humidity being transferred.

Accessories

Description	Variants
Base for VEX330H	MSV330H
Closing damper, Ø315	LS31524
Closing damper, Ø315 OD	LS31524OD
Closing damper with spring-return, Ø 315 mm	LSR31524
Closing damper with spring-return ,Ø315 OD	LSR31524OD
Modbus communications module for analogue and digital inputs and outputs	MIO
Motion sensor for override at comfort level (MIO)	PIRB-AS
Motion sensor for override at comfort level (Modbus)	MIOPIR2
HW050X08002U0UL	MIOTSRROOM
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
Touch panel 3.5	MHI2-350-TOUCH
Pressure sensor for constant pressure regulation	MPTDUCT
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
Motion sensor - digital - excl. MIO	PIR2
RH sensor for room - analogue 0-10 V (0-100 % RH)	RFF
V330OD	V330OD
MIO2 module	MIO2-MODUL
Syphon heating electric heating wire, 2 metres	SIPHONHE02
Syphon water trap, overpressure	SIPHONOP
SIPHONUP SR1K1 SR1K3	SIPHONUP
Manual override to comfort mode excl. MIO - incl. cable	TIMERBUTTON3
FLF315-Ø315, flex connection	FLF315
Fire Thermostat	BT40-70
Cover, Belimo damper OD	ACTUATORBVOD
HW-Ø315 Small	HW315SU0UC
HW-Ø315 Medium	HW315MU0UC
HWØ315 Large	HW315LU0UC
HE31504BUE	HE31504BUE
Airflow control for VEX330H AFC-AS	AFC330H
Control system for CCW – with modbus	MCCW
CW31504R1IC	CW31504R1IC
Pressure controlled frost protection	DEP
Module for control of external changeover cooling/heating coil	MCOCW
Module for control of external cool/heat pump	MXHP
Return water sensor for external mounting (extra)	RPTX
Return water sensor for external mounting – external for retrofitting	RPTX-AS
Connection cable for direct connection of analogue input signal	AICABLE
Web server incl. interface modbus RTU and BACnet MSTP/IP	WEBE
EXact module for converting Modbus RTU o TCP/IP	MTCP
EXact module for converting Modbus RTU to TCP/IP	MTCP-AS
HYRK, room humidity sensor	HYRK
Exact WAP KIT	4000785
CW31504U0UC	CW31504U0UC
CW31504R0IC	CW31504R0IC
HE31508BUE	HE31508BUE

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Filters

Description	Variants
Panel filter for VEX330H – ePM1 55%	FP330HF7
Panel filter for VEX330H – ePM1 80%	FP330HF9
Panel filter for VEX330H – Corase 85%	FP330HM5

General data

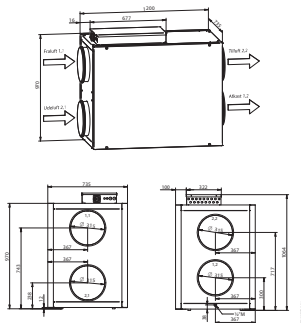
Regulation	Variable via motor control (MC)
Control signal with control system	Modbus
Control signal with third party control system	0-10 V DC
Fluid temperature (air)	-40°C+40°C
Ambient temperature range	-30°C+50°C

Fan data

Max. Total efficiency (A-D) (%)	60,1
Efficiency level requirements	62N (2015)
ECO efficiency level during optimal operating point	73,7N
Overload protection	Built-in

Dimensional data

Ø connection (mm)	315
Weight (kg)	156
Weight for transport	146 kg (without a removable panel)



Airflow data

Minimum airflow	100
Max. airflow ErP (m³/h)	1510
Max. airflow (m³/h)	1555

Electrical datas

Voltage (V)	1x230
Frequency (Hz)	50
Max. power of electrical coil 1 (kW)	4
Max. power of electrical coil 2	7,8
Maximum current - unit (A)	5,3
Max. electrical output of unit (kW)	1,2
Power consumption (kW)	0,5

Regulatory data

Strength of unit housing	D2
Tightness at negative pressure of -400 Pa	L1
Tightness at positive pressure of +700 Pa	L1
Filter bypass Leakage	F9
Thermal transmittance	T2
Thermal bridging factor	TB3

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Installation



MECHANICAL PERFORMANCE:
 According to DS/EN 1886 and certified by Eurovent:
 > Strength of the unit casing: D1 (M)
 > Leakage at -400 Pa negative pressure: L1 (M)
 > Leakage at +700 Pa positive pressure: L1 (M)
 > Filter bypass leakage: F9 at negative and positive pressure
 > Thermal transmission: T2 (M)
 > Thermal bridging factor: TB3



Cabinets are made from Aluzinc® AZ185 class C4 in accordance with EN/ISO12944-2 and insulated with 50 mm mineral wool. This results in low noise emissions to the surrounding environment/installation room.

The panel design minimises the formation of thermal bridges in the unit.

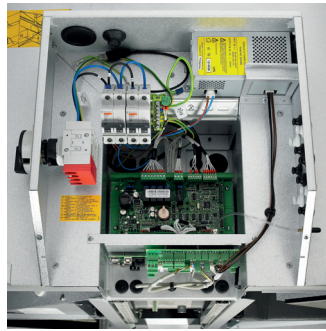


The motor sections are mounted in vibration dampers, which reduces noise in the ducts and eliminates the need to fit flexible connections between the unit and the duct system.

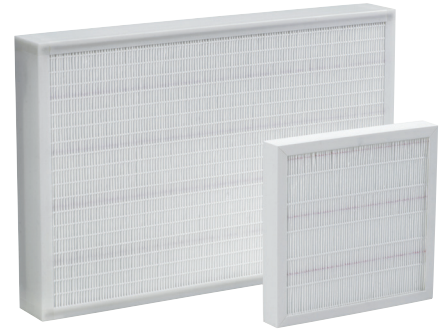
The motors are of type EC and are extremely efficient. They comply with the requirements of the Ecodesign Directive.



VEX300H is equipped with an optimised centrifugal fan impeller with backwards curved vanes. The impeller design delivers high output with low energy consumption.

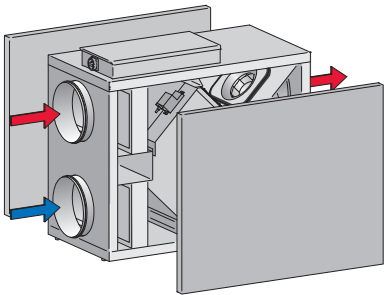


The easily accessible connection box with built-in switch disconnector ensures easy access for connecting and adjusting.



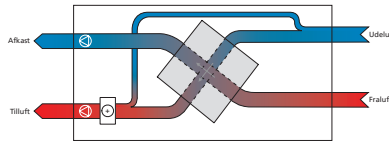
Panel filters are easy to replace and can be ordered as Coarse 85% (M5) or ePM1 55% (F7) in acc. with EN779.

Filter size: 340 x 630 x 96 mm

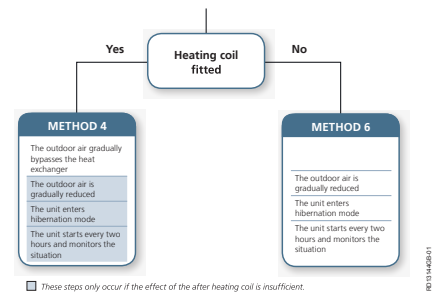


The side panels on both sides of VEX330H models can be removed (easy access). This allows the unit to function as both a LEFT and RIGHT version.

The unit can also be ordered as an outdoor model. The outdoor unit has a fitted cover that protects it against wind and weather.



The VEX330H is designed with de-icing bypass. If there is a risk of icing, then a certain amount of outdoor air will bypass the heat exchanger and go directly to the after heating coil. This increases the demands on the heating coil's output. However, it avoids a costly preheating coil. The drawing below is an example of a de-icing situation, where 20% of outdoor air is directed through the bypass damper.



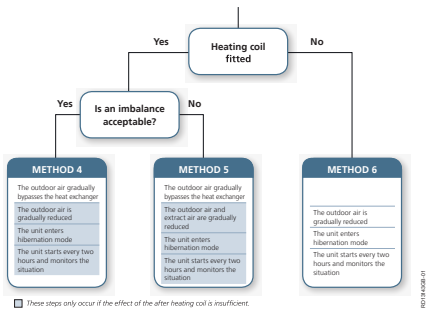
The control system has temperature-controlled frost protection as standard. It is an inexpensive solution and provides sufficient frost-protection in some situations.

A temperature sensor is fitted inside the heat exchanger and if the temperature falls to a pre-set value, de-icing begins. This temperature level is factory set to 0 °C but it can also be changed to a new value via the control system.

Temperature-controlled frost protection triggers the de-icing process even if there is no ice in the heat exchanger.

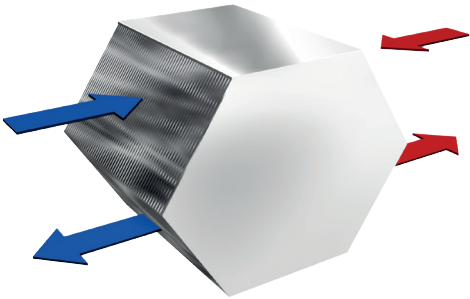
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The control system monitors the actual airflow and also the pressure drop across the heat exchanger. If ice forms in the heat exchanger, the pressure drop across the heat exchanger will increase and when it exceeds a pre-set value, de-icing begins.

Pressure-controlled frost protection only starts de-icing when ice has actually formed, regardless of whether there are sub-zero temperatures.

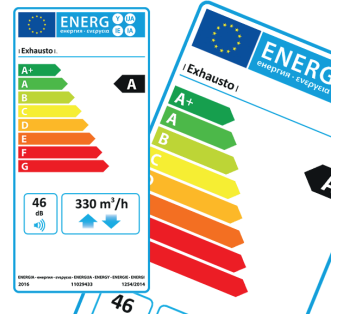


The VEX330 has an aluminium counterflow heat exchanger. Its design ensures the ratio between heat recovery and pressure drop is optimally distributed. I.e. extremely high temperature efficiency is achieved at low levels of energy consumption.

- Efficiency without condensation: 80 - 85%
- Up to 94% efficiency with condensation
- Heat transfer area: 30.3 m²
- Weight: 1 x 14.5 kg



The combination of modern EC motors and an optimised centrifugal impeller delivers extremely low energy consumption and greater output at the same time.



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

