High efficiency Air Handling Unit

VEX600 (Everest XV)

ErP READY

aldes

High efficiency Air Handling Unit

VEX600 (Everest XV)

Conformity

- EUROVENT certified air-air heat exchanger system (based on the AAHE heat exchanger programme).
- CE compliant.
- Compliant with 2016 and 2018 ErP regulations

Advantages

- High-efficiency (>90%) HRV units.
- Exclusive Aldes Smart Control® system.
- Optimal air quality and thermal comfort.
- Easy to install and activate.
- Selector software specific to VEX for product selection and performance calculations.

ErP READY

FIELD OF APPLICATION

- Heat recovery ventilation for energy-efficient non-residential buildings of all types: offices, schools, hotels, residences for the dependent elderly, etc.
- Filtration and preheating / cooling of incoming air.

INSTALLATION

- Utility rooms / flat roofs.
- Indoors / outdoors
- Rectangular (or optional circular) connections.
- Choice of side for equipment fittings (left or right).
- Customised plan supplied with the machine and its accessories.

DESCRIPTION

- 4 VEX models up to 2,300 m^3/h.
- Pre-cabled monoblock units.
- Self-supporting construction with dual-wall panels.
- 50 mm mineral wool insulation.
- Access to all components via hinged doors on the front, and to the control system via its own dedicated central hatch.
- Aluminium or galvanised steel + paint coating condensate collection tray.
- Factory-mounted single-piece cowl for outdoor versions.
- Pre-lacquered steel exterior finish (RAL 9006 dark grey).
- M0 galvanised steel Z275 interior finishes.
- High efficiency counterflow plate heat exchanger (up to 90 % and more).
- EC motor with backward curved impeller.
- Adjustable 100 % bypass.
- G4 flat filters on exhaust air and F7 on fresh air.
- Built-in switch.
- Aldes Smart Control® system:
- Constant speed.
- Constant airflow.
- Constant pressure.
- Airflow control using CO_2/VOC sensor (0-10V signal).
- Controlled pressure.
- Built-in clock: operating hours can be controlled with timer.
- Configuration & monitoring via:
- Hard-wired remote control.
- Built-in webserver.
- BMS communication via ModbusTRU, Bacnet, TCP/IP protocols.
- Smart frost protection via controlled opening of the bypass.

UNIT CUSTOMISATION
Configurable components

Access panel	Left or Right hand side
Version	Interior or exterior (leak-tight factory-fitted single-block roofing element).
Control mode	Variable speed or Constant airflow or Constant pressure or Variable airflow controlled by CO_2/VOC sensor (0-10V signal) or Controlled pressure or Airflow adjusted via 0-10V signal
Filters	Fresh air supply filter: F7 50 mm flat mini-fold filter as standard or F7 HE 100 mm mini-fold low-pressure loss filter as option. Optional G4 pre-filter. Exhaust air filter: G4 as standard, F7 flat 50 mm mini-fold, Filtres M5 et F9** as an option.

Additional options (delivered within the unit)

Internal coils	Electrical heating coil or Hot water coil or Cold water coil* or Reversible coil*
Heat-exchanger frost protection	Electrical coil (frost protection via controlled opening of the standard bypass).
Communications system	(Modbus, TCP/IP, BACnet as standard)
Filter clogging alarm	Differential pressure sensor (measures pressure loss in real time)

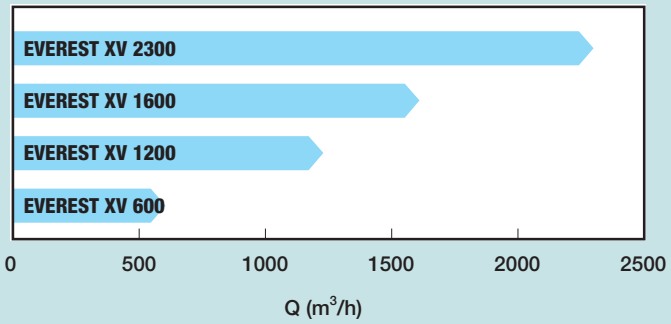
* available starting on 1st October 2015

** available soon.

High efficiency Air Handling Unit

RANGE

Designation	Code
VEX610 (Everest XV 600)	11069010
VEX620 (Everest XV 1200)	11069011
VEX630 (Everest XV 1600)	11069012
VEX640 (Everest XV 2300)	11069013



ACCESSORIES

Designation	Code
VEX610 (Everest XV 600) motorised damper	11068452
VEX620 (Everest XV 1200) motorised damper	11068451
VEX630 (Everest XV 1600) motorised damper	11068450
VEX640 (Everest XV 2300) motorised damper	11069018
VEX610 (Everest XV 600) standard flexible sleeve	11068417
VEX620 (Everest XV 1200) standard flexible sleeve	11068416
VEX630 (Everest XV 1600) standard flexible sleeve	11068415
VEX640 (Everest XV 2300) standard flexible sleeve	11068414
VEX610 (Everest XV 600) insulated flexible sleeve	11068349
VEX620 (Everest XV 1200) insulated flexible sleeve	11068348
VEX630 (Everest XV 1600) insulated flexible sleeve	11068347
VEX640 (Everest XV 2300) insulated flexible sleeve	11068346
VEX610 (Everest XV 600) rigid adapter piece	11068431
VEX620 (Everest XV 1200) rigid adapter piece	11068386
VEX630 (Everest XV 1600) rigid adapter piece	11068385
VEX640 (Everest XV 2300) rigid adapter piece	11068384

SPARE FILTER KIT

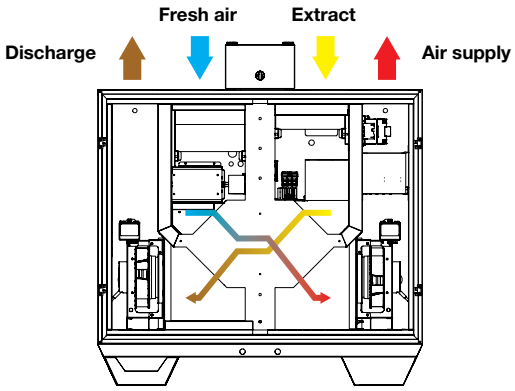
Designation	Code
VEX610 (Everest XV 600) F7 flat filter kit	11068458
VEX620 (Everest XV 1200) F7 flat filter kit	11068458 (x2)
VEX630 (Everest XV 1600) F7 flat filter kit	11069350
VEX640 (Everest XV 2300) F7 flat filter kit	11069354
VEX610 (Everest XV 600) G4 filter kit	11068459
VEX620 (Everest XV 1200) G4 filter kit	11068459 (x2)
VEX630 (Everest XV 1600) G4 filter kit	11069349
VEX640 (Everest XV 2300) G4 filter kit	11069353
VEX610 (Everest XV 600) F7 HE filter kit	11068457
VEX620 (Everest XV 1200) F7 HE filter kit	11068457 (x2)
VEX630 (Everest XV 1600) F7 HE filter kit	11068456
VEX640 (Everest XV 2300) F7 HE filter kit	11068455
M5 et F9 disponible prochainement	

High efficiency Air Handling Unit

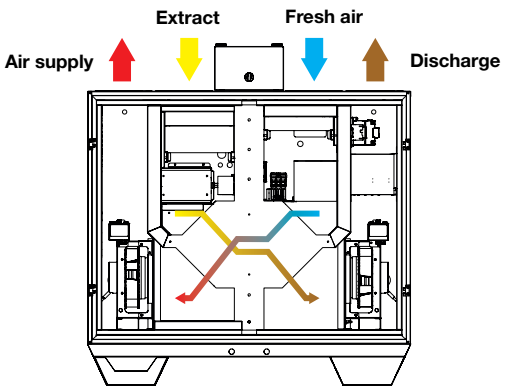
VEX600 (Everest XV)

TECHNICAL DETAILS

VEX general diagram



Right panel access



Left panel access

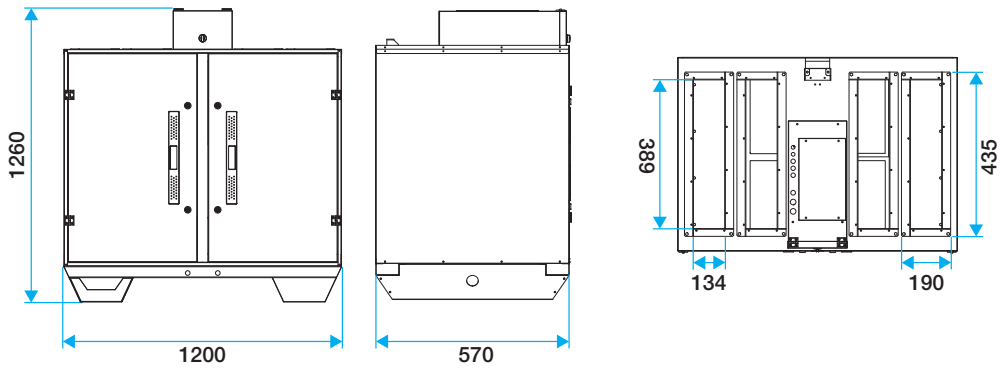
Electrical connectivity and power table

Model	Power supply	P max [W]
VEX610 (XV 600)	1 ~ 230VAC +E 50Hz	600
VEX620 (XV 1200)	1 ~ 230VAC +E 50Hz	1100
VEX630 (XV 1600)	1 ~ 230VAC +E 50Hz	1100
VEX640 (XV 2300)	1 ~ 230VAC +E 50Hz	1420

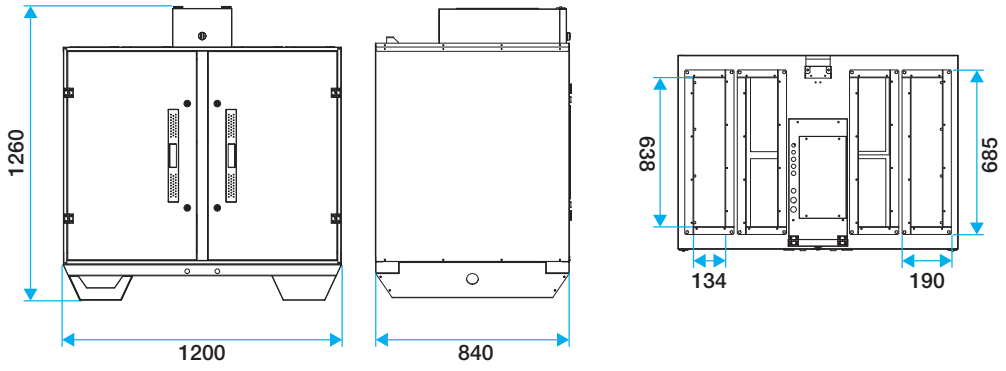
Dimensions - weight

Model	Length (mm) B	Height (mm) A	Depth (mm) C	Connector size h x l (mm)	Weight (kg)
VEX610 (XV 600)	1200	1255	569	190x435	165
VEX620 (XV 1200)	1200	1255	840	190x685	230
VEX630 (XV 1600)	1500	1433	909	240x765	290
VEX640 (XV 2300)	1900	1760	909	340x740	365

Dimensional drawings



VEX620 (XV 1200)

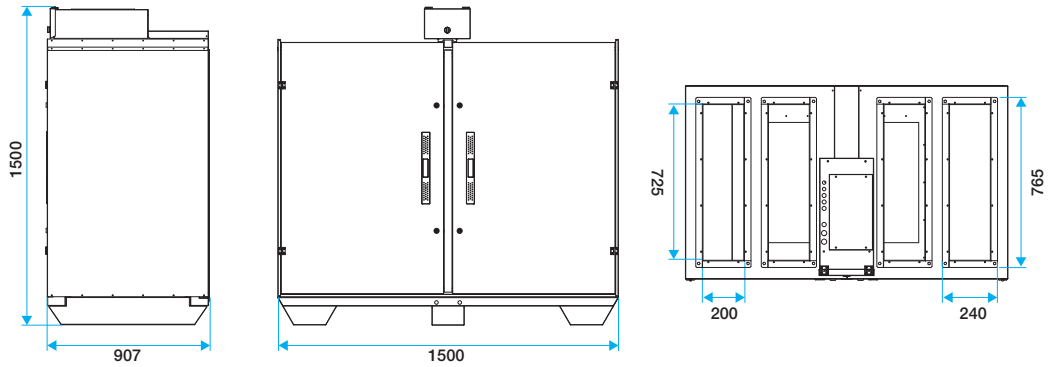


High efficiency Air Handling Unit

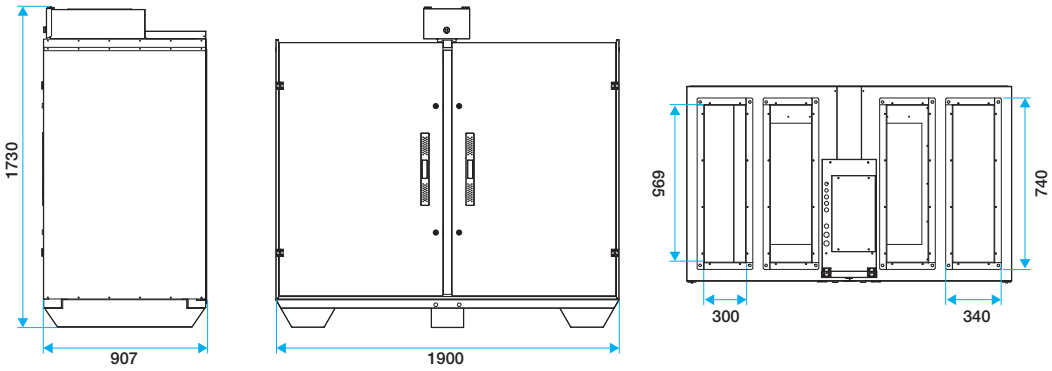
VEX600 (Everest XV)

Dimensional drawings

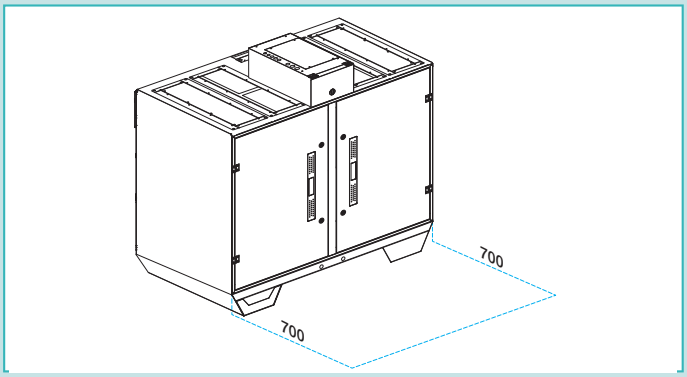
VEX630 (XV 1600)



VEX640 (XV 2300)



Clearance required for maintenance



All components are accessible via the front panel, regardless of model. Therefore, the VEX unit can be placed against a wall or back-to-back with another unit.

AERAULIC AND ELECTRICAL DETAILS

Table of rated flow rates and pressures

Model	Nominal airflow (m^3/h)	Power absorbed (W)	Pressure
			Pa
VEX610 (XV 600)	600	500	200
VEX620 (XV 1200)	1200	780	200
VEX630 (XV 1600)	1600	1011	200
VEX640 (XV 2300)	2300	1400	250

MOTOR DETAILS

- Single phase motor for models VEX610 to VEX640 (230 V AC +E) or 3-phase for models from 4,500 to 7,000 m^3/h (400 V AC +N +E)
- Integrated thermal protection. IP54 Class F, controlled by 0-10V signal

Model	Impeller	Max. fan power (kW)	Imax per fan (A) 1~200...277V or 3~380...480V
VEX610 (XV 600)	Ø225	00:24	1.7-1.25
VEX620 (XV 1200)	Ø250	0.45	2.2-1.65
VEX630 (XV 1600)	Ø250	0.49	2.6-1.85
VEX640 (XV 2300)	Ø310	0.7	3.65-2.7

High efficiency Air Handling Unit

VEX600 (Everest XV)

AERAULIC AND ELECTRICAL CURVES

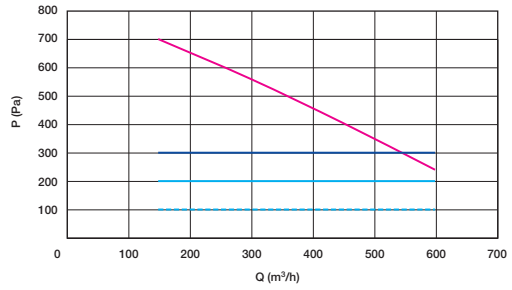
Airflow range

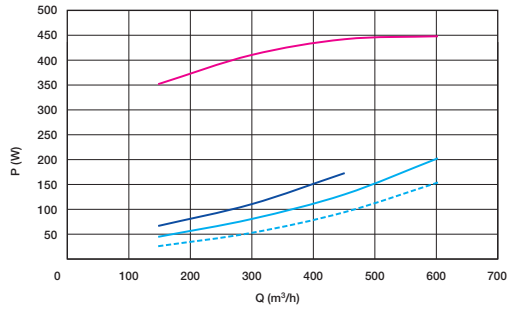
Model	Pressure	Max. airflow	Min. airflow	Reserved at max. airflow
VEX610 (XV 600)	200	650	90	18%
VEX620 (XV 1200)	200	1200	200	5%
VEX630 (XV 1600)	200	1650	250	10%
VEX640 (XV 2300)	300	2500	300	8%

Curves obtained using French standard NF EN ISO 5801

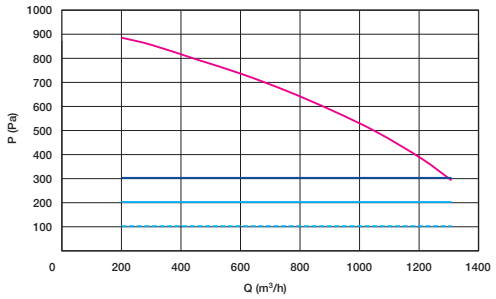
P (Pa) = static pressure P (W) = power consumption.

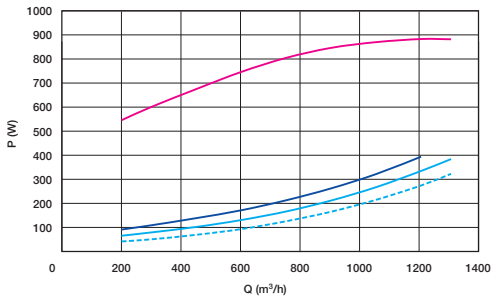
VEX610 (XV 600)



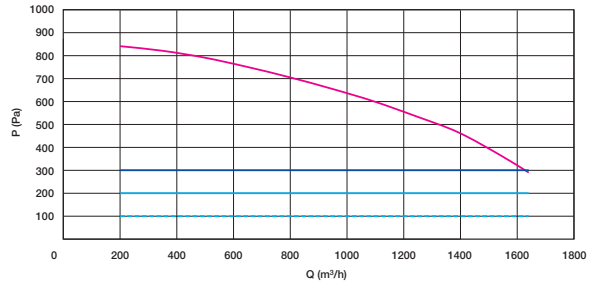


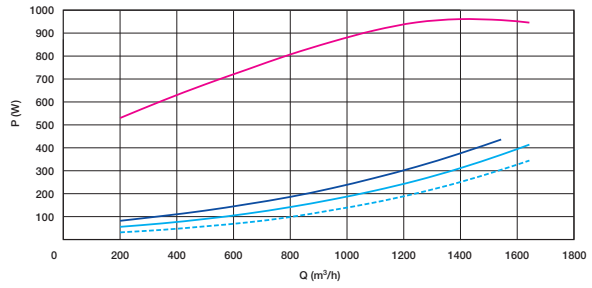
VEX620 (XV 1200)



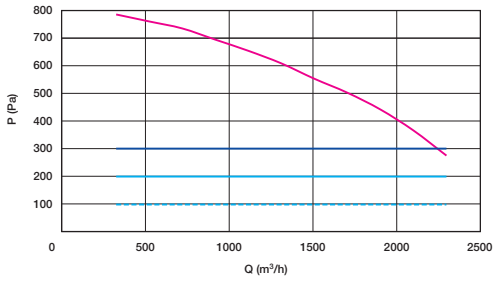


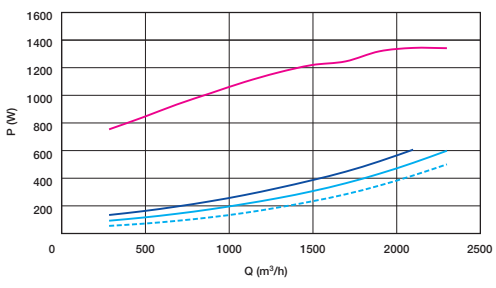
VEX630 (XV 1600)





VEX640 (XV 2300)





VEX600 (Everest XV)

ACOUSTIC DETAILS

Criteria complying with standards:
- ISO 5136 sound levels in ducts
- ISO 3741 radiated sound

Lwc asp: sound power in ducts during aspiration
Lwc dis: sound power in duct during air supply
Lp - dB(A): sound pressure radiated at 4 m from connected casing.

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000	Global (dB(A))
VEX610 (Everest XV 600) (450 m³/h - 200 Pa)									
Lwc asp - dB	58	68	70	72	69	61	63	62	**77**
Lwc sup - dB	69	67	71	71	69	66	60	55	**77**
Lp - dB(A)	23	13	13	19	20	17	<10	<10	**27**
VEX620 (Everest XV 1200) (1100 m³/h - 200 Pa)									
Lwc asp - dB	65	71	70	71	70	65	67	71	**78**
Lwc sup - dB	72	72	72	71	72	72	66	64	**80**
Lp - dB(A)	25	17	14	18	23	22	13	<10	**29**
VEX630 (Everest XV 1600) (1500m³/h - 200 Pa)									
Lwc asp - dB	56	65	67	71	70	66	68	69	**77**
Lwc sup - dB	69	68	71	73	74	71	67	63	**79**
Lp - dB(A)	22	12	13	20	25	22	13	<10	**29**
VEX640 (Everest XV 2300) (2100m³/h - 200 Pa)									
Lwc asp - dB	55	64	71	70	67	65	67	68	**77**
Lwc sup - dB	68	67	73	72	73	71	67	65	**80**
Lp - dB(A)	21	12	16	19	24	22	14	<10	**29**

High efficiency Air Handling Unit

VEX600 (Everest XV)

FILTER DETAILS

Minifold F7 filter on fresh air, pleated G4 filter on exhaust air.
- Filters fitted to rails to facilitate access during servicing and maintenance work
- Optional sensors to measure differential pressure

Model	Filter class	Dimensions (mm)*	Total filter surface area F7 (m²)	Total filter surface area F7 HE (m²)	Total filter surface area G4 (m²)
VEX610 (XV 600)	G4/F7	255 x 350	01:48	2.93	00:24
VEX620 (XV 1200)	G4/F7	2 filters 255 x 350	2.93	5.86	0.48
VEX630 (XV 1600)	G4/F7	592 x 400 on fresh air 292 x 592 on exhaust air	3.92 2.86	7.77 -	0.64 0.47
VEX640 (XV 2300)	G4/F7	592 x 592 on fresh air 400 x 592 on exhaust air	5.80 3.92	11.5 -	0.95 0.64

* Frame included
M and F9 filters available soon

CONDENSATE CHARACTERISTICS

Evacuation of condensates from heat exchanger via front panel (machine access panel).
Water trap required (not supplied).
Further details are provided in the installation instructions.

For cold water or changeover coils built into the unit: the discharge point is under the machine.
Water trap required (not supplied).
Further details are provided in the installation instructions.

ALDES SMART CONTROL® SYSTEM

General presentation

Aldes Smart Control® provides a wide range of possible configurations and control methods for the VEX HRV system.
Configuration is possible via:
- Built-in webserver (local or remote RJ45 connection to PC, MAC, smartphone, etc.)
- Ergonomic remote control system (single-handed use)
- BMS via ModBus TCP/IP; Modbus RTU; BACnet protocols

Control function	Designation	Menu User	Advanced menu Secure access	Expert* menu Secure access
Functions for optimum air quality				
Fan control mode	6 control modes: - Constant speed - Constant airflow - Constant pressure - Airflow control using CO_2/VOC sensor (0-10V signal) - Controlled pressure - Airflow adjusted via 0-10V signal		•	•
	Possible imbalance between inlet and extraction		•	•
	Slave mode possible		•	•
	Can be controlled via external contacts		•	•
	Fan set point compensation based upon exterior temperature (with coils)		•	•
Timer switch	Timer (week, day, hour) used to program timed operation Summer/Winter management	•	•	•

High efficiency Air Handling Unit

VEX600 (Everest XV)

Control function	Designation	Menu User	Advanced menu Secure access	Expert* menu Secure access
Functionalities designed to provide optimal thermal comfort.				
Temperature control	3 temperature control methods - T°C constant - air supply - T°C constant - exhaust air - Constant difference between air supply/exhaust		•	•
	Possible to change controlled temperature during switch from summer to winter mode (and vice versa).		•	•
Bypass control	Cooling via automatic opening of the bypass according to outdoor conditions (Free cooling) - Night cooling function		•	•
Heat exchanger frost protection	Frost protection by controlling the opening of the bypass		•	•
	Smart frost protection by controlling the opening of the bypass + electrical coil		•	•
Damper adjustment	Damper control Closed when stopped		•	•
Coil control	Coil control Frost-protection and water coil protection Temperature set point compensation based on outdoor temperature (with coils)		•	•
Unit monitoring functions				
Alarms	**Types** - Multiple configurable alarms (including a fire alarm using an external contact, filter clogged alarm, etc.) - Alarm forwarding by e-mail	•	•	•
	Display - Current active alarms - Display of future alarms - Alarm log	•	•	•
Verification of operational status	- Real-time data on component status (filter pressure loss, etc.)	•	•	•
	- Operational data log	•	•	•
	- Data update/backup using SD cards		•	•
	- Override mode for components operational tests		•	•
Installation Aftersales service	- Unit can be reconfigured on-site: reassignment of I/Os;			•
	- Reset to factory settings		•	•
	- Advanced settings available for each component		•	•

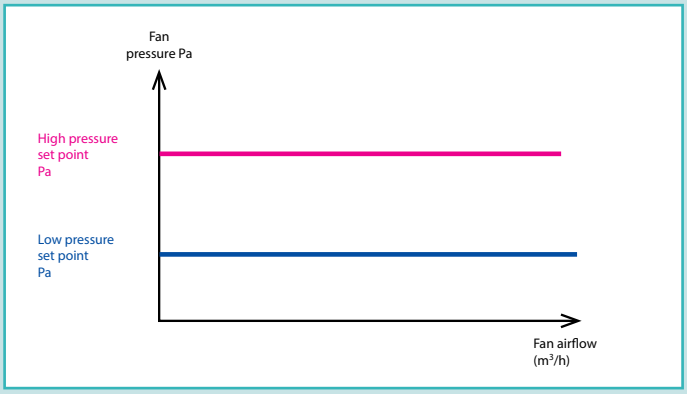
* Expert menu - only accessible via the webserver.

VEX600 (Everest XV)

FUNCTIONS FOR OPTIMAL AIR QUALITY

Fan control modes

Constant pressure



Principle

Principle: the fan adjusts its operation to provide a constant pressure.
2 pressure set points can be used for each fan: low pressure and high pressure.

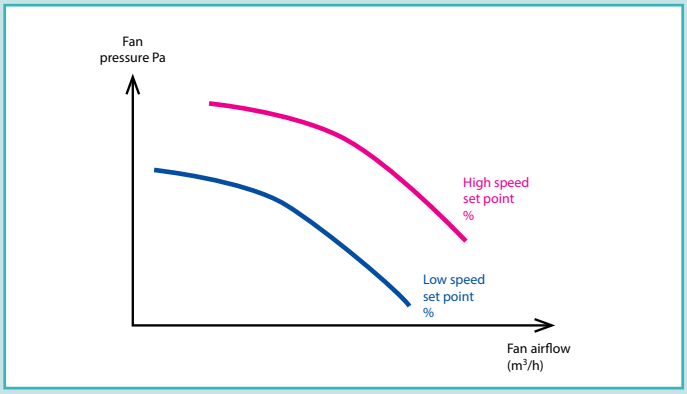
Settings - Various possible configurations:

- Air supply pressure set points + exhaust pressure set points
- Air supply pressure set points + exhaust slaved to air supply
- Exhaust air pressure set points + air supply slaved to exhaust

Equipment supplied with the unit:

- 2 differential pressure sensors fitted to the fans to measure airflows
- 2 differential pressure sensors supplied with the unit to be fitted inside the ductwork, with RJ12 cabling (see installation guide for sensor connections).

Constant speed



Principle

The fan operates at the same speed at all times.
2 speed settings can be used for each fan: low speed and high speed.

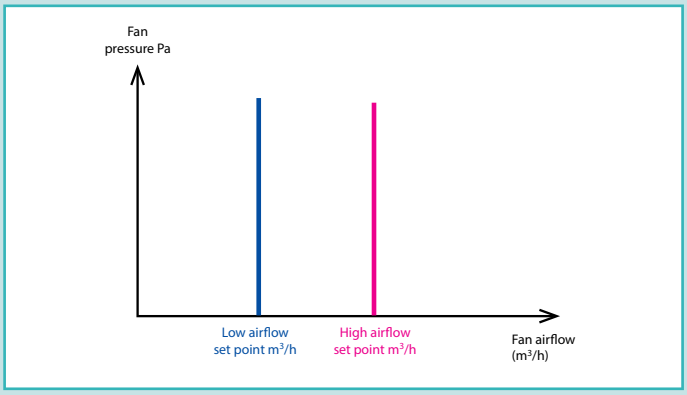
Settings:

Air supply speed set points + exhaust speed set points.

Equipment supplied with the unit:

No differential pressure sensor needed.

Constant airflow



Principle

The fan adjusts its operation to provide a constant airflow.
2 airflow set points can be used for each fan: low airflow and high airflow.

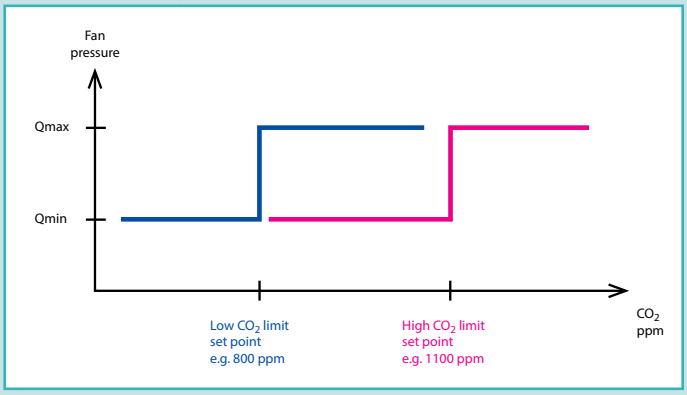
Settings:

Air supply airflow set points + exhaust airflow set points.

Equipment supplied with the unit:

2 differential pressure sensors fitted to the fans to measure airflows.

Variable airflow controlled by CO_2/VOC sensor



Principle

The fan varies the airflow rate according to the CO_2 level.
2 possible threshold levels for CO_2.

Settings:

Exhaust controlled by a CO_2 or VOC sensor. Air supply controlled in slave mode to balance air flow rates.

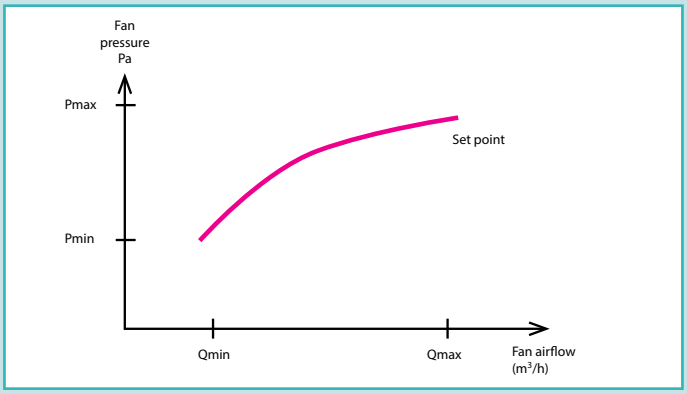
Equipment supplied with the unit:

2 differential pressure sensors fitted to the fans to measure airflows.
Accessory: CO_2 sensor, range 0-2000 ppm, 0-10 V output signal.

VEX600 (Everest XV)

Fan control modes

Controlled pressure



Principle

Fan controlled to ensure pressure increases alongside airflow
1 set point per fan. The unit will change the pressure set point to match the measured airflow

Settings:

Indicate the max. and min. airflow rates for each ductwork with their associated pressure losses.

E.g. Air supply: Qmax 5000 m³/h Pmax 300 Pa / Air supply: Qmin 2000 m³/h Pmin 150 Pa

Exhaust air Qmax 5000 m³/h Pmax 290 Pa / Exhaust air Qmin 2000 m³/h Pmin 145 Pa.

Equipment supplied with the unit:

- 2 differential pressure sensors fitted to the fans to measure airflow rates
- 2 differential pressure sensors supplied with the unit to be fitted inside the ductwork, with RJ12 cabling (see installation guide for sensor connections inside the ducts).

Timer switch

Weekly programming (possible for all control modes)

Principle

Timed programming of set points:
- Low setting,
- High setting,
- Stop.

Settings:

Example of constant airflow operation:

High efficiency Air Handling Unit

VEX600 (Everest XV)

FUNCTIONALITIES DESIGNED TO PROVIDE OPTIMAL THERMAL COMFORT.

Temperature control

Air supply temperature

Principle

The unit is controlled to maintain a constant air supply temperature.

Settings:

Air supply temperature set point

Equipment supplied with the unit:

Air supply temperature sensor supplied already wired into the unit, to be fitted to the aeraulic ductwork.

Example of use:

This control method will mainly be used when the VEX unit is only used for ventilation and not for cooling and/or heating the building. The VEX unit ensures a constant air supply temperature defined by a set point close to the desired temperature inside the building. Variations in the temperature inside the building are handled by heating and cooling systems independently of the VEX unit.

Temperature control

Exhaust temperature

Principle:

The unit is controlled to maintain a constant exhaust air temperature

Settings:

The exhaust temperature set point is configured in the User menu;
the minimum and maximum air supply temperatures are configured in the Advanced menu.

Equipment supplied with the unit:

Extracted air temperature sensor, delivered pre-cabled into the unit.
Air supply temperature sensor supplied already wired into the unit, to be fitted to the aeraulic ductwork.

Example of use:

This method will mainly be used when the VEX unit is used for ventilation, cooling and/or heating the building. By adjusting the exhaust temperature you can adjust the ambient temperature. These settings therefore take into account any increases/decreases in temperature (opening a window, sunlight on windows) and adapts the cooling/heating provided by the VEX unit accordingly.

Temperature difference between exhaust air and air supply

Principle: The unit is controlled to maintain a constant temperature differential between the air supply and exhaust air.

Settings: The differential setting between the air supply and exhaust air is configured in the User menu;
the minimum and maximum air supply temperatures are configured in the Advanced menu.

Equipment supplied with the unit: Extracted air temperature sensor, delivered pre-cabled into the unit.
Air supply temperature sensor supplied already wired into the unit, to be fitted to the aeraulic ductwork.

Example of use: This setting method will principally be employed when the building is fitted with a separate heating system. The air supply temperature varies with the exhaust air temperature, which in turn is related to the independent heating/cooling systems. The VEX unit is therefore slaved to the external systems.

Bypass control

Free cooling - Night cooling

Principle:

Free cooling & Night cooling involve bypassing the heat exchanger in order to use the outdoor temperature to cool the building, free of charge, during the summer. Free cooling is used to provide cooling while the unit is running.
Night cooling activates the free cooling function when the fans are stopped.

Operation:

VEX units are fitted with an adjustable 100% bypass.
Depending on the temperatures, the control system adjusts the opening of the bypass dampers to achieve the pre-set air supply temperature.
If the free cooling & night cooling functions are active, the fans will run in high speed mode.

Settings: The bypass is opened according to the temperatures of the exhaust air / outside air / air supply set point / timer programming.

High efficiency Air Handling Unit

VEX600 (Everest XV)

Frost protection for the the heat exchanger

The exchanger plates cause condensation on the discharge. If this condensation takes place at a low temperature, the water can freeze and ice-up the exchanger. This icing risk is present once the exhaust temperature drops below 5°C (configurable temperature).

The VEX unit has two methods of protection:

- by controlling the bypass
- by controlling the bypass and an electrical coil on the exhaust outlet.

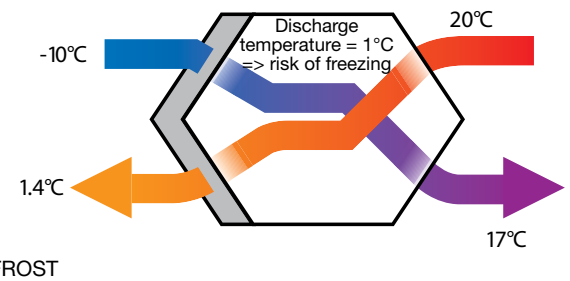
Smart frost-protection via bypass control

Principle: This management mode involves bypassing some of the exterior air to avoid overcooling the discharged air air.

Description: The use of a bypass reduces the fresh air inflow to the exchanger, therefore reducing the exchange of heat and preventing overcooling of the discharged air. The opening of the bypass is adjusted to assure a discharged air temperature > 5°C (configurable)
The airflow that bypasses the heat exchanger is routed directly to the air supply outlet, thereby maintaining the inflow rate.

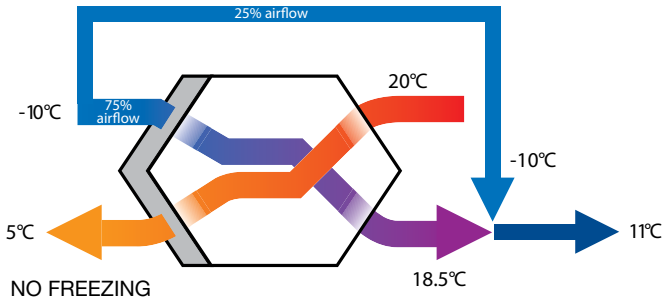
Example: Outside temperature = -10°C

No frost-protection:



FROST

With frost protection using bypass control:



NO FREEZING

Smart frost protection via bypass control + an electrical coil.

Principle:

This frost-protection method involves:

- heating **the exhaust air** using an internal electrical coil to prevent ice forming on the discharge
- bypassing some of the fresh air to maintain a comfortable air supply temperature.

Description

Heating the exhaust air ensures the air discharged is > 5°C and prevents ice forming on the exchanger.

Bypass opening is controlled to lower the air supply temperature, mixing the air supply from the heat exchanger with the cold outside air that has bypassed the exchanger. The air supply temperature set point is therefore respected.

Example: Outdoor temperature = -10°C

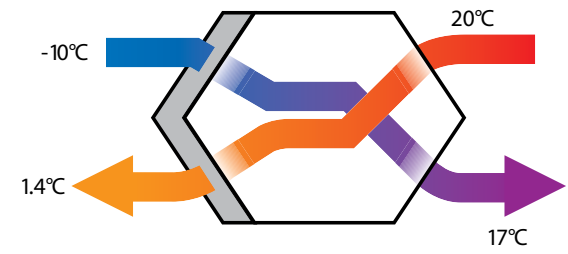
Discharge temperature = 1°C => risk of icing

Air supply temperature set point to ensure frost protection = 19°C

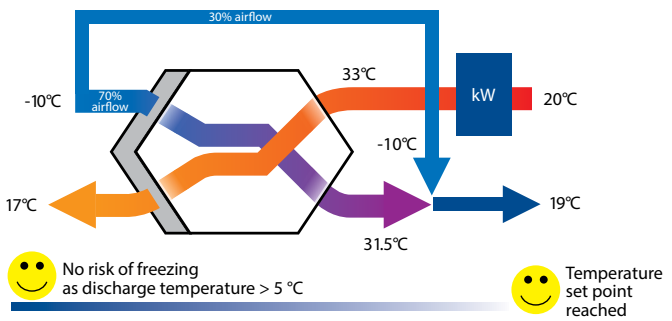
The coil is activated so that the discharge temperature > 5°C

Outside air bypasses the exchanger to obtain the required air supply temperature.

Discharge temperature = 1°C => risk of icing



With coil frost-protection:



High efficiency Air Handling Unit

VEX600 (Everest XV)

Damper adjustment

Principle:

The dampers are used to prevent the circulation of air inside the unit when it is stopped.

The dampers are motorised and they operate in conjunction with the fans.

The damper servomotor is fitted with a return spring, allowing the damper to close if there is an electricity blackout.

Coil control

Principle:

The Aldes Smart Control® system controls the coils directly.

Operation:

The electrical coil is activated proportionally by a 0-10V signal transmitted by the control system.

Equipment supplied with the unit:

Coil built into the unit, pre-cabled and ready for connection to the power supply.

Water coil

Principle:

The Aldes Smart Control® system operates the valve.

Operation:

The valve is controlled proportionally by a 0-10V signal transmitted by the control system.

The water coil is supplied with a temperature sensor to be fitted into the water return circuit.

Depending on the temperature of the returning water, the control system will activate the coil frost-protection function: valve opened to maximum.

In the event of an extreme temperature, the control system will shut down the fans.

Equipment supplied with the unit:

Coil delivered built into the unit. Valve supplied, circulator and temperature sensor to be cabled and fitted to the water return circuit.

UNIT MONITORING FUNCTIONS

General information:

The Aldes Smart Control® system provides a multitude of possible methods for controlling the unit.

Fire alarm

An external contact is available to set the unit to 'fire' mode. This enables a dedicated control mode (e.g. unit shutdown), when a fire alarm is transmitted to the Aldes Smart Control® System.

Backup

Reset to factory settings.

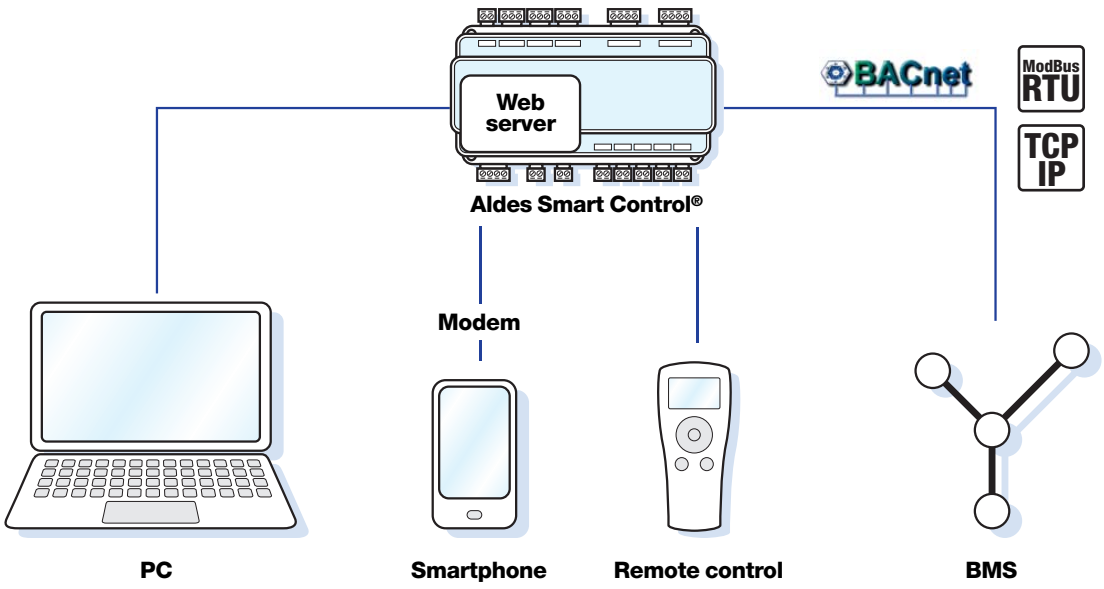
Save to a PC or SD Card, the control parameters used when installing the equipment.

Component status readings

Real-time data on component status

Examples: speed (%) of each fan, set-points, temperature of each sensor, status of dampers, loss of pressure through filters, coil states, etc.

Communications method



High efficiency Air Handling Unit

VEX600 (Everest XV)

MAINTENANCE RECOMMENDATIONS

To ensure correct operation of the ventilation system, we recommend that the equipment is inspected and maintained by a suitable provider.

This maintenance is facilitated by following the indications for the installation and assembly of the equipment.

All elements requiring intervention (filters, fans, heat exchanger) are easily accessible via the two removable hinged panels.

For rapid tool-free interventions, filters and coils are fitted to rails.

The fan motor unit is fixed in place using a quick-release system.

Element	1 month	6 months	1 year
Filter	Inspection + Potential replacement	Replacement	
Fan		Inspection + dust removal (if necessary)	Dust removal
Coil	Inspection	Inspection + dust removal (if necessary)	Dust removal + verification of safety thermostat on fan motor

OPTIONS & ACCESSORIES

F7 filter (50 mm) - on exhaust air or fresh air

As an option, it is possible to fit the unit with a low-pressure loss F7 filter.

Mini-fold filter with an increased surface area (dihedral filter):
- Initial pressure loss lower than flat filters
- Larger filtration surface area
- Longer service life (for equal pressure loss, improved dust retention).

Element	Filter class	Dimensions (mm)	Total filter surface area F7HE (m^2)
VEX610 (XV 600)	F7	255 x 350	01:48
VEX620 (XV 1200)	F7	2 filters 255 x 350	2.93
VEX630 (XV 1600)	F7	592 x 400 on fresh air 292 x 592 on exhaust air	3.92 2.86
VEX640 (XV 2300)	F7	592 x 592 on fresh air 400 x 592 on exhaust air	5.80 3.92

F7 HE filter (100 mm) - on fresh air

Model	Filter class	Dimensions (mm)	Total filter surface area F7 (m^2)
VEX610 (XV 600)	F7	255 x 350	2.93
VEX620 (XV 1200)	F7	2 filters 255 x 350	5.86
VEX630 (XV 1600)	F7	592 x 400	7.77
VEX640 (XV 2300)	F7	592 x 592	11.5

Pre-filter (50 mm) - on exhaust air or fresh air

Model	Filter class	Dimensions (mm)	Total filter surface area G4 (m^2)
VEX610 (XV 600)	G4	255 x 350	00:24
VEX620 (XV 1200)	G4	2 filters 255 x 350	0.48
VEX630 (XV 1600)	G4	592 x 400 on fresh air 292 x 592 on exhaust air	0.64 0.47
VEX640 (XV 2300)	G4	592 x 592 on fresh air 400 x 592 on exhaust air	0.95 0.64

VEX600 (Everest XV)

Internal electrical heating coil

Description:

- AISI 304 stainless steel heating element.
- Manual and auto-reset safety thermostat
- Proportional control (0-10V)

Installation

- Pre-cabled coil
- PSU 3 x 400 V AC 50 Hz +N +E (see installation instructions for connections)

Power table

Model	Pw (W)
VEX610 (XV 600)	1700
VEX620 (XV 1200)	3400
VEX630 (XV 1600)	5650
VEX640 (XV 2300)	7500

Internal water coils

Description:

- Single row hot water coil or cold water/reversible or hot water high power dual-row coil;
  - Aluminium fins
  - Galvanised steel frame
- Motorised (24 V) 3-way valve, proportional control via 0-10 V signal (supplied).

Model	Airflow (m^3/h)	Type	Air Coil inlet conditions	Water Coil inlet conditions	Nbr of tubes	Nbr of rows	Nbr of circuits	Temp. air supply °C	Humidity % HR	Power kW	incl. P sensitive kW	Water flow l/h	m/s	Water pressure loss kPa	Water-air pressure loss Pa	Ext. collector ø
VEX610 (XV 600)	450	Coil 1	T° int. = 17 °C 14 % HR	Water: T° int 60 °C / T° out 40 °C	6	1	1	28.2	1.58	80.00	0.35	2.2	1	13	14	14
VEX620 (XV 1200)	2300	Coil 1	T° int. = 17 °C 14 % HR	Water: T° int 60 °C / T° out 40 °C	6	1	1	28.1	3.13	140.00	0.61	2.6	3	17	14	14
VEX630 (XV 1600)	1500	Coil 1	T° int. = 17 °C 14 % HR	Water: T° int 60 °C / T° out 40 °C	10	1	2	28.2	5.58	250.00	1.09	2.5	2	15	14	14
VEX640 (XV 2300)	2000	Coil 1	T° int. = 17 °C 14 % HR	Water: T° int 60 °C / T° out 40 °C	14	1	2	28.2	8.05	350.00	1.53	2.6	6	15	14	14

Coil 1 = Hot water coil

Coil 2 = **high power** hot water coil or cold water coil or changeover coil.

Installation

- Coil delivered pre-fitted into the unit.
- Structure pre-drilled for coil **water** supply pipes.
- 3 way valve supplied with the unit, to be installed outside of the machine.
- See installation instructions for connections.

VEX600 (Everest XV)

Electrical frost-protection coil

Description:

- AISI 304 stainless steel heating element.
- Manual and auto-reset safety thermostat
- Control via SSR relay

Installation

- Coil supplied pre-cabled with control system
- PSU 3 x 400 V AC +N +E 50Hz
- See installation instructions for connections

Power table

Model	Pw (W)
VEX610 (XV 600)	1700
VEX620 (XV 1200)	3400
VEX630 (XV 1600)	5650
VEX640 (XV 2300)	7500

Filter clogging alarm

2 differential pressure sensors measuring the losses caused by the filtration of the fresh and exhaust air in real time.

With this system we can instantly see the filter clogging level, as opposed to a simple pressure switch, which is only triggered when the filter is totally clogged.

The fitter defines a threshold pressure loss level, upon which the unit will transmit a 'change filter' warning message.

The clogging threshold level can either be a pressure loss level (e.g.: 60 Pa) or a maximum increased percentage of pressure loss compared to the new filter levels (e.g.: 50 %).

Damper

Description:

- Motorised damper on fresh air and exhaust air with 24 V actuator fitted with return spring.

Installation

See installation instructions for fitting & connections.

Dimensions

Model	Length (mm)	Height (mm)
VEX610 (XV 600)	405	160
VEX620 (XV 1200)	655	160
VEX630 (XV 1600)	735	210
VEX640 (XV 2300)	710	310

High efficiency Air Handling Unit

VEX600 (Everest XV)

VEX 400/500/600 SELECTOR

Principle

Aldes has developed the VEX Selector software to help you choose your high-efficiency VEX HRV unit.
In just a couple of minutes you can define your technical and economic choices, and put together a complete technical dossier for your clients or to integrate into your specifications manuals.

1. Integrating all the components required for your project.

- Your operational restrictions and the summer/winder temperature data
- Your options: preheating, post-heating, post-cooling, filter efficiency, etc.
- Additional information relating to your required configuration: Active silencers, dampers, etc.

➜ Using powerful algorithms, the Selector VEX software can find the perfect unit for your needs in just a few seconds.

2. Obtain a complete technical dossier.

- The performance stats of your unit (efficiency, SFP, etc.) as well as a general plan
- CAD plans and wiring diagrams
- The technical and commercial documentation for the product
- Regulatory texts
- Costing in just a few clicks

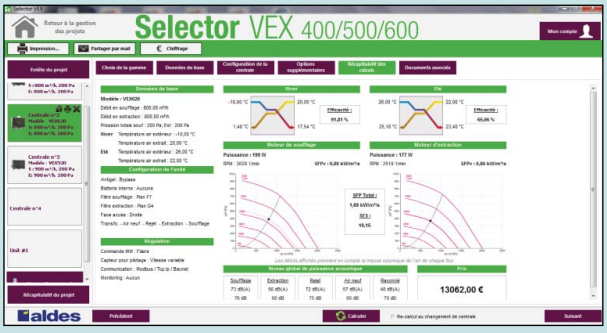
➜ **Download, save and distribute your technical dossier.**

Selector VEX 400/500/600

The advantages of the VEX Selector software
- Intuitive, 4-step interface with interactive flowcharts
- Rapid data entry and loading
- Visualisation of all units for a project
- Multi-project management
- Transmission of technical dossiers by e-mail

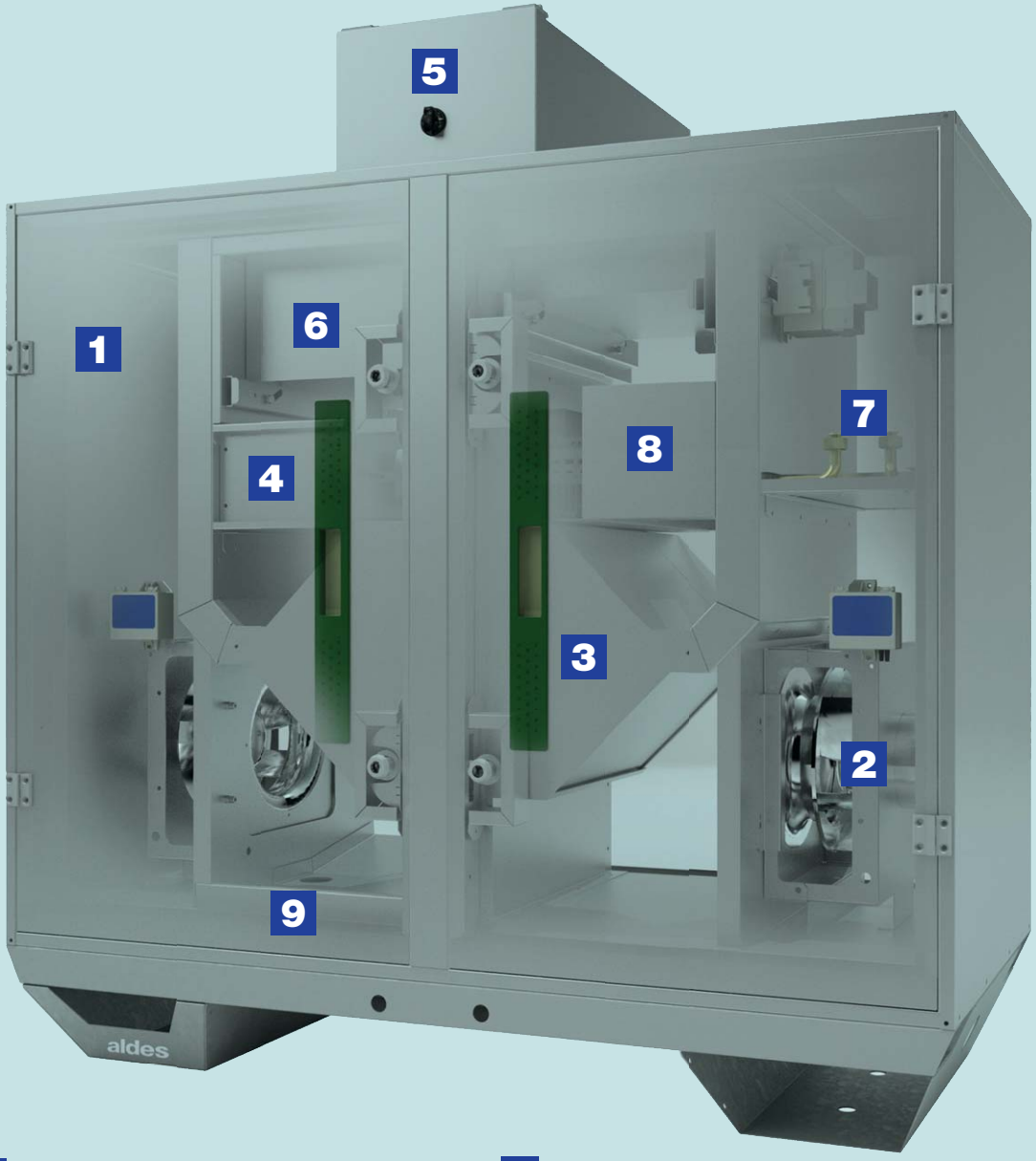
Start your design work right now:

The VEX Selector software can be downloaded free of charge, from **www.aldes.fr**, Professional section, under the heading "Software" (Logiciels).



High efficiency Air Handling Unit

VEX600 (Everest XV) general diagram



1 Casing

2 Fan

3 Heat Exchanger

4 Bypass

5 Aldes Smart Control® System

6 Filters

7 Coil connections

8 Electrical heating coil

9 Condensate discharge

High efficiency Air Handling Unit

VEX600 (Everest XV)

Field of application

- Heat recovery ventilation for energy-efficient non-residential buildings of all types: offices, schools, hotels, residences for the dependent elderly, etc.
- Filtration and preheating / cooling of incoming air.

Installation

- Utility rooms / flat roofs.
- Indoors / outdoors
- Rectangular (or optional circular) connections.
- Choice of side for equipment fittings (left or right).
- Customised plan supplied with the machine and its accessories.

Advantages

- High-efficiency (>90%) HRV units.
- Exclusive Aldes Smart Control® system.
- Optimal air quality and thermal comfort.
- Easy to install and activate.
- Selector software specific to Everest for product selection and performance calculations.

■ **ALDES AÉRAULIQUE** - Head Office: Tel: +33 4 78 77 15 15 - Fax: +33 4 78 76 15 97
■ **ALDES INTERNATIONAL** - Tel: +33 4 78 77 15 34 - Fax: +33 4 78 77 15 56

www.aldes.com

VEX600_Tech_Corp_Gb_2 - 02/2018