



for fresher air

Air Handling Units



direct drive - belt drive - custom built

Air Handling Units

Introduction

Vectaire's comprehensive and extensive range of air handling units from "Compact" plant room models to custom built belt driven models able to deliver up to 20m³/sec ensures that any installation requirement can be met.

Design brief

To provide a comfortable, healthy environment, often without loss of heat and a multiplicity of parameters -

The occupants want a non-intrusive system.

The designers want to ensure that air exchange is optimised whilst bringing fresh air into the building.

The builders need a reliable product that can be easily installed and set up.

The answer lies in well thought out, efficient ventilation.

The correct ventilation method is an air handling system which encompasses all of the above.



What product to choose?

Stricter rules governing air tightness of buildings means more emphasis on controlled fresh air supply. Air handling units, which are easy to install and which have a wide variety of options, will effectively ventilate the required area providing a healthy atmosphere for people to work and play. Vectaire's range of units, together with comprehensive, computerised design facilities, gives the specifier the ability to choose a fan capacity which ensures a proper level of ventilation, together with **heating, heat recovery, sound attenuation and control options**.



Flexibility

Vectaire's air handling units are available in an extensive range with a variety of options which contribute to their versatility of use and ensure that exactly the correct unit can be specified. There are direct drive versions either electrically or hot water heated together with belt driven units for bigger airflow requirements. Combine this with the facility for custom built systems, and the flexibility of design and use is infinite.



Technical Support

With its firm commitment to quality and customer care, Vectaire's technical support staff can help with your requirements.

Installation

Vectaire can advise on installing and commissioning your air handling unit system and can give full technical back-up.



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Quality Control

Vectaire air handling units are manufactured to the highest quality and inspected at every stage of the manufacturing process. All products are built to BS EN ISO 9001. We operate a continuous evaluation of products and services to ensure customer requirements are met in full.

Materials

Vectaire air handling units are generally finished in galvanised, double skinned steel with 25mm thick mineral wool slab insulation and have a triple layer of steel at the corners with pre-drilled 8mm dia holes providing an ideal location for fixing points. All panel filters are manufactured from bonded and coated continuous spun glass fibre filaments with arrestance of 84% to G3 grade.



Heating Control Panels

Designed for quick and easy installation with external wiring kept to a minimum. A mains supply is taken to the panel door interlocked isolator and outputs then taken to the fan, heater and safety circuits. Sensors are supplied pre-wired to the panel. Switches on the front of the panel allow control of the fan and heater. All outputs to the fan are protected. All control panels are stand alone, but can be BMS compatible as an option.



Options

A full range of accessories and controls are also available - these include

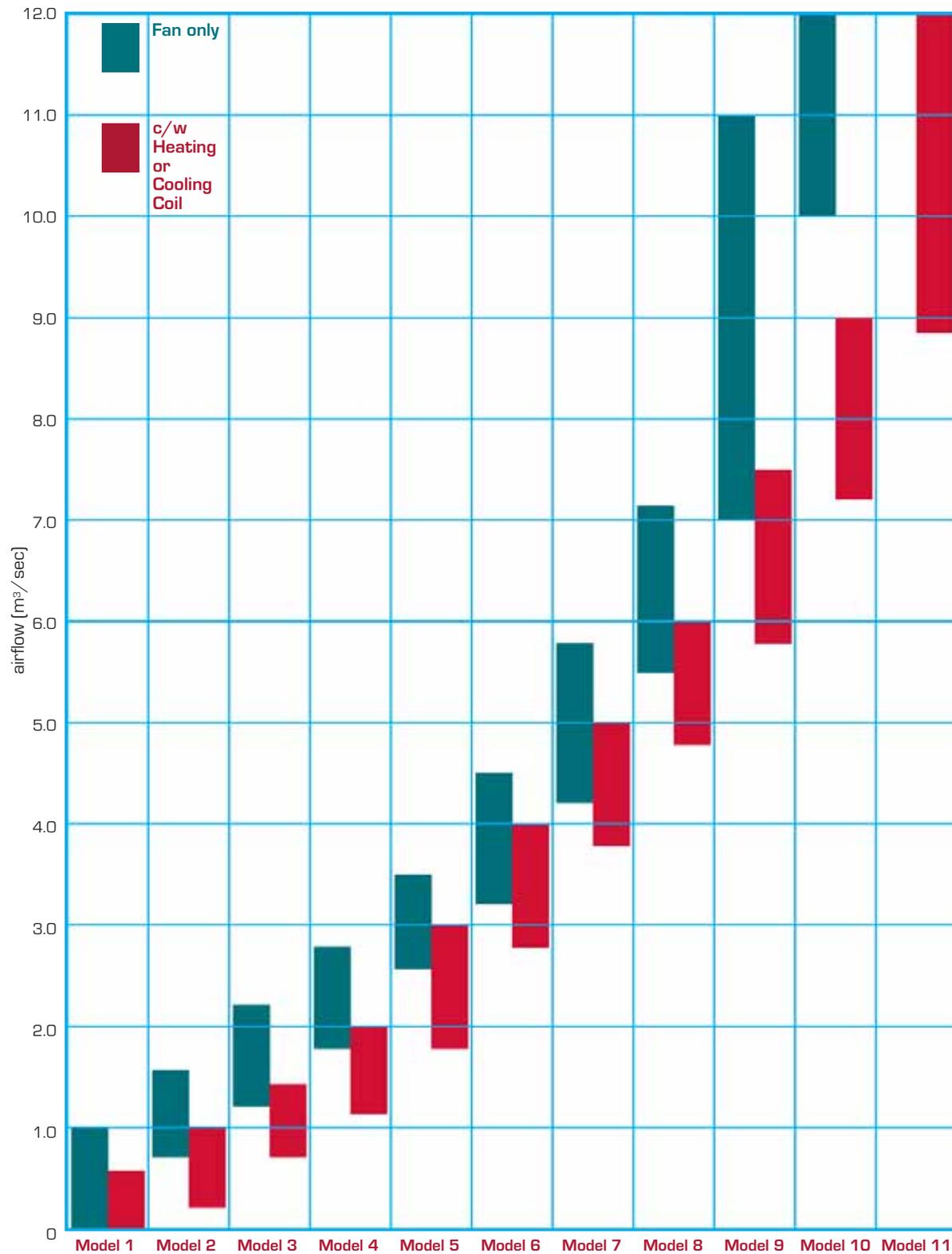
- intake damper/mixing box
- electric or hot water frost heaters
- bag filters
- cooling coils
- heat recovery systems
 - cross flow heat exchangers
 - thermal wheel
 - run around coils
- alternative heating source
 - gas fired
- casings
 - 50mm panels can be supplied with high density mineral wool and barrier matt
 - can be constructed in a vertical or horizontal layout
 - can be supplied as "flatpack" for on site assembly



Manufactured in UK to ISO 9001

Belt Driven Air Handling Units

AHU-BDD/R - *Selection Chart*



Belt Driven Air Handling Units

Plant & External



"AHU-BDD/R"



Features

- larger sizes for plant and external installation
- can be with electric or LPHW heater batteries
- 11 standard sizes
- airflow to 12 m³/sec
- wide selection of control panels available

Cases - Plant Models

- robust 30 x 30 (30 x 50 on larger units) extruded aluminium frame
- black plastic corner joints
- finished in galvanised, double skinned steel with 25mm thick mineral wool slab insulation of 45 kg/m³ density (providing high degree of acoustic insulation) (50mm panels with high density mineral wool and barrier matt also available for lower sound levels)
- steel channel base running full length of unit with cross members at suitable locations
- flush fitting panels
- filter and access section panels fitted with easy access fasteners - other removable panels retained via roofing bolts

Cases - Weatherproof Models

CASE CONSTRUCTION AS PLANT MODELS, EXCEPT:

- outer skin with plastic coated finish (grey to BS10A05 as standard)

- weatherproof lid fitted
- air intake or discharge via weather cowl or louvre fitted with birdmesh guard

Specification

- fan options of forward curved belt driven, backward curved belt driven, or backward curved direct drive plug style impellers.
- fan impellers are statically and dynamically balanced in accordance with VDI2060 and ISO 1940/1. Supplied as standard with pre-greased sealed for life bearings having L10 life of 20,000 hours at peak performance
- standard motors of squirrel cage induction type, totally enclosed, fan cooled, suitable for 3ph, 50Hz electricity supply
- motors with IP55 protection and Class F rating
- high efficiency EC motors available as an option, depending on duty requirement
- fan and motor connected via vee belt drive, prealigned and tensioned
- fan and motor are mounted on a common chassis frame isolated from casing via open coil spring anti-vibration mounts and flexible connector fitted to fan discharge. Transit bolt fitted to prevent damage during transport
- LPHW batteries are constructed from copper tubes mechanically bonded onto aluminium fins supplied with

Belt Driven Air Handling Units

AHU-BDD/R - *Features*

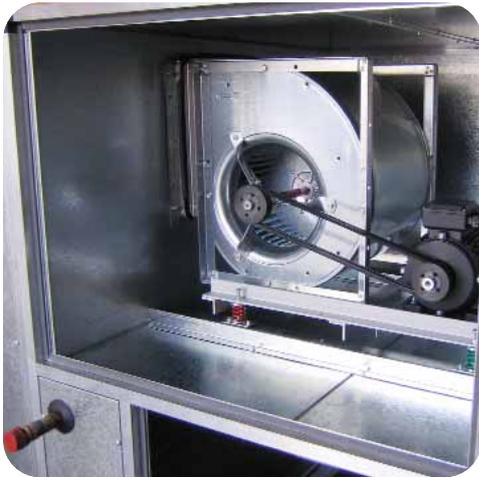


standard BSP male connectors. Option of vinyl coating (copper and electro-tinned copper also available). The coil casing is in galvanised sheet steel

- moisture eliminator plates manufactured from polypropylene fitted where necessary. Coils are mounted on slide-in channels to aid removal
- electric heater batteries for single and 3 phase operation are manufactured from sheathed rod elements with an integral manual reset thermal cut-out for wiring into control unit. It is recommended that fan run-on timer is incorporated in controls to prevent possible heat damage
- panel filters to G4 grade mounted in slide-in channels. Bag filters of F5 and above are mounted in purpose made front withdrawal holding frames and retained by spring loaded clips
- mixing box/intake dampers of opposed blade, multi-leaf type fitted aerofoil section blades.

Extended shaft for fitting of suitable motor is provided as standard

- the cross flow type heat exchangers have UPVC exchange plate, UPVC casework with maximum pressure differential of 1000 Pa and operating envelope of 20-60°C. Provides winter heating and summer cooling. Bypass damper fitted where required. Stainless steel drain pan provided on the exhaust side
- attenuators manufactured with galvanised sheet steel case fitted with "Mez" type flange at each end. Splitter design shall be of such as to reach required noise criteria. Splitters formed using 65kg/m³ density mineral wool slab with glass tissue facing airway. Attenuators designed to bolt directly to end of unit shall have splitters set back to allow even air distribution
- **manufactured in UK to ISO 9001**

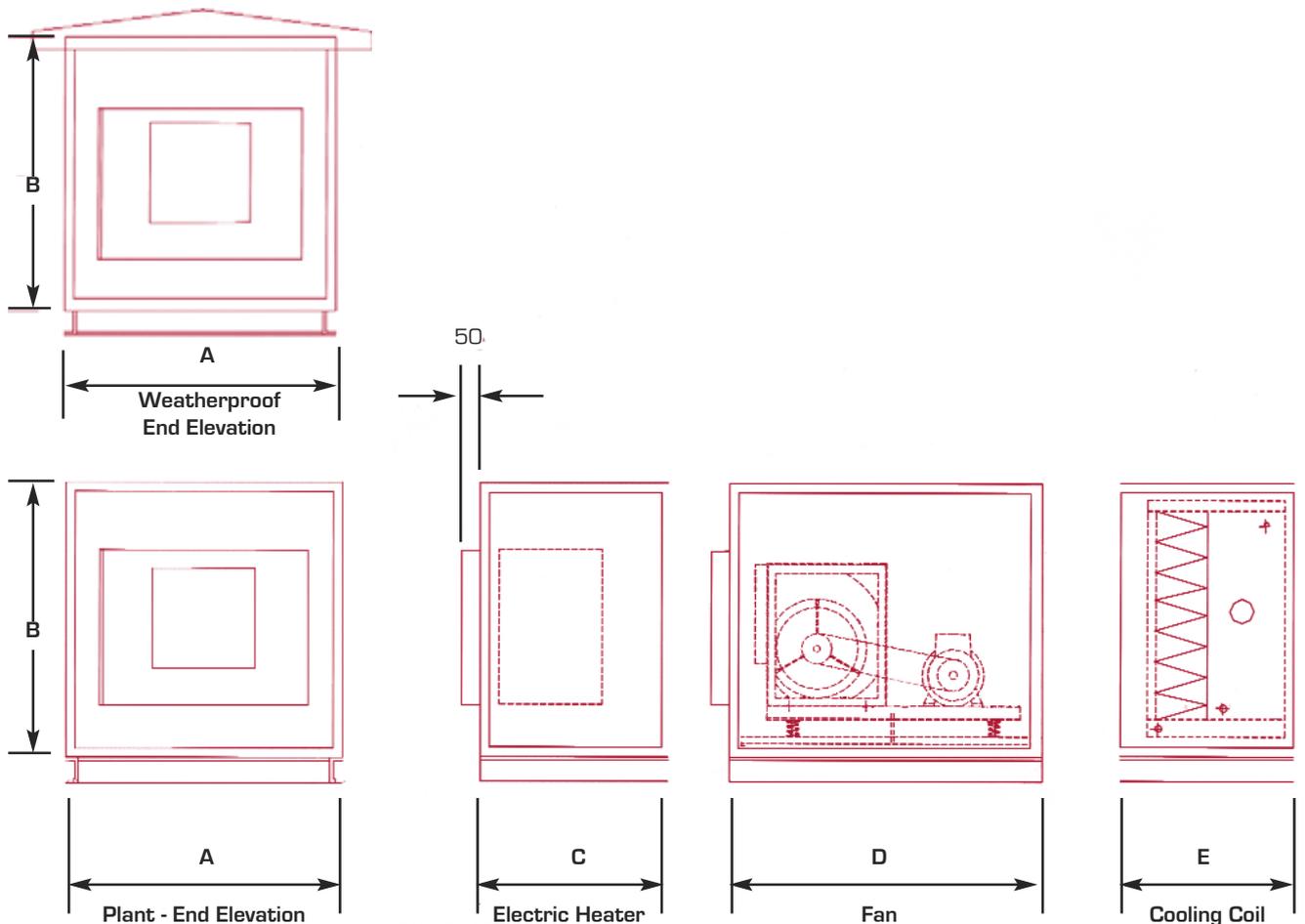


Belt Driven Air Handling Units

AHU-BDD/R - *Features and Dimensions*

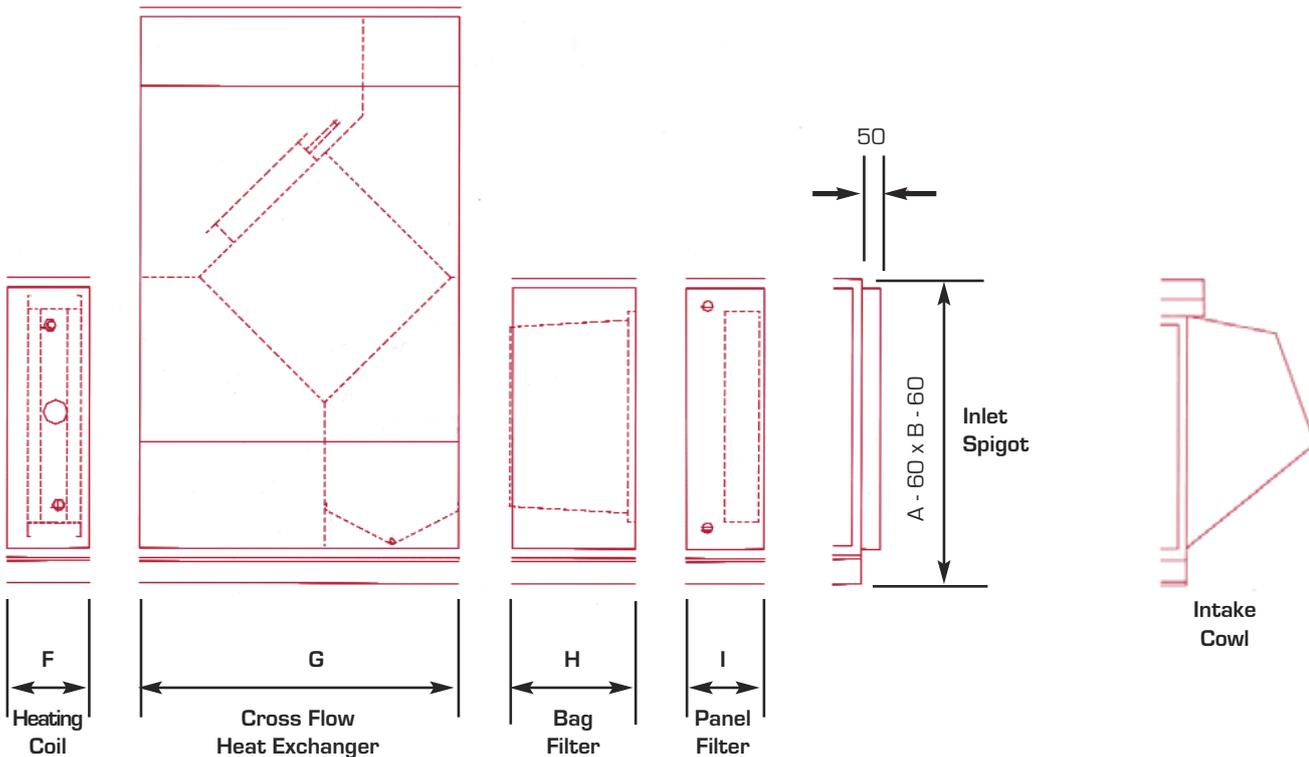
Size - mm

Model	1	2	3	4	5	6	7	8	9	10	11
A mm	800	800	1075	1350	1350	1400	1675	1950	1950	1950	2550
B mm	500	800	800	800	1100	1450	1450	1450	1750	2100	2100
C mm	400	500	500	500	500	600	600	-	-	-	-
D mm	810	910	1010	1060	1185	1260	1360	1500	1750	1750	2000
E mm	400	500	500	500	500	600	600	700	700	700	700
F mm	250	250	250	250	250	250	280	200	300	300	350
G mm	900	1000	1000	1000	1150	available upon application					
H mm	500	500	500	500	500	500	500	500	500	500	500
I mm	200	200	200	200	200	200	250	250	250	250	300



Weight - kg

Model	1	2	3	4	5	6	7	8	9	10	11
Electric Heater	61	74	85	110	130	173	208	247	298	361	476
Fan Section	101	111	127	139	160	193	329	261	317	356	427
Cooling Coil	88	109	121	151	179	220	265	308	361	420	508
Heating Coil	41	50	60	70	79	88	103	122	147	263	320
Heat Exchanger	137	151	167	194	235	available upon application					
Bag Filter	52	63	71	87	110	140	165	188	221	260	328
Panel Filter	21	25	30	35	39	43	48	52	57	63	70



Air Handling Units

Custom Built



General

VECTAIRE offers an extensive range of supply/extract units and associated ancillary equipment. Fans are available which cater for air volumes up to 20 m³/sec, for both internal and external applications. Most design parameters can be accommodated, and among the many variants we are able to provide are the following.

Cases

- single or double skinned with 25mm or 50mm thick panels.
- different panel infill, including a combination of high-density mineral wool and barrier matt to give high noise reduction.
- differing panel skin materials including stainless steel, aluminium and plastic coated sheet steel.
- powder coat paint finish to any BS or RAL number to either internal, external or both surfaces.
- casings supplied in "flat pack" form to facilitate site assembly.

Components

- The following components can be readily catered for:
 - **filters**
 - CARBON
 - HEPA
 - GREASE
 - WASHABLE
 - run-a-round coil systems
 - thermal wheels
 - gas fired heaters - indirect and direct
 - **fans**
 - SISW
 - DUPLEX (FOR LOW PROFILE)
 - TWIN MOTORS
 - SINGLE PHASE
 - 2 SPEED
 - MOUNTED OUT OF AIR STREAM
 - FITTED WITH STANDBY

Specifications

- units can be designed to meet the requirements of the following:
 - HTM03/01
 - CO4

Controls

- any variation of control package can be supplied:
 - simple pre-wiring of motor to an external isolator
 - an in-built control panel pre-wired to motors, damper motors, sensors etc

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Contracts Completed

Luton Hoo Hotel

Aston Martin

Burger King

Neville Hall Hospital

RAF Odiham

RAF Benson

RNAS Clyde

Lyreco

HP Foods

Calypso Soft Drinks

Disney Stores

Princess of Wales Hospital

Royal Yacht Britannia

BUPA Hospital, Leicester

Warner Holiday Camp

Bass Inns

Livingstone FC

Hambden Park

Blackburn Rovers FC

Waitrose

Sandwell Hospital

Domino Pizza

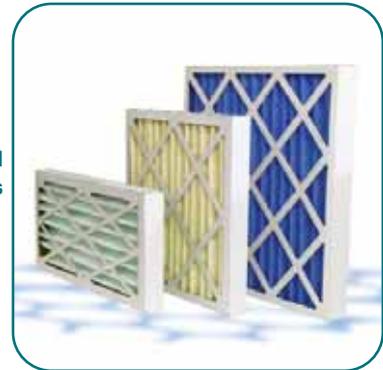
Kentucky Fried Chicken

Featherstone Technical College





Bag Filters



Panel Filters



Pressure Switch



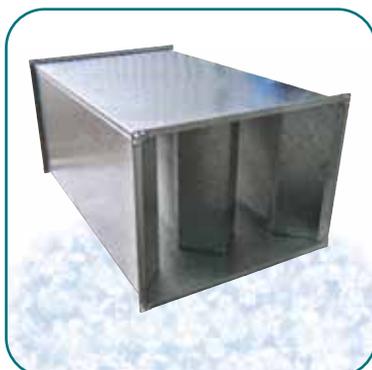
Port Holes



Speed Controller



Manometer



Silencer



Anti Vibration Mounts

Other Vectaire Ventilation Units



"PA"
Plate Mounted Axial Fan



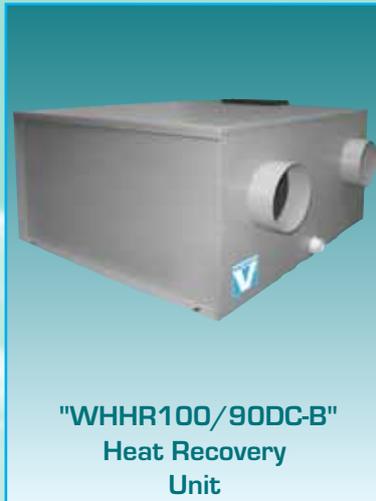
"LCA"
Long Cased Axial Fan



"ACFS"
SUPER SILENT
Acoustic Cabinet Fans



Heat Recovery Units



"WHHR100/90DC-B"
Heat Recovery
Unit



"WHHR125DC-Aera"
Heat Recovery
Unit



Vectaire Ltd
Lincoln Road
Cressex Business Park
High Wycombe
Buckinghamshire, HP12 3RH
Tel: +44(0)1494 522333
Fax: +44(0)1494 522337
Email: sales@vectaire.co.uk
Web: www.vectaire.co.uk

