## CONTENT:

VEX4000, modular air handling units



www.exhausto.com





## VEX4000, introduction

EXHAUSTO VEX4000 is a range of units suitable for many ventilation forms. The various section types can be combined and configured for practically any need. The units in the VEX4000 series cover a capacity range from 1050 to  $36,000 \text{ m}^3/h$ .

#### WORLD-CLASS ENERGY EFFICIENCY

With VEX4000 you can satisfy the international 2020 energy requirements by means of EC motor technology and a high condensation efficiency level exceeding 90 %.

EXHAUSTO's patented adaptive pressure control, which constantly optimises the pressure in the unit to match what the building requires, makes it possible to reduce your energy consumption even further than the traditional pressure regulation methods on the market (CAV, VAV and DVC).

### **COMPACT FLEXIBILITY**

All sections are mutually compatible in each model size, allowing the complete unit to preserve the same overall width and height. The units are available in LEFT and RIGHT versions.

#### EXHAUSTO OFFERS THREE DELIVERY OPTIONS:

- 1. The units are supplied ready-assembled and Exhausto ensures that all modules are correctly connected and assembled on a base frame.
- 2. The modules are delivered separately, an advantage if they have to be transported inside the building. For this reason, VEX4000 has been specially designed for ease of assembly.
- 3. The unit is delivered as a SPLIT version, where the unit is delivered unassembled as a flat pack. This means that even large units can be transported through small doors and then assembled on site. The SPLIT solution is more expensive, since specially trained EXHAUSTO technicians are required.

#### EXCON CONTROL SYSTEM

All VEX4000 units are available with integrated control systems for advanced control of airflow, heating, cooling, humidification, etc. However, it is also possible to order VEX4000 without a control system. Read more about the EXcon control system under <u>"EXcon control system for VEX4000".</u>

## EXSELECTPRO

VEX4000 is calculated and configured using the Eurovent and RLT-certified program EXselectPRO.

The program is used for configuration and energy calculations according to project requirements. The output consists of detailed technical data, dimensional sketches and energy calculations and the associated labels.



# Capacity ranges



The following shows the capacity ranges which the individual sizes of VEX4000 can cover.

Our calculation tool "EXselectPro" is able to provide precise outputs and other data for your own project. Contact our sales department for a calculation.





## VEX4000, construction

## CABINET

All sections consist of cabinets constructed on the same basic principle, with frame profiles and insulated panels. Generally speaking, great attention has been given to accessibility and easy maintenace.

#### PROFILES

The frame profiles are made from aluminium. This ensures both high strength and high corrosion resistance. The frames are assembled with push-in corners, and have gently rounded edges.

#### PANELS

The panels are made from AluZink and are insulated with 50 mm mineral wool, ensuring both good thermal insulation and good sound damping (external noise).

The side panels are fixed to the frame profiles with screws. End, top and base panels have been fixed internally with screws, after which the joints are sealed.

### **DROPLET SEPARATOR AND DRIP TRAY**

CW/HW/DX coils and IC/ICC cooling module are supplied with a removable droplet separator and drip tray. The drip tray is located where it is easy to clean.

#### **INSPECTION DOORS**

The doors open 180° and give easy access for inspection and service. The doors seal shut, being designed on the same principles as the panels, but fitted with gaskets.

Options:

- · Solid handles, which are easy to operate and have integral locks
- · Lock sets for special keys

The hinges are adjustable and fixed to the rear of the doors for maximum connection strength.

#### **OUTDOOR UNITS**

The air handling units can be supplied as a special outdoor version with roof and weather-resistant exhaust grills. They can also be fitted with an intake box for intake air.



## Combination options

## VEX4000 standard configurations

The following shows examples of combinations of sections - these are the standard configurations for VEX4000. By using our product selection program, EXselectPRO, you can configure the exact air handling unit you need for your current project.

**EXAMPLE 1 - SUITABLE FOR SCHOOLS, INSTITUTIONS AND OFFICES** 



The air handling unit shown is a VEX4000 with rotary heat exchanger and built-in heating coil, but it can also be configured with a duct-mounted heating coil.

**EXAMPLE 2 - SUITABLE FOR STORES WITH SURPLUS HEAT FROM COOLING COMPRESSORS** 



This indoor system has a rotary heat exchanger and associated heating coils. What makes this configuration special is the specially manufactured heat recovery coil (HWR), only used if the premise's cooling unit is connected to a heat recovery unit for water.

EXAMPLE 3 - IDEAL FOR OFFICES OR SIMILAR LOCALES, WHERE THERE IS A NEED FOR COOLING IN THE SUMMER SEASON





This air handling unit has a rotor, integrated DX cooling system and empty sections with lighting before and after the rotary heat exchanger section for inspecting the cooling coils. The air handling unit also has a heating coil. This configuration is typically used for offices or similar locales where there is a need for cooling in the summer season.

The configuration shown is also available as an outdoor air handling unit. In this case, the dampers are moved into the fan section, extending the length of this section. The empty and heating sections will extend the full height of the unit.

#### **EXAMPLE 4 - SUITABLE FOR SUPERMARKETS, SPORTS HALLS OR INDUSTRIAL BUILDINGS**



The configuration shown with rotary heat exchanger and separate integrated DX cooling with empty sections before and after the rotary heat exchanger for inspection and cleaning. A recirculation section is also shown, for use in situations where people want to reduce heating expenses by recirculating some of the extract air back to the supply air, thus saving on heating of the outdoor air. The air handling unit is also configured with a special heat recovery coil and a standard heating coil.

This configuration is ideal for a large supermarket, sports hall or an industrial building where there is heat surplus during the day and heating requirements during the night, and where the air quality in the premises does not need to have the same quality as during the day.

The air handling unit shown is also available for outdoor installation, however in this case the dampers will be fitted internally in the fan section, thus lengthening the air handling unit, while the heating section will have the full air handling unit's height.

**Dimensions table** 



		4010	4020	4030	4040	4050
Standard dimensions	Height [mm]	1309	1309	1499	1599	1744
	Depth [mm]	1055	1275	1549	1630	1755
Example 1	Length [mm]	2751	2751	2861	2861	2861
	Weight [kg]	673	755	963	1068	1152
Example 2	Length [mm]	3675	3675	3785	3785	3785
	Weight [kg]	933	1043	1303	1437	1541
Example 3	Length [mm]	5305	5305	5525	5525	5525
	Weight [kg]	1508	1666	2049	2220	2398
Example 4	Length [mm]	6305	6305	6415	6415	6415
	Weight [kg]	1804	1989	2390	2603	2804
		4060	4070	4080	4090	4100
Standard dimensions	Height [mm]	2069	2069	2344	2594	2874
	Depth [mm]	1930	2115	2325	2625	2895
Example 1	Length [mm]	3151	3331	3331	3331	3331
	Weight [kg]	1387	1554	1736	1989	2286
Example 2	Length [mm]	4075	4255	4255	4255	4255
	Weight [kg]	1827	2018	2260	2587	2965
Example 3	Length [mm] Weight [kg]	5805 2751	6085 3039	6085 3289	6185 3775	*
Example 4	Length [mm] Weight [kg]	7085 3697	7365 3697	7365 3986	7465 4569	*



-



# Specially adapted solutions

## SPV - specially adapted solutions

If the different VEX modules cannot be configured into a solution which matches your project, it is possible to have a specially adapted solution constructed.

Contact the <u>Sales Department</u> so we can help you find the optimal solution for your project.



**EXHAUSTO** 

Accessories

### COVER FOR OUTDOOR INSTALLATION (RF)

A cover is available for units for outdoor mounting. The cover is mounted on each section with a precise fit for the selected unit size.

The cover protects the unit from rain, sleet and snow, keeping the unit dry and ready for operation.

The cover is made from AluZink mounted on the unit, either on site, if the unit is delivered in sections, or factory mounted, if the unit is supplied ready-mounted on a plinth.

#### BASE

Outdoor units are usually supplied ready-assembled on a base. If the unit cannot be transported or lifted in one piece, the unit is supplied in sections with a separate base frame.

For units which are to be mounted indoors, the base can be supplied in kit form. Adjustment screws are available.

Base elements can be supplied with adjustment screws and feet.

Ready-assembled units are supplied on a full-length base. The base can be selected as a folded metal sheet base or a UPE section, depending on the length of the unit.

#### DAMPER (MS)

The dampers are of louvre type and are used to shut off or open up air circulation in or to the unit. As an MS section, the dampers are used to mix extract air with the supply air in order to reduce energy consumption for heating.

#### Construction

The damper plates and frames are made of aluminium and seated in steel plate frames with synthetic bushings. The dampers have drive shafts directly connected with the damper motors.

#### Design options:

#### Inlet with damper

- for closing the system when the unit is inoperative.

Mixing damper

- for mixing two air streams.

#### Mixing and recirculation damper

- for closing the system when the unit is inoperative and for mixing outdoor air and recirculation air and for corresponding differentiation of exhaust air.

#### By-pass damper for crossflow heat exchanger

- for diverting outdoor air at times of falling heating demand, or where there is a risk of icing in the heat exchanger.

All dampers are Class 3.

LIGHTING AND INSPECTION WINDOWS



Lighting and inspection windows are offered for empty sections and fan sections. These allow internal parts of the unit to be inspected from the outside.

## **FILTER MONITOR**



For units without an integral control system, a manometer is available for visual monitoring of filter soiling.

## WATER TRAP FOR WET FUNCTIONS



Condensation outlets from wet functions (cooling coils and crossflow heat exchangers) must be fitted with a water trap. As an accessory a water trap made of plastic can be ordered - dimension DN32. The water trap is connected to the drain from the unit. All drains have smooth external pipes.

3 types of water traps

- SIPHONUP (negative pressure) for connection to condensation outlet from unit
- SIPHONOP (positive pressure) for connection to any cooling coil in the duct system
- SIPHONE02 heating threat that will keep the water trap and water pipe frost free. A thermostate is mounted to ensure a low energy consumption

### **OTHER ACCESSORIES:**

- extra filter set
- Intake cowl with grille for outdoor units.
- Exhaust cowl with grille for outdoor units
- · Lock sets for special keys



## Certificates and standards

### VEX4000, certified quality and performance

The VEX4000 series has been designed and manufactured to satisfy a number of important rules and standards. This new series is the subject of an application for both Eurovent and RLT certification. Both certificates are expected to be granted in the first quarter of 2015.

#### **STANDARDS**

Classification	
Mechanical performance:	Compliant with DS/EN 1886
Strength of unit housing:	Class D2
Air tightness at negative pressure of -400 Pa	L1
Air tightness at positive pressure of +700 Pa	L1
Filter bypass leakage:	F9 for negative and positive pressure
Thermal transfer:	T2 (Indoors) T2 (Outdoors)
Thermal bridging factor:	Class TB3
Standard:	DS/EN ISO 12944-2
Corrosion category:	C4

## CERTIFICATION

#### EUROVENT



VEX4000 is Eurovent-certified. As part of the certification process, the data in EXselectPRO is verified.

### DIN Ventilation and Air Conditioning standards (RLT)



VEX4000 is certified in accordance with the German RLT certification program. As part of the certification process, the data in EXselectPRO is verified.

#### VDI 6022



VEX4000 has been developed in accordance with the German Hygiene Standard VDI 6022.

We can provide you with advice in how to ensure there is optimal access for inspection and cleaning of your air handling unit's sub-components and thus prevent any harmful microorganisms occurring in the air handling unit's airflows.



# VEX4000 Functions

## VEX4000 functions

A VEX4000 unit is composed of a number of sections, each with its own function. Individual adaptation is performed in close dialogue with the customer, and in practice configuration is carried out with the product selection programm EXselectPRO. Here is a list of the separate functions. Below is a more detailed description of the individual VEX4000 sections.

Designation	Function
ER	Rotary heat exchanger
EX	Crossflow heat exchanger
PF	Plug fan
HW	Water heating coil
CW	Water cooling coil
DX	Cooling-heating coil
HWR	Heat recovery coil (special solution for shops)
HE	Electric heating coil
IC	Integrated DX cooling
ICC	Integrated DX cooling with rotor and cold recovery
MR	Mixer and recirculation section
MS	Damper
FX	Filter
SP	Empty section
RF	Cover for outdoor installation



## EXcon (Control system for VEX4000)



All VEX4000 units are available with integral control system for controlling airflows, heating and cooling etc.

Naturally, it is also possible to order VEX4000 without a control system - however, this does not apply to VEX4000 with integrated cooling.

## Introduction

#### EXcon Control System

All VEX4000 units are available with integral EXcon control systems for optimum control of the indoor climate in practically every application area. The EXcon control system also offers special solutions for application areas which require specific control facilities, e.g. shop solutions which ensure the correct indoor climate, including areas with humidification, special cooling control and precise temperature control.

EXcon control systems can be used for controlling airflows, heating, cooling, etc. The operating program is configured for how and when the control system will switch between the integral functions. If necessary, the program can be overridden with temporary positive instructions, after which it will return to the active operating program.

### THE EXCON CONTROL SYSTEM IN BRIEF

#### **User-friendly**

· Integral user-friendly web server with information level adaptable to user

#### Reliable

- With modular BUS system for safe operation
- · Security from unauthorised access
- · Effective troubleshooting and monitoring

#### **Optimum costs**

- · Simple implementation, training and maintenance
- Many adjustment options
- Uniquely user-friendly
- Energy savings through optimum operation



#### Flexible

- A platform which can be customised
- Upgrading possible

#### Future-proof

- Software updating via SD card
- Integration into many different BMS systems is possible

#### INTEGRAL FUNCTIONS IN THE CONTROL SYSTEM

- Night-time reduced duty
- Alarm log and data log
- Control using a day, week or year plan
- Extended operation
- External forced operation with run-on time
- Alarm e-mail
- Summer night cooling
- Outdoor air temperature compensation
- Automatic summer/winter time changeover
- Digital inputs for:
  - external resetting of alarms
  - external low, medium and high speed
  - external start/stop

Setting and control is executed using the web server from a PC, smartphone or tablet - read more under Web Server further down the page.

#### Network communication:

Network communication supports BACNet via TCP/IP and modbus via RS485 or TCP/IP. Optionally, communication with LON is also supported.

## **OPERATION OF THE CONTROL SYSTEM**

The EXcon control system can be operated from the control panel, CTS or a web server via a network or WAP (Wireless Access Point).

#### **Control panel**

The VEX 4000 is supplied with a touch control panel and 2 m of cable. The control panel can be placed near the air handling unit itself or in a nearby control room.

The control panel is simple and convenient for all types of user, thanks to its visual control system.

#### Wireless Access Point (WAP)

WAP is a small WIFI router mounted inside the control system in the unit. It allows the web server to be accessed wirelessly via PC, smartphone or tablet,

so the unit can be configured quickly and easily via mobile platforms.





Web solution as standard

VEX4000 is supplied with an integral intelligent web server with user-adapted menus and information.



Smartphone/tablet via WAP or VLAN

## CONTROL OF EVERY PART VIA THE INTERNET

Simple and intuitive web control is standard on all modular units. With this solution, airflows can be displayed and controlled in simple images in the web server, as well as the status and control of components.

A Degrad Image and the second secon	reporter termination of the second of the se	î
	Commendatulati In or International Internati	
XHAUSTO	Aituel drift Brandalarm Aituel status Nuttemperatur Frostbasiytatus al vandvarmelfade 1 aktiv Mindet en aktiv alarm Lufmandra autora darian	v

Control of the unit

WEEKLY PROGRAM

A clearly structured weekly program ensures that the unit can function without supervision or intervention. If a need for forced operation should arise, this is also possible.



	and an	
and a	Indial upercoram	
***		
1 kg	Hele ugen Hverdag & Weekend x Dagsprogram	
	Mandag	
	Carries de la ca ca la ca se se se se	
	1022	
	cal dal dal un sa sa sa mo sa sa sa sa sa	
	Onstag	
	Torning	
	Caller da da la caller da caller da caller da	
	reseg	
	ent dat dat ver sa sa ser ser an an an an an	
	Landag	
	Santag	
	1	

#### Adjustment of weekly program

#### **OPERATING STATUS**

The current unit status is shown on a flow diagram. By clicking the various components in the diagram, the setpoints and current values can be seen.

rian Name	Alarm log	Alarm ublight	Data Log	Status		
Aktuel	driffstatus					L I
	13	1.74	12		12 325	12
2.68	-		-11		<b>A</b>	- Dirt
	ARDIN					Contraine of
	12 12	1.		N 12 v		10% ANT
8 ath -01%		<u> </u>	_			2112
	D	y	0.00			
Akturel	un Alam	1.1000				
Aktuel (	tatus Minde	st en aktiv alarm				
				1		0.0°G
				2		0.0°C
				4		0.0°C
_						

Status display - unit and components

#### ALARMS

All alarms are logged and can be set up to provide error status e-mail notifications.

The alarm menu contains several screen images, including alarm log menu and prospective alarm menu, on which coming alarms can be viewed.

Se akt	ive og afsti	lede	alarmer	A Alarm B Alarm
Tid	Dato	Nr	Alarm log	
11:08	30:04:2015	27	Pumpe alarm: Vandvarmeflade 1	
11:08	30:04:2015	209	VTH-6202, VOC faler, Ingen kommunikation	
11:08	30:04:2015	109	Udvidelsesmodul45 2 (EXT45 2): Ingen kommunikation	
11:08	30:04:2015	108	Udvidelsesmodul45 1 (EXT45 1): Ingen kommunikation	
11:08	30:04:2015	18	Roterende varmeveksler (RHX2M): Ingen kommunikation	
11:08	30:04:2015	12	FanIO 2: Ingen kommunikation	
11:08	30:04:2015	11	FanIO 1: Ingen kommunikation	
11:08	30:04:2015	8	Fraluft EC Controller.: Ingen kommunikation	
11:08	30:04:2015	7	Tiluft EC Contri.: Ingen kommunikation	
11:08	30:04:2015	4	Ekstern stop aktiveret	
11:08	30:04:2015	2	Ekstern brandtermostat alarm	
11:08	30:04:2015	1	Brandalarm	
10:58	30:04:2015	27	Pumpe alarm: Vandvarmeflade 1	
10.58	30:04:2015	209	VTH-6202, VOC feler, Ingen kommunikation	
10:58	30:04:2015	109	Udvidelsesmodul45 2 (EXT45 2): Ingen kommunikation	
10:58	30:04:2015	108	Udvidelsesmodul45 1 (EXT45 1): Ingen kommunikation	

Alarm log display





## Control and regulation

**EXCON** 

Control and regulation:

## SETTING THE OPERATING PARAMETERS

Factory setting of standard operating parameters and setpoints is performed according to the standards for comfort ventilation. Further adjustment to the final operating situation is performed during testing and start-up of the unit.

#### **CONTROL AND REGULATION:**

#### **Control methods**

- Constant pressure
- Constant airflow
- Extract air slave
- Supply air slave
- Constant VOC/CO2
- Fan optimiser
- Fan optimiser slave
- GreenZone
- GreenZone slave
- Constant motor speed
- Adaptive pressure control (patented solution for energy optimisation of VAV systems)
- 0-10V extract air slave
- 0-10V supply air slave
- Zone control of up to four zones read more under zone module

#### **Temperature regulation**

- Constant supply air temperature
- Constant extract air temperature
- Constant room temperature
- Constant difference between extract air and supply air
- Summer and winter compensation
- Recirculated air heating (option)
- Summer night cooling

**EXHAUSTO** 

## EXcon, integral control system

## **BASED ON BUS TECHNOLOGY**

EXcon supports the following networks:

- Integrated webserver TCP/IP
- Modbus RS485 / TCP/IP
- BACnet TCP/IP
- LonWorks FT10 (additional module)

EXcon is based on BUS technology, with many external communications facilities. All control can be performed from a central unit via the web server.

EXHAUSTO offers special solutions for areas which require specific control facilities, e.g. shops which need precise temperature control, special cooling control and humidified areas.





## EXcon, accessories for control system (sensors)

EXcon, control systems

The following sensors are available as accessories for the EXcon control system:

### **PTH DUCT**



Pressure sensor for constant pressure regulation of both supply air and exhaust air ducts incl. ModBus communication.

PTH DUCT	
Power supply via Modbus	24 VDC
Measurement range	0 - 2500 Pa
Accuracy - Operation - For brief periods, however	-20°C to 40°C -30°C to 50°C
Ingress protection	IP54

## CO2 DUCT/CO2 ROOM



 $\ensuremath{\text{CO}_2}\xspace$  sensor for room or duct mounting

CO2 DUCT /CO2 ROOM	
Power supply	24 V AC/DC
Control signal, analog output	0–10 VDC
Measurement range - CO <sub>2</sub> : - CO:	0 - 2000 ppm 0-100 ppm
Accuracy. CO2 DUCT - CO <sub>2</sub> : - CO:	±30 ppm @ 25°C ±10 ppm @ 25°C
Accuracy. CO2 ROOM - CO <sub>2</sub> : - CO:	±1% of measured range and ±5% of measured value ±10 ppm
Ingress protection	IP54

**VOC SENSOR** 





#### VOC sensor with Modbus

The VOC sensor is used to measure air quality in the case of demand control. The sensor measures the content of volatile organic gases emitted by people, fittings, cleaning products and building materials.

The VOC concentration is converted to its  $CO_2$  equivalent. The sensor can thus replace existing  $CO_2$  sensors.

VOC sensor	
Power supply	18 - 30 V DC, nominal 24 V AC/DC via Modbus
Start-up time - reaction time	15 min > 5 min
Measurement range	450-2000 ppm CO <sub>2</sub> equivalent
Accuracy RH	± 150 ppm

## **PIR SENSOR**



Motion sensor, overrides unit when movement is detected in room where it is installed. The detector has a sensor range of  $110^{\circ}$ .

To avoid inadvertent starting and stopping, a delay can be programmed in.

PIR sensor	
Supply voltage	24VAC/DC (18 - 26 V AC/DC)
Power consumption	Type: 500 mW, max 1W
Output	Relay: 24 V AD7DC, 5A/NO, 3A/NC
Detection range - Sensor angle - Range	110° Approx. 15 m.
Temperature range	-10 to + 60°C
Delay - Starting delay - Stopping delay	From 0 til 10 min. From 5 sec. to 30 min.
Dimensions L x H x W	66 mm x 112 mm x 45 mm
Weight	56 g

## **ROOM SENSOR**

	Room sensor for recording room temperature. The room sensor is designed for wall mounting or installation in a wall box. Polar white
Room sensor	
Power supply	24 V AC/DC
Measurement range	-20 °C to +70 °C
Ingress protection	IP20

**OUTSIDE AIR TEMPERATURE SENSOR** 



TYPE: ETF-17	easuring outdoor air temperature and used for shops, etc. for controlling ulation solution for cooling.
Outside air temperature sensor	
Power supply	24 V AC/DC
Measurement range	-40 °C to +70 °C

### **TEMPERATURE SENSOR, RETURN WATER**



#### HUMIDITY AND TEMPERATURE SENSOR WITH MODBUS



HTH6200 is a combined humidity and temperature sensor for fitting in the duct. The sensor is available in three versions: HTH6202, HTH6203 and HTH6204. All three sensors have the same mechanical design, the difference is the Modbus addressing.

HTH6202/-6203/-6204	
Power supply	24V DC by Modbus
Measurement range, temperature	-40°C to +120°C
Measurement range, humidity	0 - 100 % RH



## EXcon, other accessories for control system

The following accessories are available for the EXcon control system:

## LON MODULE FOR BMS UNIT

Via the LON module, the units can be connected to BMS units which use the LON protocol.

## **SMOKE DETECTOR**



Unigard smoke detector has been specially developed for measuring flue gases in ventilation ducts. The detector can be fitted in the unit or retrofitted in the duct.

Smoke detector	
Power supply	24 V AC/DC
Measurement range	Optical
Measurement range, temperature	-10 °C to +55 °C
Enclosure class	IP54

### **FIRE THERMOSTAT**



For cutting out AHU in case of fire. Select cut-out at 50 °C or 70 °C

Fire thermostat	
Temperature range	50°C 70 °C

#### FIRE THERMOSTAT (ADJUSTABLE)

The fire thermostat is a temperature-controlled electric switch which can be directly in the air duct. It is fitted with an isolator switch (NC/CO). The fire thermostat is supplied with a thermowell.



The thermostat has a spiral bimetal sensor attached to the far end of the sensor tube. If the air temperature exceeds the



thermostat value (adjustable from 40 - 70  $^\circ\text{C})\text{,}$  the contact set will trip.

The thermostat must be manually reset with the reset button on the thermostat housing, once the temperature has fallen by 15°C.

Technical data	
Cut-out temperature	20-55°C
Max. ambient temperature, sensor	125 °C
Max. ambient temperature, thermostat housing	80 °C
Dimensions H x W x L	55 x 156 x 167 mm
Sensor length	100 mm
Thermowell length	240 mm
Duct aperture	Ø20 mm
Ingress Protection class	IP65
Permitted switch voltage/current	24 V/ 250V AC contact 11-12: 16A/2.5A 11-13: 2A/0.4A



## EXcon zone control



Zone control of up to four zones per unit. This allows the optimum ventilation principle to be employed in each room (zone).

An example might be a car workshop with four different rooms, such as workshop, office, stores and showroom, each of which has different requirements for temperature, humidity and air changes.

See full-size illustration in the section "Introduction to zone control" below.

## Introduction to zone control

#### Introduction:

Zone control makes it possible to control ventilation in up to four different VAV/CAV zones directly from the VEX4000 unit using EXcon Master.

This is perfect for smaller installations with zone where different rooms have different requirements for the indoor climate, e.g. a car repair workshop with four rooms:

a workshop, office, store and showroom. These four rooms will have different requirements for setpoint temperature, humidity, CO2 and timer programs. Zone control will here permit the requirements to be fulfilled in each room.

Zone control can be used for control of:

- VAV dampers
- Cooling and heating valves



- Humidity
- VOC/CO<sub>2</sub>
- Room temperature cooling

By fitting a switch on the window, zone management also allows monitoring and regulating depending on whether a window is open or closed, e.g. the VAV damper can close if the widow is opened.

THE ZONE MODULE IS AVAILABLE IN TWO VARIANTS

Zone modules that be purchased are available in two variants, A and M. This makes the zone management flexible, depending on whether it is traditional 0–10 V components or modbus components that you want to connect. The modules can also be combined if both types are needed in the installation.

#### Zone Module A:

Zone Module M:

A zone module A can control the VAV damper and valve motors with an analogue 0–10 V signal.

A zone module M is used to control the modbus VAV damper and valve motors.

### Configuration

All of the zone modes are easily configured within the EXcon web server, where you can set the conditions individually for each zone. You can also get an overview of the zone status, where all configured zones can be monitored at the same time.





## Zone control, configuration options

Example of zone control configuration

## A zone module can control:

- VAV damper in the extraction air duct
- A VAV damper in the supply air duct
- An actuator for heating coil
- An actuator for cooling coil

#### Regulating components that can be fitted:

- VOC/CO2 sensor
- RH humidity sensor
- Window or frost switch
- PIR sensor
- Room temperature sensor
- Supply air temperature sensor
- RPT-20T room touch panel

## **INSTALLATION EXAMPLE - ONE ROOM**





Shown here is an example of a zone control set-up in a car repair shop with three rooms:

- Workshop
- Offices
- Showroom

Zone Setup												
Operation Mode: Normal												
	Supply 1		+	_		*	PIR	8	line e	Ö	00	4
	~	~	~	~			~	~	~	~	~	~
Z01 Workshop	~	~	~	~	~		~	✔ ModBus	•	~	✔ ModBus	✔ ModBus
Z02 Office	~	~	~	~		~	~	✔ ModBus	~	~		
Z03 Showroom	✓ ModB		~	~	~		~	✔ ModBus		~		

#### **INSTALLATION EXAMPLE - ZONE SETUP STATUS**

For every configured zone, the user is able to obtain a complete status of all of the connected components, so that current temperature,  $CO_2$  and humidity levels, heating or cooling can be read together.



		Zone 1 Workshop	Zone 2 Office	Zone 3 Showroom
	Air Mode	Auto	Auto	Auto
	Low Air Flow	20.0 %	20.0 %	20.0 %
	High Air Flow	90.0%	90.0 %	90.0 %
	Override Timeout	60 min.	60 min.	10 min.
~	Current	24.6 °C	25.8 °C	25.3 °C
8	Setpoint	21.0 °C	21.0 °C	20.5 °C
	Actual Setpoint	21 °C	21.0 °C	20.5 °C
inlet 🕴	Current	23.5 °C	23.4 °C	-
<b>CO</b> ,	Current	638 ppm	-	-
4	Current	36.2 % RH	-	Ē
\$	Setpoint	100.0 %	100.0 %	100.0 %
Supply1	Setpoint	100 m3/h	100 m3/h	100 m3/h
÷	Setpoint	100.0 %	100.0 %	-
Extract	Setpoint	100 m3/h	100 m3/h	
PIR	Current	Not Active	Not Active	Not Active
⊞	Current	Closed		Closed
*	Current	-	Not Active	
+	Setpoint	0.0 %	0.0 %	0.0 %
-	Setpoint	100.0 %	100.0 %	100.0 %



## Accessories for zone control

The following accessories can be connected for zone control:



TOUCHZONE

Touch display with user-friendly graphics and integral temperature sensor



CO2 DUCT / CO2 ROOM

CO2 sensor for room or duct fitting



VOC DUCT

VOC sensor for measuring air quality



**PIR ROOM** 

Motion sensor, which overrides the unit in case of movement

HTH6202/-6203/-6204

Humidity and temperature sensor with Modbus - for duct fitting

Find technical data for the individual sensors under EXcon control system, EXcon accessories for control system (sensors)



## Rotary heat exchanger (ER)



The product selection program EXselectPRO permits the choice of different wave heights and widths on the rotor - i.e. variable temperature efficiency ratings.

Choose between four different rotor types:

- Condensing rotor (standard)
- Enthalpy rotor
- Sorption rotor
- Coated condensing rotor for corrosive environments

Selection of a non-standard rotor will probably entail a longer delivery time.

# Function and application

#### **VEX4000 ER**

The rotary heat exchanger permits reduced energy consumption by means of its high temperature efficiency of up to 90 %.

In addition, humidity from the extract air can be transferred to the supply air, thus ensuring optimum air quality in practically all application areas.

#### **RESIDENTIAL BUILDINGS**

For residential buildings we prefer a crossflow or a counterflow heat exchanger over a rotary heat exchanger in order to avoid the risk of transmitting humidity and odours via the rotor.







## **VEX4000 ER**

All ER sections are supplied ready-fitted with a drive unit and rotation monitor and are integrated with EXcon control.

However, the rotor control system can also be used in conjunction with other control systems.

The drive system consists of a belt moving round the periphery of the rotor, while the motor control system ensures variable rotor speed, depending of the heat recovery requirement. The system is controlled only by a 0-10V signal for regulating the motor speed - (for other automatic control, but incl. rotor control). This means that the drive system is not dependent on a particular control system.

The rotor is solidly seated in the frame construction, and minimal leakage is guaranteed by lip and brush seals.

EXcon uses ModBus for rotor control, which comprises:

- Rotation monitoring with external rotation sensor
- Alarm Relay
- De-icing via difference pressure measuring
- Cold recovery



# Design options

## VEX4000 ER, design options

## WAVE HEIGHT:

## Options:

- 1.50 mm (very high efficiency standard delivery)
- 1.65 mm (high efficiency)

### **ROTOR DEPTH:**

## Options:

- 200 mm (standard)
- 250 mm (option for higher efficiency)

## **ROTOR TYPES**

Choose between four different types:

- Condensing rotor suitable for ventilation systems without humidification and cooling (Standard)
- Enthalpy rotor suitable for ventilation systems with humidification and without cooling. (Option)
- Sorption rotor suitable for ventilation systems with humidification and cooling (Option)
- Coated condensing rotor suitable for particularly corrosive environments (Option)

Selection of a non-standard rotor will probably entail a longer delivery time.

The rotors can be supplied with an air flushing section, to help minimise the transfer of contaminated air from extract air to supply air. If the flushing function is selected, it will be integrated.

For this it is essential that the static pressure on the supply air side is higher than on the exhaust side.



# Dimensions, dimensions table for ER module

ER, heat exchanger section with rotary heat exchanger

## **DIMENSIONS TABLE**

-

VEX4000 model	Height	Length	Depth
VEX4010 [mm]	1309	720	1055
VEX4020 [mm]	1309	720	1275
VEX4030 [mm]	1499	610	1549
VEX4040 [mm]	1599	610	1630
VEX4050 [mm]	1744	610	1755
VEX4060 [mm]	2069	720	1930
VEX4070 [mm]	2069	720	2115
VEX4080 [mm]	2494	720	2325
VEX4090 [mm]	2744	720	2625
VEX4100 [mm]	3024	720	2895

The indicated dimensions are the dimensions for the section - EXselectPRO gives the correct dimensions for the whole air handling unit, including assembly fittings and seals.



## Crossflow heat exchanger (EX)



The classic crossflow heat exchanger can be a good choice, especially as the two air streams are completely separate, avoiding passage of contaminated or moist air from the extract air to the supply air.

## Function and application

VEX4000 crossflow heat exchanger

## DESCRIPTION

The classic crossflow heat exchanger secures stable, economic operation and meets the requirement for separated air streams, so that neither contaminated air nor humidity are transferred from extract air to supply air.

A crossflow heat exchanger can achieve a temperature efficiency of up to 73 %, which can be an advantage in buildings with too high a heating surplus.

At low outdoor temperatures, condensate is separated from the warm air stream, thus allowing part of the latent heat to be recovered.

### **BY-PASS**

For regulating the heat exchanger's performance, there are integral by-pass ducts which allow the outdoor air to be wholly or partly diverted round the heat exchanger. This can be utilised in the shoulder seasons, where there is no need for full heat recovery.

## **CONDENSATION OUTLET**

The crossflow heat exchanger section is fitted with corrosion resistant base trays, with a fall to the drain, allowing cleaning of the heat exchanger while mounted in the unit. The condensation drains have smooth piping and exit the panel on the operating side, where a water trap should be fitted.

#### **DESIGN OPTIONS**

#### **OPTIONS:**

- standard crossflow heat exchanger
- Epoxy-coated crossflow heat exchanger for particularly corrosive environments




# Dimensions, dimensions table for EX module

EX, heat exchanger section with crossflow heat exchanger

#### **DIMENSIONS TABLE**

-

VEX4000 model	Height	Length	Depth
VEX4010 [mm]	1309	1038	1055
VEX4020 [mm]	1309	1038	1275
VEX4030 [mm]	1499	1180	1549
VEX4040 [mm]	1599	1320	1630
VEX4050 [mm]	1744	1320	1755
VEX4060 [mm]	2069	1468	1930
VEX4070 [mm]	2069	1468	2115
VEX4080 [mm]	2494	1610	2325
VEX4090 [mm]	2744	1893	2625
VEX4100 [mm]	3024	1893	2895



### Fan (FAN) with filter (FX)



Plenum fan with total efficiency up to 70 %. For each unit size, two motor dimensions are available, allowing optimum operation to be achieved over the whole capacity range.

### Function and application

VEX4000 FAN/FX

Description

The plenum fan is often integrated in compact single units, as it provides greater flexibility with respect to installation location and spigot position.

This fan type is generally suitable for moderate to high duct pressure drops. The fan creates a static pressure in the plenum chamber, with the outlet opening located in the end or top (size 4010-4050 only) of the unit. On the outside, flanges can be mounted for fitting ducts.

#### **OPERATING COSTS**

Total efficiency rates of up to 70 % can be achieved with EC motors, allowing operation at optimum rotational speeds. This gives the unit good operating economy.

#### Design options

Units with plenum fans are dimensioned in EXselectPRO.

For each unit size, two motor dimensions are available, allowing optimum operation to be achieved over the whole capacity range.

-



### Construction

#### VEX4000 FAN

Plenum fans, which are available with VEX4000 units, consist of energy-optimised and directly driven centrifugal fans without ventilator housing and with backward curved blades.

FAN

The fan consists of a fan impeller mounted directly on the shaft journal. The fan impeller is made of 100% recyclable material.

#### FAN SUSPENSION

The motor and fan are mounted in a fan suspension with oscillation dampers which can be pulled out on rail sections in the base of the unit for servicing and cleaning.

#### MOTOR

The motor is a flange-mounted motor connected via a terminal box, with EC motors of class IE5 for optimum total efficiency.

#### **VIBRATION-FREE**

On the suction side, the inlet funnel has been fitted against the suction chamber. No metallic contact due to a flexible rubber sealing, ensuring the fan to work without transferring vibrations to the unit.

-



## Filter (FX) for plenum fan

#### **FX, FILTER TYPES**

The filter units for the air handling units are supplied mounted in special frames. They are of bag filter type. The filters meet the requirements of ISO 16850.

Depending on requirements for cleanness and separation for the ventilation air, the filters can be supplied in different classes:

- ePM<sub>10</sub> 50% (M5)
- ePM<sub>1</sub> 65% (F7)
- ePM<sub>1</sub> 65% (FC7)"Pocket City Flo" (filter with carbon, which can remove odours)
- ePM<sub>1</sub> 85% (F9)

#### PRE-FILTERING ON THE SUPPLY AIR/EXTRACT AIR SIDE

The air handling unit configuration has a pre-filter option. If this option is selected, a 48 mm panel filter can be inserted in front of the bag filter - see the image.



Placing a coarser filter in front of a finer filter reduces soiling on the finer filter. Depending on the outdoor air and the desired quality of the supply air, this can be a good idea/option.

Pre-filters (48 mm) are available in the following classes:

- Coarse 60% (G4)
- ePM10 80% (M5)
- ePM1 50% (F7)

Pressure drop, etc. can be calculated in the product selection programme EXselectPRO.



### Dimensions, dimensions table

Fan (FAN) with filter (FX)

### **DIMENSIONS TABLE**

-

VEX4000 model	Height	Length	Depth	
		without damper	with damper	
VEX4010 [mm]	1309	710	809	1055
VEX4020 [mm]	1309	710	809	1275
VEX4030 [mm]	1499	820	1019	1549
VEX4040 [mm]	1599	820	1019	1630
VEX4050 [mm]	1744	820	1019	1755
VEX4060 [mm]	2069	910	1109	1930
VEX4070 [mm]	2069	1000	1199	2115
VEX4080 [mm]	2494	1000	1199	2325
VEX4090 [mm]	2744	1000	1199	2625
VEX4100 [mm]	3024	1000	1199	2895



### CW Cooling Coil/ HW Heating Coil



CW cooling coil / HW heating coil - here shown as half section. Heating and cooling coils used in the VEX4000 series have the same construction and are therefore mentioned together here.

### Function and application

#### HW/CW FOR VEX4000

Heating coils are usually used for heating the supply air where the temperature is too low after the heat exchanger.

The water heating and cooling coils work by the supply air passing over the heating elements in the coil, which are heated or cooled down with water. The supply air absorbs heat/cold from the elements which

in this way achieve a higher or lower temperature. The water in the two coils is led away through pipe penetrations on the user side of the unit.



### Construction and connection

#### HW/CW FOR VEX4000

#### Construction

The coils are made from copper piping with aluminium fins integrated in steel panel frames. The number of pipes and circuits depends on the applicable heating or cooling requirement.

In the units, the coils are mounted on guide rails for pulling out, inspection and maintenance. Pipe connections and panels must be dismounted prior to pulling out.

The cooling function is constructed with a corrosion-resistant base tray under the cooling coil, and contains space for the droplet separator, which should be installed in the case of water cooling and air speeds greater than 2.5 m/s.

The base tray is designed with a fall to the drain, in order to avoid accumulating stagnant water. The drains have smooth piping and exit the panel on the operating side, where a water trap must be fitted.

#### Connections - generally for all coils

It is important to ensure correct flow through the coils. For this reason, the coils should/must be dimensioned for the actual circumstances, such as airflow, temperature settings for the water in the coil and the desired delivery temperature of the coil.



## Technical data, duct-mounted cooling/heating coils (HW/CW)

Duct-mounted cooling/heating coils

Cooling/heating coils for VEX4010	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø22 mm	2 x Ø22 mm	2 x Ø35 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	3 kg	6 kg	11 kg
Internal volume	1.3	1.3 I	4.9 I
Cooling/heating coils for VEX4020	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø22 mm	2 x Ø22 mm	2 x Ø35 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	4 kg	7 kg	14 kg
Internal volume	1.6 I	2.9	6.0 I
Cooling/heating coils for VEX4030	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø22 mm	2 x Ø28 mm	2 x Ø42 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	10 kg	20 kg	38 kg
Internal volume	2.5	5.0 I	8.9 I
Cooling/heating coils for VEX4040	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø28 mm	2 x Ø35 mm	2 x Ø42 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	42.4 kg	42.4 kg	51.2 kg
Internal volume	3.2	5.4 I	10.2 I
Cooling/heating coils for VEX4050	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø35 mm	2 x Ø35 mm	2 x Ø54 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	44.9 kg	44.9 kg	58.6 kg
Internal volume	4.0	6.7 I	11.2



Cooling/heating coils for VEX4060	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø35 mm	2 x Ø35 mm	2 x Ø70 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	10 kg	20 kg	38 kg
Internal volume	4.9 I	8.5 I	19.7 I
Cooling/heating coils for VEX4070	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø35 mm	2 x Ø42 mm	2 x Ø70 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	11 kg	23 kg	39 kg
Internal volume	5.4 I	10.0 l	21.5 I
Cooling/heating coils for VEX4080	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø42 mm	2 x Ø42 mm	2 x Ø80 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	14 kg	28 kg	54 kg
Internal volume	7.1	12.1 I	27.7
Cooling/heating coils for VEX4090	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø54 mm	2 x Ø54 mm	2 x Ø102 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Weight (without fluid)	17 kg	35 kg	66 kg
Internal volume	10.2	16.3 I	39.2
Cooling/heating coils for VEX4100	HW1	HW2	CW2
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø54 mm	2 x Ø54 mm	2 x Ø102 mm
Outlet from drip tray	none	none	DN20 (¾")
Fin spacing	3.0 mm	1.8 mm	2.5 mm
Weight (without fluid)	18 kg	45 kg	86 kg
Internal volume	12.9 I	21.0	49.6 I

-



# Technical data, built-in coils (HWC/CWC)

Built-in cooling/heating coils

Cooling/heating coils for VEX4010	HWC1	HWC2	CWC
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø22 mm	2 x Ø22 mm	2 x Ø35 mm
Outlet from drip tray	Ø32 mm	Ø32 mm	Ø32 mm
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Internal volume	1.4	2.7	5.0 I
Cooling/heating coils for VEX4020	HWC1	HWC2	CWC
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø22 mm	2 x Ø22 mm	2 x Ø35 mm
Outlet from drip tray	Ø32 mm	Ø32 mm	Ø32 mm
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Internal volume	1.7	3.3	6.2 I
Cooling/heating coils for VEX4030	HWC1	HWC2	CWC
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø22 mm	2 x Ø28 mm	2 x Ø42 mm
Outlet from drip tray	Ø32 mm	Ø32 mm	Ø32 mm
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Internal volume	2.5	4.91	8.91
Cooling/heating coils for VEX4040	HWC1	HWC2	CWC
Cooling/heating coils for VEX4040 Test pressure	<b>HWC1</b> 3000 kPa	<b>HWC2</b> 3000 kPa	<b>CWC</b> 3000 kPa
Cooling/heating coils for VEX4040 Test pressure Max. operating pressure	<b>HWC1</b> 3000 kPa 1600 kPa	<b>HWC2</b> 3000 kPa 1600 kPa	<b>CWC</b> 3000 kPa 1600 kPa
Cooling/heating coils for VEX4040 Test pressure Max. operating pressure Connection dimension	<b>HWC1</b> 3000 kPa 1600 kPa 2 x Ø28 mm	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm	<b>CWC</b> 3000 kPa 1600 kPa 2 x Ø54 mm
Cooling/heating coils for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Outlet from drip tray	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm	<b>CWC</b> 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacing	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm	<b>CWC</b> 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volume	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l
Cooling/heating coils for VEX4040 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Internal volume Cooling/heating coils for VEX4050	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l HWC1	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressure	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l HWC1 3000 kPa	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 I CWC 3000 kPa
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressure	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l HWC1 3000 kPa 1600 kPa	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 I CWC 3000 kPa 1600 kPa
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimension	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l HWC1 3000 kPa 1600 kPa 2 x Ø28 mm	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa 2 x Ø35 mm	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l CWC 3000 kPa 1600 kPa 2 x Ø54 mm
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip tray	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa 2 x Ø35 mm Ø32 mm	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingTest pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacing	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 I HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa 2 x Ø35 mm Ø32 mm	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeTest pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volume	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 I HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.7 I	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa 2 x Ø35 mm Ø32 mm 1.8 mm	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 14.0 l
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeConnection dimensionInternal volumeConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4060	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.7 l	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa 2 x Ø35 mm Ø32 mm 1.8 mm 7.0 l	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 14.0 l
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeConnection dimensionOutlet from drip trayFin spacingInternal volumeConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4060Test pressure	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.7 l HWC1 3000 kPa	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa 2 x Ø35 mm Ø32 mm 1.8 mm 7.0 l HWC2 3000 kPa	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 14.0 l CWC 3000 kPa
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4060Test pressureMax. operating pressureMax. operating pressureMax. operating coils for VEX4060Test pressureMax. operating pressure	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.01 HWC1 3000 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.7 l HWC1 3000 kPa 1.8 mm	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa 2 x Ø35 mm Ø32 mm 1.8 mm 7.0 l HWC2 3000 kPa 1.8 mm	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 I CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 14.0 I CWC 3000 kPa 1600 kPa
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4060Test pressureMax. operating pressureCooling/heating coils for VEX4060Test pressureMax. operating pressureConnection dimension	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 l HWC1 3000 kPa 1600 kPa 032 mm 1.8 mm 3.7 l HWC1 3000 kPa 1.600 kPa 2 x Ø35 mm	HWC2         3000 kPa         1600 kPa         2 x Ø28 mm         Ø32 mm         1.8 mm         5.7 l         HWC2         3000 kPa         1600 kPa         2 x Ø32 mm         1600 kPa         1600 kPa         18 mm         7.0 l         HWC2         3000 kPa         1.8 mm         7.0 l         HWC2         3000 kPa         1.8 mm         2 x Ø35 mm	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 14.0 l CWC 3000 kPa 1600 kPa 1600 kPa 2 x Ø70 mm
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4060Test pressureMax. operating pressureConnection dimensionOutlet from drip trayOutlet from drip trayTest pressureMax. operating pressureConnection dimensionOutlet from drip trayMax. operating pressureConnection dimensionOutlet from drip tray	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.0 I HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.7 I HWC1 3000 kPa 1.8 mm 3.7 I	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 l HWC2 3000 kPa 1600 kPa 2 x Ø35 mm 1.8 mm 7.0 l HWC2 3000 kPa 2 x Ø35 mm	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 I CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 14.0 I CWC 3000 kPa 14.0 I
Cooling/heating coils for VEX4040Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4050Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingInternal volumeConnection dimensionOutlet from drip trayFin spacingInternal volumeCooling/heating coils for VEX4060Test pressureMax. operating pressureCooling/heating coils for VEX4060Test pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingFins pressureMax. operating pressureConnection dimensionOutlet from drip trayFin spacingFin spacing	HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.01 HWC1 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 3.71 HWC1 3000 kPa 1.8 mm 2 x Ø35 mm	HWC2 3000 kPa 1600 kPa 2 x Ø28 mm Ø32 mm 1.8 mm 5.7 1 HWC2 3000 kPa 1600 kPa 2 x Ø35 mm 7.0 1 HWC2 3000 kPa 1.8 mm 2 x Ø35 mm 1.600 kPa 1600 kPa 1600 kPa 1600 kPa 1600 kPa 1600 kPa	CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 12.0 l CWC 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 14.0 l CWC 3000 kPa 1600 kPa 2 x Ø70 mm Ø32 mm



Cooling/heating coils for VEX4070	HWC1	HWC2	CWC
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø35 mm	2 x Ø42 mm	2 x Ø70 mm
Outlet from drip tray	Ø32 mm	Ø32 mm	Ø32 mm
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Internal volume	5.8 I	10.7 I	21.8
Cooling/heating coils for VEX4080	HWC1	HWC2	CWC
Test pressure	3000 kPa	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa	1600 kPa
Connection dimension	2 x Ø42 mm	2 x Ø42 mm	2 x Ø80 mm
Outlet from drip tray	Ø32 mm	Ø32 mm	Ø32 mm
Fin spacing	1.8 mm	1.8 mm	2.5 mm
Internal volume	7.6 I	13.1 I	28.5 I
Cooling/heating coils for VEX4090	HWC1	HWC2	CWC
Cooling/heating coils for VEX4090 Test pressure	<b>HWC1</b> 3000 kPa	<b>HWC2</b> 3000 kPa	<b>CWC</b> 3000 kPa
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure	<b>HWC1</b> 3000 kPa 1600 kPa	<b>HWC2</b> 3000 kPa 1600 kPa	<b>CWC</b> 3000 kPa 1600 kPa
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm	<b>CWC</b> 3000 kPa 1600 kPa 2 x Ø102 mm
Cooling/heating coils for VEX4090         Test pressure         Max. operating pressure         Connection dimension         Outlet from drip tray	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm	<b>CWC</b> 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 1.8 mm	<b>CWC</b> 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm 2.5 mm
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Internal volume	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 11.5 I	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 1.8 mm 18.5 l	<b>CWC</b> 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm 2.5 mm 42.2 l
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Internal volume Cooling/heating coils for VEX4100	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 11.5 I HWC1	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 1.8 mm 18.5 I HWC2	CWC 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm 2.5 mm 42.2 l
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Internal volume Cooling/heating coils for VEX4100 Test pressure	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 11.5 I HWC1 3000 kPa	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 1.8 mm 18.5 l HWC2 3000 kPa	CWC 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm 2.5 mm 42.2 l CWC 3000 kPa
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Internal volume Cooling/heating coils for VEX4100 Test pressure Max. operating pressure	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 11.5 I HWC1 3000 kPa 1600 kPa	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 1.8 mm 18.5 l HWC2 3000 kPa 1600 kPa	CWC 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm 2.5 mm 42.2 l CWC 3000 kPa 1600 kPa
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Internal volume Cooling/heating coils for VEX4100 Test pressure Max. operating pressure Connection dimension	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 11.5 l HWC1 3000 kPa 1600 kPa 2 x Ø70 mm	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 1.8 mm 18.5 l HWC2 3000 kPa 1600 kPa 2 x Ø70 mm	CWC 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm 2.5 mm 42.2 l CWC 3000 kPa 1600 kPa 2 x Ø120 mm
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Internal volume Cooling/heating coils for VEX4100 Test pressure Max. operating pressure Connection dimension Outlet from drip tray	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 11.5 I HWC1 3000 kPa 1600 kPa 2 x Ø70 mm Ø32 mm	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 1.8 mm 18.5 l HWC2 3000 kPa 1600 kPa 2 x Ø70 mm Ø32 mm	CWC 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm 2.5 mm 42.2 l CWC 3000 kPa 1600 kPa 2 x Ø120 mm Ø32 mm
Cooling/heating coils for VEX4090 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Internal volume Cooling/heating coils for VEX4100 Test pressure Max. operating pressure Connection dimension Outlet from drip tray Fin spacing Fin spacing	HWC1 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 2.5 mm 11.5 l HWC1 3000 kPa 1600 kPa 2 x Ø70 mm Ø32 mm 3.0 mm	HWC2 3000 kPa 1600 kPa 2 x Ø54 mm Ø32 mm 1.8 mm 18.5 l HWC2 3000 kPa 1600 kPa 2 x Ø70 mm Ø32 mm 1.8 mm	CWC 3000 kPa 1600 kPa 2 x Ø102 mm Ø32 mm 2.5 mm 42.2 l CWC 3000 kPa 1600 kPa 2 x Ø120 mm Ø32 mm

### Dimensions, dimensions table for section with a coil

Section with a built-in coil

### **DIMENSIONS TABLE**

-

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	480	1055
VEX4020 [mm]	702/1309	480	1275
VEX4030 [mm]	797/1499	480	1549
VEX4040 [mm]	847/1599	480	1630
VEX4050 [mm]	919/1744	480	1755
VEX4060 [mm]	1077/2069	480	1930
VEX4070 [mm]	1077/2069	480	2115
VEX4080 [mm]	1209/2494	480	2325
VEX4090 [mm]	1334/2744	480	2625
VEX4100 [mm]	1474/3024	480	2895



### Dimensions, dimensions table for section with two coils

Section with two built-in coils

### **DIMENSIONS TABLE**

-

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	1404	1055
VEX4020 [mm]	702/1309	1404	1275
VEX4030 [mm]	797/1499	1404	1549
VEX4040 [mm]	847/1599	1404	1630
VEX4050 [mm]	919/1744	1404	1755
VEX4060 [mm]	1077/2069	1404	1930
VEX4070 [mm]	1077/2069	1404	2115
VEX4080 [mm]	1209/2494	1404	2325
VEX4090 [mm]	1334/2744	1404	2625
VEX4100 [mm]	1474/3024	1404	2895



### Electric heating coil (HE)



HE heating coil is an accessory for the VEX4000 series and is used to increase the temperature of the supply air

### Function and application

#### **VEX4000 HE**

The coil is used to increase the supply air temperature and works by supply air passing over the electrically heated heating elements in the coil. The supply air absorbs the heat from the heating elements and thus achieves a higher temperature.

The coil can either be controlled by the EXcon control system or supplied for connection to a third-party control system.

#### **OPERATION**

To achieve the best basis for operation of each unit, calculations should always be carried out with EXselectPRO

**EXHAUSTO** 

# Technical data

Technical data for duct-mounted coils

Data for coils for VEX4010	HE1	HE2	HE3
Power rating	4 kW	7 kW	14 kW
min. airflow	1050 m³/h	1050 m³/h	1050 m³/h
Modulating steps	1	1	1
Weight	23 kg	24 kg	29 kg
Data for coils for VEX4020	HE1	HE2	HE3
Power rating	7 kW	11 kW	21 kW
min. airflow	1500 m³/h	1500 m³/h	1500 m³/h
Modulating steps	1	1	1
Weight	27 kg	29 kg	34 kg
Data for coils for VEX4030	HE1	HE2	HE3
Power rating	10 kW	15 kW	30 kW
min. airflow	2000 m³/h	2000 m³/h	2000 m³/h
Modulating steps	1	1	2
Weight	32 kg	37 kg	44 kg
Data for coils for VEX4040	HE1	HE2	HE3
Power rating	13 kW	20 kW	38 kW
min. airflow	3000 m³/h	3000 m³/h	3000 m³/h
Modulating steps	1	1	2
Weight	35 kg	41 kg	50 kg
Data for coils for VEX4050	HE1	HE2	HE3
Power rating	17 kW	24 kW	50 kW
min. airflow	4000 m³/h	4000 m³/h	4000 m³/h
Modulating steps	1	1	2
Weight	38 kg	42 kg	57 kg
Data for coils for VEX4060	HE1	HE2	HE3
Power rating	17 kW	33 kW	55 kW
min. airflow	4820 m³/h	4820 m³/h	4820 m³/h
Modulating steps	1	2	2
Weight	41 kg	52 kg	62 kg
Data for coils til VEX4070	HE1	HE2	HE3
Power rating	20 kW	40 kW	60 kW
min. airflow			0000 3/1-
	6000 m³/h	6000 m³/h	6000 m <sup>e</sup> /n
Modulating steps	6000 m³/h 1	6000 m³/h 2	6000 m³/n 3
Modulating steps Weight	6000 m³/h 1 47 kg	6000 m³/h 2 56 kg	6000 m <sup>3</sup> n 3 69 kg
Modulating steps Weight Data for coils for VEX4080	6000 m³/h 1 47 kg <b>HE1</b>	6000 m³/h 2 56 kg HE2	6000 m9/n 3 69 kg HE3
Modulating steps Weight Data for coils for VEX4080 Power rating	6000 m³/h 1 47 kg HE1 25 kW	6000 m³/h 2 56 kg HE2 50 kW	6000 m/m 3 69 kg HE3 75 kW
Modulating steps Weight Data for coils for VEX4080 Power rating min. airflow	6000 m³/h 1 47 kg HE1 25 kW 7000 m³/h	6000 m³/h 2 56 kg HE2 50 kW 7000 m³/h	6000 m <sup>3</sup> /h
Modulating steps Weight Data for coils for VEX4080 Power rating min. airflow Modulating steps	6000 m³/h 1 47 kg HE1 25 kW 7000 m³/h 1	6000 m³/h 2 56 kg HE2 50 kW 7000 m³/h 2	6000 m³/h 3 69 kg HE3 75 kW 7000 m³/h 3



Data for coils for VEX4090	HE1	HE2	HE3
Power rating	33 kW	67 kW	100 kW
min. airflow	8600 m³/h	8600 m³/h	8600 m³/h
Modulating steps	2	3	4
Weight	54 kg	82 kg	98 kg
Data for coils for VEX4100	HE1	HE2	HE3
Power rating	42 kW	83 kW	125 kW
min. airflow	10800 m³/h	10800 m³/h	10800 m³/h
Modulating steps	2	4	5
Weight	58 kg	87 kg	123 kg



-

### Dimensions, dimensions table for section with a coil

Section with a built-in coil

### **DIMENSIONS TABLE**

-

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	480	1055
VEX4020 [mm]	702/1309	480	1275
VEX4030 [mm]	797/1499	480	1549
VEX4040 [mm]	847/1599	480	1630
VEX4050 [mm]	919/1744	480	1755
VEX4060 [mm]	1077/2069	480	1930
VEX4070 [mm]	1077/2069	480	2115
VEX4080 [mm]	1209/2494	480	2325
VEX4090 [mm]	1334/2744	480	2625
VEX4100 [mm]	1474/3024	480	2895



### Dimensions, dimensions table for section with two coils

Section with two built-in coils

### **DIMENSIONS TABLE**

-

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	1404	1055
VEX4020 [mm]	702/1309	1404	1275
VEX4030 [mm]	797/1499	1404	1549
VEX4040 [mm]	847/1599	1404	1630
VEX4050 [mm]	919/1744	1404	1755
VEX4060 [mm]	1077/2069	1404	1930
VEX4070 [mm]	1077/2069	1404	2115
VEX4080 [mm]	1209/2494	1404	2325
VEX4090 [mm]	1334/2744	1404	2625
VEX4100 [mm]	1474/3024	1404	2895







HWR heat recovery coil in which surplus heat, e.g. from refrigerators, can be used to heat the supply air.

### HWR, construction

VEX4000 HWR

#### FUNCTION AND APPLICATION

This coil has been specially manufactured for a so-called shop solution, in which surplus heat from refrigerators etc. is recycled. This means that surplus heat from refrigerators can be used to heat up the supply air.

The water is supplied through pipes which exit the unit at the front. The number of pipes and circuits depends on the applicable heating or cooling requirement.

#### CONSTRUCTION

HWR coils are made from copper piping with aluminium fins integrated in steel panel frames.

#### CONNECTION

Pipe connections and panels must be dismounted prior to pulling out.

#### **DESIGN OPTIONS**

Heat recovery coils are available in different versions with several coil combinations.



# Technical data for duct-mounted HWR coils

Duct-mounted HWR heat recovery coil

Data for HWR for VEX4010	HWR1	HWR2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø28 mm	2 x Ø35 mm
Fin spacing	1.8 mm	2.5 mm
Weight (without fluid)	17 kg	15 kg
Internal volume	6.6 I	6.9 I
Data for HWR for VEX4020	HWR1	HWR2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø28 mm	2 x Ø35 mm
Fin spacing	1.8 mm	2.5 mm
Weight (without fluid)	22 kg	19 kg
Internal volume	8.2	8.5 I
Data for HWR for VEX4030	HWR1	HWR2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø35 mm	2 x Ø54 mm
Fin spacing	1.8 mm	2.2 mm
Weight (without fluid)	34.0 kg	31.0 kg
Internal volume	13.21	14.7
Data for HWR for VEX4040	HWR1	HWR2
Data for HWR for VEX4040       Test pressure	HWR1 3000 kPa	<b>HWR2</b> 3000 kPa
Data for HWR for VEX4040       Test pressure       Max. operating pressure	HWR1 3000 kPa 1600 kPa	<b>HWR2</b> 3000 kPa 1600 kPa
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension	HWR1           3000 kPa           1600 kPa           2 x Ø35 mm	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing	HWR1 3000 kPa 1600 kPa 2 x Ø35 mm 2.0 mm	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)	HWR1           3000 kPa           1600 kPa           2 x Ø35 mm           2.0 mm           41.0 kg	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume	HWR1 3000 kPa 1600 kPa 2 x Ø35 mm 2.0 mm 41.0 kg 16.4 l	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050	HWR1 3000 kPa 1600 kPa 2 x Ø35 mm 2.0 mm 41.0 kg 16.4 l HWR1	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure	HWR1           3000 kPa           1600 kPa           2 x Ø35 mm           2.0 mm           41.0 kg           16.4 I           HWR1           3000 kPa	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 I         HWR1         3000 kPa         16.4 I         1600 kPa	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension	HWR1           3000 kPa           1600 kPa           2 x Ø35 mm           2.0 mm           41.0 kg           16.4 I           HWR1           3000 kPa           16.4 I           16.4 I           1600 kPa           1600 kPa           2 x Ø35 mm	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 l         HWR1         3000 kPa         16.4 l         1.000 kPa         1.000 kPa         1.8 mm	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 I         HWR1         3000 kPa         16.4 I         16.4 I <td< td=""><td>HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 40.0 kg</td></td<>	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 40.0 kg
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 l         HWR1         3000 kPa         16.4 l         16.4 l         16.4 l         16.4 l         16.4 l         18 mm         1.8 mm         47.0 kg         17.8 l	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 40.0 kg 19.4 l
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4060	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 I         HWR1         3000 kPa         16.4 I         16.4 I         1600 kPa         16.4 I         1600 kPa         1600 kPa         1600 kPa         1600 kPa         1600 kPa         17.8 mm         47.0 kg         17.8 I	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 40.0 kg 19.4 l
Data for HWR for VEX4040Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4050Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4050Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4060Test pressure	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 l         HWR1         3000 kPa         16.4 l         HWR1         3000 kPa         16.4 l         HWR1         1600 kPa         1600 kPa         17.8 l         HWR1         3000 kPa	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 40.0 kg 19.4 l HWR2 3000 kPa
Data for HWR for VEX4040Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4050Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4050Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4060Test pressureMax. operating pressureMax. operating pressure	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 I         HWR1         3000 kPa         16.4 I         1600 kPa         16.4 I         1600 kPa         1600 kPa         1600 kPa         17.8 I         HWR1         3000 kPa         17.8 I         HWR1         1000 kPa         17.8 I         1600 kPa         1600 kPa	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 40.0 kg 19.4 l HWR2 3000 kPa 19.4 l
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4060         Test pressure         Max. operating pressure         Connection dimension	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 l         HWR1         3000 kPa         16.4 l         HWR1         3000 kPa         16.4 l         HWR1         1600 kPa         17.8 l         HWR1         3000 kPa         17.8 l         HWR1         3000 kPa         1600 kPa         1600 kPa         2 x Ø35 mm	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 40.0 kg 19.4 l HWR2 3000 kPa 1600 kPa 1600 kPa 2 x Ø70 mm
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4060         Test pressure         Max. operating pressure         Connection dimension         Fiest pressure         Max. operating pressure         Max. operating pressure         Connection dimension         Fin spacing	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 I         HWR1         3000 kPa         16.4 I         HWR1         3000 kPa         16.0 kPa         2 x Ø35 mm         16.4 I         HWR1         3000 kPa         1600 kPa         1.8 mm         47.0 kg         17.8 I         HWR1         3000 kPa         1600 kPa         2 x Ø54 mm         1.8 mm	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 40.0 kg 19.4 l HWR2 3000 kPa 19.4 l
Data for HWR for VEX4040         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4050         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Internal volume         Data for HWR for VEX4060         Test pressure         Max. operating pressure         Connection dimension         Fin spacing         Weight (without fluid)         Weight (without fluid)	HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         2.0 mm         41.0 kg         16.4 I         HWR1         3000 kPa         16.4 I         HWR1         3000 kPa         16.4 I         HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         18 mm         47.0 kg         17.8 I         HWR1         3000 kPa         1600 kPa         2 x Ø35 mm         1.8 mm         47.0 kg         17.8 I         HWR1         3000 kPa         1600 kPa         1.8 mm         1.8 mm         61 kg	HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 2.5 mm 32.0 kg 15.7 l HWR2 3000 kPa 1600 kPa 2 x Ø54 mm 40.0 kg 19.4 l HWR2 3000 kPa 2 x Ø70 mm 2.5 mm 2 x Ø70 mm



Data for HWR for VEX4070	HWR1	HWR2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø54 mm	2 x Ø70 mm
Fin spacing	1.8 mm	2.5 mm
Weight (without fluid)	68 kg	59 kg
Internal volume	27.5	29.6 I
Data for HWR for VEX4080	HWR1	HWR2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø54 mm	2 x Ø102 mm
Fin spacing	1.8 mm	2.5 mm
Weight (without fluid)	85 kg	85 kg
Internal volume	33.9 I	43.3 I
Data for HWR for VEX4090	HWR1	HWR2
Data for HWR for VEX4090 Test pressure	<b>HWR1</b> 3000 kPa	<b>HWR2</b> 3000 kPa
Data for HWR for VEX4090         Test pressure         Max. operating pressure	<b>HWR1</b> 3000 kPa 1600 kPa	HWR2 3000 kPa 1600 kPa
Data for HWR for VEX4090         Test pressure         Max. operating pressure         Connection dimension	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacing	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 104 kg	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm 90 kg
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volume	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 104 kg 40.9 l	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm 90 kg 51.4 l
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4100	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 104 kg 40.9 l HWR1	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm 90 kg 51.4 l HWR2
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4100Test pressure	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 104 kg 40.9 l HWR1 3000 kPa	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm 90 kg 51.4 l HWR2 3000 kPa
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4100Test pressureMax. operating pressure	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 104 kg 40.9 I HWR1 3000 kPa 1600 kPa	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm 90 kg 51.4 l HWR2 3000 kPa 1600 kPa
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4100Test pressureMax. operating pressureConnection dimension	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 104 kg 40.9 l HWR1 3000 kPa 1600 kPa 2 x Ø54 mm	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm 90 kg 51.4 l HWR2 3000 kPa 1600 kPa 2 x Ø102 mm
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4100Test pressureMax. operating pressureConnection dimensionFin spacingFin spacingFin spacingMax. operating pressureConnection dimensionFin spacing	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 104 kg 40.9 I HWR1 1600 kPa 1600 kPa 2 x Ø54 mm 1.8 mm	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 90 kg 51.4 l HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm
Data for HWR for VEX4090Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Internal volumeData for HWR for VEX4100Test pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)Yet pressureMax. operating pressureConnection dimensionFin spacingWeight (without fluid)	HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 104 kg 40.9 l HWR1 3000 kPa 1600 kPa 2 x Ø54 mm 1.8 mm 1.8 mm	HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm 90 kg 51.4 l HWR2 3000 kPa 1600 kPa 2 x Ø102 mm 2.5 mm 117 kg



# Technical data for duct-mounted HWRC coils

Built-in heat recovery coils (HWRC)

Data for HWRC for VEX4010	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø22 mm	2 x Ø35 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	7.4	7.7
Data for HWRC for VEX4020	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø28 mm	2 x Ø35 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	9.4	9.6 I
Data for HWRC for VEX4030	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø35 mm	2 x Ø54 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	14.5 I	15.9 I
Data for HWRC for VEX4040	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø35 mm	2 x Ø54 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	18.3 I	17.9
Data for HWRC for VEX4050	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø35 mm	2 x Ø54 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	18.6 I	20.8
Data for HWRC for VEX4060	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø70 mm	2 x Ø70 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	29.7 I	29.6 I
Data for HWRC for VEX4070	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø70 mm	2 x Ø70 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	32.3	32.3



Data for HWRC for VEX4080	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø54 mm	2 x Ø102 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	35.7	46.5 I
Data for HWRC for VEX4090	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø54 mm	2 x Ø102 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	46.7 I	58.3 I
Data for HWRC for VEX4100	HWRC1	HWRC2
Test pressure	3000 kPa	3000 kPa
Max. operating pressure	1600 kPa	1600 kPa
Connection dimension	2 x Ø70 mm	2 x Ø102 mm
Fin spacing	1.8 mm	2.5 mm
Internal volume	62.1 I	71.7



-

### Dimensions, dimensions table for section with a coil

Section with a built-in coil

### **DIMENSIONS TABLE**

-

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	480	1055
VEX4020 [mm]	702/1309	480	1275
VEX4030 [mm]	797/1499	480	1549
VEX4040 [mm]	847/1599	480	1630
VEX4050 [mm]	919/1744	480	1755
VEX4060 [mm]	1077/2069	480	1930
VEX4070 [mm]	1077/2069	480	2115
VEX4080 [mm]	1209/2494	480	2325
VEX4090 [mm]	1334/2744	480	2625
VEX4100 [mm]	1474/3024	480	2895



### Dimensions, dimensions table for section with two coils

Section with two built-in coils

### **DIMENSIONS TABLE**

-

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	1404	1055
VEX4020 [mm]	702/1309	1404	1275
VEX4030 [mm]	797/1499	1404	1549
VEX4040 [mm]	847/1599	1404	1630
VEX4050 [mm]	919/1744	1404	1755
VEX4060 [mm]	1077/2069	1404	1930
VEX4070 [mm]	1077/2069	1404	2115
VEX4080 [mm]	1209/2494	1404	2325
VEX4090 [mm]	1334/2744	1404	2625
VEX4100 [mm]	1474/3024	1404	2895



### Cooling coil for direct expansion (DX)



DX coils are an ideal cooling solution for VRV(F) units or third-party DX cooling systems, as they are filled with coolant which evaporates and thus allows the coil to function as a cooling coil. This process needs to occur in a cooling circuit driven by a cooling compressor.

## DX Technical data

#### **VEX4000 DX**

Technical data for duct-mounted DX coils

Data for DX for VEX4010	DX1
Test pressure	3000 kPa
Max. operating pressure	1600 kPa
Connection dimension	2 x Ø28 mm
Outlet from drip tray	DN25 (¾")
Fin spacing	2.5 mm
Weight (without fluid)	12 kg
Internal volume	3.6 I
Data for DX for VEX4020	DX1
Data for DX for VEX4020 Test pressure	<b>DX1</b> 3000 kPa
Data for DX for VEX4020         Test pressure         Max. operating pressure	<b>DX1</b> 3000 kPa 1600 kPa
Data for DX for VEX4020         Test pressure         Max. operating pressure         Connection dimension	<b>DX1</b> 3000 kPa 1600 kPa 2 x Ø28 mm
Data for DX for VEX4020         Test pressure         Max. operating pressure         Connection dimension         Outlet from drip tray	DX1 3000 kPa 1600 kPa 2 x Ø28 mm DN25 (¾")
Data for DX for VEX4020         Test pressure         Max. operating pressure         Connection dimension         Outlet from drip tray         Fin spacing	DX1 3000 kPa 1600 kPa 2 x Ø28 mm DN25 (¾") 2.5 mm
Data for DX for VEX4020         Test pressure         Max. operating pressure         Connection dimension         Outlet from drip tray         Fin spacing         Weight (without fluid)	DX1 3000 kPa 1600 kPa 2 x Ø28 mm DN25 (¾") 2.5 mm 15 kg



Data for DX for VEX4030	DX1
Test pressure	3000 kPa
Max. operating pressure	1600 kPa
Connection dimension	2 x Ø28 mm
Outlet from drip tray	DN25 (¾")
Fin spacing	3.2 mm
Weight (without fluid)	21.0 kg
Internal volume	6.91
Data for DX for VEX4040	DX1
Test pressure	3000 kPa
Max. operating pressure	1600 kPa
Connection dimension	2 x Ø28 mm
Outlet from drip tray	DN25 (¾")
Fin spacing	3.2 mm
Weight (without fluid)	23.0 kg
Internal volume	7.5
Data for DX for VEX4050	DX1
Test pressure	3000 kPa
Max. operating pressure	1600 kPa
Connection dimension	2 x Ø28 mm
Outlet from drip tray	DN25 (¾")
Fin spacing	3.2 mm
Weight (without fluid)	29.0 kg
Internal volume	9.1
Data for DX for VEX4060	DX1
Test pressure	3000 kPa
Max. operating pressure	1600 kPa
Connection dimension	2 x Ø28 mm
Outlet from drip tray	DN25 (¾")
Fin spacing	3.2 mm
Weight (without fluid)	38 kg
Internal volume	12.2
Data for DX for VEX4070	DX1
Test pressure	3000 kPa
Max. operating pressure	1600 kPa
Connection dimension	? 2 x Ø28 mm
Outlet from drip tray	? DN25 (¾")
Fin spacing	3.2 mm
Weight (without fluid)	42 kg
Internal volume	13.8
Data for DX for VEX4080	DX1
Test pressure	3000 kPa
Max. operating pressure	1600 kPa
Connection dimension	2 x Ø28 mm
Outlet from drip tray	DN25 (¾")
Fin spacing	2.5 mm
Weight (without fluid)	49 kg
Internal volume	20.01



Data for DX for VEX4090	DX1
Test pressure	3000 kPa
Max. operating pressure	1600 kPa
Connection dimension	2 x Ø28 mm
Outlet from drip tray	DN25 (¾")
Fin spacing	2.5 mm
Weight (without fluid)	60 kg
Internal volume	26.8 I
Data for DX for VEX4100	DX1
Data for DX for VEX4100 Test pressure	<b>DX1</b> 3000 kPa
Data for DX for VEX4100         Test pressure         Max. operating pressure	<b>DX1</b> 3000 kPa 1600 kPa
Data for DX for VEX4100         Test pressure         Max. operating pressure         Connection dimension	<b>DX1</b> 3000 kPa 1600 kPa 2 x Ø28 mm
Data for DX for VEX4100         Test pressure         Max. operating pressure         Connection dimension         Outlet from drip tray	DX1 3000 kPa 1600 kPa 2 x Ø28 mm DN25 (¾")
Data for DX for VEX4100         Test pressure         Max. operating pressure         Connection dimension         Outlet from drip tray         Fin spacing	DX1 3000 kPa 1600 kPa 2 x Ø28 mm DN25 (¾") 2.5 mm
Data for DX for VEX4100         Test pressure         Max. operating pressure         Connection dimension         Outlet from drip tray         Fin spacing         Weight (without fluid)	DX1 3000 kPa 1600 kPa 2 x Ø28 mm DN25 (¾") 2.5 mm 78 kg



### Dimensions, dimensions table for section with a coil

Section with a built-in coil

### **DIMENSIONS TABLE**

-

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	480	1055
VEX4020 [mm]	702/1309	480	1275
VEX4030 [mm]	797/1499	480	1549
VEX4040 [mm]	847/1599	480	1630
VEX4050 [mm]	919/1744	480	1755
VEX4060 [mm]	1077/2069	480	1930
VEX4070 [mm]	1077/2069	480	2115
VEX4080 [mm]	1209/2494	480	2325
VEX4090 [mm]	1334/2744	480	2625
VEX4100 [mm]	1474/3024	480	2895



### Dimensions, dimensions table for section with two coils

Section with two built-in coils

### **DIMENSIONS TABLE**

-

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	1404	1055
VEX4020 [mm]	702/1309	1404	1275
VEX4030 [mm]	797/1499	1404	1549
VEX4040 [mm]	847/1599	1404	1630
VEX4050 [mm]	919/1744	1404	1755
VEX4060 [mm]	1077/2069	1404	1930
VEX4070 [mm]	1077/2069	1404	2115
VEX4080 [mm]	1209/2494	1404	2325
VEX4090 [mm]	1334/2744	1404	2625
VEX4100 [mm]	1474/3024	1404	2895



### Integrated DX cooling (IC/ICC)



Integrated DX cooling (IC) or Integrated DX cooling with rotor and cold recovery (ICC) - for cooling the supply air.

## Integrated DX cooling (IC)

#### **VEX4000 IC COOLING SOLUTION**

-

The integrated cooling solution is state of the art, with mass flow regulating compressors and electronic expansion valves. This ensures minimum coolant filling, which gives the function a good EER (Energy Efficiency Rating).



### Integrated DX cooling with cold recovery (ICC)

#### **VEX4000 ICC COOLING SOLUTION**

-

The integrated cooling solution is state of the art, with mass flow regulating compressors and electronic expansion valves. This ensures minimum coolant filling, which gives the function a good EER (Energy Efficiency Rating).

The IC section can be combined with a rotor - in which case it is called an ICC section. If the section is placed in the outdoor air, this will allow cold recovery: if the exhaust air is cooler than the outdoor air, the rotor can be used to cool the outdoor air.

# Dimensions, dimensions table for IC and ICC module

ICC/IC, integrated DX cooling with/without cold recovery

### **DIMENSIONS TABLE**

4

VEX4000 model	Height	Length		Depth
		IC	ICC	
VEX4010 [mm]	1309	820	1690	1055
VEX4020 [mm]	1309	820	1690	1275
VEX4030 [mm]	1499	820	1690	1549
VEX4040 [mm]	1599	820	1690	1630
VEX4050 [mm]	1744	820	1790	1755
VEX4060 [mm]	2069	1100	1790	1930
VEX4070 [mm]	2069	1200	1890	2115
VEX4080 [mm]	2494	1200	1890	2325
VEX4090 [mm]	2744	1300	1990	2625
VEX4100 [mm]	3024	1300	1990	2895



# Mixer and recirculation section (MR)



The mixer/recirculation section can be selected for specific purposes, e.g. for heating where it is wished to mix/reuse the extract air for heating/cooling as the need arises, thereby saving energy.

### Dimensions, dimensions table for MR section

MR, Mixer and recirculation section

**DIMENSIONS TABLE** 

VEX4000 model	Height	Length	Depth
VEX4010 [mm]	1309	750	1055
VEX4020 [mm]	1309	750	1275
VEX4030 [mm]	1499	750	1549
VEX4040 [mm]	1599	750	1630
VEX4050 [mm]	1744	750	1755
VEX4060 [mm]	2069	850	1930
VEX4070 [mm]	2069	850	2115
VEX4080 [mm]	2494	850	2325
VEX4090 [mm]	2744	850	2625
VEX4100 [mm]	3024	850	2895



### Empty section (SP)



SP Empty section - here shown with damper. This section can be used in projects where the rotor heating exchanger cannot be inspected from the next-door section.

### Function and application

SP / SPS module

THE SP SECTION MAY BE USED IN THE FOLLOWING CASES:

- With rotary heat exchangers and in other locations where functions cannot be inspected from adjacent sections.
- As support for overlying protruding sections for inlets and outlets in high units.
- To extend overlying sections to avoid vertical pipe runs close to the unit preventing doors opening in a section.
- As a basis for later expansion of functions or for space for sensors, thermometers, etc. Inspection spaces are provided with doors.

#### **SPS - SMOKE EVACUATION SECTION**

SPS is an empty section with a spigot at the top. The spigot contains a damper which opens if the need arises for smoke evacuation in the duct system. The extract air fan is thus used as a smoke exhaust extractor, so an additional smoke extractor is not required.





### Dimensions, dimensions table for SP section

SP, empty section

### **DIMENSIONS TABLE**

VEX4000 model	1/2 Height/Height	Length	Depth
VEX4010 [mm]	702/1309	526	1055
VEX4020 [mm]	702/1309	526	1275
VEX4030 [mm]	797/1499	526	1549
VEX4040 [mm]	847/1599	526	1630
VEX4050 [mm]	919/1744	526	1755
VEX4060 [mm]	1077/2069	526	1930
VEX4070 [mm]	1077/2069	526	2115
VEX4080 [mm]	1209/2494	526	2325
VEX4090 [mm]	1334/2744	526	2625
VEX4100 [mm]	1474/3024	526	2895


## **EXHAUSTO**

## Your ventilation expert and professional business partner

At EXHAUSTO we never compromise on quality, and since we are experts in ventilation with many years of specialised experience, you can be assured of not just the best ventilation solution but also a competent business partner.

EXHAUSTO develops and manufactures high-quality products and systems for comfort ventilation in all areas of use – from offices, shops, schools and institutions to industrial buildings, hotels and hospitals. With a focus on high efficiency ratings and an energy consumption which sets new industry standards, EXHAUSTO is one of the absolute leaders of the field.



www.exhausto.com

EXHAUSTO, Export Odensevej 76 DK-5550 Langeskov

