GB

VEX1000

Installation and assembly guide



Original instructions

EXHAUSTO A/S
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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 the EXHAUSTO VEX1000-type Air Handling Unit (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.

Supply air/extract air

These instructions use the following terms as defined in DS447-2013:

- Supply air (air blown in)
- Extract air (air removed)
- Outdoor air
- Exhaust air

Left/Right

The term R for Right, indicates the supply air is to the right of the AHU, as seen from the operating side. The term L for Left, indicates the supply air is to the left.

Warnings:

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.



Prohibited

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

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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).

Lock the air handling unit during operation

The VEX unit must always be locked during operation:



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

Engineered in Denmark

UNIT Name	Unit	
TYPE	Model	Orientation
	Prod. No./Year	123456/2025
SUPPLY AHU	3x400+N+PE~50Hz	Ikmax / Ikmin Ikmax /Ikmin kA
SUPPLY HE	3x400+N+PE~50Hz	Ikmax / Ikmin Ikmax /Ikmin kA
Filter Data	Pre-filter Extract 1.1: G4	Filter Extract 1.1: M5 Panel
	Pre-filter Outdoor 2.1: G4	Filter Outdoor 2.1: F7 Panel
Total Weight		Totalweight

CE

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NB

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

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.

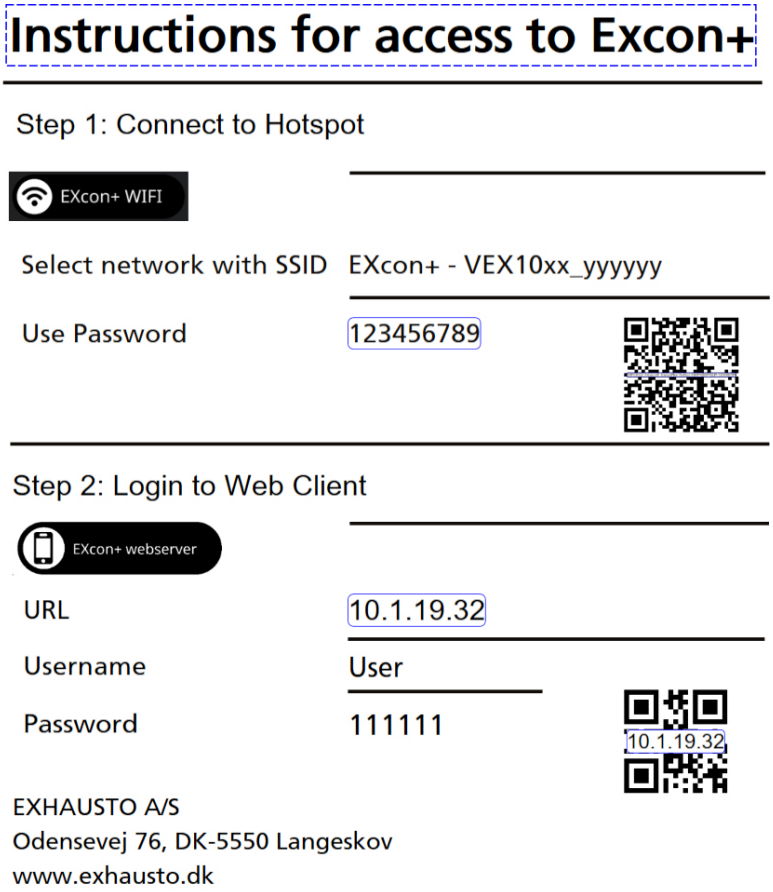
Section data plate

Production Number	Ponumber
Section Information	SectionPart x/y
Section Weight	Section Weight

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 establish a Wi-Fi connection and how to access the web client. Follow the steps and log in with the user name and password provided on the data plate. Instead of manual entry, the QR codes can be used for automatic entry. When using a mobile phone, disconnecting mobile data may be helpful.

HMI panel or web interface

Refer to the EXcon+ instructions for more info about accessing the technician menu to check the unit's operating status.

Level	Username	Password
Facility manager pro	user	111111
Commissioning technician	service	333333

Technical data

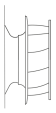
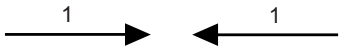
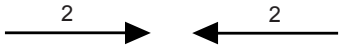
Technical data regarding the configuration of the VEX1000 unit as well as coil connections etc. is given on the accompanying spec sheet from the EXselectPRO calculation program.

1. Product information

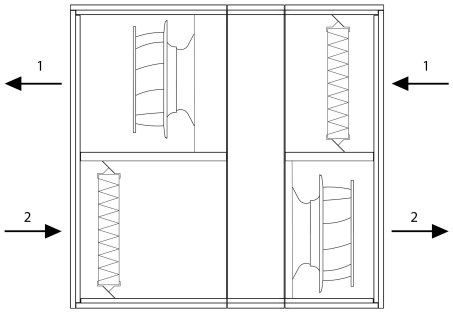
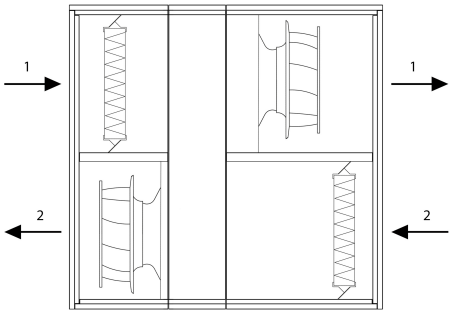
1.1 Model overview

1.1.1 Model overview

Positioning of fan, motor (M) and motor control (MC)

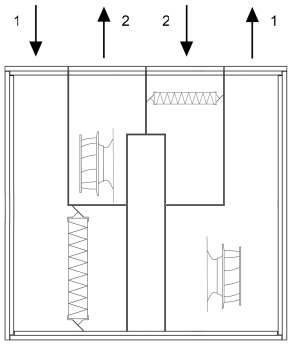
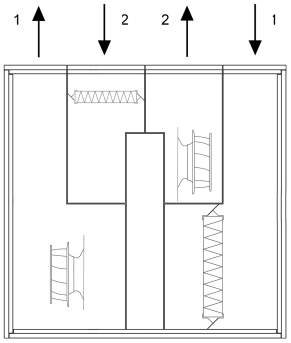
Elements	Description
	Fan
	Compact filter
	Air direction, extract air
	Air direction, supply air

VEX1000 RS

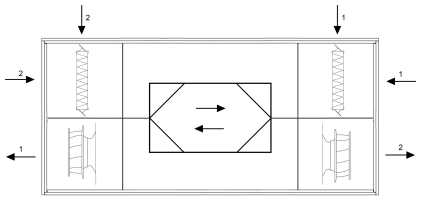
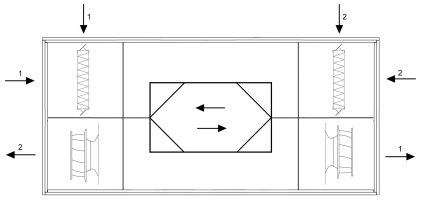
Fan position	Compact filters, fans and airflows
Right	
Left	

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VEX1000 RT

Fan position	Compact filters, fans and airflows
Right	
Left	

VEX1000 CS

Fan position	Compact filters, fans and airflows
Right	
Left	

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1.2 Application

Comfort ventilation

EXHAUSTO VEX AHUs are used for comfort ventilation tasks. For the operating temperature range for the unit – see section "Technical data".

Prohibited uses

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

1.3 Location requirements

Positioning

The air handling unit is designed for indoor fitting. Only the VEX1000 RS can be ordered for outdoor installation (accessory Outdoor, OD).

Note: EXHAUSTO recommends that the VEX1000 be installed in a locked mechanical room in order to avoid unauthorised access to the unit.

1.3.1 Spatial requirements

The table below indicates how much space is needed for servicing, replacing filters, cleaning, etc.

VEX1000 model	Installation depth (mm)	Min. space required for service in front of unit (mm)
1005	712	710
1010	712	710
1015	801	800
1020	897	895
1030	999	995
1035	1100	1095
1045	1202	1200
1050	1304	1300
1060	1387	1385
1065	1489	1487
1080	1590	1588

1.3.2 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

1.3.3 Requirements for duct system

Connection to duct system

To achieve maximum performance and minimal energy consumption, the unit should be connected to a straight duct at least 750 mm long, in the front and back of the unit.

Silencers

The duct system must be fitted with silencers specified by the project manager which meet the requirements of the operation area.

Insulation

The duct system must be insulated against:

- **Condensation**
- **Sound**
- **Thermal loss**

Condensation

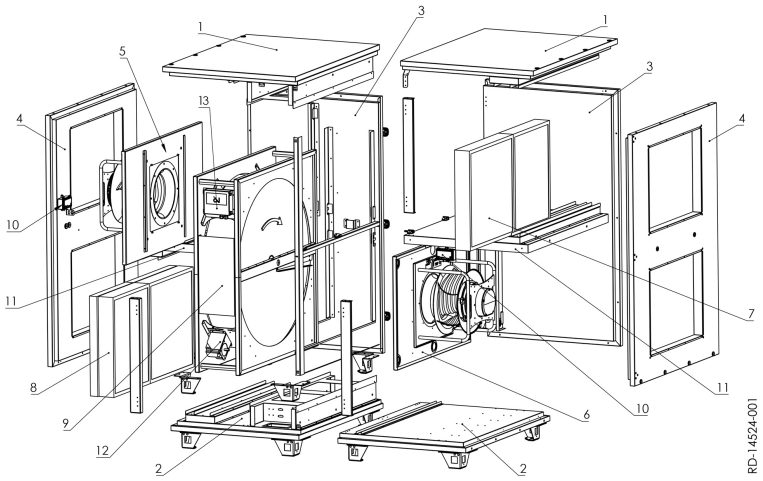
Condensation in the ducts may occur when the exhaust/outdoor air is experiencing high humidity. EXHAUSTO recommends that a condensation outlet is also fitted at the lowest point in the ducts.

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.

1.4 Description

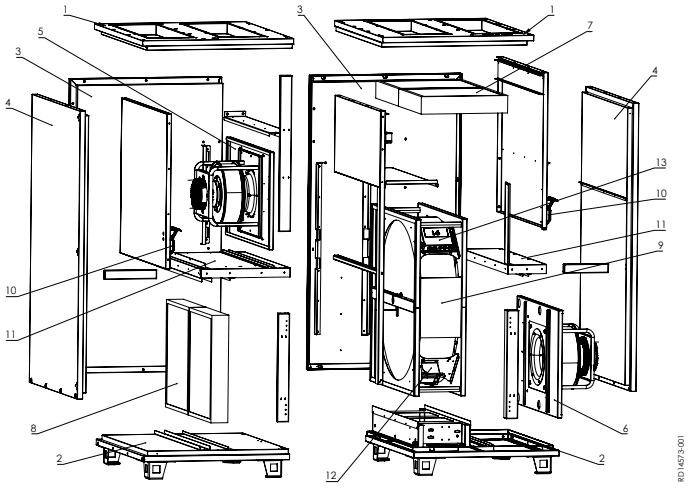
1.4.1 Construction of the VEX unit



VEX1000 RS

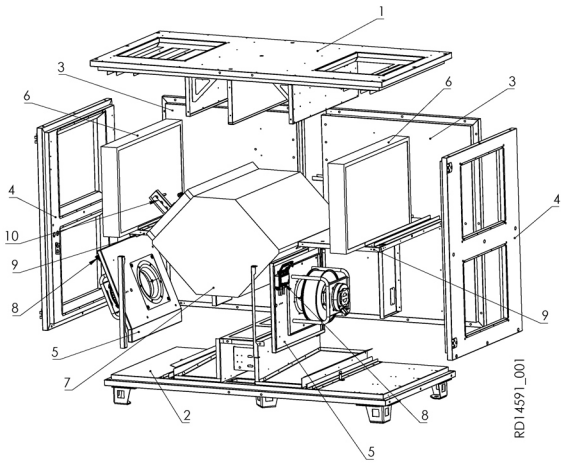
The drawing above illustrates the construction of a Side unit (without service doors). Shown here is a Right unit.

Pos. no.	Part
1	Top panel
2	Bottom panel
3	Back panel
4	End panel
5-6	Fans
7-8	Filter
9	Rotary heat exchanger
10	PTH pressure
11	Shelf
12	Step motor for rotor
13	Rotor control



VEX1000 RT The drawing above illustrates the construction of a Top unit (without service doors).

Pos. no.	Part
1	Top panel
2	Bottom panel
3	Back panel
4	End panel
5-6	Fans
7-8	Filter
9	Rotary heat exchanger
10	PTH pressure
11	Shelf
12	Step motor for rotor
13	Rotor control



VEX1000 CS The drawing above illustrates the construction of a Counterflow unit (without service doors).

Pos. no.	Part
1	Top panel
2	Bottom panel
3	Back panel
4	End panel
5	Fans
6	Filter
7	Counterflow heat exchanger
8	PTH pressure
9	Shelf
10	Step motor for bypass

Cabinet The inside and outside of the cabinet is made of Zinc-Magnelis® and insulated with 50 mm mineral wool.

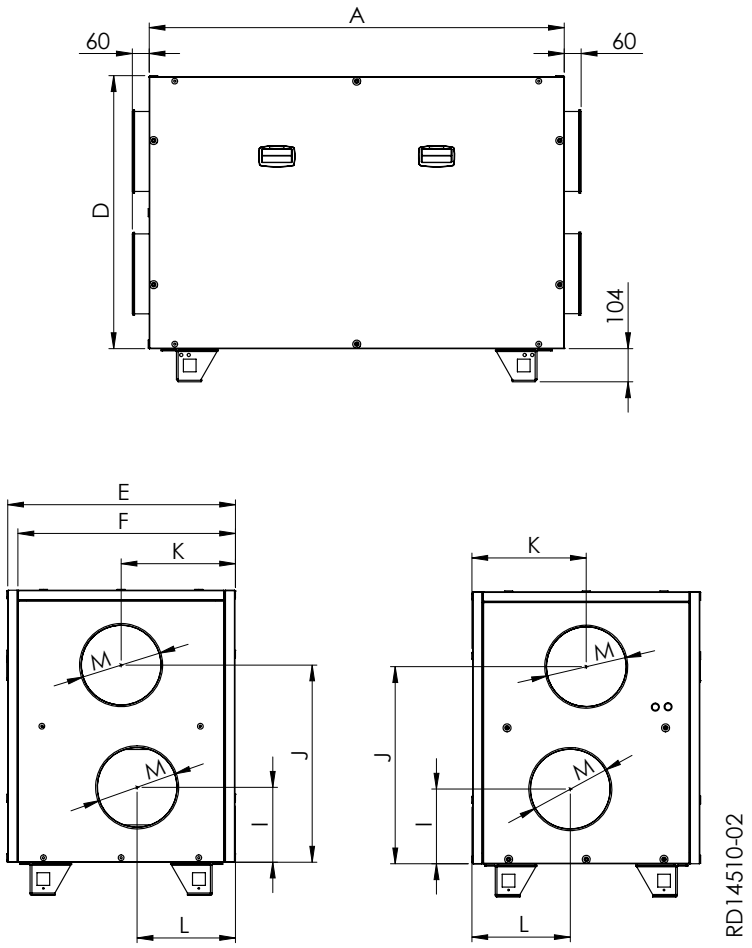
Ventilators The unit has a centrifugal fan for extract air and a centrifugal fan for supply air

Rotary heat exchanger The rotary heat exchanger is driven by a step motor with rotor control that controls the speed of the rotor.

Filters There are built-in compact filters (as shown in "Model Overview") or bag filters on both the extract air and supply air side. A pre-filter for both outdoor air and extract air is also available.

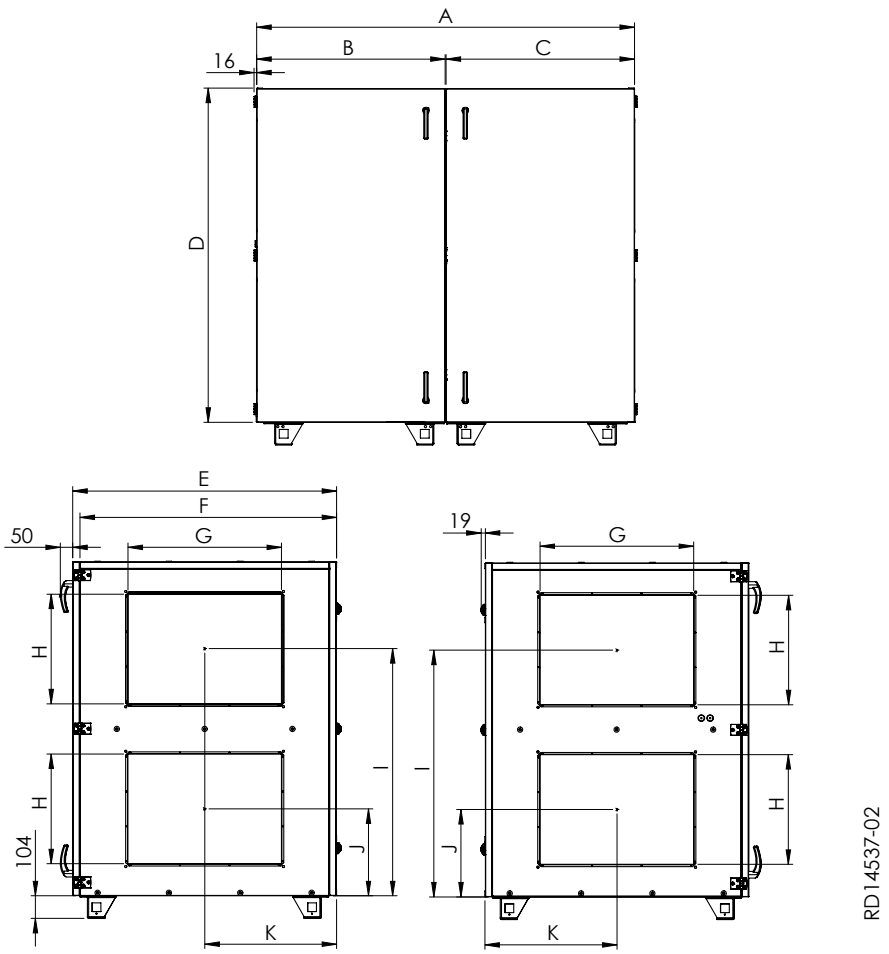
1.5 Principal dimensions

VEX1000 RS mono diagram



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VEX1000 RS duo diagram



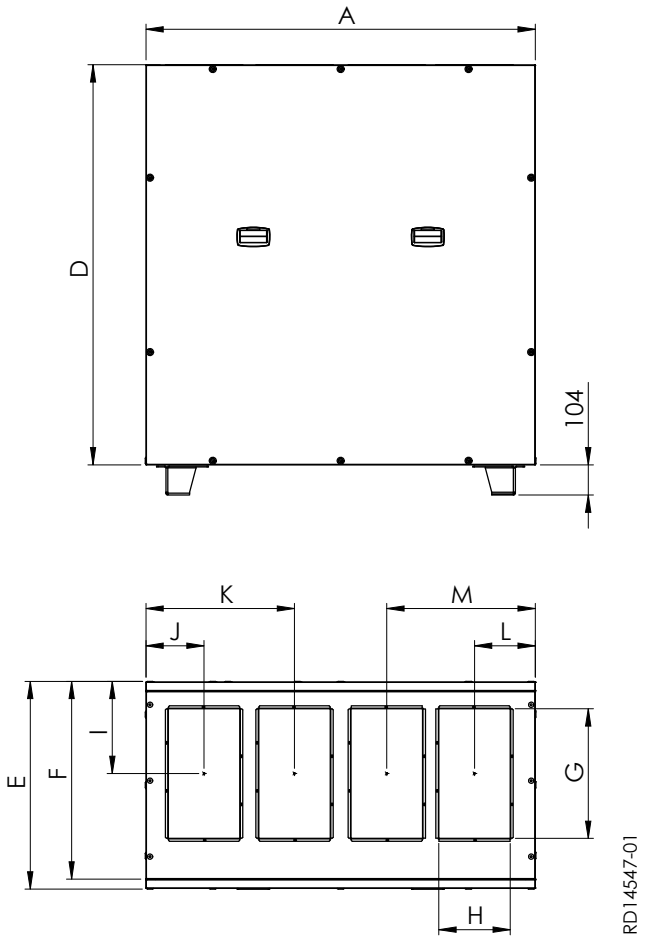
All measurements are in mm.

VEX size	A	D	E	F	I	J	K	L	Mø
1005	1307	855	720	683	234	617	360	310	250
1005 DX/CW	1442	855	720	683	234	617	360	310	250
1010	1347	1135	720	683	274	794	355	305	315
1010 DX/CW	1482	1135	720	683	274	794	355	305	315
1015	1461	1135	809	772	306	825	400	350	400
1015 DX/CW	1596	1135	809	772	306	825	400	350	400
1020	1461	1239	904	873	410	930	449	400	400
1020 DX/CW	1596	1596	1135	905	868	311	825	450	400

VEX size	A	B	C	D	E	F	G	H	I	J	K
1030	1660	830	830	1339	1016	970	500	400	980	355	500
1035	1660	830	830	1339	1117	1071	500	400	980	355	550
1045	1730	865	865	1524	1217	1172	700	500	1125	400	600
1050	1730	865	865	1524	1319	1274	700	500	1120	400	650
1060	1800	900	900	1734	1403	1357	900	500	1280	450	700
1065	1800	900	900	1734	1493	1460	900	500	1280	450	750
1080	2104	1052	1052	1906	1609	1561	1000	700	1410	485	795

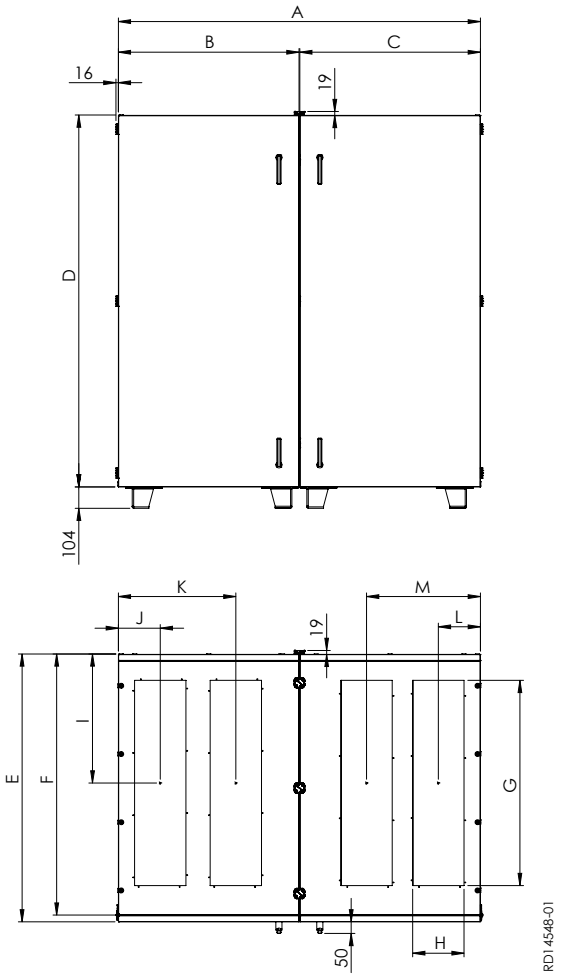
NB: All A-measurements for VEX1030 to VEX1080 are without the removable transition pieces.

VEX1000 RT mono diagram



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VEX1000 RT duo diagram



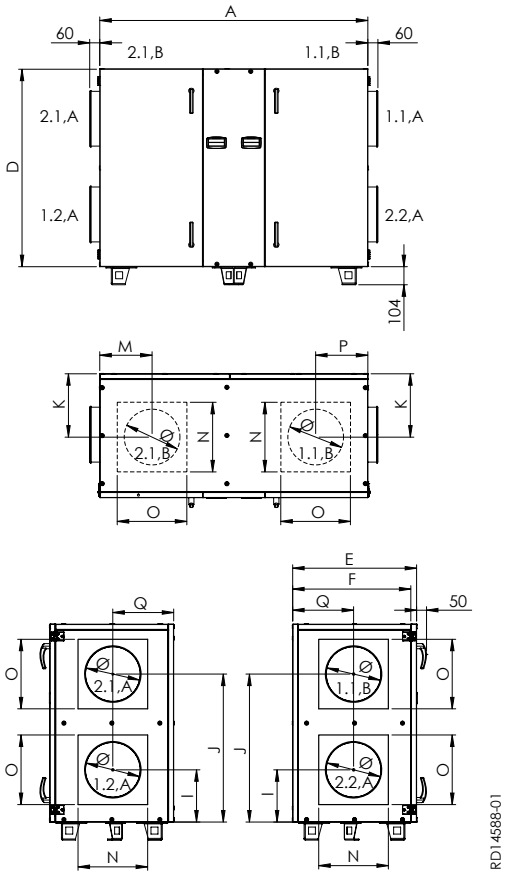
All measurements are in mm.

VEX size	A	D	E	F	G	H	I	J	K	L	Mø
1010	1344	1378	715	681	450	250	318	192	498	200	533
1015	1458	1378	804	770	500	250	377	210	569	193.6	539
1020	1458	1378	898	866	600	250	425	210	563	210	540

VEX size	A	B	C	D	E	F	G	H	I	J	K	L	Mø
1035	1724	862	862	1622	1102	1069	800	250	527	207	604	172	572
1050	1768	884	884	1812	1306	1273	1000	250	629	207	575	194	557
1065	1798	899	899	2002	1492	1459	1000	250	747	207	581	207	622

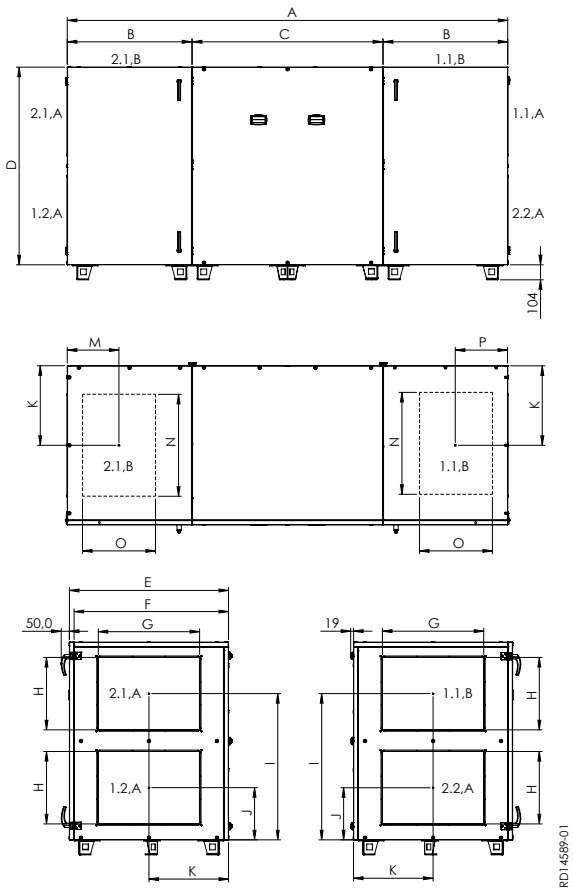
NB: All A-measurements for VEX1035 to VEX1065 are without the removable transition pieces.

VEX1000 CS mono diagram



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VEX1000 CS triple diagram



All measurements are in mm.

VEX size	A	D	E	F	I	J	K	M	P	Q	Ø
1010	1544	1138	714	680	300	850	350	302	300	366	315
1015	1754	1138	804	771	306	829	403	302	302	403	400

Note: All spigots are rounded.

VEX size	A	D	E	F	I	J	K	M	N	O	P	Q
1020	1754	1138	899	866	300	830	452	282	500	400	282	452
1025	2149	1342	899	866	350	1000	452	350	500	400	352	452
1030	2374	1342	898	866	350	1000	452	352	500	400	352	354

Note: All spigots are square.

VEX size	A	B	C	D	E	F	G	H	I	J	K	M	N	O	P
1045	3047	864	1319	1367	1103	1069	700	500	1010	360	552	359	700	500	360
1050	3047	864	1319	1367	1307	1373	700	500	1010	360	652	352	700	500	352
1055	3117	899	1319	1367	1450	1416	900	500	1000	350	702	352	900	500	352
1065	3117	899	1319	1741	1643	1608	100	700	1290	450	821	312	1000	400	445

2. Handling

2.1 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.**

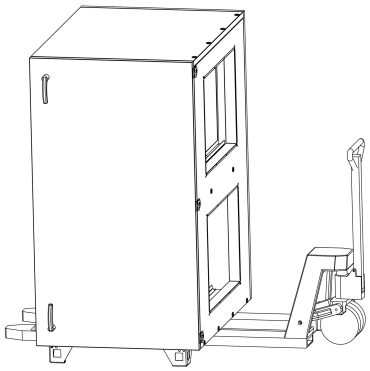
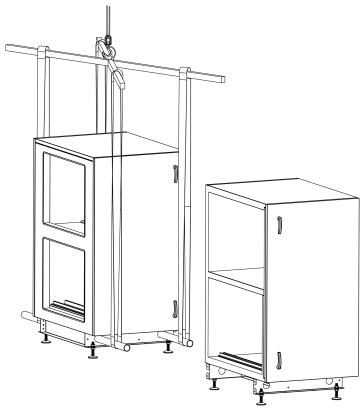
Clean unit before use

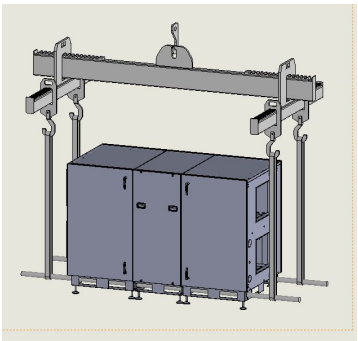
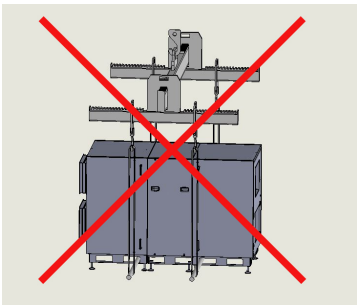
Once the VEX1000 unit is fitted, it must be checked and thoroughly cleaned. All dust, debris and metal shavings must be vacuumed up.

2.2 Transport

Transport equipment

Transport the VEX unit in one of the following ways:

Method	Drawing
Using a pallet truck or fork-lift truck: **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: Use straps and lifting yokes to prevent damage to the unit.	

Method	Drawing
Lifting a unit assembled on base: Lifting bars must be suitable for lifting the unit lengthwise.	
Do **not** lift from the middle.	

2.2.1 Passage through openings

VEX1000RS/RT

Size (mm)	Height with feet (mm)	Depth (mm)	Width (mm)	Mixer section width	Shortest section dimensions	Largest sheet part when split	Rotor
1005	959	712	719	-	-	859x1405x60	492x570x290
1010	1239	712	719	-	-	1139x1446x60	772x570x290
1015	1239	801	808	-	-	1139x1560x60	772x659x290
1020	1239	897	904	-	-	1139x1560x60	772x755x290
1030	1444	999	1009	600	838	1344x1009x60	976x857x290
1035	1444	1100	1119	600	838	1344x1119x60	976x958x290
1045	1629	1201	1225	600	870	1529x1225x60	1161x1060x290
1050	1629	1303	1322	600	904	1529x1322x60	1162x1162x290
1060	1839	1386	1405	600	904	1739x1405x60	1371x1245x290
1065	1839	1489	1508	600	904	1739x1904x60	1371x1347x290
1080	2011	1590	1612	600	1057	1911x1057x60	1539x1448x290

Width

If the door opening width is smaller than the unit width, then the door can be removed. Consult the table above. This will yield 31 mm. Measurements are based on the exact dimensions of the VEX unit.

VEX1000 CS

Size (mm)	Height with feet (mm)	Depth (mm)	Width (mm)	Shortest section dimensions	Largest sheet part when split	Counterflow heat exchanger
1010	1239	712	719	-	1139x1446x60	772x570x290
1015	1239	801	808	-	1139x1560x60	772x659x290
1020	1239	897	904	-	1139x1560x60	772x775x290
1025	1444	999	1009	838	1344x1009x60	976x857x290
1030	1444	1100	1119	838	1344x1119x60	976x958x290
1045	1629	1201	1225	870	1529x1225x60	1161x1060x290
1050	1629	1303	1322	904	1529x1322x60	1162x1162x290
1060	1839	1386	1405	904	1739x1405x60	1371x1245x290
1065	1839	1489	1508	904	1739x1904x60	1371x1347x290

2.2.2 Internal transport with reduced weight

Weight reduction

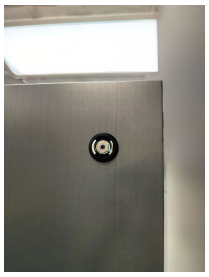
The weight can be reduced during transport by removing the service doors and fan units, as well as the rotary heat exchanger.

Removing the service doors

On a VEX1005-1020, remove the doors by unfastening and removing the bolts set into the corners of the door.

On a VEX1030-1080, unfasten and remove the bolts on the door hinges.

In order to minimise damage during transport, the handles on the VEX unit have been dismantled at the production facility. These should be installed for opening the service doors before dismantling them. The handles are located with the other accessories.





- Mount the handle
- Unscrew the bolts in the door hinge
- Lift the doors off

Removing the internal heating and cooling coils

The coils can all be safely removed by hand. The heating coil slides out smoothly.
When removing the cooling coil, ensure that the hoses are pulled back in order to slide out the coil.
See the pictures below.
If the drop separator is installed, it must be removed before removing the coil.




Removing the fan

Step	Action
1	Separate connectors at motor by clicking the assembly apart
2	Loosen the bindings for the motor cable and the measuring hose
3	Remove the measuring hose attached to the intake
4	Then, pull out the fan unit (Please see below for weight specifications)



1



2



4

Removing the rotor

Step	Action
1	Disconnect the plug at the top of the rotor
2	Pull out the rotor
3	If necessary, use a pallet lifter to pull out the rotor.

Note: To pull out the rotor correctly, pull on both cross-braces at the same time. Be aware that the rotor cannot withstand shocks when pulled out. See the pictures below.



1



2



3

NB: Carefully consider the weight of the fan and rotor units, see table below:

Size	Fan unit [kg]	Rotor [kg]
VEX1005	8.5	31
VEX1010	9.7	41
VEX1015	12.5	48
VEX1020	13.2	53
VEX1030	20.8	65
VEX1035	21.4	78
VEX1045	28.3	98
VEX1050	28.8	101
VEX1060	34.7	118
VEX1065	36.4	142
VEX1080	60.5	155

Removing the counterflow heat exchanger

Step	Action
1	Disconnect the damper motor.
2	Remove the damper.
3	Pull out the counterflow heat exchanger.
4	If necessary, use a pallet lifter to pull out the counterflow heat exchanger.

To pull out the counterflow heat exchanger correctly, pull on both cross-braces at the same time. Be aware that the rotor cannot withstand shocks when pulled out. See the pictures below for further illustration.

		
1	2	3

NB: Carefully consider the weight of the fan and counterflow units, see table below:

Size	Fan unit [kg]	Counterflow [kg]
VEX1010	9.7	41
VEX1015	12.5	48
VEX1020	13.2	53
VEX1030	20.8	65
VEX1035	21.4	78
VEX1045	28.3	98
VEX1050	28.8	101
VEX1060	34.7	118
VEX1065	36.4	142

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

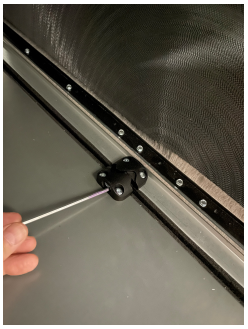
1	Start with the internal brackets in back and front top and bottom.
2-3	The internal brackets are then clamped together in the middle of the sections, both at the top and the bottom.
4-5	Mount the external brackets that are supplied with the unit.
6	Tighten the external brackets.



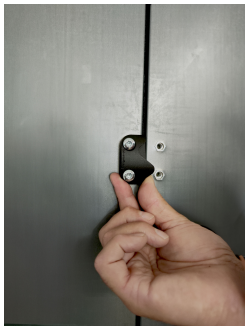
1



2



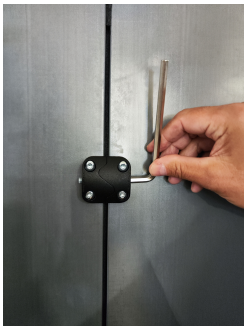
3



4



5



6

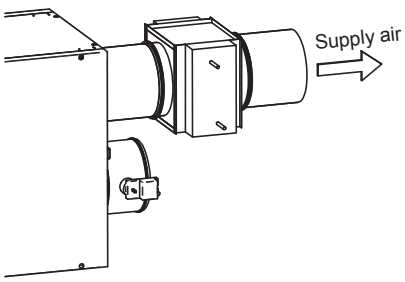
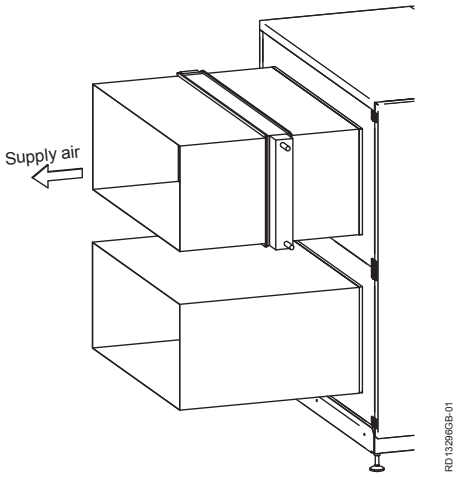
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3.1.3 Correct placement of control panel

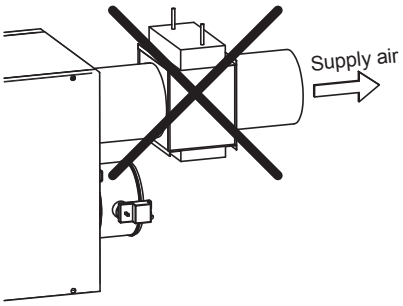
For correct installation of the control system panel, utilise a fixed stand as pictured, or mount it on a nearby wall or similar flat fixture. The panel box is rated IP64 and is factory preassembled. The box must be mounted using the included screws.		
Note: Do **not** mount the control system panel on the unit door.		

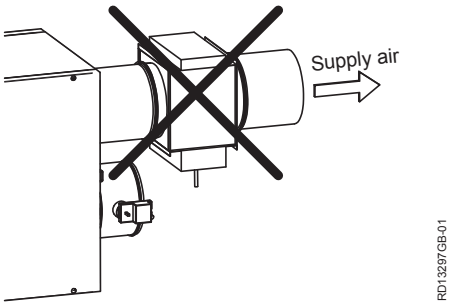
3.1.4 Correct positioning of cooling coil

Position the cooling coil on the supply air duct or directly on the VEX unit supply air spigot.

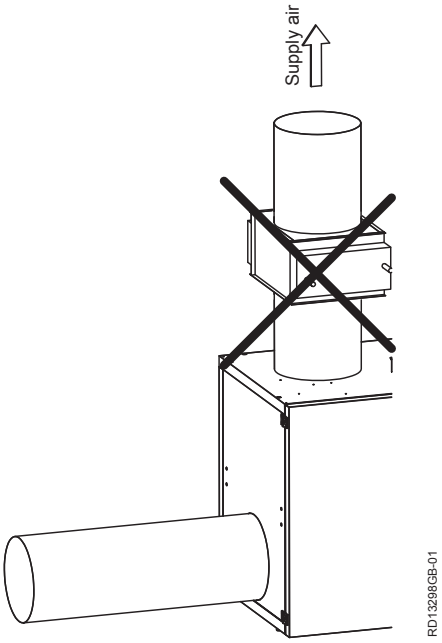
✓		

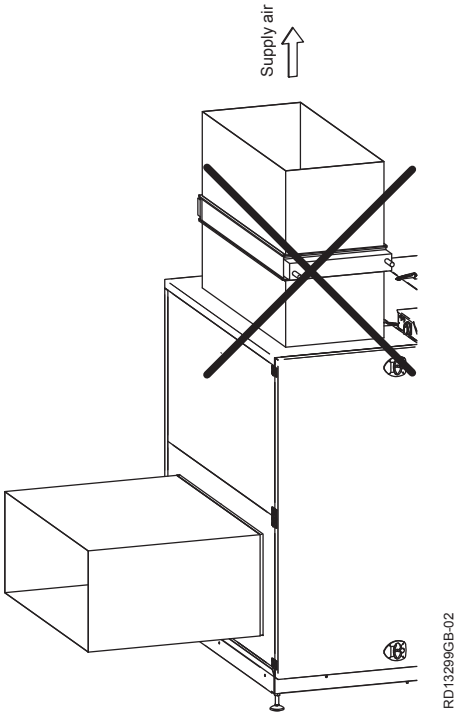














The cooling coil must always be supported - during fitting as well The fixture for this is not part of the EXHAUSTO delivery.



The cooling coil must always be positioned so that the air flows through it horizontally.



The cooling coil pipe must be horizontal and the connecting manifold vertical, so that the system can be bled and water in the system can be topped up/emptied.

Condensation outlet and water trap

Establish a water trap from the condensation outlet. Lead the condensation outlet into a floor gully or similar.

Connection

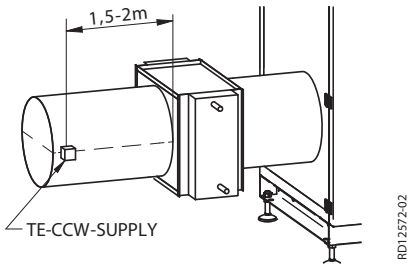


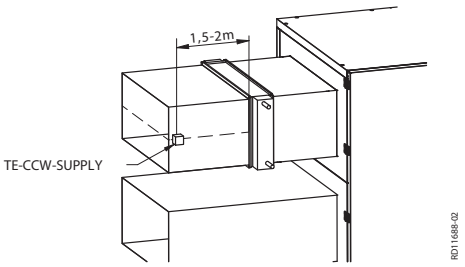
The condensation outlet must have a water trap.

Risk of frost

<u>Where there is a risk of frost:</u> Insulate the condensation outlet and protect it against frost - if necessary, using a heating cable.

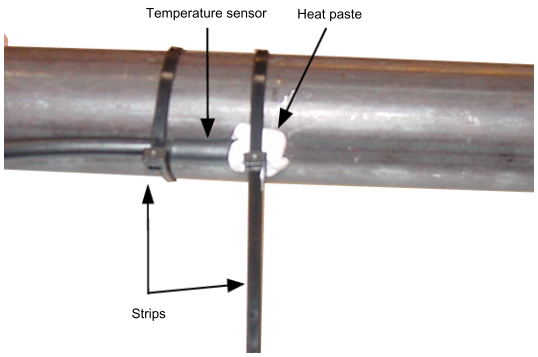
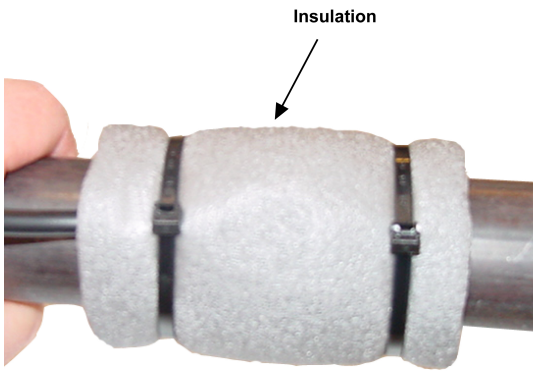
The temperature sensor is positioned here





Correct fitting of TE-SPT

Correctly fitting the temperature sensor (TE-SPT) on the supply pipe of the cooling coil:

Step	Action	
1.	Use heat paste to ensure good contact between the pipe and the sensor. Use strips to secure the sensor in position	
2.	Ensure there is sufficient insulation around the sensor	

3.1.5 Connecting the heating/cooling coils

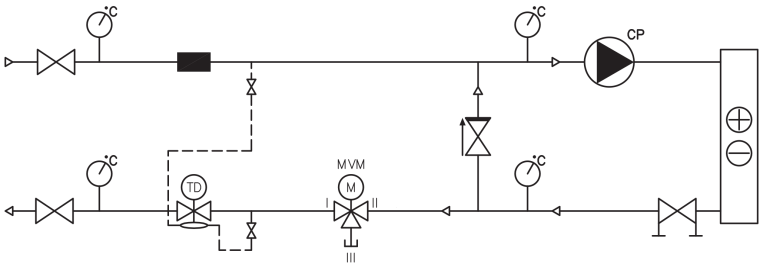
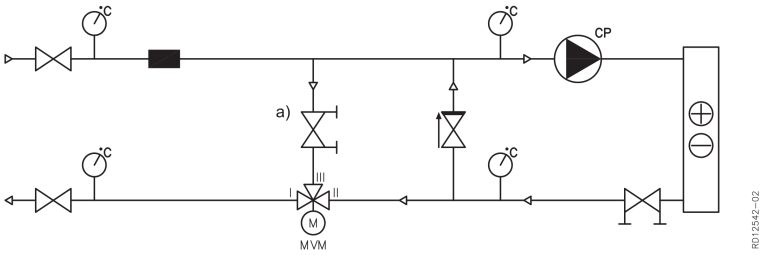
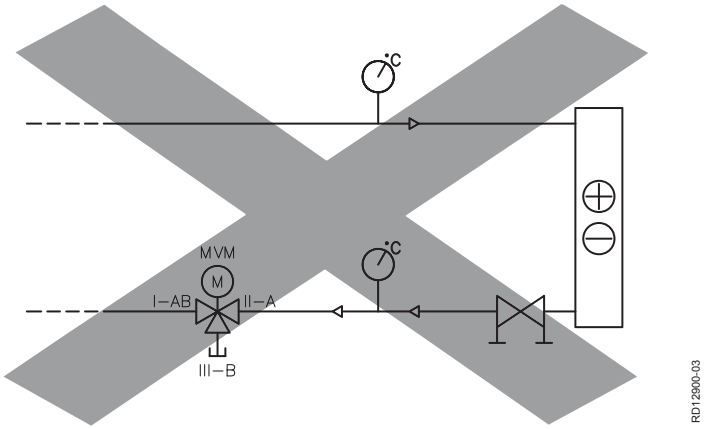
The internal heating or cooling coil can be connected to the pipe system using boiler hoses to prevent vibrations from spreading to the pipe system if needed.

Connecting an insulated CW/CCW

With an insulated CW/CCW, the connection must be made with stopcocks and unions, in order to allow easy release, extraction and cleaning of the coil.

Principles for connecting the water heating coil

The diagrams below are simplified. The dimensioning of valves, pipes, etc. and cooling coil connection must always be carried out by authorised fitters in accordance with applicable regulations and legislation.

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) 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 as shown on the right! Connection without a circulation pump risks frost damage!	

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3.1.6 Motor valve, MV2W/MV3W

2-way or 3-way valve

A modulating 2-way or 3-way motor valve for the control of water flow is supplied together with the heating or cooling coil. The valve is fitted onto or just after the return flow spigot from the heating/cooling coil.

Fitting motor valve

The valve must not be fitted with the motor facing down

Screening

Screen the valve motor from direct sunlight. Due to heat emissions, the valve motor must not be encapsulated (max. ambient temperature: 50°C).

Isolation of valve and valve motor

To ensure normal operation at ambient temperatures below 0°C, it is very important that the valve section is insulated according to current standards/procedures.

Regulation properties

The control of the motorised control valve is best when the differential pressure is below 200 kPa. See EXselect Pro print out for the value of Kvs.

Heat supply

The heat supply **must** be constant.

Outdoor unit

When installing outside, the motor valve must be protected against penetrating water and frost.

3.1.7 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.

3.1.8 Connecting the DX coil

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.

Ducting connected coils

It is also possible to duct connected cooling coils if the heating coils are internal, either as insulated or uninsulated. The coils can be mounted directly in the duct or mounted unto the duct system using connection transition pieces.

3.1.9 R32 - Description of potential ignition sources

Exhausto can provide VEX1000 units with an internal DX coil already mounted. The installer or technician should then connect the DX col to the compressor and condenser. It is also the installer's responsibility to conduct a risk assessment and mitigation plan regarding the mild flammability of the R32 refrigerants. The following section describes any potential ignition sources in the VEX1000 unit.

Potential ignition sources

An explosive mixture is not inherently dangerous. Only when combined with an ignition source can a potentially dangerous situation occur. The auto-ignition temperature of R32 is listed as 530°C according to the data safety sheet *TEGA, appendix 1)*. The unit itself contains no surfaces or heat sources that exceed a temperature of 530°C. As such, safety focus should be directed towards any electrical components that can cause an ignition through sparks that can form when breaking or closing the current.

Appendix 2 (in EN60335) contains the calculation of the minimum current needed to create a spark that can be classified as a potential ignition source. The calculation is defined at 6,25A, and any current below that is not considered a potential source of ignition.

The safety switch and automatic fuses

The safety switch and automatic fuses are placed inside the remote control box. There is no risk of leaked refrigerant entering the box.

EC controllers for the fans

The EC controllers control the speed of the fans. They are based on Solid State technology. Starting and stopping the fans will therefore not create any sparks.

EC controllers for rotor motor

The EC controllers control the speed of the rotor. They are based on Solid State technology. Starting and stopping the rotor will therefore not create any sparks.

Contactor in electrical post-heater

The electrical heaters for VEX1000 run in sequential steps, and the first step always is variable and controlled by a Solid State device. If more power is needed, several extra steps can be added by the contactors. Generally, the first step in the heater sequence will not be activated by Excon controls before an air velocity of 0,5 m/s is established. If more power is required and the velocity exceeds 1,5 m/s, an extra step is then triggered by the contactors. Using this method, any potential leakage will be diluted and evacuated before the contactors can be activated.

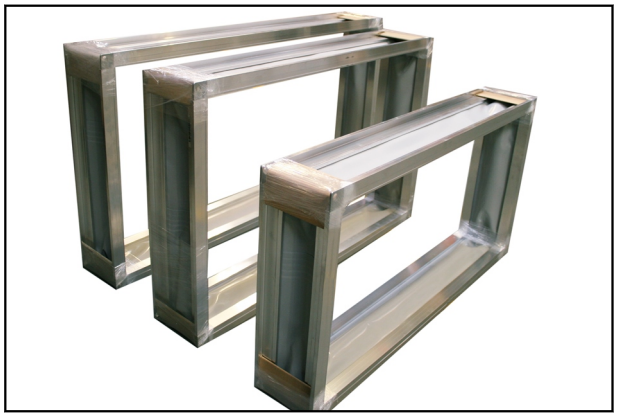
3.2 Duct connections

3.2.1 Duct connection

The air handling unit can be supplied with duct connections/flanges

3.2.2 Flexible duct system connections (optional)

The VEX1000 series of air handling units can be ordered with flexible duct system connections. Flexible duct system connections are used to attenuate any vibrations out in the duct system.

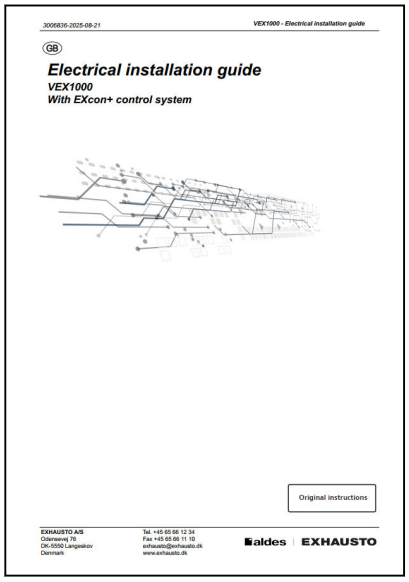


⚠ **Potential equalisation: If the air handling unit is fitted in accordance with EN3803, then potential equalisation must be fitted between the air handling unit and the duct system at the flexible duct system connections.**

4. Electrical installation

4.1 Electrical installation

See the included instructions "VEX1000 electrical installation guide - With EXcon+ control system":


3006836-2025-08-21 VEX1000 - Electrical installation guide

GB

Electrical installation guide
VEX1000
With EXcon+ control system

Original instructions

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5. Maintenance

5.1 Maintenance chart

Recommended intervals

The following chart details the recommended maintenance intervals, under normal operating conditions. EXHAUSTO recommends maintenance is adjusted to suit the actual operating requirements.

Component	Procedure	Once a year	Twice a year
Compact/bag filters*	**Change when the display shows the filter alarm.**. It is recommended that both filters are replaced at the same time. **NB:** The control system can issue a warning when the filter should be replaced.		
	The filter should be changed at least:		X
Filter monitor	Check that all the seals in the filter monitor are tight.	X	
Seals and sealing strips	Check that all the seals are tight.	X	
Fans	• Check that the fan impeller is securely fixed to the shaft. Removal of fan unit. See section "Internal transport with reduced weight" • Cleaning. See section "Servicing and cleaning"	X	
Heating coil/cold water coil (accessory)	Cleaning. See section "Servicing and cleaning"	X	
Heat exchangers	Cleaning. See section "Servicing and cleaning"	X	
Checking the safety functions	Check: • Fire thermostats • Temperature sensors on heating pipe (accessories)	X	
Closing damper	Function check	X	
Motor valve and circulation pump (accessories)	Function check	X	

***Filters**

Use original filters only

- The provided filter data and pressure loss graphs (section "Technical data") are based on the use of original filters
- EUROVENT certification is only valid if original filters are used
- Use of non-original filters may cause leakage in the VEX and impair filter function
- EXHAUSTO recommends that you register the filter replacement date to ensure filters are replaced at the correct intervals

5.2 Service

5.2.1 Filter change

Use original filters

Only use original filters. See section "Maintenance chart".

How to change the filters

Disconnect power at the main switch before opening the door.

Pull out the filters. Remember to check the flow direction - see the arrows on the filter.
Discarded filters must be stored immediately in sealed plastic bags and disposed of responsibly.

5.2.2 Servicing and cleaning

Cleaning the motor/fan

See section "Internal transport with reduced weight" for details on how to remove the fan and rotor units.

Step	Action
1	Switch off the power supply to the unit at the main switch on the control system panel before opening the doors.
2	Clean the fan impellers with a vacuum cleaner and wipe down with a damp cloth if necessary.
3	Clean the impeller blades carefully, so as not to disturb the balance.
4	Once re-fitted, check the unit operates without vibrating.
Inspection of measuring points hoses	
5	Remove the hoses at the connection box.
6	Blow air through the hoses to remove any impurities.

Cleaning the cooling/heating coils

Step	Action
1	Switch off the power supply to the unit at the main switch.
2	Vacuum clean the cooling/heating coil.
3	Cooling coil: clean the condensation tray.
4	Check the fins on the exchanger are not deformed. **The fins are sharp.**

Cleaning the rotary heat exchanger

Step	Action
1	Switch off the power supply to the unit at the main switch before opening the doors.
2	Vacuum clean the exchanger with caution, ideally using a soft brush vacuum nozzle. **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 performance of the VEX.**
3	Check that the fins on the exchanger are not deformed. **The fins are sharp.**

Cleaning the counterflow heat exchanger

Step	Action
1	Switch off the power supply to the unit at the main switch before opening the doors.
2	Wash the exchanger with caution, ideally using a soft brush or steam washer ⚠ **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 performance of the VEX.**
3	Make sure the fins on the exchanger are not damaged. ⚠ **The fins are sharp.**

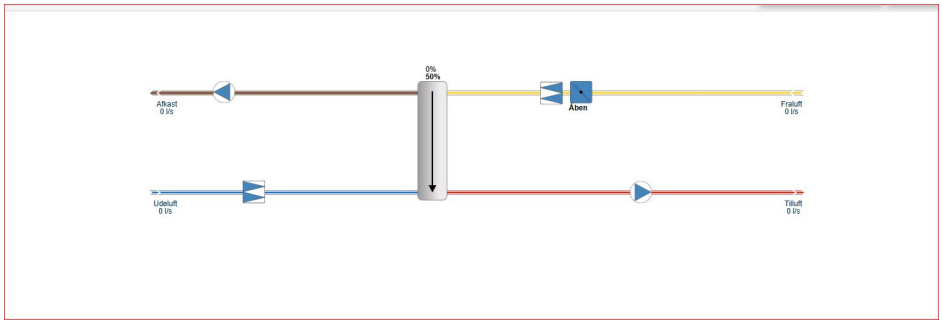
5.2.3 Automatic Leakage Control (ALC) accessory

Application



Automatic Leakage Control (ALC) is a function that prevents leakage in Air Handling Units (AHU) with rotary heat exchangers. ALC continuously measures and controls the pressure difference between supply airflow and extract airflow to ensure that no contaminated air is recirculated to the clean supply airflow air in the AHU's supply.

NB! If ALC is purchased, all components are fully mounted in the unit and configured in the HMI as a factory setting.



Prerequisites

ALC can be configured and activated in applications with:

- Rotary heat exchangers
- Modbus-controlled damper in extract air
- Pressure transmitter mounted between supply air and extract air in rotor section
- Purging zone
- EXcon+ Software version 1.00 or later

Caution:

ALC **cannot** be used in applications controlled by:

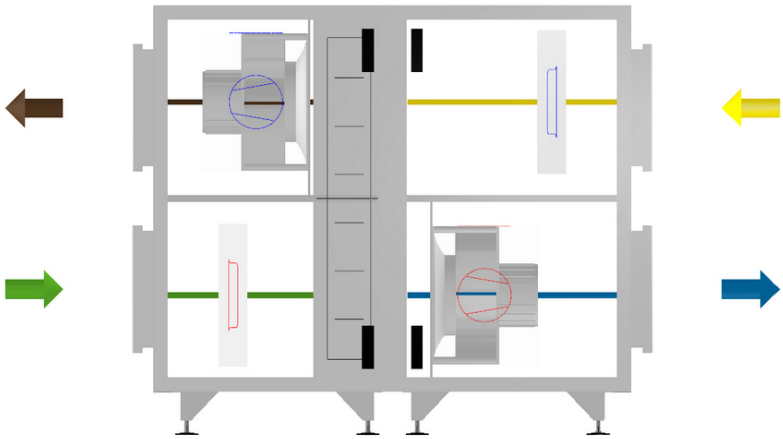
- Cross, double crossflow, counterflow, or liquid connected heat exchangers
- Recirculated damper (On/Off, 0-10V)
- CO2 / VOC / Fan Optimiser regulation
- Third-party control systems

Function

The principle of the function is to keep a minimum negative pressure in the extract air side (exhaust side) of the rotary heat exchanger in relation to the supply air side (fresh air side) of 20 Pa.
If the differential pressure moves towards a value lower than 20 Pa due to dynamic pressure changes, the extract air damper will gradually close towards the minimum to maintain the positive differential pressure.

Operational prerequisites

- Maximum duct pressure drop on outdoor air: 100 Pa at maximum ERP airflow.
- Minimum duct pressure drop on extract air: 150 Pa at maximum ERP airflow.
- Maximum permitted imbalance in airflow between supply air and extract air: 50%
- Maximum +/- 20% offset on slave regulation.



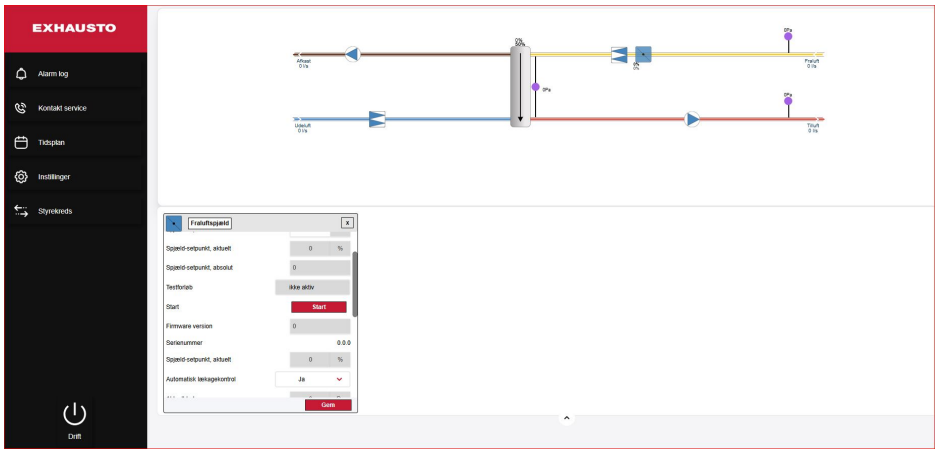
Please note!

If the operational prerequisites are not met, there may be instability and/or leakage from extract air to supply air.

Stopping ALC

It is recommended <u>that the system is only switched off during service and maintenance</u>, as leakage may occur briefly during start-up.

Under: **Service >Unit > Settings**, you can click on the extract air damper and the extract air damper menu will appear. ALC can now be switched on and off using Engineer level access.



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6. Technical data

6.1 Weight, corrosion class, temperature range, etc.

6.1.1 Weight (in kg)

Size	Total weight
VEX1005RS	174
VEX1010RS	206
VEX1015RS	226
VEX1020RS	246
VEX1010RT	241
VEX1015RT	263
VEX1020RT	286

Size	FanER section	FanS section	Mixer section	Total without mixer
VEX1030RS	205	137	72	342
VEX1035RS	217	147	76	364
VEX1045RS	262	176	80	438
VEX1050RS	285	181	85	466
VEX1060RS	312	194	90	506
VEX1065RS	344	209	95	553
VEX1080RS	425	259	100	684
VEX1035RT	261	172	76	433
VEX1050RT	314	214	85	528
VEX1065RT	393	314	95	639

Size	Fan weight	Rotor weight
VEX1005	8.5	31
VEX1010	9.7	41
VEX1015	12.5	48
VEX1020	13.2	53
VEX1030	20.8	65
VEX1035	21.4	78
VEX1045	28.3	98
VEX1050	28.8	101
VEX1060	34.7	118
VEX1065	36.4	142
VEX1080	60.5	155

Size	Counterflow weight
VEX1010	28
VEX1015	35
VEX1020	39
VEX1030	66
VEX1035	73
VEX1045	49-44
VEX1050	65-45
VEX1060	72-45
VEX1065	66-62

Corrosion class

Corrosion class	Corrosion class C5 in accordance with EN ISO 12944-2

Temperature range

Outdoor air temperature	-40ºC to +35°C
Ambient temperature	-30ºC to +50ºC

At temperatures below -25˚C (with outdoor installation), use of a thermostatically controlled heater in automated control box is recommended.

HMI panel

Enclosure class	IP20
Ambient temperature	0°C to +50°C

At temperatures below 0˚C, the display may react more slowly than usual.

Fire thermostat

Cut-out temperature BT40/50/70 (adjustable)	40-50-70°C
Max. ambient temperature, sensor	250 °C
Ambient temperature, thermostat housing	0°C - +80°C
Sensor length	125 mm
Enclosure class	IP40

Motor damper

Motor damper type	LS400-24	LSR400-24
Designation	LSA/LSF	LSFR
Motor type	NM24-F	AF-24
Rotation time	75–150s	Open: 150s Closed: 16s
Ingress protection	IP42	IP42
Ambient temperature	-20ºC to +50ºC	-30ºC to +50ºC
Damper depth (LS rail system)	100 mm	100 mm

6.2 Capacity diagram

Recommendation

Find a precise calculation of the unit's capacity in the EXselect configuration datasheet generated when ordering the VEX1000 unit.

6.3 Ordering spare parts

Find production number

To be able to supply the correct spare part for the specific VEX1000 unit, a production number must be presented when ordering. The production part number is written on the front page of the instructions supplied with the unit. It is also included on the data plate.

Contact

Contact a local EXHAUSTO distributor to order a spare part. The telephone number is shown on the back cover of these instructions. If required, see chapter 2 - "Description" for an overview of the positions of each individual part.

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

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