Ecovent® *Twin*

HIGH EFFICIENCY TWIN EXTRACT HEAT RECOVERY

Low energy / high efficiency fans

Low SFPs to achieve L2 Building Regulations

Duties up to 1.5 m^3/s

Twin extract fans to utilise heat recovery technology in sensitive continuous extract systems

High efficiency plate heat exchanger and modulating face and bypass damper

Variety of control options to suit unit requirements

Ecovent® *Twin*
DUTIES UP TO 1.5 m^3/s

Ecovent® *Twin*
DUTIES UP TO 1.5 m^3/s

25mm double skinned case construction, plantroom or weatherproof, flat or stacked. EC fans with integrated control, cross flow heat exchanger with optional controls and heating types.

Ecovent® *Twin*
part of a complete range of innovative, flexible products from the HVAC experts

ecovent® heat recovery

VES Better air for the built environment

ecovent® heat recovery

Why choose VES

VES has been supplying products for the HVAC industry for over 40 years, and have the in-depth knowledge and resources to provide solutions to all ventilation related requirements. We are a substantial British manufacturing company with over 250 employees, several factories plus a regional base in the north of England, and sales engineers located throughout the UK.

Complete range of products

The product range encompasses all types of ventilation products, including those required for commercial, industrial, public and domestic buildings. The emphasis is on low energy products and sophisticated controls to meet the requirements of the Building Regulations.

The range extends from a small bathroom extract fan up to a mighty central station air handling unit. There are specialist heat recovery units, high temperature fans for kitchen hood extract; duct, wall, ceiling and roof units; low noise products, silencers and fitted controls.

High quality, flexible solutions

VES operates a quality assurance system to ISO 9001, monitored by the BSI. The air movement products are tested in house to BS 848: Part 1, and submitted for external testing and approval when necessary.

VES specialise in bespoke designs for ventilation units, and whatever the issue, be it space, noise, temperature etc, can provide a design solution to meet the requirements of the project.

Superior customer service

From the moment we receive your enquiry to delivery and beyond, we have the people in place to give excellent customer service. The VES after sales service covers the whole of the UK and is among the best in the industry.

Experience and expertise

VES employs a range of experts in disciplines including air movement, noise control, air conditioning, controls, electrics and product refurbishment, and we have key staff who have worked at VES for many years.

Manufactured in the UK

VES has over 12000m² of manufacturing and stores space, and has state of the art sheet metalworking equipment, plus a large powder coating plant. VES also has a substantial controls department, and makes components such as dampers and electric heaters in-house. This not only provides employment for local people, but also many suppliers around the UK.

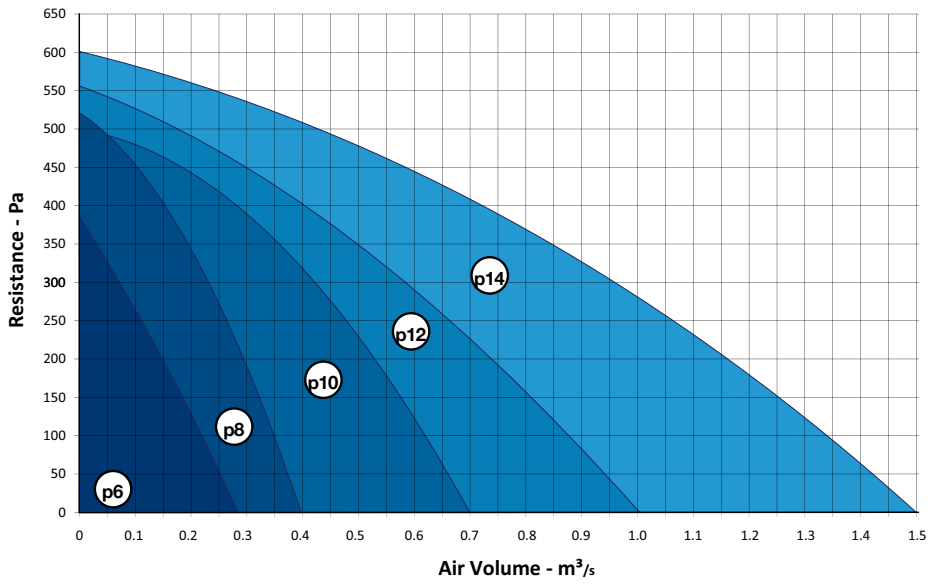
VES
Better air for the built environment

Ecovent® Twin

Ecovent has been the acknowledged market leader in heat recovery air handling units for over 10 years. The high efficiency twin extract heat recovery range includes units with duties up to 1.5 m^3/s, all with low Specific Fan Power and low energy / high efficiency fans.

Suitable for many installations requiring heat recovery technology combined with continuous extract ventilation, including offices, schools, hotels and retail establishments. With a wide range of models for ceiling void, plantroom and external locations, including a variety of control options, there will be an Ecovent unit to suit.

Ecovent® Twin Performance



Ecovent® Twin Features and Benefits

Energy Saving

Meet regulations, minimise noise and maximise performance.

Energy saving packages combine intelligent controls technology, products and services.

Simple Installation and Maintenance

Simple connection and pre-installed features save on site costs and reduce lead times. Carefully designed maintenance features minimise downtime and total cost of ownership.

Versatile Options

Versatile location, handing and access options meet the widest range of project requirements.

Robust Construction

Excellent build quality ensures mininmal noise breakout, low SFPs and air tight performance.

Energy Saving

Intelligent Controls enhance performance whilst saving energy and money

BlueSense Intelligent Control

Energy Efficient
Energy efficient units with low SFPs to help achieve L2 Building Regulations. Units are fully tested to BS 848: Part 1 (airside performance) and DIN 45635-38 (acoustic performance).

Heat Recovery
Cross flow plate heat exchanger which has no cross contamination of moisture, smells or fumes. A minimum of 50% efficiency to BS EN 308:1997 specification.

Integrated Controls
BlueSense energy saving packages combine intelligent technologies with energy saving products, services and engineering expertise.

High Performance Fans
Backward curve EC fans offering maximum efficiency, minimum energy consumption, fully controlable and ErP2015 compliant.

Bypass Damper
Modulating damper to efficiently control the heating / cooling recovery and available free heating / cooling.

Twin Extract Fan
Twin extract fans to utilise heat recovery technology in sensitive continuous extract systems. VES controls packages include auto-change over upon fan failure and time dependant duty share functions.

Pre-wired Controls & Isolator
The unit is pre-wired to an integral controls package or islolator to reduce onsite wiring requirements.

Airflow Commissioning
The unit air volume can automatically be commissioned when purchased with a VES control panel, through the inlet eye pressure tappings. Individual volumes for supply and extract can be adjusted easily at the user interface also allowing more control of demand ventilation and night set back volume.

'Plug & Play' Fans
Fan motor assembly is internally anti-vibration isolated and fitted with a quick change plug connector for easy maintenance.

Filter Maintenance
A range of high efficiency filtration with side access panels for easy and safe filter maintenance. If a VES control panel is ordered it will provide conditional based servicing information, calculating the efficient optional filter change point.

Multi-access
Plantroom units suitable for top and bottom access, left or right hand side to suit site and or installation requirements. External units suitable for left or right hand side or top access only.

Heating Options
A variety of modulating LPHW and electric heater options are available to suit the required application.

Construction
Double skinned cases, available in plantroom or weatherproof, flat or stacked configuration. All units built with an aluminium tubular frame, and galvanised steel sheet panels, with resin bonded mineral wool slab infill.

Powdercoat Options
External units supplied with sloping roof, channel base, inlet and exhaust cowls. Ecovent *Twin* units are polyester powder coated to Signal Grey to RAL7004, at the VES factory. Alternative colours and powder coated internal units are also available.

BlueSense Energy Saving Package

Ecovent®*Twin* unit with integral controls

+

EC fan - with full control

+

Sensor options

=

BlueSense Intelligent Control

The sign of energy saving products, services and expertise

For more information refer to page 16-17

Ecovent® *Twin* HIGH EFFICIENCY TWIN EXTRACT HEAT RECOVERY UNITS

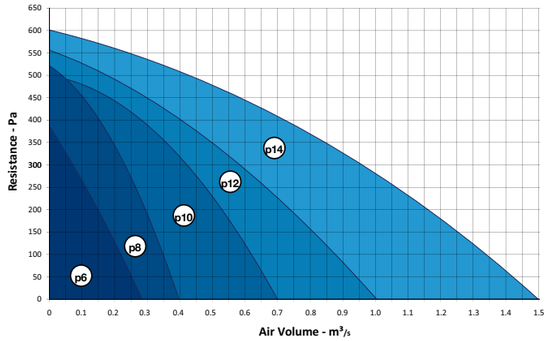
Easy Selection

VES Ecovent® *Twin* range provides comprehensive heat recovery units to suit a variety of applications.

Selecting Ecovent® *Twin* units has been made easy, through our simple step by step process. We've done all of the hard work leaving you to specify and define your unit requirements.

Duties up to 1.5 m³/s

Ecovent® *Twin* Performance



ecovent® heat recovery

BlueSense Intelligent Control

1 Choose duties up to 1.5 m³/s

Ecovent® *Twin*
Duties up to 1.5 m³/s

25mm double skinned case construction, plantroom or weatherproof, flat or stacked. EC fan with integrated control, cross flow heat exchanger with optional controls and heating types.

2 Specify your unit

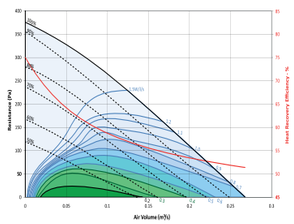
a Performance

b Unit Configuration

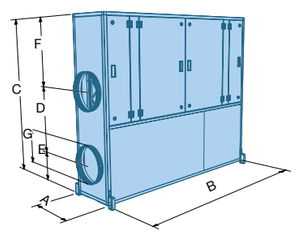
c Heating and Controls

d Noise Control

2a. Performance Curve



2b. Unit Configuration



2c. Heating and Controls

	Technical Data					Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/sec	Water Pressure Kpa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.100	31.1	4.4	0.10	8.3	1/2"	CPBD-1/WIP/CC/C	EVKCWAT-ND
	0.125	29.7	5.3	0.12	8.9			
	0.150	28.5	6.1	0.14	11.7			
	0.175	25.0	6.2	0.14	10.0			

LPHW coil, designed for LPHW 82/71°C, EAT -5°C, LAT 25°C, coil construction copper tubes, aluminium fins, coil connections 1/2" BSP.
Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options			
				1ph - Electric Heater		3ph - Electric Heater	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Electric Heater	Control Panel	Electric Heater	Control Panel
Electric Thyristor Heating	0.100	31.1	1 kw	EHDX1/1KW/1ST	CPBD-1/6KW-1/PCC/C	EHDX1/1KW/1ST	CPBD-1/6KW-3/PCC/C
	0.125	29.7	2 kw	EHDX1/2KW/1ST		EHDX1/2KW/1ST	
	0.150	28.5	3 kw	EHDX1/3KW/1ST		EHDX1/3KW/1ST	
	0.175	25.0	4 kw	EHDX1/4KW/1ST		EHDX1/4KW/1ST	
	0.179	24.2	6 kw	EHDX1/6KW/1ST		EHDX1/6KW/1ST	

2d. Noise Control

Fan Voltage	Fan Speed rpm	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz							Casing Noise Breakout	
		63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m
10 v dc	2318	66	66	66	67	63	57	54	51	46	36
9 v dc	2086	66	67	64	63	59	54	52	50	35	26
8 v dc	2014	67	64	61	62	59	53	51	46	35	25
7 v dc	1763	65	61	58	59	56	49	51	47	30	20
6 v dc	1511	61	58	55	54	50	46	50	37	25	15
5 v dc	1273	58	57	53	50	48	45	50	34	25	10

Case Insertion Loss	Centre Frequency	63	125	250	500	1k	2k	4k	8k
	Sound Reduction	4	15	12	28	30	27	27	24

Silencer Option	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz							
	63	125	250	500	1k	2k	4k	8k
EVKIN100/1200/STD	4	9	6	14	24	37	21	16

Also see Specifications on P18-19

3 Add control packages for performance and efficiency Page 16-17

Include BlueSense integrated controls to take advantage of energy saving demand ventilation, as well as many additional benefits.

Variety of control features:

- Local control or user interface options.
- Real time efficiency and energy usage calculations.
- Demand ventilation and optimised start up.
- Automatic airflow commissioning.
- Variety of heating options.
- Remote communication (Modbus®, BACnet®).

Energy monitoring is an effective way of highlighting areas for potential savings, whilst providing a key indicator to ongoing energy consumption.
Refer to page 16-17.

Selection Data

Unit Size 1 EVX143-1 *Twin*

2a Performance

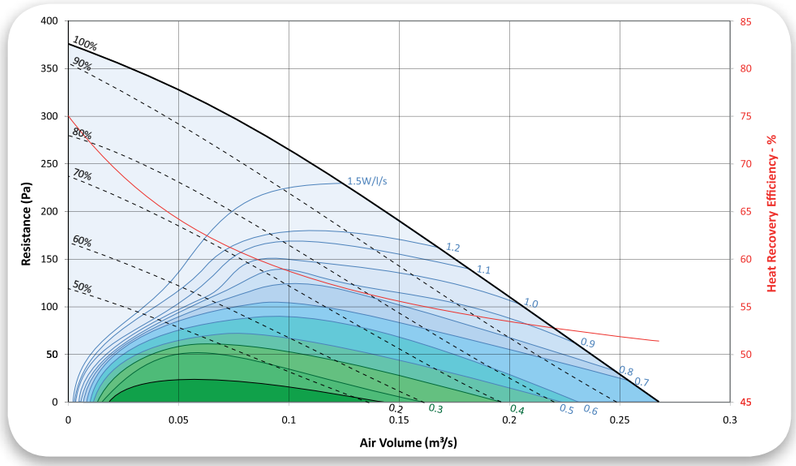
SFP Watts/litres /second = Electrical input power (Watts) / Air volume flow rate (litres/second)

Notes: SFP figures quoted at voltages tested in accordance with BS 848: Part 1 1997 for each of the two fans

Heat exchanger efficiency is calculated based upon EAT -5°C and RAT +20°C

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150Pa

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3dB
By octave band: +/- 5db



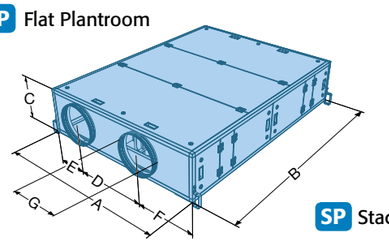
Size	Phase	Motor Size	Voltage	Fan Speed	Full Load Current	Speed Control
EVX143-1	1 Phase	0.23 kW	230 VAC	3290 rpm	1.65 A	EC

2b Configuration

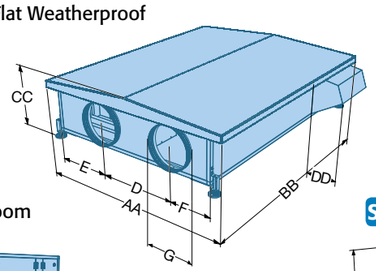
Configuration and Handling

EVX143-1 / FP / FW / SP / SW ...../ LT / LB / RB / L / RT / R ...../ TF

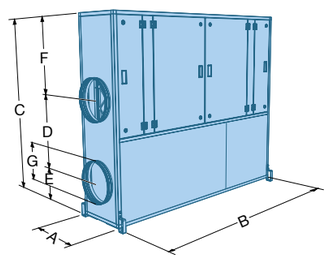
FP Flat Plantroom



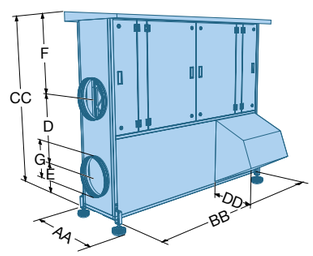
FW Flat Weatherproof



SP Stacked Plantroom



SW Stacked Weatherproof



Unit Type	Dimensions mm								Weight kg	Configuration Options					
	A	B	C	D		E	F	GØ		LT	LB	RT	RB	L	R
EVX1 Flat Plantroom	1300	2000	365	550		275	475	315	217	✔	✔	✔	✔		
EVX1 Stacked Plantroom	415	2000	1500	550		275	675	315	250					✔	✔
	AA	BB	CC	D	DD	E	F	GØ							
EVX1 Flat Weatherproof	1500	2100	440	550	225	275	475	315	263	✔		✔			
EVX1 Stacked Weatherproof	615	2100	1575	550	300	275	750	315	277					✔	✔

2c Heating and Controls

Heating / Controls

EVX143-1 / FP- W / E / null / DS / RT / G4 / TF / ISC / CPSC

	Technical Data						Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/sec	Water Pressure Kpa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.100	31.1	4.4	0.10	6.3	1/2"	CPB0-1/W/P/CC/TF/C	EVXCWKT100
	0.125	29.7	5.3	0.12	8.9			
	0.150	28.5	6.1	0.14	11.7			
	0.170	25.0	6.2	0.14	12.0			

LPHW coil, designed for LPHW 82/71°C, EAT -5°C, LAT 25°C, coil construction copper tubes, aluminium fins, coil connections 1/2" BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options			
				1ph - Electric Heater		3ph - Electric Heater	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Electric Heater	Control Panel	Electric Heater	Control Panel
Electric Thyristor Heating	0.100	31.1	1 kw	EHEX1/1KW/1X1	CPB0-1/6KW-1/P/CC/TF/C	EHEX1/3KW/1X3	CPB0-1/6KW-3/P/CC/TF/C
	0.125	29.7	2 kw	EHEX1/2KW/1X1			
	0.150	28.5	3 kw	EHEX1/3KW/1X1			
	0.170	25.0	4 kw	EHEX1/4KW/1X1		EHEX1/4KW/1X3	
	0.170	29.2	6 kw	EHEX1/6KW/1X1		EHEX1/6KW/1X3	

Air off temperature based upon entering air of -5°C. Power = Air Volume x Constant x Temperature Rise
kW = m³/s x 1.21 x △T°C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data

Fan Voltage	Fan Speed rpm	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz								Casing Noise Breakout	
		63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m
10 v dc	2518	68	68	66	67	63	57	54	51	40	30
9 v dc	2266	66	67	64	63	60	54	52	50	35	25
8 v dc	2014	67	64	61	60	59	51	51	46	35	25
7 v dc	1763	65	61	58	58	56	49	51	42	30	20
6 v dc	1511	61	59	55	54	50	46	50	37	25	15
5 v dc	1375	59	57	53	50	48	45	50	34	25	15

Case Insertion Loss

Centre Frequency	63	125	250	500	1k	2k	4k	8k
Sound Reduction	8	10	12	26	29	27	27	26

Silencer Option	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz							
EVXVA100/1200/STD	63	125	250	500	1k	2k	4k	8k
Induct Loss	4	5	6	14	24	27	21	18

Note: The silencer will add a maximum of 26 Pa to the external resistance.

Selection Data

Unit Size 2 EVX244-1 *Twin*

2a Performance

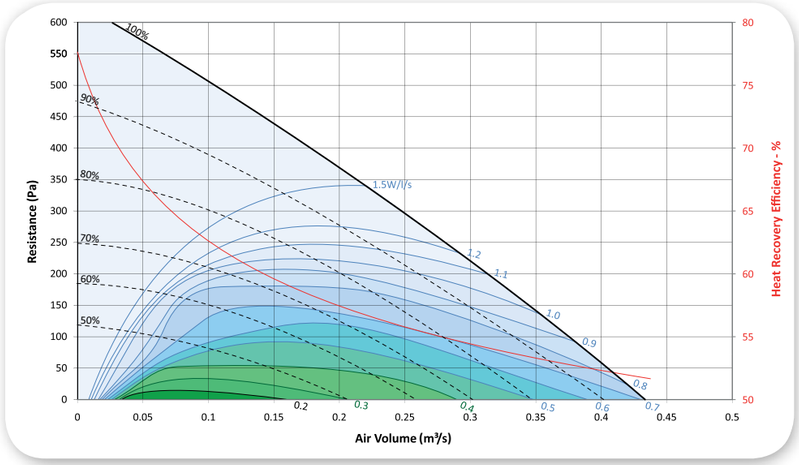
SFP Watts/litres /second = Electrical input power (Watts) / Air volume flow rate (litres/second)

Notes: SFP figures quoted at voltages tested in accordance with BS 848: Part 1 1997 for each of the two fans

Heat exchanger efficiency is calculated based upon EAT -5°C and RAT +20°C

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150Pa

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3dB
By octave band: +/- 5db



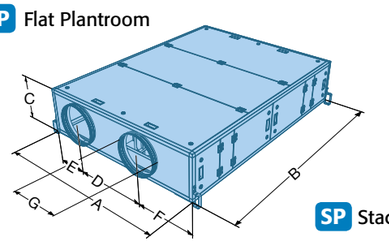
Size	Phase	Motor Size	Voltage	Fan Speed	Full Load Current	Speed Control
EVX244-1	1 Phase	0.32 kW	230 VAC	2270 rpm	1.7 A	EC

2b Configuration

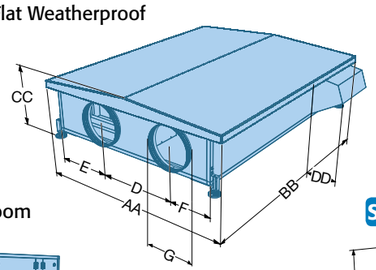
Configuration and Handling

EVX244-1 / [FP] [SP] ...../ [LT] [RB] [RT] ...../ [TF]
[FW] [SW] [LB] [L] [R]

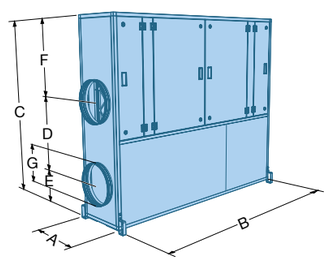
FP Flat Plantroom



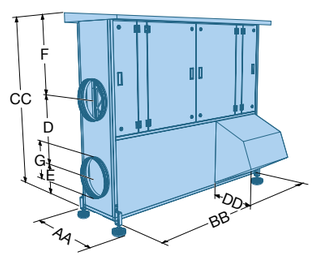
FW Flat Weatherproof



SP Stacked Plantroom



SW Stacked Weatherproof



Unit Type	Dimensions mm								Weight kg	Configuration Options					
	A	B	C	D		E	F	GØ		LT	LB	RT	RB	L	R
EVX2 Flat Plantroom	1585	2250	365	700		300	585	315	260	✔	✔	✔	✔		
EVX2 Stacked Plantroom	415	2250	1750	700		300	750	315	302					✔	✔
	AA	BB	CC	D	DD	E	F	GØ							
EVX2 Flat Weatherproof	1785	2350	440	700	225	300	585	315	315	✔		✔			
EVX2 Stacked Weatherproof	615	2350	1850	700	300	300	750	315	331					✔	✔

2c Heating and Controls

Heating / Controls

EVX244-1 / FP- [W] [E] [null] / DS / RT / G4 / [TF] [ISC] [CPSC] / [ISC] [CPSC]

	Technical Data						Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/sec	Water Pressure Kpa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.150	34.2	7.1	0.16	3.1	1"	CPB0-1/W/P/CC/TF/C	EVXCWKT200
	0.175	33.2	8.1	0.18	3.9			
	0.200	32.3	9.0	0.20	4.7			
	0.225	31.4	9.9	0.22	5.6			
	0.250	30.2	10.8	0.24	6.5			
	0.275	29.8	11.6	0.26	7.4			
	0.300	29.0	12.4	0.28	8.3			
	0.325	28.2	13.1	0.29	9.2			

LPHW coil, designed for LPHW 82/71°C, EAT -5°C, LAT 25°C, coil construction copper tubes, aluminium fins, coil connections 1" BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options			
				1ph - Electric Heater		3ph - Electric Heater	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Electric Heater	Control Panel	Electric Heater	Control Panel
Electric Thyristor Heating	0.150	33.0	6 kW	EHEX2/6KW/1X1	CPB0-1/6KW-1/P/CC/TF/C	EHEX2/6KW/1X3	CPB0-1/6KW-3/P/CC/TF/C
	0.175	28.3					
	0.225	33.0	9 kW	EHEX2/9KW/1X1	CPB0-1/9KW-1/P/CC/TF/C	EHEX2/9KW/1X3	CPB0-1/9KW-3/P/CC/TF/C
	0.275	27.0					
	0.340	30.0	12 kW	N/A	N/A	EHEX2/12KW/1X3	CPB0-1/18KW-3/P/CC/TF/C

Air off temperature based upon entering air of -5°C. Power = Air Volume x Constant x Temperature Rise
kW = m³/s x 1.21 x △T°C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data

Fan Voltage	Fan Speed rpm	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz								Casing Noise Breakout	
		63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m
10 v dc	2270	68	67	66	68	63	68	61	54	40	30
9 v dc	2043	66	65	65	65	60	66	59	50	40	25
8 v dc	1816	63	63	62	62	57	62	55	47	35	25
7 v dc	1589	62	61	58	59	53	58	50	44	30	20
6 v dc	1362	60	59	55	55	50	53	46	37	25	15
5 v dc	1250	59	58	53	53	48	51	44	30	25	15

Case Insertion Loss

Centre Frequency	63	125	250	500	1k	2k	4k	8k
Sound Reduction	8	10	12	26	29	27	27	26

Silencer Option	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz							
EVXVA200/1200/STD	63	125	250	500	1k	2k	4k	8k
Induct Loss	6	8	12	19	28	30	24	21

Note: The silencer will add a maximum of 26 Pa to the external resistance.

Selection Data

Unit Size 3 EVX345-1 *Twin*

2a Performance

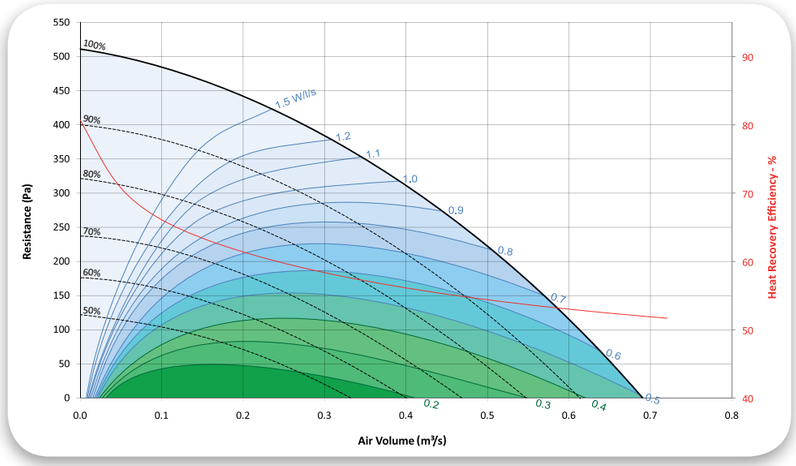
SFP Watts/litres /second = Electrical input power (Watts) / Air volume flow rate (litres/second)

Notes: SFP figures quoted at voltages tested in accordance with BS 848: Part 1 1997 for each of the two fans

Heat exchanger efficiency is calculated based upon EAT -5°C and RAT +20°C

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150Pa

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3dB
By octave band: +/- 5db



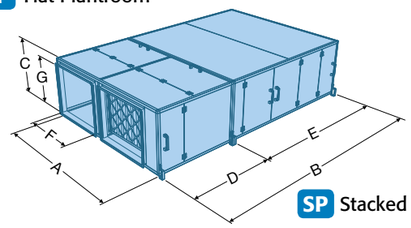
Size	Phase	Motor Size	Voltage	Fan Speed	Full Load Current	Speed Control
EVX345-1	1 Phase	0.4 kW	230 VAC	2010 rpm	2.1 A	EC

2b Configuration

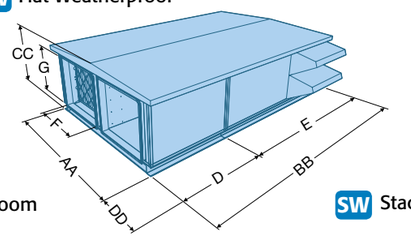
Configuration and Handling

EVX345-1 / FP SP ...../ LT RB RT ...../ TF
FW SW LB L R

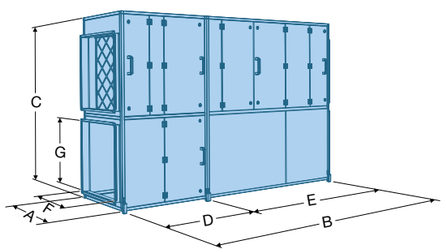
FP Flat Plantroom



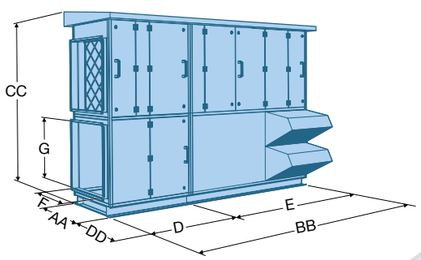
FW Flat Weatherproof



SP Stacked Plantroom



SW Stacked Weatherproof



Unit Type	Dimensions mm								Weight kg	Configuration Options					
	A	B	C	D		E	F	G		LT	LB	RT	RB	L	R
EVX3 Flat Plantroom	1675	2850	550	1350		1500	525	450	409	✔	✔	✔	✔		
EVX3 Stacked Plantroom	550	2850	1675	1350		1500	450	525	474					✔	✔
	AA	BB	CC	D	DD	E	F	G							
EVX3 Flat Weatherproof	1875	2950	750	1350	250	1500	525	450	565	✔		✔			
EVX3 Stacked Weatherproof	750	2950	1850	1350	300	1500	450	525	565					✔	✔

2c Heating and Controls

Heating / Controls

EVX345-1 / FP- W / DS / RT / G4 / TF / ISC
E CPSC
null

	Technical Data						Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/sec	Water Pressure Kpa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.150	34.0	7.1	0.16	3.0	1"	CPB0-1/W/P/CC/TF/C	EVXCWKT300
	0.200	32.2	9.0	0.20	3.2			
	0.250	30.9	10.9	0.24	4.4			
	0.300	29.8	12.7	0.28	5.7			
	0.350	28.9	14.4	0.32	7.1			
	0.400	28.0	16.0	0.36	8.6			
	0.450	27.1	17.5	0.39	10.0			
	0.500	26.3	19.0	0.42	11.5			

LPHW coil, designed for LPHW 82/71°C, EAT -5°C, LAT 25°C, coil construction copper tubes, aluminium fins, coil connections 1" BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options			
				1ph - Electric Heater		3ph - Electric Heater	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Electric Heater	Control Panel	Electric Heater	Control Panel
Electric Thyristor Heating	0.150	33.0	6 kW	EHEX3/6KW/1X1	CPB0-1/6KW-1/P/CC/TF/C	EHEX3/6KW/1X3	CPB0-1/6KW-3/P/CC/TF/C
	0.250	29.7	9 kW	EHEX3/9KW/1X1	CPB0-1/9KW-1/P/CC/TF/C	EHEX3/9KW/1X3	CPB0-1/9KW-3/P/CC/TF/C
	0.350	28.3	12 kW	N/A	N/A	EHEX3/12KW/1X3	CPB0-1/18KW-3/P/CC/TF/C
	0.450	33.0	18 kW			EHEX3/18KW/1X3	
	0.560	35.4	24 kW			EHEX3/24KW/1X3	CPB0-1/24KW-3/P/CC/TF/C

Air off temperature based upon entering air of -5°C. Power = Air Volume x Constant x Temperature Rise
kW = m³/s x 1.21 x △T°C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data

Fan Voltage	Fan Speed rpm	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz								Casing Noise Breakout	
		63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m
10 v dc	2010	67	66	66	68	61	68	62	56	40	30
9 v dc	1809	66	65	63	64	58	64	58	55	35	25
8 v dc	1608	64	64	61	61	55	61	54	54	35	25
7 v dc	1407	62	61	58	59	52	56	49	53	30	20
6 v dc	1206	60	60	55	57	49	52	50	51	25	15
5 v dc	1005	58	58	57	50	44	48	51	32	30	20

Case Insertion Loss

Centre Frequency	63	125	250	500	1k	2k	4k	8k
Sound Reduction	8	10	12	26	29	27	27	26

Silencer Option	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz							
EVXVA300/1300/STD	63	125	250	500	1k	2k	4k	8k
Induct Loss	5	9	16	30	39	39	31	26

Note: The silencer will add a maximum of 30 Pa to the external resistance.

Selection Data

Unit Size 4 EVX447-1 *Twin*

2a Performance

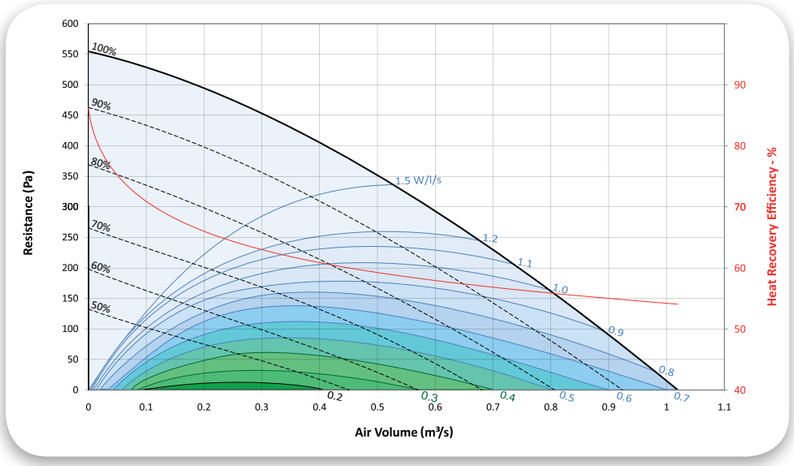
SFP Watts/litres /second = Electrical input power (Watts) / Air volume flow rate (litres/second)

Notes: SFP figures quoted at voltages tested in accordance with BS 848: Part 1 1997 for each of the two fans

Heat exchanger efficiency is calculated based upon EAT -5°C and RAT +20°C

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150Pa

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3dB
By octave band: +/- 5db



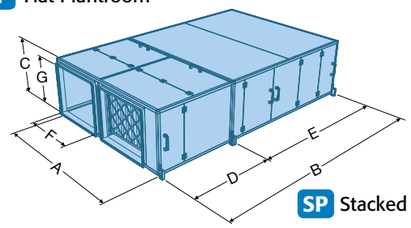
Size	Phase	Motor Size	Voltage	Fan Speed	Full Load Current	Speed Control
EVX477-1	1 Phase	0.75 kW	230 VAC	1700 rpm	3.9 A	EC

2b Configuration

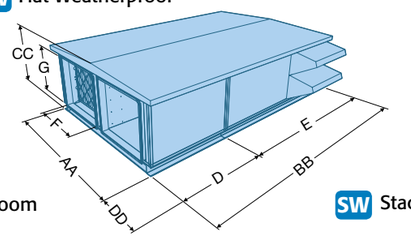
Configuration and Handling

EVX447-1 / FP SP ...../ LT RB RT ...../ TF
FW SW LB L R

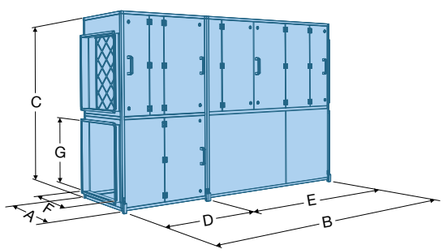
FP Flat Plantroom



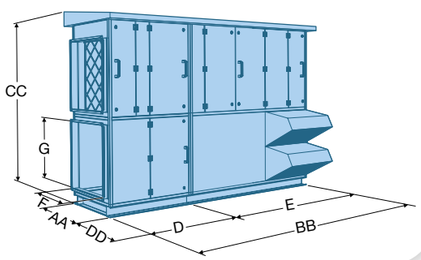
FW Flat Weatherproof



SP Stacked Plantroom



SW Stacked Weatherproof



Unit Type	Dimensions mm								Weight kg	Configuration Options					
	A	B	C	D		E	F	G		LT	LB	RT	RB	L	R
EVX4 Flat Plantroom	1850	3150	650	1550		1600	650	550	515	✔	✔	✔	✔		
EVX4 Stacked Plantroom	650	3150	1850	1550		1600	550	650	531					✔	✔
	AA	BB	CC	D	DD	E	F	G							
EVX4 Flat Weatherproof	2050	3250	850	1550	300	1600	650	550	692	✔		✔			
EVX4 Stacked Weatherproof	850	3250	2025	1550	350	1600	550	650	629					✔	✔

2c Heating and Controls

Heating / Controls

EVX447-1 / FP- W / DS / RT / G4 / TF / ISC
E CPSC
null

	Technical Data						Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/sec	Water Pressure Kpa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.400	32.9	18.4	0.41	6.5	1¼"	CPB0-1/W/P/CC/TF/C	EVXCWKT400
	0.450	32.0	20.2	0.45	7.6			
	0.500	31.2	22.0	0.49	8.8			
	0.550	30.5	23.6	0.53	10			
	0.600	29.7	25.2	0.56	9.9			
	0.650	29.0	26.8	0.60	11			
	0.700	28.3	28.2	0.63	12			
	0.800	25.0	30.9	0.69	14.1			

LPHW coil, designed for LPHW 82/71°C, EAT -5°C, LAT 25°C, coil construction copper tubes, aluminium fins, coil connections 1¼" BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	3ph - Electric Heater	
				Electric Heater	Control Panel
Electric Thyristor Heating	0.400	30.9	15 kW	EHEX4/15KW/1X3	CPB0-1/18KW-3/P/CC/TF/C
	0.500	29.7	18 kW	EHEX4/18KW/1X3	
	0.600	33.1	24 kW	EHEX4/24KW/1X3	CPB0-1/24KW-3/P/CC/TF/C
	0.700	28.3			
	0.800	33.1	32 kW	EHEX6/32KW/1X3	CPB0-1/32KW-3/P/CC/TF/C

Air off temperature based upon entering air of -5°C. Power = Air Volume x Constant x Temperature Rise
kW = m³/s x 1.21 x △T°C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data

Fan Voltage	Fan Speed rpm	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz								Casing Noise Breakout	
		63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m
10 v dc	1700	70	74	71	69	62	60	55	55	45	35
9 v dc	1530	69	72	67	66	59	57	52	54	40	30
8 v dc	1360	66	68	67	63	56	54	49	53	40	30
7 v dc	1190	66	66	64	60	53	51	49	51	35	25
6 v dc	1020	69	65	59	56	50	49	54	46	30	20
5 v dc	900	77	60	55	54	46	48	56	35	35	20

Case Insertion Loss

Centre Frequency	63	125	250	500	1k	2k	4k	8k
Sound Reduction	8	10	12	26	29	27	27	26

Silencer Option	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz							
	63	125	250	500	1k	2k	4k	8k
EVXVA400/1600/STD								
Induct Loss	6	12	22	39	48	48	40	28

Note: The silencer will add a maximum of 22 Pa to the external resistance.

Selection Data

Unit Size 5 EVX549-3 *Twin*

2a Performance

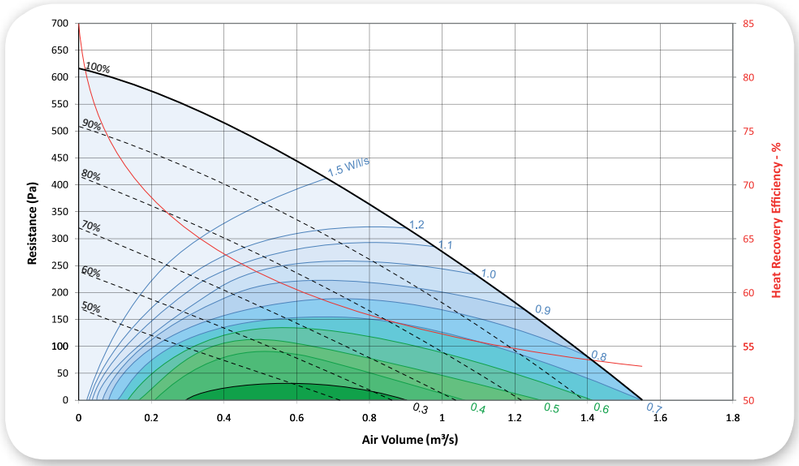
$$\text{SFP}\ \frac{\text{Watts/litres/second}}{} = \frac{\text{Electrical input power (Watts)}}{\text{Air volume flow rate (litres/second)}}$$

Notes: SFP figures quoted at voltages tested in accordance with BS 848: Part 1 1997 for each of the two fans

Heat exchanger efficiency is calculated based upon EAT -5°C and RAT +20°C

The fan performance is calculated using standard G4 filters. Alternative F7 will add a maximum of 150Pa

Tolerances:
On flow rates: +/- 5%
On acoustic power and pressure: Levels: +/- 3dB
By octave band: +/- 5db



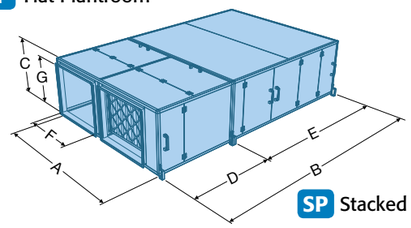
Size	Phase	Motor Size	Voltage	Fan Speed	Full Load Current	Speed Control
EVX549-3	3 Phase	1.25 kW	400 VAC	1400 rpm	2.1 A	EC

2b Configuration

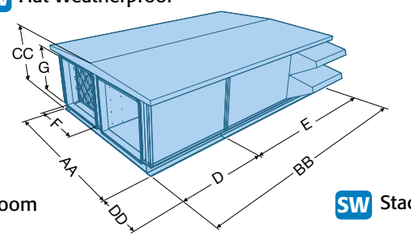
Configuration and Handling

EVX549-3 / FP SP ...../ LT RB RT ...../ TF
FW SW LB L R

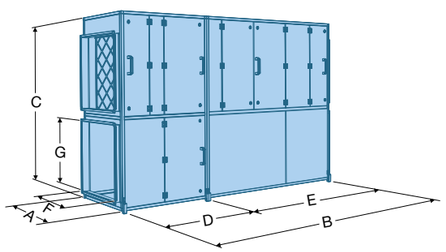
FP Flat Plantroom



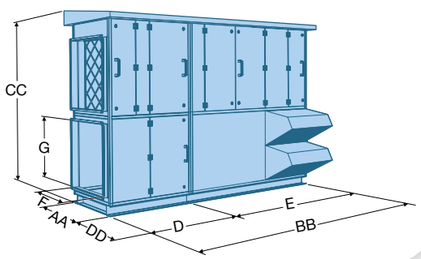
FW Flat Weatherproof



SP Stacked Plantroom



SW Stacked Weatherproof



Unit Type	Dimensions mm								Weight kg	Configuration Options					
	A	B	C	D		E	F	G		LT	LB	RT	RB	L	R
EVX5 Flat Plantroom	2100	3600	700	1750		1850	700	600	651	✔	✔	✔	✔		
EVX5 Stacked Plantroom	700	3600	2100	1750		1850	600	700	654					✔	✔
	AA	BB	CC	D	DD	E	F	G							
EVX5 Flat Weatherproof	2300	3700	875	1750	350	1850	700	600	860	✔		✔			
EVX5 Stacked Weatherproof	900	3700	2275	1750	375	1850	600	700	765					✔	✔

2c Heating and Controls

Heating / Controls

EVX549-3 / FP- W E null / DS / RT / G4 / TF / ISC CPSC

	Technical Data						Heating and Control Options	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Water Flow Rate l/sec	Water Pressure Kpa	Coil Connection Size BSP	Control Panel	Valve & Actuator Kit
LPHW Heating	0.850	31.7	37.8	0.84	6.1	1¼"	CPB0-3/W/P/CC/TF/C	EVXCWKT500
	0.900	31.2	39.4	0.88	6.5			
	0.950	30.6	41.0	0.91	6.9			
	1.000	30.0	42.4	0.95	7.3			
	1.050	29.5	43.9	0.98	7.7			
	1.100	28.9	45.2	1.01	8.1			
	1.200	27.8	47.7	1.06	8.8			
	1.270	25.0	49.7	1.10	9.3			

LPHW coil, designed for LPHW 82/71°C, EAT -5°C, LAT 25°C, coil construction copper tubes, aluminium fins, coil connections 1¼" BSP.

Note: If no control panel is purchased the unit will be supplied with a main isolator.

	Technical Data			Heating and Control Options	
				3ph - Electric Heater	
	Air Volume m³/s	Maximum Leaving Air Temp °C	Maximum kW Output	Electric Heater	Control Panel
Electric Thyristor Heating	0.900	29.4	32 kW	EHEX5/32KW/1X3	CPB0-3/32KW-3/P/CC/TF/C
	1.000	26.4			
	1.150	34.4	48 kW	EHEX5/48KW/1X3	CPB0-3/48KW-3/P/CC/TF/C
	1.200	33.1			
	1.270	31.2			

Air off temperature based upon entering air of -5°C. Power = Air Volume x Constant x Temperature Rise
kW = m³/s x 1.21 x △T°C

Note: If no control panel is purchased the unit will be supplied with a main isolator.

2d Noise Data

Fan Voltage	Fan Speed rpm	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz								Casing Noise Breakout	
		63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m
10 v dc	1400	74	78	77	71	65	62	57	57	50	40
9 v dc	1260	73	75	74	69	62	59	54	56	50	35
8 v dc	1120	72	73	72	65	59	56	51	54	45	35
7 v dc	980	70	69	69	62	56	55	50	49	40	30
6 v dc	850	69	64	64	58	52	50	49	40	35	25
5 v dc	800	69	63	64	56	50	48	49	37	35	25

Case Insertion Loss

Centre Frequency	63	125	250	500	1k	2k	4k	8k
Sound Reduction	8	10	12	26	29	27	27	26

Silencer Option	Sound Spectrum dB re 10-12w PWL Centre Frequency Hz							
EVXVA500/1600/STD	63	125	250	500	1k	2k	4k	8k
Induct Loss	6	11	21	37	46	46	38	27

Note: The silencer will add a maximum of 25 Pa to the external resistance.

Ecovent® Twin Controls

VES designs and manufactures all controls systems entirely in-house, this advantage ensures that the most efficient, lowest cost, highest quality packages are available.

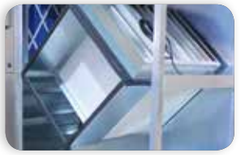
Offering a unique combination of controls features and flexibility, tailored to an infinite variety of HVAC applications, VES software engineers are some of the best in the industry utilising the latest methods for energy management, sensor response, together with a range of building automation interfaces, all are standard features from VES controls.

Panels can be fitted & pre-wired directly to the AHU, or supplied loose to control one or more systems. If a control panel is not ordered the unit can be supplied with a local isolator for easy customer connection.

Energy

BlueSense Intelligent Control

Energy saving packages combine intelligent technologies with energy saving products, services and engineering expertise.



Heat Exchanger Efficiency

Cross flow plate heat exchanger which has a minimum of 50% efficiency to BS EN308:1997 specification. Combined with a VES control panel the recovered energy is displayed in real time helping manage costs and confirming efficiency regulations.

Energy Control

Integrated energy meter for actual consumption and saving calculations is optionally supplied to display real time information on the user interface. The user can simply adjust between economy and comfort levels, with actual energy feedback.

Twin Extract Controls

Controls to provide continuous extract ventilation for the heat recovery system with functions for automatic fan failure, detected by fitted individual air volume transducers and duty share calculated via recorded fan operating hours.

Control

Temperature

Accurate temperature control can be acheived through either supply or room / extract sensors and can incorporate supply air limitation to reduce the deviation in supply air temperature entering the space. The controlling sensor can be configured on site via the user interface.

Heating Options

Modulating Thyristor or LPHW actuator to accurately and efficiently control temperature.
When incorporated with a VES control panel we will calculate the precise amount of heating demand required to effectively maintain setpoint.

User Interfaces

A user interface is supplied, mounted on an air handling unit to simplify the commissioning process. A variety of remote user interfaces are available to suit individual application requirements, from simple ON / OFF and temperature display to full parameter adjustment and commissioning.

Demand Ventilation

Significant energy savings can be made by effective demand ventilation control. Reducing fan speed, heating and cooling demands to suit current occupancy and ambient conditions.

Pre-wired

Control panels can be pre-wired to the unit and factory commissioned, and are complete with quick change plug connectors on electrical components and between unit sections. This service reduces onsite installation, giving the installer peace of mind from a complete ventilation package.

Post Installation

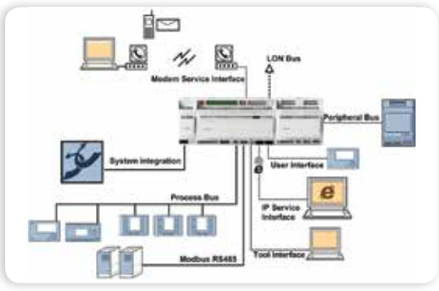
The post-installation commissioning by a VES controls specialist provides an essential service to ensure efficient operation of the equipment. This results in significant value to all parties by delivering a system that performs as specified, intended and paid for.

Warranty

Specify a BlueSense ventilation package when selecting an air handling unit from VES, which includes a factory fitted control panel and Post-Installation commissioning. This provides a 5 year warranty, afirming our long term commitment to operational performance, reliability and safety.

Airflow Commissioning

The unit air volume can automatically be commissioned when purchased with a control panel. This is completed by measuring the pressure at the fan inlet ring for each individual fan and using a K factor calculation to ensure the fan speed is set to meet the required volume. The individual supply and extract volumes can easily be commissioned at the unit mounted interface. In addition, to setback temperatures, the setback air volumes can individually be set to meet specific application requirements.



Building Integration

VES provides a number of communicating protocols including BACnet®, Modbus®, and TREND®, allowing fast and simple integration of the HVAC controls onsite, no matter what the building automation and control system is.

Information supplied by the VES packages can form an integral part of the intelligent building and automation system and can help reduce energy consumption of buildings.

BlueSense Includes an Extended Warranty

- 3 years with BlueSense packages.
- 5 years with BlueSense package and Post Installation Commissioning.

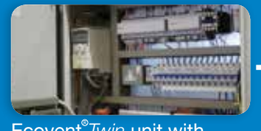
Please quote BlueSense with your order or contact our specialist sales team for further information. Call +44 (0)8448 15 60 60 or Email info@ves.co.uk

Features of Intelligent Controls

Energy Saving

Intelligent Controls enhance performance whilst saving energy and money.

Pre-wired Controls



Ecovent®*Twin* unit with integral controls

+

EC fan - with full control

+

Sensor options

= BlueSense Intelligent Control

The sign of energy saving products, services and expertise.

Product Specification

Ecovent® *Twin* High Efficiency Twin Heat Recovery Units

1.1. General

A. Provide a heat recovery air handling unit to meet the performance and configuration as indicated in the schedule and detail drawings. The heat recovery air handling unit shall be tested to BS848 Part 1 and shall be of the Ecovent *Twin* type as manufactured by VES Andover Ltd a company accredited with BS EN ISO 9001:2008.

1.2. Unit Construction

A. 1. The unit shall be provided pre-assembled comprising of a rigidly constructed 25mm tubular aluminium case, double skinned galvanised sheet steel panels, supply & twin extract centrifugal backward curved fans with direct drive motor, supply and extract G4 pleated panel filters, and plastic plate heat exchanger incorporating drain pan.

2. The unit shall be provided pre-assembled comprising of a rigidly constructed 50mm tubular aluminium case, double skinned galvanised sheet steel panels, supply & twin extract centrifugal backward curved fans with direct drive motor, supply and extract G4 pleated panel filters, and plastic plate heat exchanger incorporating drain pan.

B. 1. Size 1 and 2 shall be supplied in one section.

2. Size 3, 4 & 5 shall be supplied in two sections as indicated in the schedule & details drawings. The unit shall be pre-drilled & gusseted and complete with quick change plug connectors for all electrical components for sectional re-assembly on-site by others as indicated in the details drawings and O&M documentation.

C. The units shall be available with optional fitted electric or hot water heating as indicated in the schedule & detail drawings.

D. The units shall be available in plantroom or weatherproof construction as indicated in the schedule and detail drawings.

E. The units shall be fitted with a heat exchanger bypass duct, incorporating a bypass damper to allow heating / cooling recovery and free heating / cooling.

F. The unit shall have circular ‘safe fit’ duct spigots complete with rubber gasket seals for 25mm size 1 & 2 units, 20mm Mez flange connections for 50mm 3, 4, 5 units.

G. Access for maintenance shall be via a removable lid or panels, allowing access for the cleaning or removal of internal components as indicated in the detail drawings. The filters can be withdrawn through side access panels.

H. 1. Size 1, 2, 3, 4 & 5 plantroom casework shall incorporate mounting brackets compatible with drop-rod systems.

2. Size 1, 2, 3, 4 & 5 weatherproof casework shall be supplied as standard on a galvanised sheet steel channel base, the frame shall be 100mm high as indicated in the schedule & detail drawings. The frame shall be finished to match the unit casework.

I. Units 1, 2, 3, 4 & 5 shall be compatible with optional self-levelling feet as provided by VES Andover Ltd.

J. The units shall be supplied with access & handing as indicated in the schedule & detail drawings.

1.3. Fans

A. 1. The size 1, 2, 3, 4 & 5 unit fan impellors shall be of PA6 glass-fiber reinforced, backward curved plastic blade construction with galvanised steel mounting plate.

B. The impellers shall be statically and dynamically balanced to G 2.5 / G 6.3 according to ISO1940 part 1.

C. The fan impellers shall be mated with aerodynamic bell inlet eyes for high efficiency and low noise generation.

D. The fan impellers are supplied as standard in natural uncoated finish. Acrythane coating shall be available for galvanised steel fans as indicated in the schedule.

1.4. Motors

A. The fans shall incorporate external rotor motors to insulation class F, IP44 environmental protection rating & shall be supplied with thermal protection cut-out as standard.

B. The integrated motor shall be supplied epoxy painted grey to RAL7032.

1.5. Plate Heat Exchanger

A. The unit shall be supplied with a full PVC plate heat exchanger with a minimum efficiency of 50% to BS EN 308:1997 specification.

B. The plate heat exchanger shall incorporate a 100% recycled exchange matrix and heavy gauge PVC framework as standard.

C. The plate heat exchanger matrix shall be aerodynamically designed, with built-in spacers ensuring a constant plate separation.

D. The plate heat exchanger shall be available with optional virgin plastic exchange matrix for corrosive environments as indicated in the schedule.

1.6. Drain Pan

A. The unit shall include a built-in condensate drain pan as standard.

B. The drain pan discharge connection shall be 15mm plain PVC stub type.

1.7. Filtration

A. The filters shall be 37mm pleated filter media as standard, with rigid wax treated cardboard moisture resistant frame.

B. Filters shall be to BS EN 779 Classification Grade G4 as standard, grade as indicated in the schedule and detail drawings. F7 alternative available.

1.8. Operation Environment

A. The units shall be available with hot water or electric element heating as indicated in the schedule and detail drawings.

B. The hot water heater battery shall be of copper tube, aluminium fin block construction, with galvanised sheet steel casework. The flow & return pipe connections shall be handed as indicated in the schedule and detail drawings.

C. The hot water heater battery shall be available with alternative fin coatings by special order, as indicated in the schedule.

D. The electric heater battery shall be suitable for single or three phase supply and compatible with thyristor control as indicated in the schedule and detail drawings.

E. The electric heater battery shall consist of an element array sized to suit the steps and phases as indicated in the schedule and detail drawings. The elements shall consist of a tubular incolloy shroud containing compressed magnesium oxide powder packed around a Nickel Chromium resistance wire. The element array shall be evenly spread across the open area of the duct.

F. Where multiple elements are required to achieve the steps and phases as indicated in the schedule, elements shall be linked by copper busbar or terminated with electrical connectors.

G. The electric heater battery shall be fitted as standard with a 130°C non-adjustable thermal safety cutout, with manual reset.

H. All electric heaters shall be 1500V flash tested, and resistance tested for correct component assembly. Test certificates shall be available on request.

1.9. Operation Environment

A. The unit shall be designed to operate in ambient temperatures from -20°C up to 40°C, and can run continuously at up to 80% humidity level.

B. The fan impellers shall be available with optional Acrythane finish suitable for coastal or corrosive environments.

2.0. Controls

A. The unit shall be fitted as standard with EC or Inverter fan speed control system to match fan type with max/min speed & 0-10v BMS control, i.e Air Quality or Temperature sensor.

B. The unit shall be available with optional unit mounted CPB control panel as manufactured and factory fitted by VES Andover Ltd. to suit electric or hot water heating, or alternative loose CPB panel for installation by others. If no control panel is ordered the unit will be supplied with local isolator for unit mains connections.

C. Fitted Controls shall be positioned as indicated in the schedule & detail drawings.

D. Controls shall be supplied with internally mounted circuit breakers, run, trip & panel live indication & lockable door isolation switch.

E. Control panels shall have individual circuit breakers for Supply, Extract, Control & Electric Heater Battery where indicated in the schedule & detail drawings.

F. Fitted controls shall be supplied with a supply air duct sensor to be fitted on-site by others as indicated in the schedule.

G. Fitted controls shall be supplied with a wired AHU mounted LCD controller. Optional room user interfaces are available.

H. Fitted controls shall be fully pre-wired to internal components. Hot water controls shall be pre wired to a local junction box for easy electrical connection to optional four port valve actuator supplied by VES Andover LTD as indicated in the schedule.

2.1 Ancillaries

A. The unit shall be fully compatible with a standard range of spigot mounted silencers. The silencers shall be suitable for direct mounting to the unit.

B. The silencer shall be a rigidly constructed single skinned galvanised sheet steel case lining incorporating internal splitting vanes lined with resin bonded mineral wool.

C. The silencer casework shall be provided naturally finished in high quality galvanised steel as standard. Internal & External powder coat available as indicated in the schedule. Colour to be in accordance with schedule.

Download specification from www.ves.co.uk/information-centre

Ecovent® *Twin* Model

Product	Unit Size	Fan Type	Fan Size	Phase
EVX	**1**	4	3	-1
	2	4	4	-1
	3	4	5	-1
	4	4	7	-1
	5	4	9	-3

Product
EVX

Case Construction

Unit Config	Main Heating	Infill	Handing
/FP	[null]	/DS	/RT
/FW	-E	/EE	/RB
/SP	-W		/LT
/SW			/LB
			/L
			/R

Unit Config
/FP= Flat Plantroom
/FW= Flat Weatherproof
/SP=Stacked Plantroom
/SW=Stacked Weatherproof

Main Heating
-E=Electric Heating
-W=Water Heating

Infill
Size 1-5=DS (25mm)
Size 6-8=EE (50mm)

Handing
Plantroom Flat /RT=Right Top /RB=Right Bottom /LT=Left Top /LB=Left Bottom
Weatherproof Flat Stacked /L=Left /R=Right

Options

Main Filter	Twin Extract Fans	Control Panel Section	Colour
/G4	/TF	/ISC	[null]
/F7		/CPSC	/R7004

Main Filter
/G4
/F7

Twin Extract Fans
/TF = Twin Extract Fans

Control Panel Section
/ISC=Isolator and built in Speed Controller
/CPSC=Control Panel and built in Speed Controller

Colour
null=galvanised
R=RAL (colours)

Ancillaries Examples

Name	Part No.
Control Panel	CPB0-1/6KW-1/P/CC/TF/C
Electric Heater Battery	EHEX1/3KW/1X3
Valve & Acuator Kit	EVXCWKT700
Silencer	EVXVA300/1300/STD
Feet	NRGX9000

Example Codes

Plantroom EVX 143-1/FP-E /DS/RT/G4/TF/ISC

Weatherproof EVX 549-3/SW-W/EE/L/G4/TF/CPSC

ecovent® heat recovery

Ecovent® *Twin*
Step by Step Guide

1 Choose Duties up to 1.5 m³/s

Ecovent® *Twin*
Duties up to 1.5 m³/s

2 **a** Performance Curve **b** Unit Configuration

c Heating and Controls **d** Noise Control **e** Ancilliaries

Specify your chosen unit

3 Add control packages for performance and efficiency
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For details on Ecovent® *Twin* product codes please turn to the back of this flap.

Other products and services from the complete range of VES HVAC solutions:

Air Handling Units
- *Supply and extract, combined or separate.*
- *Heat recovery including crossflow plate heat exchangers, thermal wheels and run-around coils.*
- *Plantroom or weatherproof, flat or stacked.*
- *Fitted silencers, inverters and controls.*
- *Matching DX condensing units.*
- *Various case constructions including EN 1886 certified units.*

Duct Fans
- *In-line centrifugal, with forward or backward curved impellers.*
- *Round, axial and mixed flow fans.*
- *Fitted silencers available on all units.*
- *Manual and automatic speed controllers available.*

Twin Fans
- *For ceiling void, plantroom and weatherproof.*
- *Many models and configurations.*
- *Fitted auto-changeover system.*

Roof Extract Units
- *Three ranges for volume and pressure.*
- *Curb and soaker sheet bases.*

Wall and Ceiling Fans
- *All types for commercial, industrial and domestic premises.*

Kitchen Hood Extract Fans
- *Heavy duty high temperature fans for hot greasy air.*
- *Motors out of airstream.*
- *Single inlet fans, in-line and vertical jet roof units.*

Control Panels
- *Off the shelf and built to order panels.*
- *Air quality sensors and energy savers.*
- *Intelligent control software.*
- *A range of remotes including touch screen.*

Noise Control
- *Matching silencers available for all ventilation products.*
- *Silencers designed to meet noise criteria.*
- *Cleanable silencers.*
- *Weatherproof silencers.*

Specialist Site Services
- *Plant refurbishment.*
- *Energy saving upgrades.*
- *Noise reduction.*
- *Site surveys.*
- *Kitchen ventilation.*
- *AHU flat pack installation.*
- *Maintenance.*
- *Spares.*

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BSRIA

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