

for fresher air



Air Handling Units



direct drive - belt drive - custom built

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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, acoustic level and control options**.

Flexibility

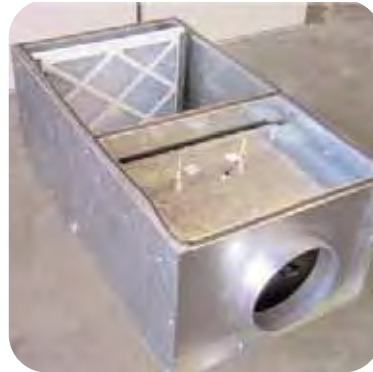
Vectaire's range of Air Handling Units are available in an extensive range with a variety of options which contribute to their versatility of use and ensure that exactly the correct unit can be specified. There are direct drive versions either electrically or hot water heated together with belt driven 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

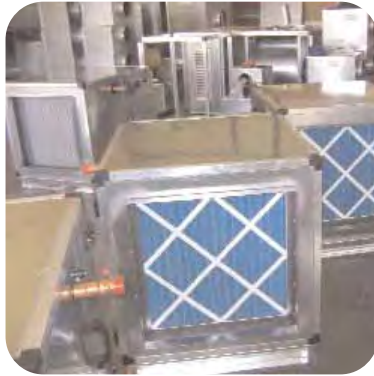
With its firm commitment to quality and customer care, Vectaire's technical support staff can help with the design of any ventilation system to ensure that it is the most cost effective and efficient available.

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 BSEN 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 BMS compatible.



Options

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

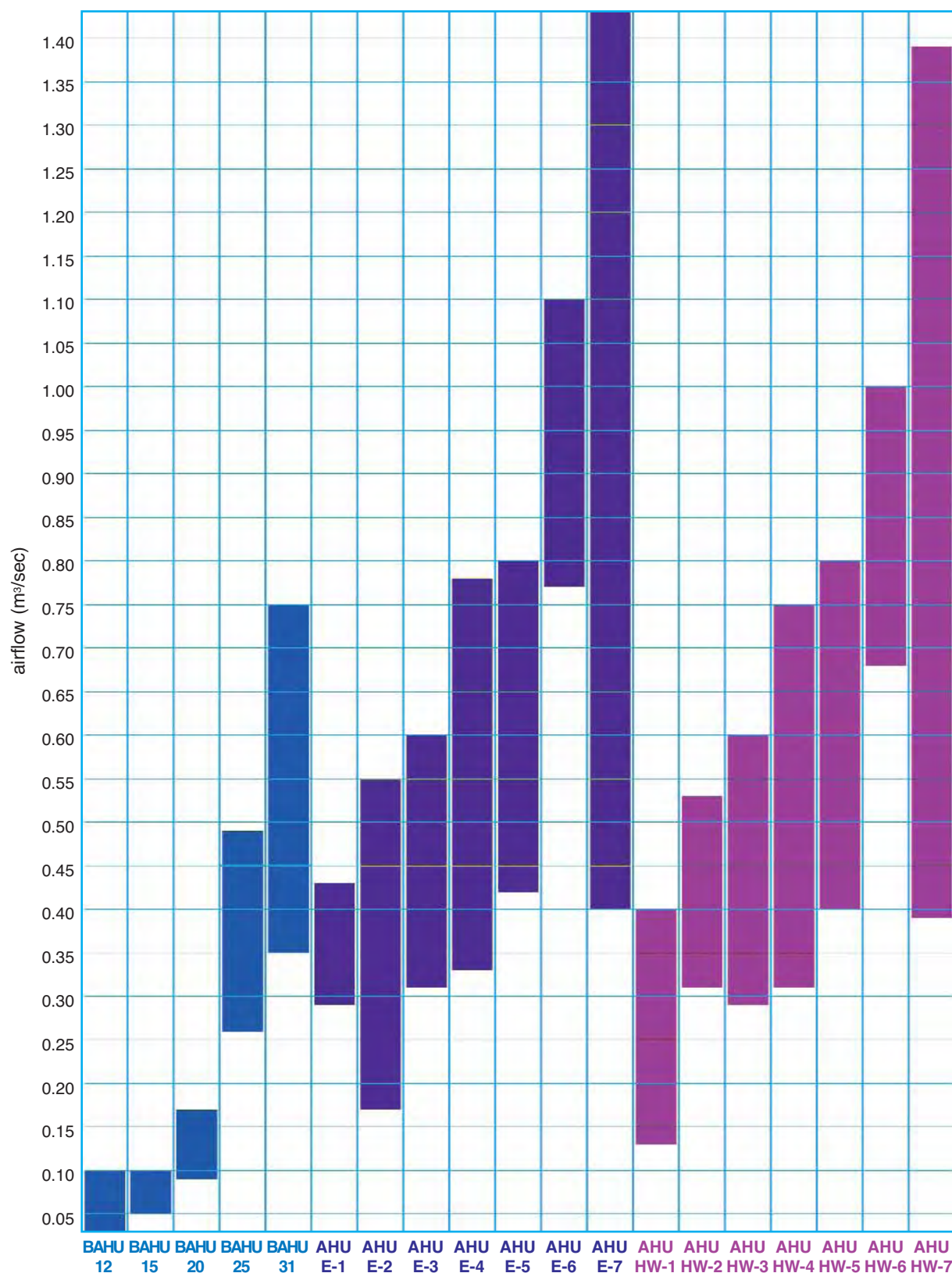
- **intake damper/mixing box**
- **electric or hot water frost heaters**
- **bag filters**
- **cooling coils**
- **heat recovery systems**
 - cross flow heat exchangers
 - thermal wheel
 - run around coils
- **alternative heating source**
 - gas fired
- **casings**
 - 50mm panels can be supplied with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



Manufactured in UK to ISO9001

Direct Drive - Air Handling Units

Selection Chart



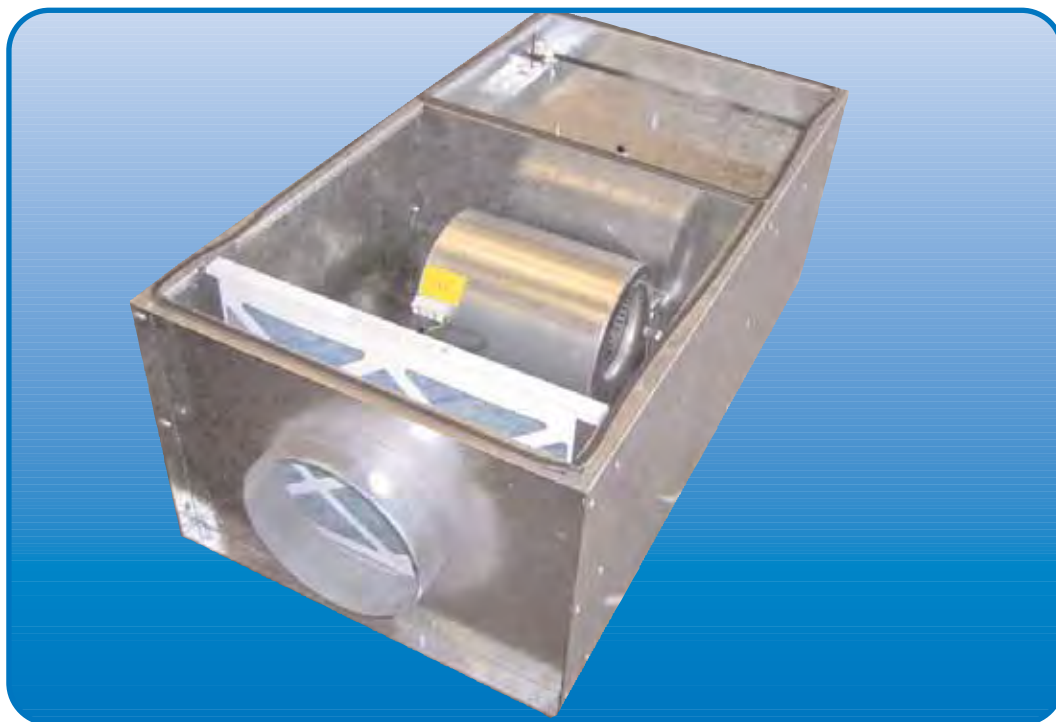
See page 5 for BAHU details, page 9 for AHU-E details, and page 15 for AHU-HW details

Direct Drive - Air Handling Units

Compact



"BAHU" - compact



Features - PLANT Models

- electrically heated
- 5 models for duct installation - BAHU
- airflow from 0.001 to 0.75 m³/sec
- pressure to 350 Pa
- speed controllable
- single skinned spangled galvanised steel cases with 25mm thick acoustic lining
- panel filter fitted into slide-in channels
- can be mounted horizontally or vertically with access either on bottom or top
- complete with integral mounting points for either floor or ceiling mounting
- quick and easy to install
- LPHW model available - please contact technical department for details

Additional Features - WEATHERPROOF Models

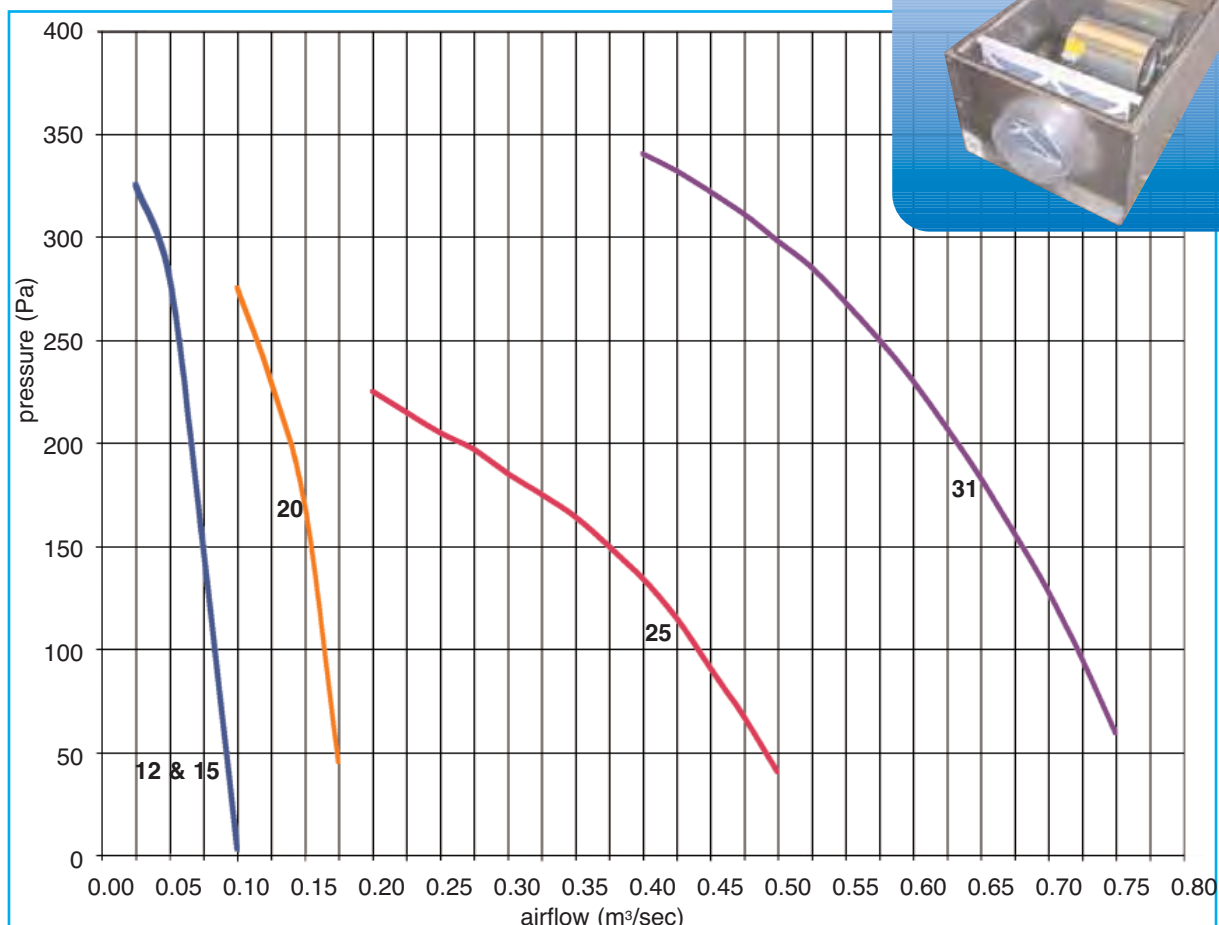
- external models available with top access via a single removable weather lid - BAHU-R
- air intake side protected by weather proof cowl and bird guard

- external models in galvanised steel, single skin with plastisol exterior in light grey to BS10A05
- LPHW model available - please contact technical department for details

Specification

- the fans are double inlet, double width, forward curved centrifugal fans.
- fan blades statically and dynamically balanced in accordance with VDI2060 and ISO1940/1
- direct drive induction motors with IP10 protection.
- insulation Class 'O' barafoam
- A manually reset table thermal cut-out is an integral part of heater control circuits. It is recommended that fans should be operated via a run-on timer incorporated within the controller.
- maximum air temperature 40°C
- panel filters manufactured from bonded and coated spun glass fibre to EU3 grade, fitted as standard in easily removable housings.
- **manufactured in UK to ISO9001**

Performance



Performance curves are based on "clean filter" conditions. An additional 80Pa should be added to the external pressure of the product for unit selection at a "mean dirty" condition

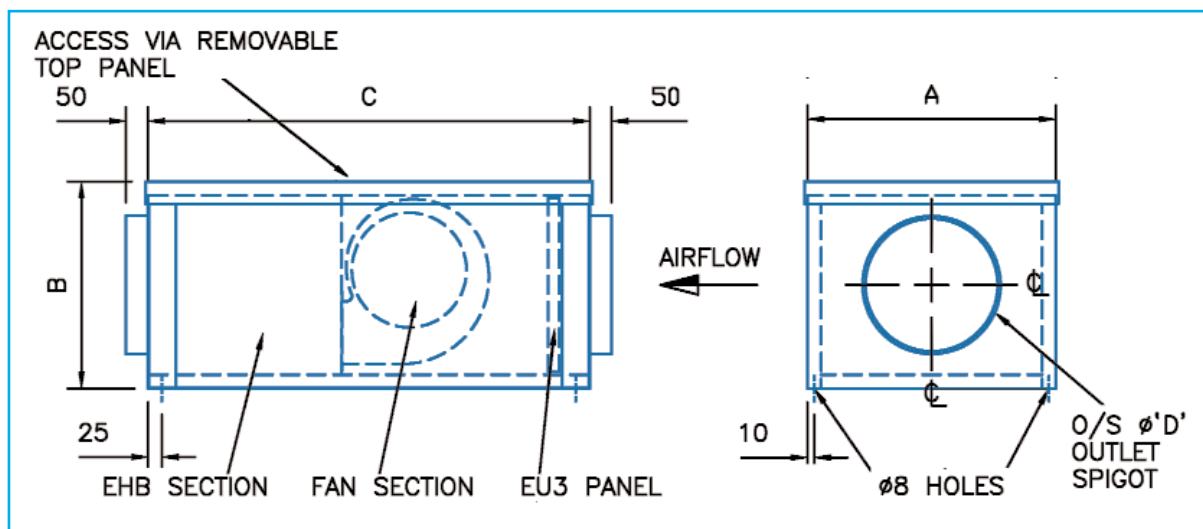
Range - D and R	
BAHU12	BAHU25
BAHU15	BAHU31
BAHU20	

Model	m³/sec at Pa								Fan				Sound Pressure Level dBA@3m	Speed Controller
	0	50	100	150	200	250	300	350	Supply	PowerW	FLC A	SC A		
BAHU12 SFP	0.100	0.092	0.085	0.075	0.068	0.060	0.040		230v 1ph	135	0.63	1.60	58.0	VC1
BAHU15 SFP	0.100	0.092	0.085	0.075	0.068	0.060			230v 1ph	135	0.63	1.60	58.0	VC1
BAHU20 SFP		0.174	0.165	0.155	0.140	0.115	0.100		230v 1ph	190	0.85	2.20	50.0	VC1
BAHU25 SFP		0.490	0.440	0.375	0.270				230v 1ph	373	3.60	11.20	61.0	VC4M
BAHU31 SFP		0.755	0.720	0.680	0.635	0.575	0.495	0.360	230v 1ph	373	3.85	12.00	58.5	VC4M

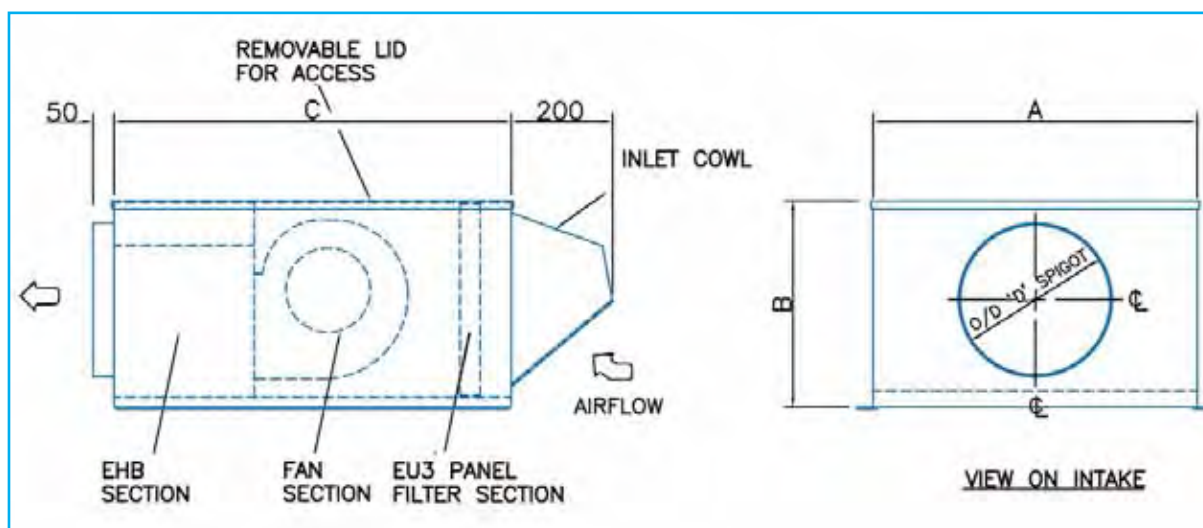
SFP = Specific Fan Power

Model	A mm	B mm	C mm	D mm	Kg
BAHU12	400	225	750	125	29
BAHU15	400	225	750	150	29
BAHU20	475	335	850	200	37
BAHU25	500	400	920	250	45
BAHU31	550	475	970	315	49
BAHU12-R	400	350	750	125	24
BAHU15-R	400	350	750	150	24
BAHU20-R	425	375	850	200	35
BAHU25-R	650	450	900	250	43
BAHU31-R	650	475	900	315	47

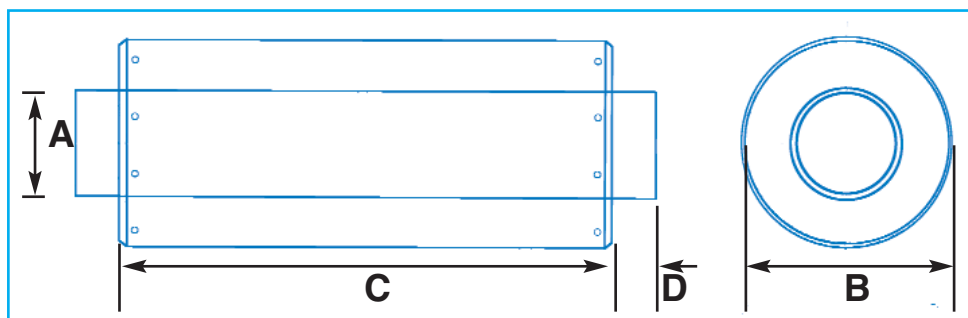
BAHU - Plant Models



BAHU-R - Weatherproof Models



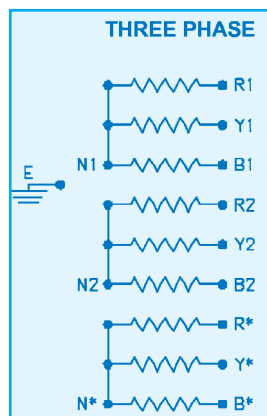
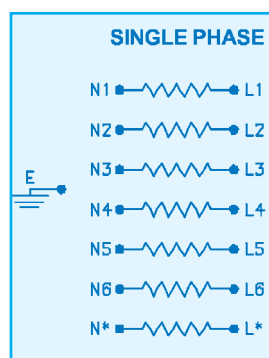
Silencers



Model	A mm - O/Dia	B mm - O/Dia	C mm	D mm	Kg
SIL125	123	230	600	40	5.4
SIL150	148	255	600	40	6.1
SIL200	198	305	600	40	7.6
SIL250	248	355	600	40	9.1
SIL315	313	420	600	40	12.3

Model	Attenuation: Insertion loss - db - mid frequency Hz							
	63	125	250	500	1000	2000	4000	8000
SIL125	4	8	13	30	35	35	31	15
SIL150	4	7	12	23	30	36	31	15
SIL200	4	6	10	20	27	32	20	11
SIL250	3	6	10	19	25	29	18	10
SIL315	3	5	8	16	21	22	16	14

Electric Heater Batteries



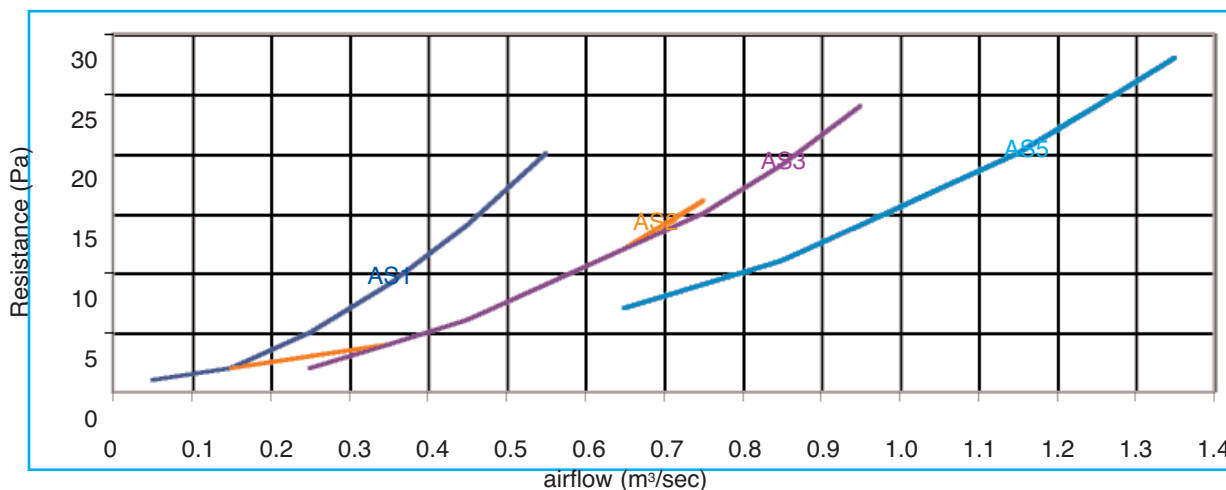
Model	kW Rating	Single Phase Steps					3 Phase Steps			
		1	2	3	4	6	1	2	3	4
BAHU12 BAHU15	1.5	✓								
	2.0	✓	✓							
	2.5	✓								
	3.0	✓	✓							
BAHU20	2.0	✓	✓							
	2.5	✓								
	3.0	✓	✓							
	4.5	✓		✓						
BAHU25	4.5	✓		✓						
	6.0	✓	✓	✓			✓			
	7.5	✓		✓			✓			
	9.0	✓	✓	✓			✓	✓		
BAHU31	9.0	✓	✓	✓			✓	✓		
	12.0		✓	✓	✓	✓	✓	✓		
	15.0		✓	✓		✓	✓	✓		
	18.0		✓	✓		✓	✓	✓		

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Silencers



Pressure Drop

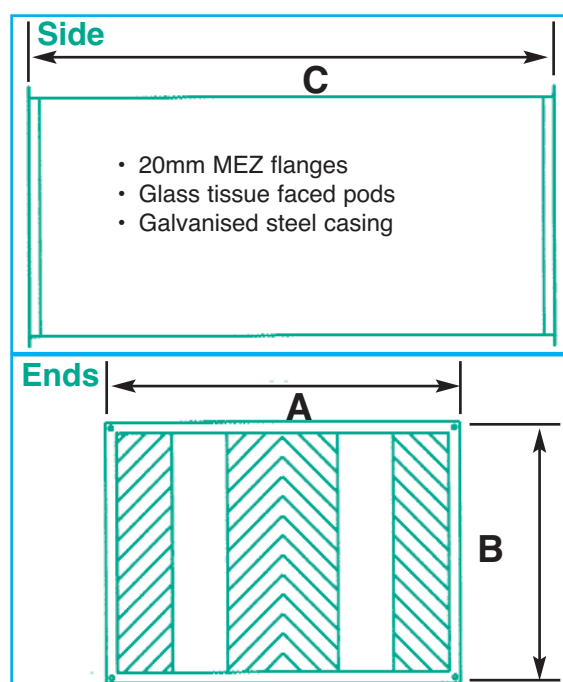


Insertion Loss

Model	Attenuation: Insertion loss - db - mid frequency Hz							
	63	125	250	500	1000	2000	4000	8000
AS1	5	9	16	30	39	39	31	26
AS2	5	9	19	33	42	42	30	18
AS3	5	9	17	31	41	41	33	26
AS5	5	9	16	30	39	39	31	26

Dimensions

Model	A	B	C	Kg
AS1	600	450	1000	48
AS2	750	450	1200	51
AS3	825	500	1000	80
AS5	900	600	1000	105



Air Handling Units

Control Panels



Electric Heating

Single Stage Electric Heating Control Panel - ECP1

Epoxy painted steel enclosure, 160 x 250 x 125mm
Individual switches and indicators for fan and heater
Individual MCB for fan and heater element
Mains input: 230v, 50Hz, 1 phase
Maximum output: Heater 1 x 3kw 1 phase elements
Fan 1 x 1 phase
2A MCB fitted as standard
Number of steps of heater control: 1



3 Step Electric Heating Control Panel - ECP3

Epoxy painted steel enclosure, 300 x 400 x 150mm
Door interlocked isolator
Individual switches, and run and trip indicators for fan and heater
Panel live indicator
Individual fuses for fan and heater element
Mains input: 400v, 50Hz, 3 phase and neutral; or 230v 50Hz 1 phase
Maximum output: Heater 3 x 3kw 1 phase elements
Fan 1 x 1 phase 6.3A max full load current
2A fuse fitted as standard
Number of steps of heater control: 3
Fan run-on timer: approximately 2 minutes



6 Step Electric Heating Control Panel - ECP6

Epoxy painted steel enclosure, 400 x 500 x 150mm
Door interlocked isolator
Individual switches, and run and trip indicators for fan and heater
Panel live indicator
Individual fuses for fan and heater element
Mains input: 400v, 50Hz, 3 phase and neutral; or 230v 50Hz 1 phase
Maximum output: Heater 6 x 3kw 1 phase elements
Fan 1 x 1 phase 6.3A max full load current
6A MCB fitted as standard
Number of steps of heater control: 6
Fan run-on timer: approximately 2 minutes



Hot Water Heating

Hot Water Heating Control Panel - HWCP

Epoxy painted steel enclosure
Individual switches, and run and trip indicators for fan and heater
Panel live indicator
Heater on indicator
Mains input: 230v, 50Hz, 1 phase
Maximum output: Fan 1 x 1 phase 10A max full load current



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Contracts Completed

Aston Martin

BUPA Hospital, Leicester

Neville Hall Hospital

RAF Odiham

RAF Benson

RNAS Clyde

Lyreco

HP Foods

Calypso Soft Drinks

Disney Stores

Princess of Wales Hospital

Royal Yacht Britannia

Burger King

Warner Holiday Camp

Bass Inns

Livingstone FC

Hambden Park

Blackburn Rovers FC

Waitrose

Kentucky Fried Chicken

Domino Pizza

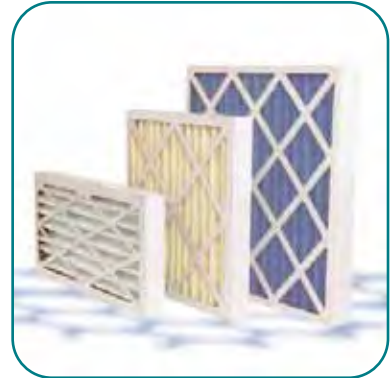
Sandwell Hospital

Featherstone Technical College





**Bag
Filters**



**Panel
Filters**



**Pressure
Switch**



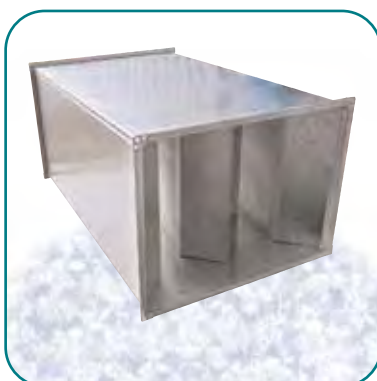
Elements



**Speed
Controllers
for BAHU and
AHU-E**



Manometer



Silencer



**Anti
Vibration
Mounts**

Other Vectaire Ventilation Units



"Microbox"
for Apartment Ventilation



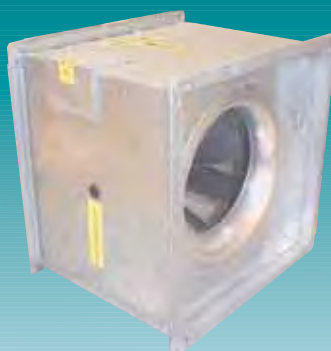
WHHR150 & 250
Whole House
Heat Recovery



"ACFS"
SUPER SILENT
Acoustic Cabinet Fans



"DMTSQ"
Twin, Slimline
Acoustic Fans



"SMX"
Square Cased Mixed
Flow Fans



"Heatrec"
Heat Recovery
Units

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