GB

VEX1000 - Maintenance guide

Inspecting and cleaning a VEX1000 Air Handling Unit



Original instructions

EXHAUSTO A/S
Odensevej 76 · DK-5550 Langeskov
Tel.: +45 65661234 · exhausto@exhausto.dk
www.exhausto.dk

a member of Soler&Palau Ventilation Group

EXHAUSTO

1. Information

1.1. Symbols, terms and warnings....3

2. Maintenance

2.1. Checklist....4

3. VEX1000 sections

3.1. Components....5

3.1.1. Filters....5
3.1.2. Fan....6
3.1.3. Rotary heat exchanger (ER)....7
3.1.4. Counterflow heat exchanger (CF)....9
3.1.5. Hot water coil (HWC)....10
3.1.6. Cold water- & DX coil in housing (CWC+DXC)....11
3.1.7. Electric heating coil in the housing (HEC)....13

1. 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

These instructions apply to an EXHAUSTO VEX1000 Air Handling Unit (AHU). For information on accessories and additional equipment, please refer to the respective documentation for these products.

This document is does not replace the VDI6022 hygiene standards, and are intended as a guide describing the corresponding maintenance and cleaning intervals. It also provides assistance with handling the most important internal components.

The safety of any personnel and equipment, as well as the proper operation of the VEX1000 unit, is ensured by following the instructions in this document. EXHAUSTO accepts no liability for potential damage resulting from usage contrary to the directions and instructions contained herein.

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).

Opening the air handling unit

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

The main switch is located on the control system panel for the air handling unit.



EXHAUSTO

2. Maintenance

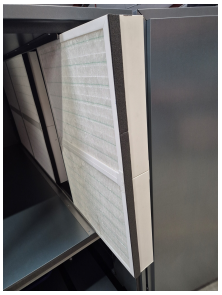
2.1 Checklist

Part	Activity	Action	1 month	3 months	6 months	12 months	24 months
Central ventilation plant/units							
1.1	Check for contamination, damage and corrosion on the air side.	Clean and repair.				X	
1.2	Check for condensation.	Clean.			X		
1.3	Check empty sections for contamination, damage and corrosion.	Clean and repair.				X	
Cooling components							
2.1	Check function and condition of condensate trays and drains.	Clean and repair.			X		
2.2	Check dewpoint sensor, supply air pipe, circuits and valves for leakage.	Repair.				X	
Filters							
3.1	Check for unacceptable contamination, damage (leakage) and odours.	Change any filters involved.		X			
3.2	Check pressure loss.	Change filter stage.			X		
3.3	Maximum interval for changing first filter stage.					X	
3.4	Maximum interval for changing second filter stage.						X
Fan							
4.1	Check for contamination, damage and corrosion.	Clean and repair, check condensate drains.			X		
Heat exchanger (including heat recovery)							
5.1	Visual inspection of air-to-air plate heat exchangers for contamination, damage and corrosion.	Clean and repair.			X		
5.2	Visual inspection of rotating heat exchangers for contamination, damage, corrosion and air tightness.	Adjust gaskets, clean and repair.			X		
5.3	Visual inspection of directly heated heat exchangers for air tightness.	Ensure air tightness.				X	
5.4	Heaters: Check for contamination, damage, corrosion and air tightness.	Clean, repair and replace.			X		
5.5	Coolers: Check cooling coil, droplet separator and condensate tray for contamination, damage and leak tightness.	Clean and repair.		X			
5.6	Function check of drains and drain pipes.	Clean and repair.		X			

3. VEX1000 sections

3.1 Components

3.1.1 Filters

Step	Action	Photo
1	Switch off the power to the air handling unit at the isolation switch before opening the doors	
2	Open the door and pull out the filters	
3	Inspect for holes and soiling.	
4	Vacuum clean any dust and dirt. If the filter chamber is heavily soiled, clean it with a damp cloth if necessary.	
5	Replace the filters if necessary.	

3.1.2 Fan

The fan can be inspected and cleaned without pulling it out.

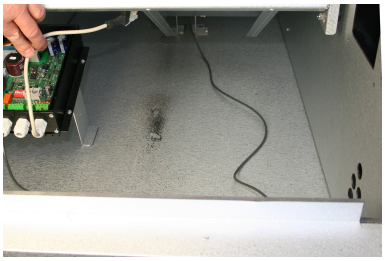
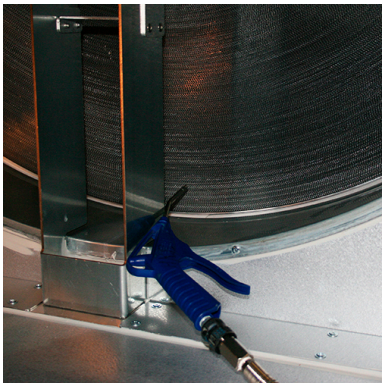
If necessary, the fan can be pulled out as follows:

Step	Action	Photo
1	Switch off the power to the AHU using the isolation switch before opening the doors.	
2	If it is necessary to pull out the fan, follow these steps: 1. Cut all the relevant strips. 2. Remove hoses and sockets connected to the PTH pressure sensor. 3. Detach the cables from the motor control. 4. The fan can now be pulled out. 5. When cleaning has been conducted, remount the fan in the reverse order.	

3.1.3 Rotary heat exchanger (ER)

Inspect the area round the rotor for dust and dirt.

Clean the rotor as follows:

Step	Action	Photo
1	Switch off the power to the AHU using the isolation switch before opening the doors.	
2	Inspect the area round the rotor for dust. **NB:** It is completely normal to find shavings from the rotor belt at the bottom of the section, especially if the belt is new.	
4	Use a compressed air gun to clean the rotor from the outdoor air side towards the supply air side. Repeat this while manually rotating the rotor.	
5	Dust and dirt blown through the rotor should be vacuumed up from the other side.	

Step	Action	Photo
6	Ensure that the fins on the rotor are not bent or deformed.  **The fins are sharp!**  **Avoid touching the fins in the exchanger with sharp or hard objects – the fins are very soft and can easily be deformed, which will diminish the output of the VEX unit.**	

3.1.4 Counterflow heat exchanger (CF)

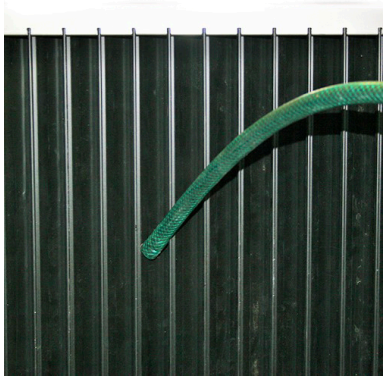
Step	Action	Photo
1	Switch off the power to the AHU using the isolation switch before opening the doors.	
2	Inspect the area round the heat exchanger for dust.	
3	Wash the heat exchanger with caution, ideally using a soft brush or steam washer. ⚠ **Avoid touching the fins on the exchanger with sharp or hard objects – the fins are very soft and can easily be deformed, which will diminish the output of the VEX unit.**	
4	Ensure that the fins on the exchanger are not bent or deformed. ⚠ **The fins are sharp!**	
5	Ensure that the condensate tray's drain is functioning.	
6	Use a water hose to clean the counter-flow heat exchanger from top to bottom on both sides. Access the exchanger from the two adjacent fan sections.	
7	Mop up excess water in the condensate trays under the counterflow heat exchanger before starting the unit.	

3.1.5 Hot water coil (HWC)

Inspect and clean in front of the coil if necessary.

Step	Action	Photo
1	Switch off the power to the AHU using the isolation switch before opening the doors.	
2	Blow the coil clean using a compressed air-gun.	
3	**NB:** Avoid using water!	

3.1.6 Cold water- & DX coil in housing (CWC+DXC)

Step	Action	Photo
1	Switch off the power to the AHU using the isolation switch before opening the doors.	
2	The droplet separator can be removed if installed in an external coil box. Pull out the droplet separator. **Caution: Mount the droplet separator in the correct air direction, see arrow on right.**	
3	Use a compressed air gun or water hose to clean the droplet separator from the outside air side towards the supply air side. Blow dry with a compressed air gun.	 

Step	Action	Photo
4	Clean the condensate tray using a water hose.	
5	Wipe off excess water with a cloth.	

3.1.7 Electric heating coil in the housing (HEC)

Step	Action	Photo
1	Clean the electric heating coil with a dry cloth or brush. **NB: Take care! The elements may be hot if the run-on time is not observed.**	

Scan code and go to addresses at
www.exhausto.com

EXHAUSTO A/S
Odensevej 76 · DK-5550 Langeskov
Tel.: +45 65661234 · exhausto@exhausto.dk
www.exhausto.dk

a member of
Soler&Palau Ventilation Group

EXHAUSTO