GB

# VEX1000 RS

## Quick Guide


Original instructions

**EXHAUSTO A/S**
Odensevej 76
DK-5550 Langeskov
Denmark

Tel. +45 65 66 12 34
Fax +45 65 66 11 10
exhausto@exhausto.dk
www.exhausto.dk

aldes | EXHAUSTO

## 1. Product information



## 2. Handling



## 3. Mechanical assembly



## 4. Electrical installation

# 1. Product information

## 1.1 Symbols, terms and warnings

**Prohibition symbol**

**Failure to observe instructions marked with a prohibition symbol may result in serious or fatal injury.**

**Danger symbol**

**Failure to observe instructions marked with a danger symbol may result in personal injury and/or damage to the unit.**

**Stop and wait symbol**

**After switching off the AHU, please wait 4 minutes for the system to de-energise.**

**Use and designation of the manual**

This instruction manual is for use with **EXHAUSTO VEX1000-type Air Handling Units (AHU)**.

The Quick Guide is intended as a reference document to provide the user with the necessary warnings and information to quickly cover the most relevant steps of the installation process in order to ensure swift and ready operation of the AHU.

The instructions must be fully observed to ensure personal safety and to protect the equipment and ensure its correct operation. EXHAUSTO A/S accepts no liability for accidents caused by equipment not used in accordance with the manual's instructions and recommendations.

For more detailed information on the dimensions, data points, application, handling and maintenance, please consult the **installation and assembly guide**

For more detailed information on the electrical aspects of the AHU, including setup, data sheets, and the connection of accessories, please consult the **electrical guide** and the **wiring diagrams**.

**Warnings:**

**Prohibited**

**The VEX unit is not to be used to transport solid particles or in areas where there is a risk of explosive gases.**

**No duct connection**

**If one or more of the spigots is not connected to a duct: Fit a protective net to the spigots with a maximum mesh width of 20 mm (in accordance with EN294).**

### 1.1.1 Opening the air handling unit

**Do not open the service doors before the supply voltage has been disconnected at the supply disconnecting switch (main switch).**

The supply disconnecting switch (main switch) is located on the control system panel on the AHU.

### 1.1.2 Installation requirements and recommendations

**Comfort ventilation**

EXHAUSTO VEX AHUs are used for comfort ventilation tasks. For the operating temperature range for the unit - consult the mechanical guide.

**Supply disconnecting switch and mini circuit breaker protection**

The supply disconnecting switch (-Q1) and automatic fuses are built into the unit to provide internal overload and short-circuit protection.

**Additional supply disconnecting switch**

⚠ **If the VEX1000 is equipped with an electric heating coil, it is supplied by a separate supply disconnecting switch (main switch)**

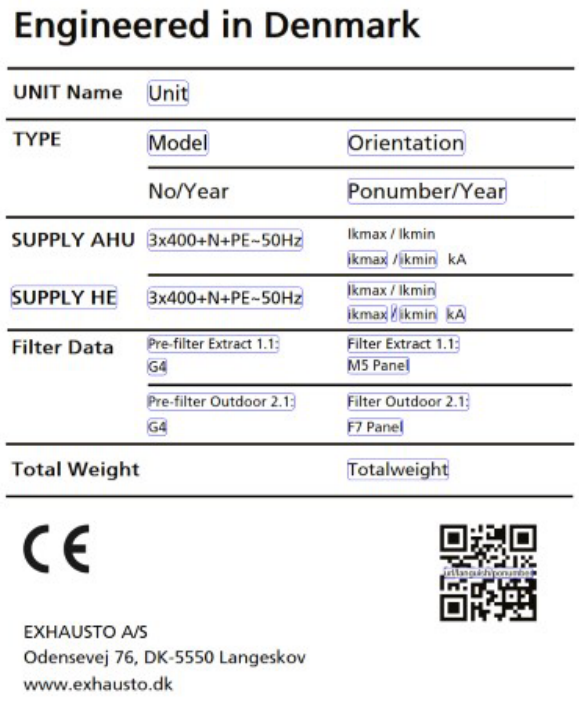
⚠ **As such, when a heating coil is installed, both supply disconnecting switches must be switched off in order to de-energise the system**

### 1.1.3 Data plate

**Data plate**

The VEX unit data plate shows:

- VEX unit, type
- Production number
- Supply data
- Filter data
- Weight
- QR Code for documentation access
- EXHAUSTO contact information



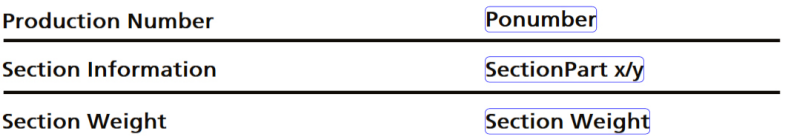

**NB**

**Always have the production number ready when contacting EXHAUSTO A/S.**

**Latest version of the guidelines**

**Important:** Always check whether the latest version of the manual is available.
**Scan the QR codes on the side of air handling unit to access any attached documentation.**

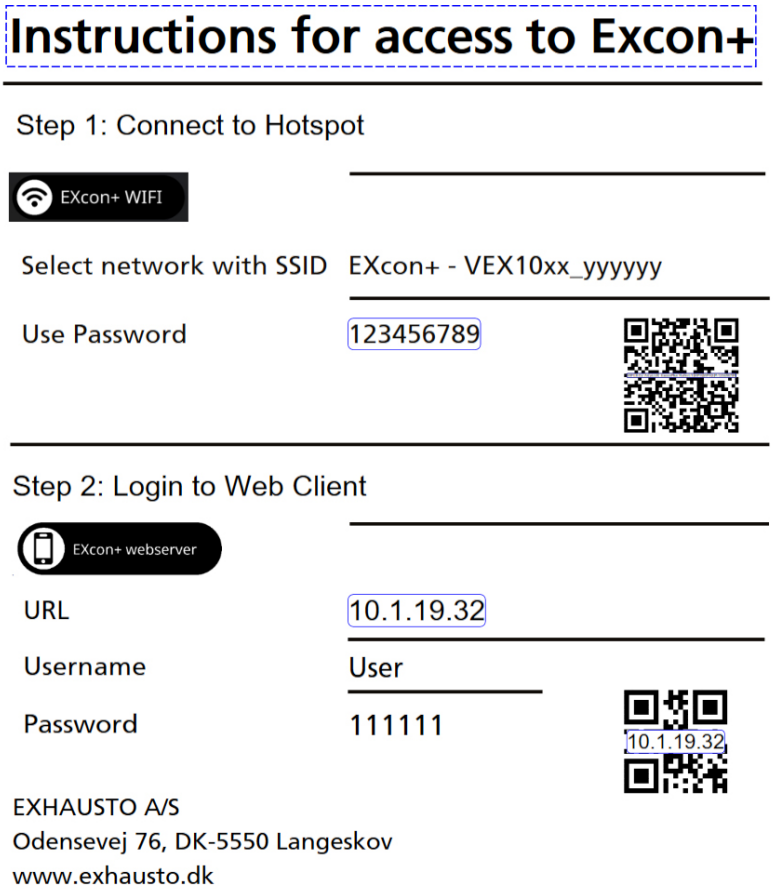
**Section data plate**




The VEX unit section data plates are located at the bottom of each section, and show:

- Production number
- Section information
- Section weight

**EXcon+ data plate**




The EXcon+ data plate shows how to connect to a Wi-Fi hotspot using QR codes, and how to gain access to the EXcon+ web client. Follow the steps and log in with the usernames and passwords provided on the data plate.

**HMI panel or web interface**

Refer to the EXcon+ Instructions for the VEX1000 series for instructions on accessing "Menu 2 - Operating readings" via the technician menu in order to check the unit's operating status.

| Level | Username | Password |
|---|---|---|
| Facility manager | user | 111111 |
| Service technician | service | 333333 |

### 1.1.4 Technical data

Technical data regarding the configuration of the VEX1000 unit, as well as coil connections etc., is given on the accompanying spec sheet from the EXselectPRO calculation program.

# 2. Handling

## 2.1 Location requirements

### 2.1.1 Requirements for underlying surface

When fitting the unit directly to an existing surface, the surface must be:

- Level
- Horizontal (±3 mm per meter)
- Hard
- Vibration-resistant

## 2.2 Unpacking

**Supplied components**

The following components are supplied:

- VEX1000 unit
- Supplied with accessories (as indicated in the EXselectPRO configuration included with the unit)

**Packaging**

The unit is delivered attached to a disposable pallet or placed on a wooden frame and wrapped in plastic.

**NB**

**Once the plastic has been removed, the unit must be protected against dirt and dust:**

- **Whenever possible, keep the unit closed during fitting.**

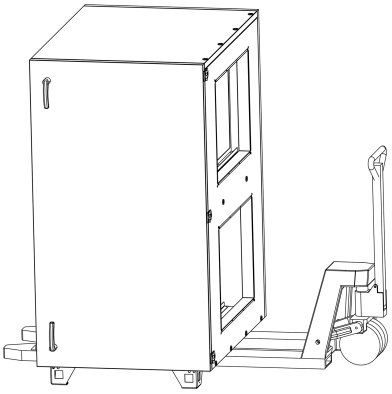
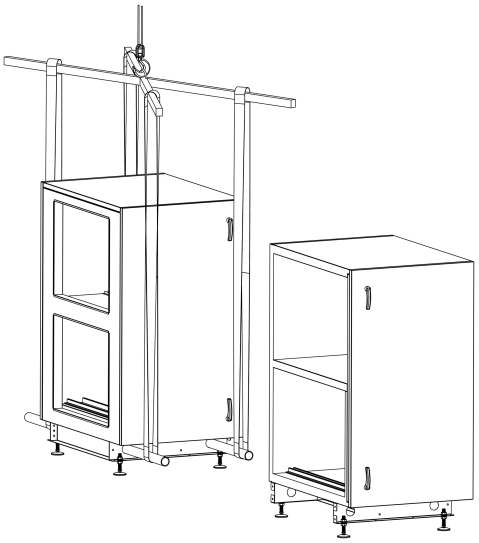
**Clean unit before use**

Once the VEX1000 unit is fitted, it must be checked and thoroughly cleaned. All dust, debris and metal shavings must be vacuumed up.

## 2.3 Transport

### Transport equipment

Transport the VEX unit in one of the following ways:

| Method | Drawing |
|---|---|
| **Using a pallet truck or fork-lift truck:**<br>**IMPORTANT**: The forks on the lifting equipment must be long enough to prevent damage to the bottom of the unit. |  |
| **Installation on base frame - split:**<br>Use straps and lifting yokes to prevent damage to the unit. |  |

# 3. Mechanical assembly

## 3.1 Installing the unit

**Description** The VEX1000 unit is installed in a horizontal position.

### 3.1.1 Installed directly onto the floor

The requirements for the floor surface must be met, see the section entitled "Requirements for underlying surface."

**NB** After installation, make sure the VEX1000 unit is completely level, otherwise fit the adjustable set screws supplied with the unit.

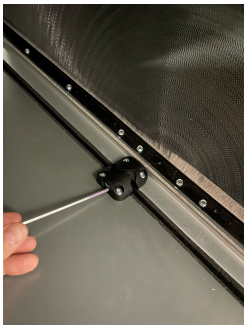
### 3.1.2 Installation of unit with multiple sections

Some VEX1000 units are supplied with 2 or 3 sections (3 sections if the mixer section is included). They are assembled using both external (1) and internal joint bracket. Make sure the sections are fully assembled before clamping

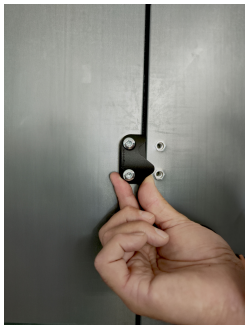
| | |
|---|---|
| 1 | Start with the internal brackets in back and front top and bottom. |
| 2-3 | The internal brackets are then clamped together in the middle of the sections, both at the top and the bottom. |
| 4-5 | Mount the external brackets that are supplied with the unit. |
| 6 | Tighten the external brackets. |

**1**

**2**

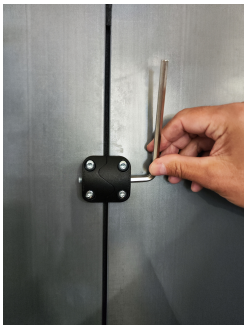


**3**



**4**

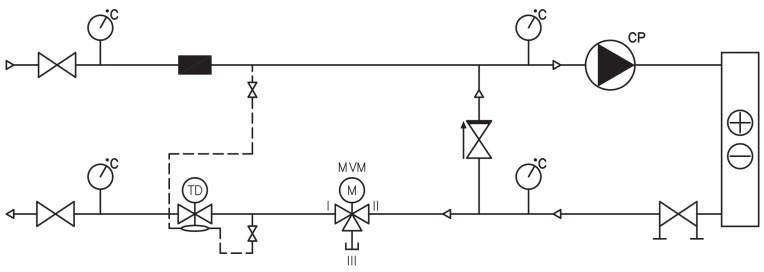
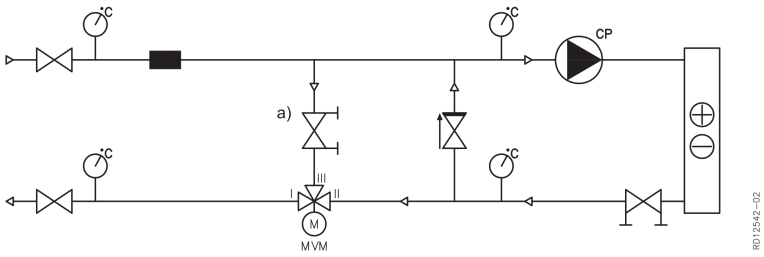
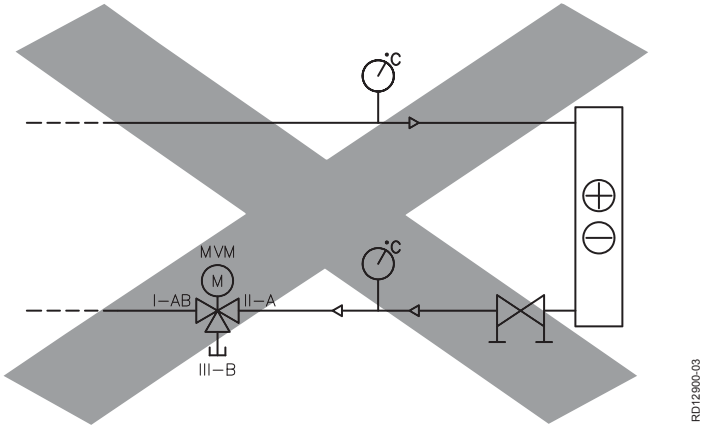
**5**



**6**

### 3.1.3 Connecting the heating/cooling coils

The internal heating or cooling coil can be connected to the pipe system using boiler hoses to prevent vibrations from spreading to the pipe system if needed.

| Type | Method | Simplified diagram |
|---|---|---|
| Mixing loop 1 | Variable flow in the primary circuit (supply) and constant flow in secondary circuit (VEX unit) |  |
| Mixing loop 2 | Constant flow in the primary circuit (supply) and the secondary circuit (VEX unit)<br><br>a) When there is no heating/cooling requirement, valve adjustment must be based on the required primary circuit water flow |  |
| ⚠ | Do not connect the heating or cooling coil like this!<br><br>Connection without circulation pump risks frost damage! |  |

### 3.1.4 General warnings for a unit with DX (Direct Expansion) cooling

**Note that the coolant from the evaporator must be collected and disposed of in accordance with national regulations concerning the disposal of coolants.**

**Note that if the door is opened in the cooling section, there is a risk of frostbite from touching cold components.**

**If coolant has escaped into the room, personnel may only be present in the room if they are wearing respiratory protection. Coolant is odourless, but displaces oxygen in the room and thus can lead to suffocation.**

### 3.1.5 Connecting DX cooling

Connection of the DX section must be performed by an authorised cooling company.

**The pipe layout must be carried out by an authorised cooling technician**

**The pipes must be laid manually.**

**The permitted pressure, which is stated for the cooling coil, must be maintained. (Max pressure is 42 bar)**

**Avoid contact with coolant and use personal protective equipment in accordance with national regulations.**

# 4. Electrical installation

## 4.1 Scope of installation

**The work must be performed by an authorised electrician, in accordance with locally applicable regulations and legislation.**

## 4.2 Dimensioning and installation

### 4.2.1 Dimensioning and installation

- The supply cable must be dimensioned and installed in accordance with applicable regulations and legislation.
- The earth terminal (PE) must always be connected.

### 4.2.2 Installation prerequisites

The installer must, in accordance with local applicable laws and regulations, install one line fuse and a supply cable.

### 4.2.3 Line fuse

The line fuse is used for:

- Short-circuit protection of the VEX1000 unit.
- Short-circuit protection of supply cable.
- Overload protection of supply cable.

### 4.2.4 Supply cable

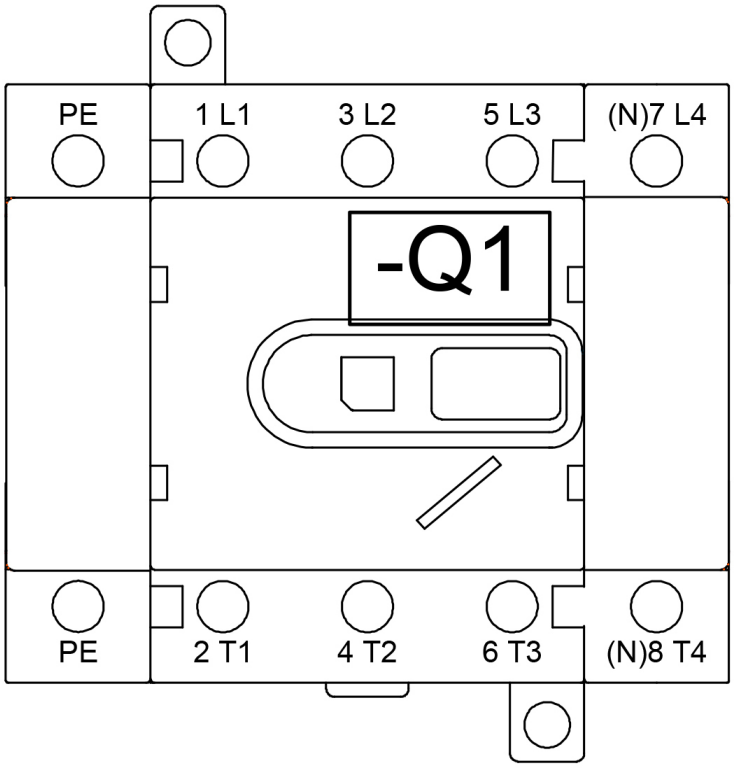
When dimensioning the supply cable, the conditions at the installation site, including temperature, cable layout and voltage drop must be taken into consideration.

### 4.2.5 Electrical connection/data

The unit's described power consumption can be found in the supplied configuration from the calculation program ExSelectPro.

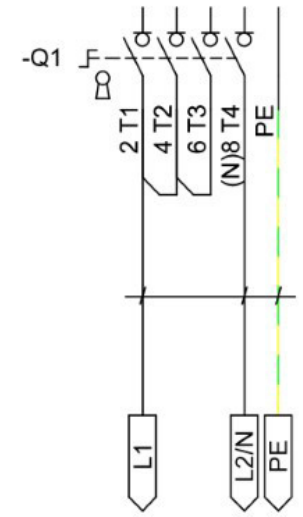
### 4.2.6 Hovedforsyning

Forsyningskablet til forsyningsadskilleren skal forbindes direkte til forsyningsadskillelsesafbryderen (hovedafbryderen), mærket -Q1, som vist i nedenstående illustration.
The main power supply cable should be connected directly to the supply disconnecting switch (main switch), tagged -Q1, as seen in the illustration below.



### 4.2.7 Supply connections

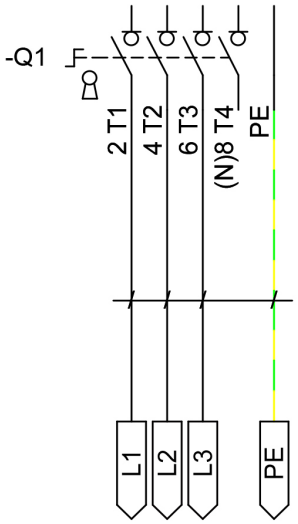
VEX1000 - Control panel 230 VAC, 50 Hz/50 Hz with one (1) heater.
These connections apply to 230 VAC, TT and TN-S power grid.
**Wiring diagrams: 0440681/0440682**




230VAC

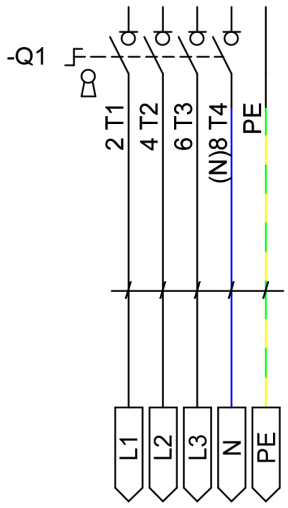
**In Denmark and Germany, a three-phase installation is legally required due to local legislation that stipulates a maximum current consumption of 16 A for single-phase installations.**

VEX1000 - Control panel 3x230 VAC, 50 Hz.
These connections apply to 3x230 VAC, TT and TN-S power grid.
**Wiring diagrams: 0440683**




3x230VAC

VEX1000 - Control panel 3x400 VAC + N, 50 Hz.
These connections apply to 3x400 VAC, TT and TN-S power grid.
**Wiring diagrams: 0440684**




3x400VAC

### 4.2.8 Krav og anbefalinger til installationen

**Supply disconnecting switch and mini circuit breaker protection**

The supply disconnecting switch (-Q1) and automatic fuses are built into the unit to provide internal overload and short-circuit protection.

**Additional supply disconnecting switch**

**If the VEX1000 is equipped with an electric heating coil, it is supplied by a separate supply disconnecting switch (main switch)**

**As such, when a heating coil is installed, both supply disconnecting switches must be switched off in order to de-energise the system**

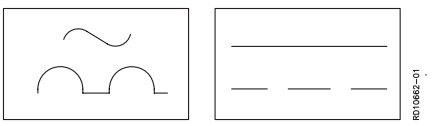
**Residual Current Device**

- **The unit must have protection against indirect contact.**

If RCD protection is fitted in the installation, they must be of a type that meets the following requirements:

**VEX1000**

**PFI type B switch that breaks the circuit on registering a fault current with DC content (pulsating DC) or stray residual current in accordance with EN 61008. The fault current switches must be marked with the following symbol:**




- **Disconnection time must be max. 0.3 s.**

**Current leakage**

RCD protection of 300 mA is recommended, as leakage currents of more than 30 mA can occur.

### 4.2.9 Short-circuit current

The minimum and maximum short-circuit current IKmin and IKmax is stated in the supplied electrical documentation from EXselect Pro, on the data plate, as well as the electrical heating coil if included.

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