

ECOBOX

PLATE HEAT EXCHANGER UNITS

- Provides 50-70% heat recovery
- Round and rectangular spigot versions
- Ideal for confined areas
- Air volumes up to 2.0m³/s
- Easy installation
- Wide range of models for ceiling void, plantroom and external locations
- Compatible with a large range of supply and extract units



VES PLATE HEAT EXCHANGER UNITS

part of a complete range of innovative, flexible products from the HVAC experts

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 200 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 and silencers; fitted controls.

High quality, flexible solutions

VES operate 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 employ 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.

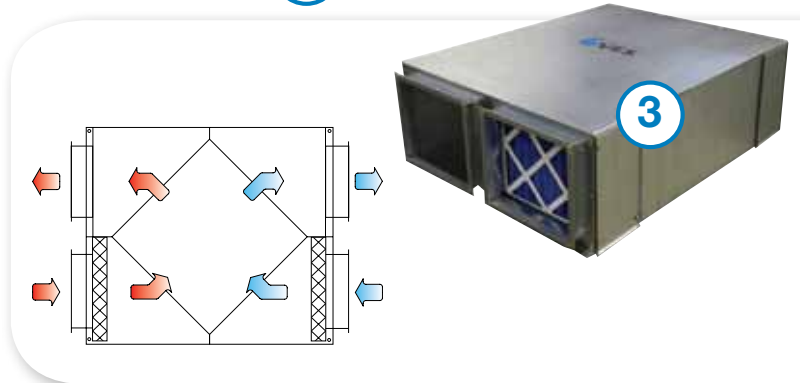
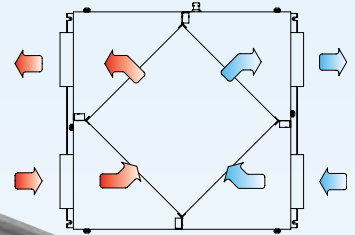
Introduction

The ECOBOX is a plate heat exchanger that eliminates cross contamination of fresh air. It is ideal for confined areas with no space for fan units, or an upgrade to a fan unit that is already in place.

The ECOBOX is robust and well built, including a thermal lining with casing made from galvanised sheet steel. The cased plate heat exchangers provide 50-70% heat recovery, depending on conditions.

ECOBBOX units can be hung or secured to a base and have round or square spigots for easy ductwork connection. As well as easy installation the ECOBOX can be used in conjunction with many VES and other manufacturers products. For instance it can be combined with VES Round Fans or Colourfans and Heatline Heater Batteries to provide a smaller scale heat recovery solution.

- ▶ Air volumes up to 2.0m³/s.
- ▶ 50-70% heat recovery, depending on conditions.
- ▶ Galvanised steel case with thermal lining.
- ▶ Condensate drain pan to exhaust with 3/4" BSP side connection. (Optional on some models)
- ▶ Round or rectangular spigots.
- ▶ Units can be hung or secured to a base.
- ▶ Range of options including weatherproofing, filters, damper.



ECOBX Features and Benefits

Performance

Maximise efficiency and save on energy.



Energy Efficient

Energy efficient units providing 50-70% heat recovery, depending on conditions.



Duty

0-2.0m³/s air volume range.

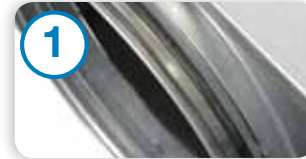
Simple Installation and Maintenance

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.



Quick Access

Quick release fastenings for quick on-site access.



Circular Connections

Circular spigot connections with double rubber gasket seal to enable easy connection to ductwork, avoiding the need for additional accessories.



Mounting Options

Units can be floor mounted or drop rod mounted from ceiling.



Rectangular Connections

Rectangular spigot connections fitted with mez flange to enable easy connection to ductwork.

Robust Construction

Excellent build quality ensures air tight performance.



Excellent Construction

Rigid single skin galvanised sheet steel construction with thermal lining.



Powdercoat Options

External units (EBX) are powder coated Signal Grey to RAL7004 as standard, with many other colours available.

Versatile Options

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



Multi Access

Plantroom units suitable for top and bottom access. External units suitable for top access only.



Adjustable Mounting Feet

Weatherproof units supplied with adjustable feet for uneven surfaces. Plantroom units can be supplied with optional feet.



Versatile Handing

Handing can be left or right hand side to suit site and/or installation requirements.



Low Profile

Units are low profile and ideal for ceiling void or roof space.

Face and Bypass

There is no option for a face and bypass or bypass damper in the ECOBOX units. Please contact VES Sales to consider other alternatives, including Ecovent NRG (see page 9).

ECOBX-ECO

High duty/
High efficiency

Refer to
page 5



ECOBX-EBX

Plantroom Medium duty/
High efficiency

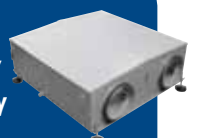
Refer to
page 6



ECOBX-EBX

Weatherproof
Medium duty/
High efficiency

Refer to page 7



Versatile Heat Recovery Solutions

Colourfans with ECOBOX

The ECOBOX can be used in conjunction with Colourfan supply, extract and twin fan units. The image below illustrates a ceiling void solution, incorporating Colourfan units with integrated Controls and a LCD Room Unit.

Ecobox EBX



Colourfan Extract with Isolator



Colourfan Supply Filter, Fan, LPHW Coil, complete with integral Controls package



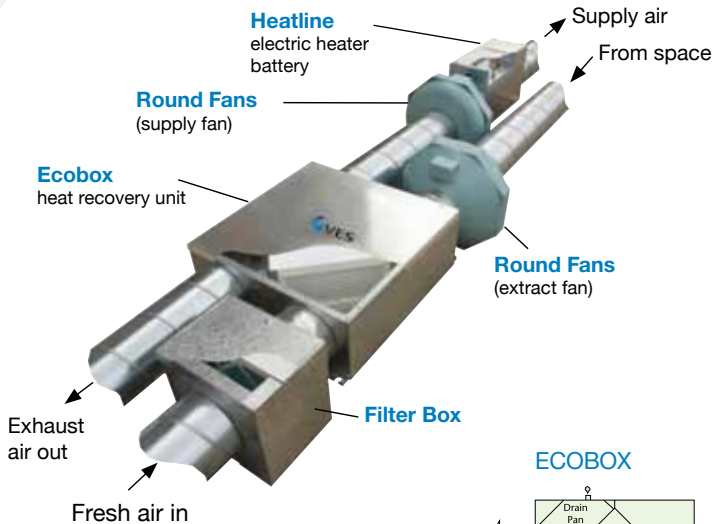
LCD Room Unit



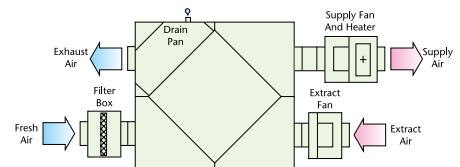
Controls Communication

Round Fans with ECOBOX

The ECOBOX can be used in conjunction with other VES products - extract and supply fans, twin fans and air handlers. The image below illustrates a compact ceiling void solution, incorporating Round Fans with Heatline and ECOBOX.



ECOBBOX



ECOBBOX is compatible with

Round Fans, Colourfan Supply, Extract and Twin Fan Units and the Heatline Duct Mounted Heater

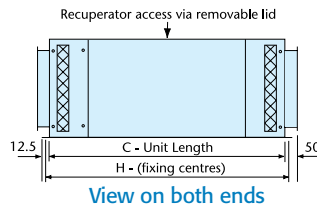
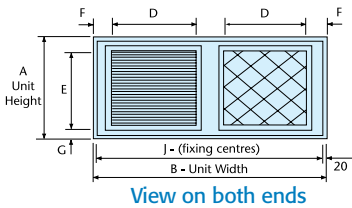
Refer to pages 8 & 9

ECOBX-ECO

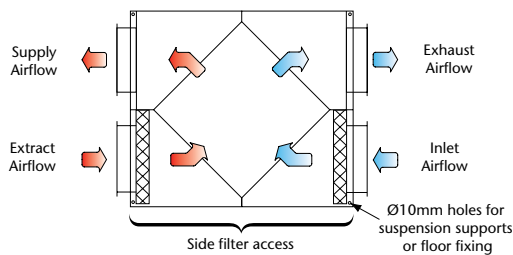
High duty/
high efficiency

PRODUCT & MODEL: **ECO** / SIZE: **[]** / UNIT CONFIG.: **P** / FILTER OPTION: **F**

Air volume range of 0 - 2.0m³/s.
Cased plate heat exchangers.
Easy to install in ventilation systems.
Can be used in conjunction with many VES products.



ECOBX Model	Dimensions - mm									Weight kg
	A	B	C	D	E	F	G	H	J	
ECO100	330	765	980	250	250	50	37	1005	725	45
ECO200	380	900	1120	350	300	50	37	1145	860	60
ECO300	420	1185	1400	450	350	75	32	1425	1145	75



- ▶ 50 - 70% heat recovery depending on conditions.
- ▶ Case manufactured from galvanised sheet steel with thermal lining.
- ▶ Rectangular spigots with 20mm mez flange connections.

Optional Features

- ▶ Filters to inlet of both supply and extract airflow, with side access panels.
- ▶ Weatherproof housing.
- ▶ Drain pan to exhaust for high humidity applications.
- ▶ Larger sizes available - contact sales office.

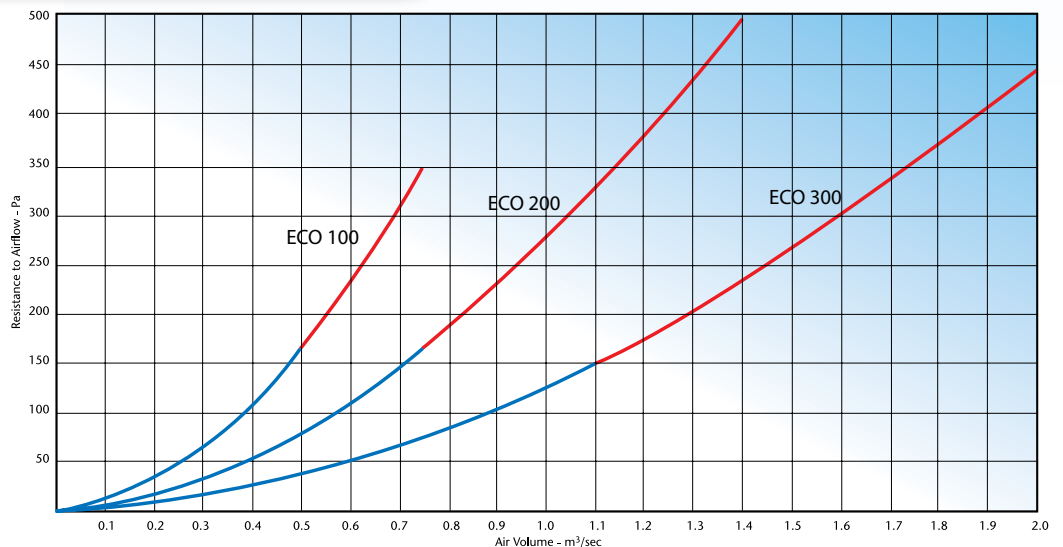
Fitted Filters

- ▶ Pleated, synthetic disposable cell grade G4 (EU4).
- ▶ Maximum pressure drop of filter in BLUE part of fan curve 75Pa when clean.
- ▶ Do not use fitted filters if selecting from RED part of fan curve (velocity across filter is too high).

Note:

- ▶ Draw through ECOBOX with supply fan to ensure heat recovery from exhaust air.
- ▶ Optional drain pan must be located to the air outlet of the plate heat exchanger on exhaust air flow.
- ▶ Blow through ECOBOX with the extract fan to avoid need for trap on drain pipe when drain pan option selected.

Selection Chart - ECO



ECOBBOX-EBX Plantroom Medium duty/ High efficiency

PRODUCT & MODEL: **EBX** / UNIT CONFIG.: **P** / **L**

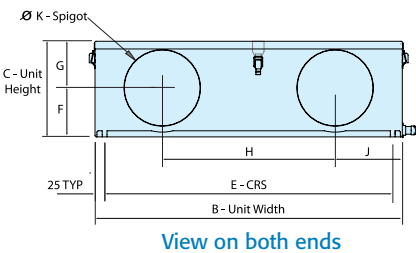
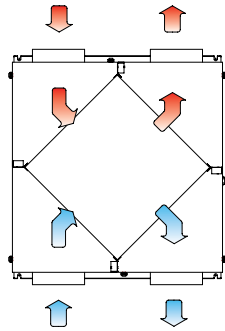
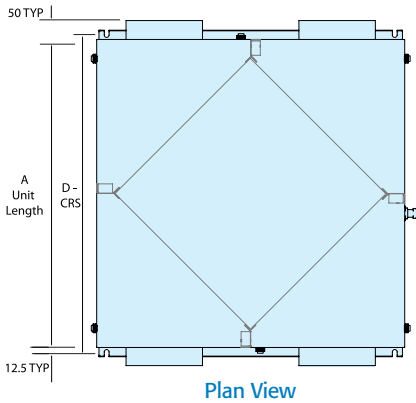
Air volume range of 0 - 1.0m³/s.
Cased plate heat exchangers.
Easy to install in ventilation systems.
Can be used in conjunction with many VES products.



- 50 - 70% heat recovery depending on conditions.
- Case manufactured from galvanised sheet steel with thermal lining.
- Condensate drain pan to exhaust with ¼" BSP connection.
- Circular spigot connections with double rubber gasket seal to enable easy connection to ductwork, avoiding the need for additional accessories.

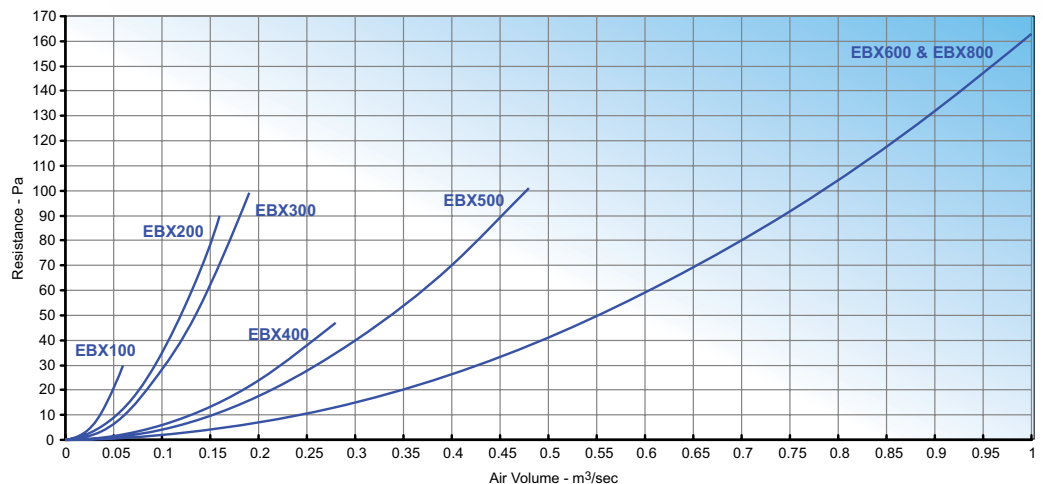
Note:

- The drain pan must be located to the air outlet of the plate heat exchanger on exhaust airflow.
- To achieve this, either turn unit around until correct, or follow instructions on O & M leaflet to relocate pan within unit.



ECOBBOX Model	Dimensions mm										Weight kg
	A	B	C	D	E	F	G	H	J	K	
EBX100/P/L	500	500	190	525	450	95	95	270	115	147	15
EBX200/P/L	650	650	240	675	600	122	117	350	150	197	25
EBX300/P/L	800	800	250	825	750	127	122	450	175	197	34
EBX400/P/L	1050	1050	350	1075	1000	177	172	600	225	247	63
EBX500/P/L	1200	1200	350	1225	1150	177	172	700	250	312	77
EBX600/P/L	1200	1200	455	1225	1150	230	225	650	275	396	80
EBX800/P/L	1200	1200	495	1225	1150	250	243	650	275	447	85

Selection Chart - EBX



ECOBIX-EBX Weatherproof

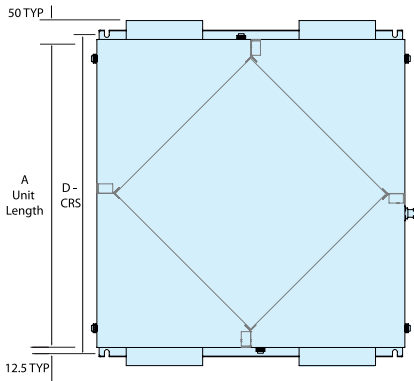
Medium duty/
High efficiency

PRODUCT & MODEL **EBX** / SIZE / UNIT CONFIG. **W** / **L** / HANDLING

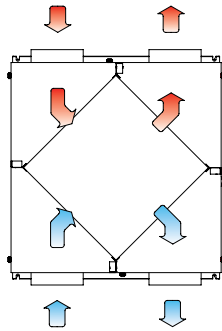
Air volume range of 0 - 1.0m³/s.
Cased plate heat exchangers.
Easy to install in ventilation systems.
Can be used in conjunction with many VES products.



- ▶ 50 - 70% heat recovery depending on conditions.
- ▶ Case manufactured from galvanised sheet steel with thermal lining.
- ▶ External units are powder coated Signal Grey to RAL7004 as standard, with many other colours available.
- ▶ Condensate drain pan to exhaust with 3/4" BSP connection.
- ▶ Circular spigot connections with double rubber gasket seal to enable easy connection to ductwork, avoiding the need for additional accessories.

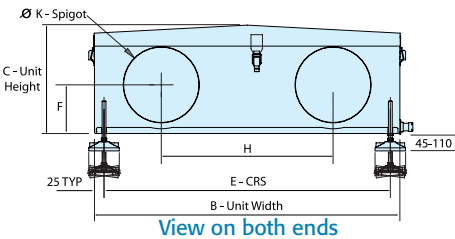


Plan View



Note:

- ▶ The drain pan must be located to the air outlet of the plate heat exchanger on exhaust airflow.
- ▶ To achieve this, either turn unit around until correct, or follow instructions on O & M leaflet to relocate pan within unit.



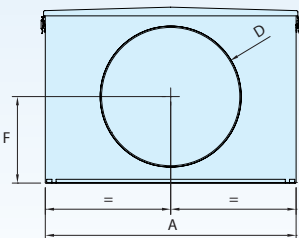
View on both ends

ECOBIX Model	Dimensions mm										Weight kg
	A	B	C	D	E	F	G	H	J	K	
EBX100/W/L	500	500	217	525	450	95	95	270	115	147	18
EBX200/W/L	650	650	267	675	600	122	117	350	150	197	29
EBX300/W/L	800	800	277	825	750	127	122	450	175	197	40
EBX400/W/L	1050	1050	377	1075	1000	177	172	600	225	247	72
EBX500/W/L	1200	1200	377	1225	1150	177	172	700	250	312	89
EBX600/W/L	1200	1200	482	1225	1150	230	225	650	275	396	90
EBX800/W/L	1200	1200	522	1225	1150	250	243	650	275	447	95

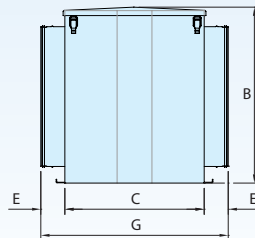
Additional Filter Box



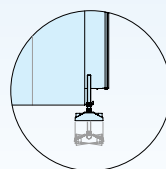
ECOBIX Model	Filter Box Model	Dimensions mm							Weight kg	
		A	B	C	D	E	F	G		
EBX100	Unavailable	-	-	-	-	-	-	-	-	-
EBX200	CLS000	470	245	400	197	39	120	498	8	8
EBX300	CLS000	470	245	400	197	39	120	498	8	8
EBX400	CLS100	470	305	400	247	59	148	453	9	9
EBX500	CLS200	590	380	400	312	59	185	548	12	12
EBX500	CLS300	620	405	400	312	59	198	598	13	13
EBX600	CLS400	720	505	400	397	69	248	643	15	15
EBX700	CLS500	720	555	450	397	69	273	643	20	20
EBX800	CLS600	970	580	500	447	69	285	993	25	25



End View

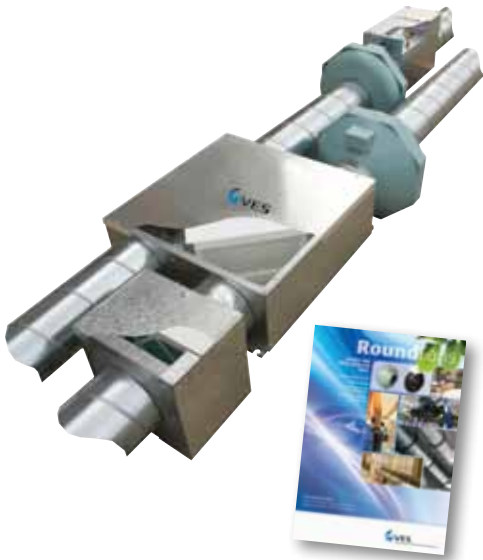


Side View



Weatherproof Option

Compatible Products Round Fans



Combine ECOBOX with Round Fans

The VES range of Round Fans offer a versatile solution for a wide variety of domestic, commercial and industrial projects. They are ideal for supply and/or extract systems in offices, shops, store rooms, kitchens, toilets, workshops etc.

Manufactured from plastic or steel, these in-line centrifugal fans can be vertically or horizontally mounted and operate to a wide air temperature range. They are easily installed to circular and spiral ductwork and come with a range of accessories such as clamps and silencers.

VES Round Fans can form part of a wider solution, including speed control, heat recovery and heating.

RS and RM Fans

- ▶ Suitable for domestic, commercial and industrial applications.
- ▶ Air temperature range -30°C to +40°C.
- ▶ Horizontal or vertical mounting.
- ▶ All fans speed controllable.
- ▶ Manufactured from zinc coated steel or plastic.
- ▶ Easy to install in spiral ducting.



Colourfan

Combine ECOBOX with Colourfan Ventilation Units



Colourfan is a range of ventilation units from VES. Supply, Extract and Twin Extract units have been designed around a single product platform with unique and innovative benefits across the range.

Colourfan features low energy, high efficiency fans with low SFPs for a wide range of applications and locations. BlueSense optional integrated controls and demand ventilation deliver even more energy saving benefits and comfort levels to users, buildings and their occupants.

Colourfan provides both great value and choice to specifiers, contractors and users alike.

Whatever the nature of your project there is a Colourfan to suit.



Colourfan SUPPLY

Colourfan Supply units are available with pre-wired fitted controls, they feature energy efficient fans and robust case construction. They are low profile and suitable for ceiling voids, plantrooms and roofs. They can be configured for top or bottom access (exc weatherproof units). Installation and maintenance is simplified through quick change plug connectors and plug and play controls.



Colourfan EXTRACT

Colourfan Extract units are a versatile solution for a wide range of applications. As well as being suitable for ceiling voids, plantrooms and roofs, they are the perfect compliment to Colourfan Supply units.



Colourfan TWIN

Colourfan Twin Extract units are suitable for bathrooms, toilets and changing rooms. Featuring automatic failure changeover and duty sharing, they minimise maintenance requirements and help ensure continuous ventilation.



Heatline



LCD Room Unit
(Optional)

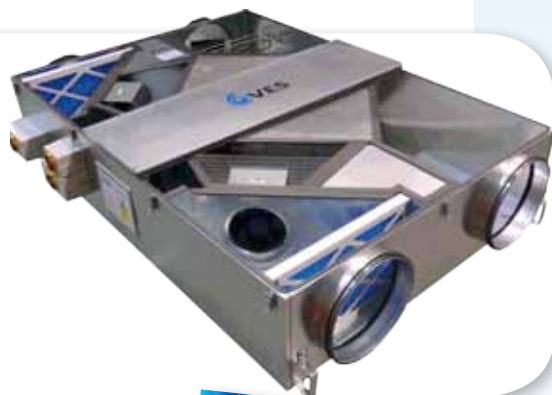
Combine ECOBOX with Heatline

The VES Heatline Duct Heater Battery range brings new versatility to existing and new ventilation installations. Intelligent control options can interface with a BMS or LCD room unit. This is the ideal solution to accurately heat individual spaces. Heatline is also both simple to install and maintain.

- › Electric heater unit with Thyristor, or LPHW unit with Valve and Actuator for modulating output.
- › Integrated controls for response to BMS.
- › Circular and square spigot models.
- › Optional versatile LCD room unit with built in sensor and timers for independent self control.
- › Easy installation to existing or new ductwork systems.
- › Suitable for circular (HLC) and square ducts (HLD) in various sizes.
- › Stab-in electric heater version (HLS) also available.
- › Extensive built-in safety features.
- › Single or three phase supply options.
- › Weatherproof models.



Ecovent NRG



Ecovent NRG - An alternative heat recovery solution

Ecovent has been the acknowledged market leader in heat recovery air handling units for over 10 years. Ecovent NRG P is a further development, offering more choice and considerable advances in energy saving.

- › Low specific fan power to help meet Part L2A Building Regulations.
- › Heat exchanger efficiency up to 70%.
- › High efficiency motors and backward curved impellers.
- › Compact space saving construction with 15mm doubled skinned case and Class O rated thermal & acoustic infill for the lowest noise breakout solutions.
- › Unit supplied in one piece with pre-wired external isolator for easy installation.
- › External access for fan speed adjustment to provide quick and simple commissioning.
- › Fans and bypass damper fitted with quick change plug connectors for easy maintenance and service.
- › G4 supply and extract filter fitted as standard.
- › Fitted condensate drain pan.
- › Self sealing 315 diameter circular spigot connections.
- › Air volumes up to 0.22m³/s.
- › The unit is supplied as standard with no top up heating or select the required electric heating option (sold separately).
- › Energy efficient control options are available for this unit to effectively control temperature and energy recovery and come complete with a simple remote touch screen.
- › BlueSense maximises energy savings by combining an energy efficient control panel and air quality sensor for the ultimate demand ventilation solution.



Energy monitoring is an effective way of highlighting areas for potential savings, whilst providing a key indicator for ongoing energy consumption.

Product Specification

Plate Heat Exchanger Unit ECOBBOX - EBX

1.1 General

- A. Provide a ventilation plate heat exchanger unit to meet the performance and configuration as indicated in the schedule and detail drawings. The unit shall be the ECOBOX - EBX plate heat exchanger type as manufactured by VES Andover Ltd a company accredited with BS EN ISO 9001:2008.

1.2 Unit Construction

- A. The unit shall be supplied pre-assembled consisting of a single-skinned heavy gauge galvanised steel case, exhaust condensate drain pan and plastic plate cross flow heat exchanger.
- B. The unit shall be available in plantroom or weatherproof construction as indicated in the schedule and detail drawings. Weatherproof units shall have a sloped lid supplied fitted as standard.
- C. The unit shall be supplied with a built-in galvanized sheet steel condensate drain pan as standard.
- D. The unit shall have circular duct spigots complete with rubber gasket seals as indicated in the schedule and detail drawings.
- E. The unit shall be internally lined with thermal & acoustic insulation foam as standard.
- F. The casework shall incorporate mounting brackets compatible with drop-rod systems.
- G. The plantroom unit casework shall be supplied naturally finished in high quality galvanised steel as standard. Optional internal or external powder coat colour as indicated in the schedule.
- H. Access for maintenance shall be via a removable service lid, allowing access for the cleaning or removal of internal components where permitted by unit construction.
- I. The unit shall be designed to be secured to a suitable base, wall or ceiling, ensuring the use of correct fixings for the application and taking into account individual unit weight as indicated in the schedule and detail drawings.
- J. Weatherproof units shall be fitted with a weather lid.
- K. Weatherproof units shall be supplied powder coated Signal Grey RAL7004 as standard. Alternative colour according to schedule.
- L. Weatherproof units shall be supplied with mounting feet. Plantroom units shall be available with optional mounting feet as indicated in the schedule.

1.3. Plate Heat Exchanger

- A. The unit shall be supplied with a full PVC plate heat exchanger with a minimum efficiency of 50%
- 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.

1.4. Drain Pan

- A. The drain pan shall be situated on the extract air off side of the heat exchanger as standard.
- B. The drain pan shall be designed for on-site positioning to suit schedule.
- C. The drain pan discharge connection shall be 15mm plain PVC stub type.
- D. The drain pan shall be manufactured in galvanised sheet steel & finished in natural uncoated finish as standard.

1.5. Operation Environment

- A. The unit is designed to operate in ambient temperatures from -20°C up to 60°C, and can be used continuously at up to 100% humidity level with a correctly installed drain pan.

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

Product Specification

Plate Heat Exchanger Unit ECOBIX - ECO

1.1 General

- A. Provide a ventilation plate heat exchanger unit to meet the performance and configuration as indicated in the schedule and detail drawings. The unit shall be the ECOBOX - ECO plate heat exchanger type as manufactured by VES Andover Ltd a company accredited with BS EN ISO 9001:2008.

1.2 Unit Construction

- A. The unit shall be supplied pre-assembled consisting of a single-skinned heavy gauge galvanised steel case, rectangular duct spigots, and plastic plate cross flow heat exchanger.
- B. The unit shall be available in plantroom or weatherproof construction as indicated in the schedule and detail drawings. Weatherproof units shall have a sloped lid supplied fitted as standard.
- C. The unit shall be available with optional pleated panel filters.
- D. The unit shall be available with optional built-in galvanized sheet steel condensate drain pan.
- E. The unit shall incorporate high quality leak resistant neoprene gaskets on service doors and panels.
- F. The unit shall be supplied with rectangular spigots, fitted with 20mm MEZ flanges.
- G. The unit shall be internally lined with thermal & acoustic insulation foam as standard.
- H. The casework shall incorporate mounting brackets compatible with drop-rod systems.
- I. Access for maintenance shall be via removable service panels, allowing access for the cleaning or removal of internal components where permitted by unit construction. Access space requirements shall be as indicated in the detail drawings.
- J. Plantroom unit casework shall be supplied naturally finished in high quality galvanised steel as standard. Optional powder coat colour as indicated in the schedule.
- K. Weatherproof units shall be supplied powdercoated signal grey RAL7004 as standard. Colour according to schedule.
- L. The unit shall be designed to be secured to a suitable base, wall or ceiling, ensuring the use of correct fixings for the application and taking into account individual unit weight as indicated in the schedule and detail drawings.

1.3. Plate Heat Exchanger

- A. The unit shall be supplied with a full PVC plate heat exchanger with a minimum efficiency of 50%
- 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.

1.4. Optional Drain Pan

- A. The optional drain pan shall be situated on the extract air off side of the Heat Exchanger as standard.
- B. The drain pan shall be designed for on-site positioning to suit schedule.
- C. The drain pan discharge connection shall be 15mm plain PVC stub type.
- D. The drain pan shall be manufactured in galvanised sheet steel & finished in natural uncoated finish as standard.

1.5. Optional Filtration

- A. The optional filters shall be 98mm pleated filter media as standard, with rigid wax treated cardboard moisture resistant frame.
- B. The filters shall be fitted prior to the exchanger matrix on the supply & extract sides.
- C. The filters shall be to BS EN 779 Classification Grade G4 as standard, grade as indicated in the schedule and detail drawings.

1.6. Operation Environment

- A. The unit shall be designed to operate in ambient temperatures from -30°C up to 50°C, and can be used continuously at up to 95% humidity level with a correctly installed drain pan.

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



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 wheel, run-around coils.
- Plantroom or weatherproof, flat or stacked.
- Fitted silencers, fitted 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 fans, axial and mixed flow fans.
- Fitted silencers available 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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