

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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VES reserves the right to amend product specifications and details without notice

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Offices in London, Manchester, Glasgow and Birmingham

Dome Roof Extract



**Dome Extract
DUTIES UP TO
3.4 m³/s**

DOMES HIGH EFFICIENCY ROOF EXTRACT

Latest EC Fan Technology

Low SFPs to achieve L2
Building Regulations

Variety of control options to
suit unit requirements

All units suitable for
Demand Ventilation with VES
BlueSense controls package



Dome Roof Extract Unit

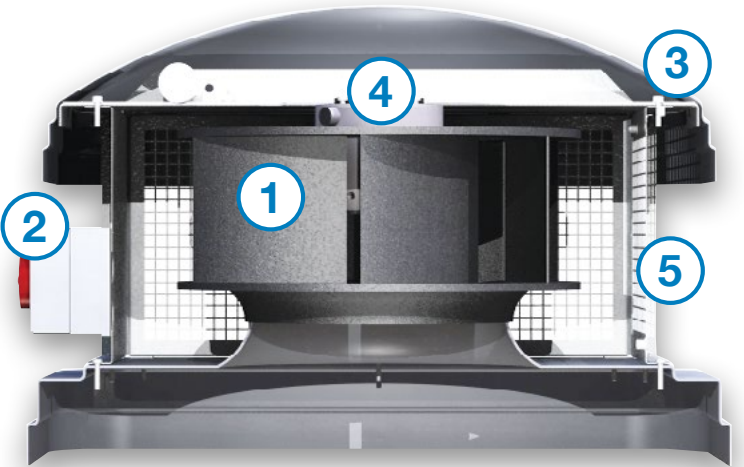
part of a complete range of innovative,
flexible products from the HVAC experts

Dome Roof Extract

Dome Roof Extract

The VES Dome roof extract unit is designed around a single product platform, with unique and innovative benefits across the range. Installation and maintenance is simplified through quick change plug connectors and plug and play or pre-wired fitted controls.

Dome roof extract is the versatile solution for a range of applications. With AC and EC energy efficient, ErP compliant fans and robust case construction, the low profile units are suitable for roofs and external locations.



Dome Roof Extract Features and Benefits

Energy Saving

Meet regulations, minimise noise and maximise performance.



Energy Efficient

Energy efficient units with low SFPs to help achieve L2 Building Regulations. Units are fully tested to BS EN ISO 5801:2008 (airside performance) and DIN 45635-38 (acoustic performance).



High Performance Fans

Utilising EC and AC Fan Technology with low energy backward curved, single inlet impellers for optimised performance.

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.



Pre-wired Isolator

External isolator fitted as standard to reduce on-site wiring requirements.



Lifting Lugs

Supplied fitted as standard. These can be easily removed once unit is in position.



'Plug & Play' Fans

Fan motor assembly is fitted with a quick-change plug connector for easy maintenance.

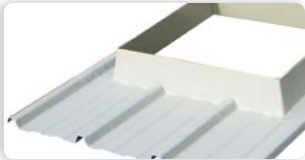


Accessible

Suitable access to the fan impeller for maintenance via removable panel.

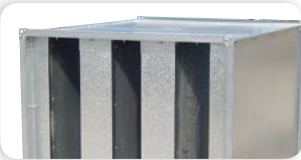
Versatile Options

Versatile location and protection options meet the widest range of project requirements.



Congruent Protection

Soaker Sheets matching the roof's profile can be supplied to make a seamless guard against adverse weather conditions.

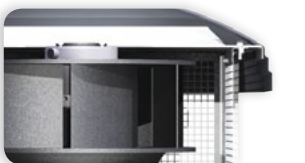


Duct Mounting Silencer

Fixed or cleanable, to meet required noise criteria.

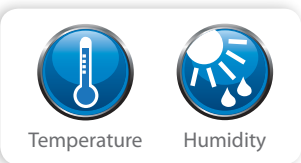
Robust Construction

Excellent build quality ensures minimal noise breakout, low SFPs and airtight performance.



Excellent Construction

Fabricated from Glass Reinforced Plastic (GRP) and galvanised sheet steel for rigid yet lightweight design.



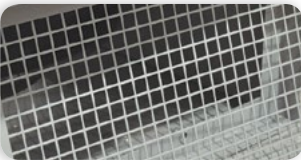
Harsh Conditions

With operating temperatures available up to 60 °C and 95% relative humidity.



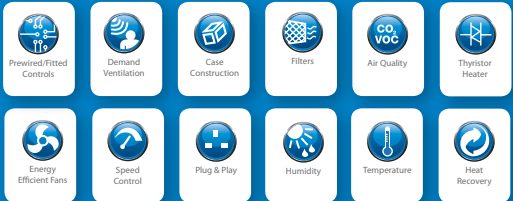
Powdercoat Options

External units are finished in Signal Grey to RAL7004 as standard, with many other colours available for metalwork and GRP.



Unit Protection

Guard mesh / bird screen fitted as standard to ensure unrestricted flow and performance.



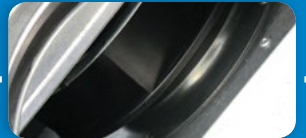
Energy Saving

Intelligent controls enhance performance whilst saving energy and money.

BlueSense Energy Saving Package



Dome Unit with Integral Controls



EC fan - with full control



Sensor options



The sign of energy saving products, services and expertise
For more information refer to page 7

Dome Roof Extract

Selection Data

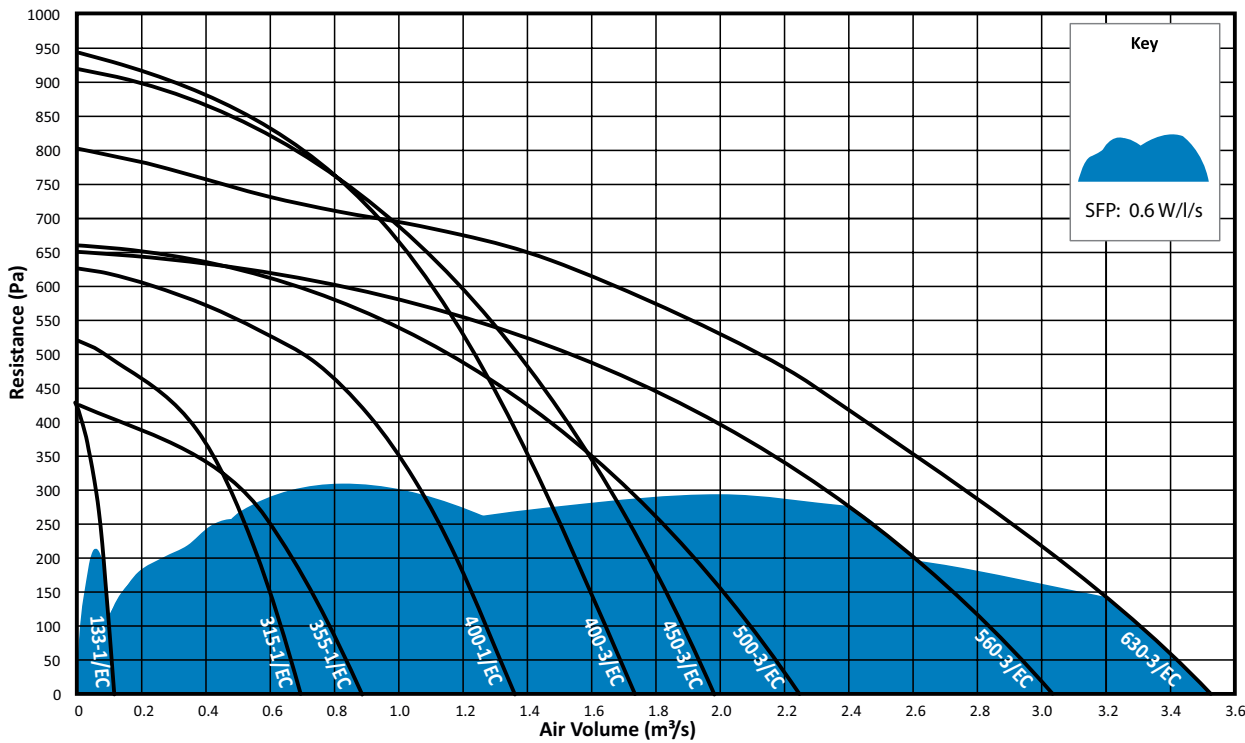
EC Dome Extract

The EC Dome Roof Extract unit is designed around a single platform with EC fan technology.

Performance

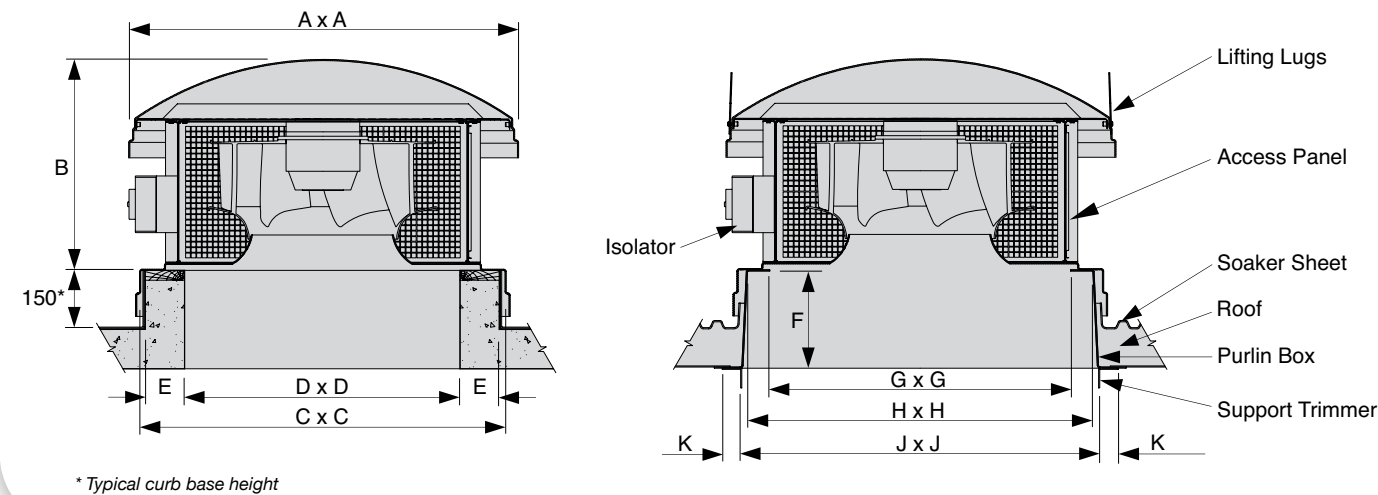


Duty Performance Curves



Note: The overall duty range is shown in blue with legislation compliant specific fan power requirements indicated. For further details regarding specific fan power data at your duty point, please visit www.vesdirect.co.uk.

Dimensions



Technical Data

Unit Type	Voltage (VAC)	Motor Size (kW)	Motor Full Load Current (A)	Fan Speed (rpm)	Maximum Operating Temperature (°C)
DME 133-1/EC	230 1 Phase	0.43	0.32	4480	60
DME 315-1/EC	230 1 Phase	0.40	1.50	2010	60
DME 355-1/EC	230 1 Phase	0.35	1.30	1590	60
DME 400-1/EC	230 1 Phase	0.75	2.80	1700	60
DME 400-3/EC	400 3 Phase	1.35	1.90	2100	60
DME 450-3/EC	400 3 Phase	1.45	2.00	1800	60
DME 500-3/EC	400 3 Phase	1.25	1.65	1400	60
DME 560-3/EC	400 3 Phase	1.50	2.10	1230	40
DME 630-3/EC	400 3 Phase	2.80	3.50	1230	60

Sound Data

Unit Type	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout (dBA)	
	63	125	250	500	1k	2k	4k	8k	@ 1m	@ 3m
DME 133-1/EC	62	58	62	68	64	62	71	59	61	53
DME 315-1/EC	67	67	70	70	70	68	63	59	61	53
DME 355-1/EC	67	70	68	69	68	64	59	60	59	51
DME 400-1/EC	73	75	80	79	77	73	68	62	68	60
DME 400-3/EC	68	76	73	73	70	64	59	60	61	53
DME 450-3/EC	75	79	84	84	83	75	69	63	72	65
DME 500-3/EC	70	79	78	78	75	68	64	63	65	58
DME 560-3/EC	71	81	80	80	77	70	67	66	67	60
DME 630-3/EC	74	84	82	80	75	70	67	65	66	59

Dimension Data

Unit Type	Dimensions (mm)										Weight (kg)
	A	B	C	D	E	F	G	H	J	K	
DME 133-1/EC	490	220	460	300	50	225	300	420	480	50	6
DME 315-1/EC	556	310	530	400	50	220	350	440	510	50	17
DME 355-1/EC	676	345	662	450	75	240	400	620	680	50	27
DME 400-1/EC	761	375	765	500	100	240	510	720	780	50	28
DME 400-3/EC	761	375	765	500	100	240	510	720	780	50	28
DME 450-3/EC	761	400	765	550	75	250	510	720	780	50	33
DME 500-3/EC	991	470	926	700	100	250	620	860	900	70	52
DME 560-3/EC	991	522	926	700	100	250	620	860	900	70	60
DME 630-3/EC	1120	571	1010	825	100	260	780	900	950	65	70

EC DOME EXTRACT

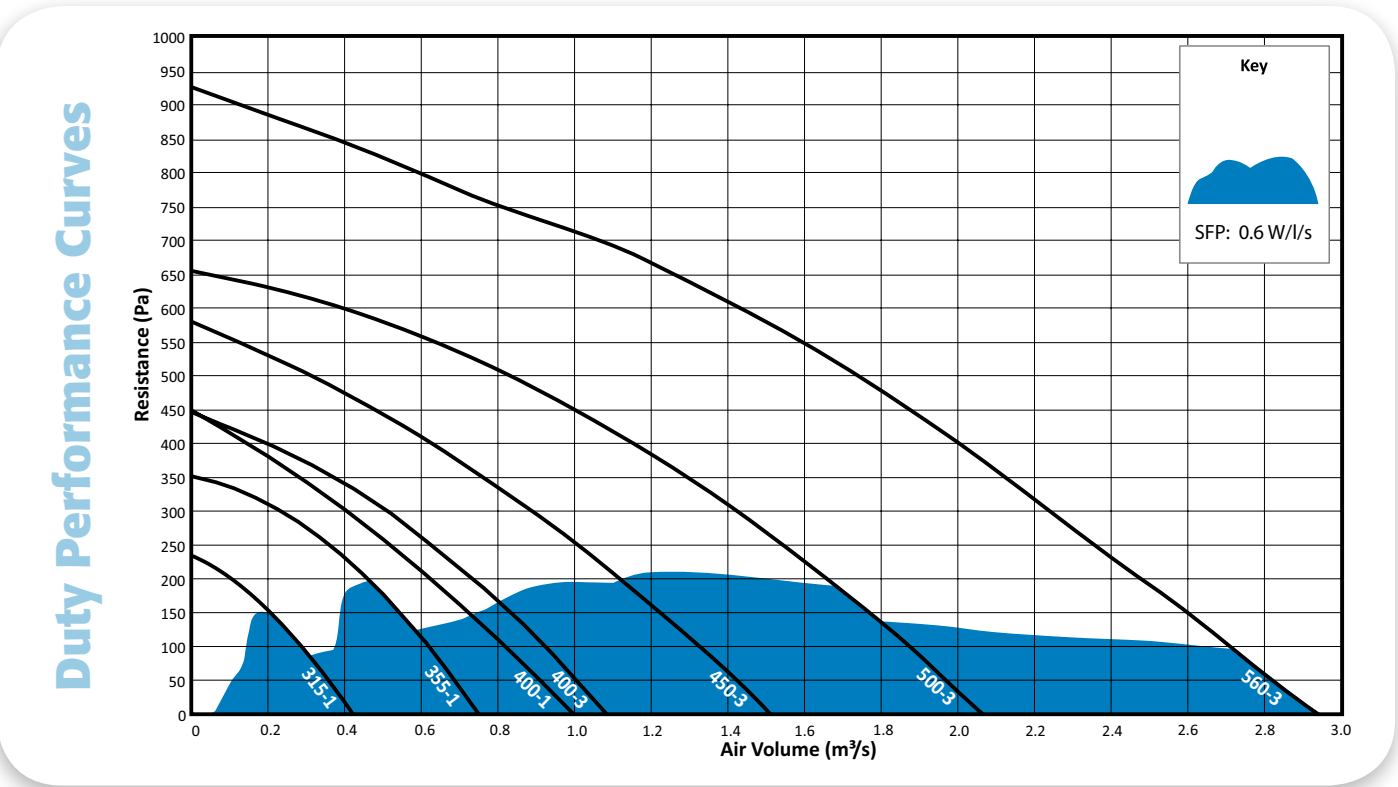
Dome Roof Extract

Selection Data

AC Dome Extract

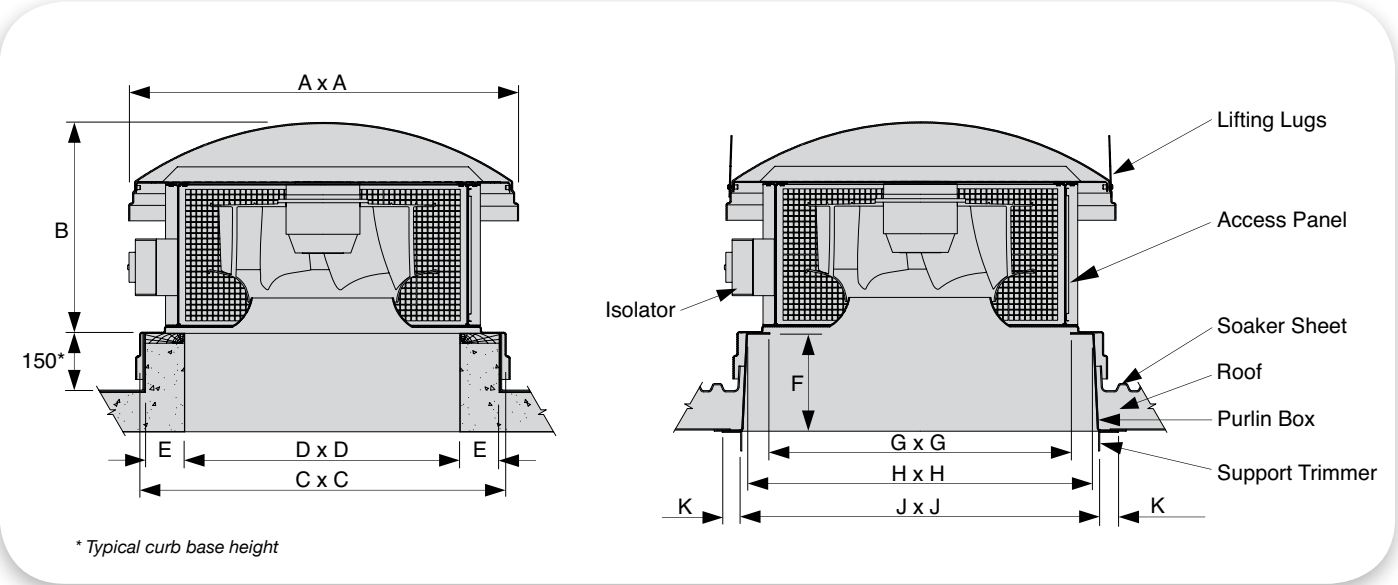
The AC Dome Roof Extract unit is designed around a single platform with AC fan technology.

Performance



Note: The overall duty range is shown in blue with legislation compliant specific fan power requirements indicated. For further details regarding specific fan power data at your duty point, please visit www.vesdirect.co.uk.

Dimensions



* Typical curb base height

Technical Data

Unit Type	Voltage (VAC)	Motor Size (kW)	Motor Full Load Current (A)	Fan Speed (rpm)	Maximum Operating Temperature (°C)
DME 315-1	230 1 Phase	0.15	0.66	1310	60
DME 355-1	230 1 Phase	0.27	1.30	1390	60
DME 400-1	230 1 Phase	0.50	2.40	1370	60
DME 400-3	400 3 Phase	0.44	0.78	1320	60
DME 450-3	400 3 Phase	0.77	1.60	1350	55
DME 500-3	400 3 Phase	1.20	2.20	1330	55
DME 560-3	400 3 Phase	2.10	4.20	1340	60

Sound Data

Unit Type	Sound Spectrum dB re 10 ⁻¹² W PWL Centre Frequency (Hz)								Casing Noise Breakout (dBA)	
	63	125	250	500	1k	2k	4k	8k	@ 1m	@ 3m
DME 315-1	55	66	60	59	56	49	50	36	48	40
DME 355-1	68	69	66	66	64	57	58	59	55	47
DME 400-1	61	69	65	65	64	58	53	55	54	46
DME 400-3	61	69	67	65	63	57	52	56	54	46
DME 450-3	66	73	73	73	70	63	58	60	61	53
DME 500-3	71	77	76	77	77	66	62	61	65	58
DME 560-3	72	83	80	79	75	69	65	67	66	59

Dimension Data

Unit Type	Dimensions (mm)										Weight (kg)
	A	B	C	D	E	F	G	H	J	K	
DME 315-1	556	308	530	400	50	220	350	440	510	50	17
DME 355-1	676	360	662	450	75	240	400	620	680	50	27
DME 400-1	761	390	765	500	100	240	510	720	780	50	29
DME 400-3	761	390	765	500	100	240	510	720	780	50	29
DME 450-3	761	418	765	550	75	240	510	720	780	50	33
DME 500-3	991	490	926	700	100	250	620	860	900	70	52
DME 560-3	991	536	926	700	100	250	620	860	900	70	60

Note: Data for design guidance only. For full details, outline drawings are available upon request.

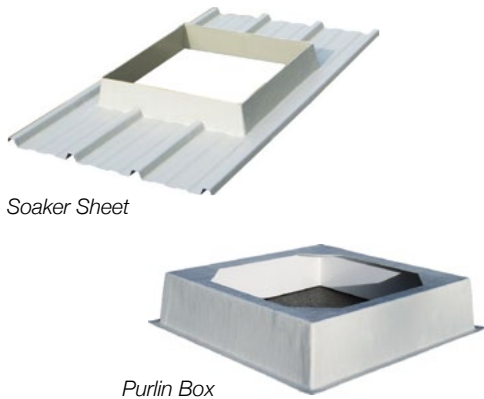
Note: Data for design guidance only. For full details, outline drawings are available upon request.

Dome Roof Extract

Ancillaries

Soaker Sheet Bases

- ▶ The soaker sheet is to be the same profile as the roof and is to be sealed onto the roof. It has an upstand to prevent water ingress.
- ▶ The soaker sheet base length is 1800mm, which provides rain water drainage and a full overlapping corrugation each side of the upstand. Maximum angle for roof installation 30°.
- ▶ The Dome unit is to be supported by the purlin box, which is to be securely fixed to the roof purlins. The soaker sheet fits over the purlin box.
- ▶ It is possible that the roof profile cannot be identified. VES are able to assist with this to ensure correct selection. Ask the Sales Office for a Roof Soaker Identification Form.



Speed Control Option

Fan Speed control is the most significant variable that enables building users to reduce energy consumption. When integrated into the ventilation system, speed control allows for a number of energy saving options; this includes constant airflow or constant pressure applications, occupancy and air quality demand control.

EC Dome units are 100% speed controllable, with 0-10 VDC or PWM input control signals. EC fan technology can offer significant energy saving at lower speeds.

AC Dome units can be matched to a number of speed control options, including inverter or manual control.

EC Control:

CFSC1

- ▶ Suitable for direct connection to EC fans.
- ▶ Manual controller for remote speed adjustment.



CFSC1

Air Quality Sensor

- ▶ Sensor combining CO₂ and VOC measurements.
- ▶ Suitable for demand control ventilation or indoor air quality control.
- ▶ Optional room or duct mounting variants.



AQ/R Sensor

AC Control:

Inverter with comprehensive range of functions

- ▶ IP54 or IP21 options available.
- ▶ Complete with operational keypad.
- ▶ Features include BMS control, remote pot, CFSC1, temperature, constant pressure, humidity and CO₂/VOC control.
- ▶ IP54 version includes main isolating switch with locking handle plus panel live indicator.



IP54



IP21

Manual speed controllers

1 & 3 phase:

Tapped transformer type in five steps and off, or electronic variable speed type with optional 0-10 Volt input for BMS control.



Single phase variable



Single phase stepped



Three phase stepped



MS 10

Controls packages for performance and efficiency



Save energy and costs with BlueSense Controls

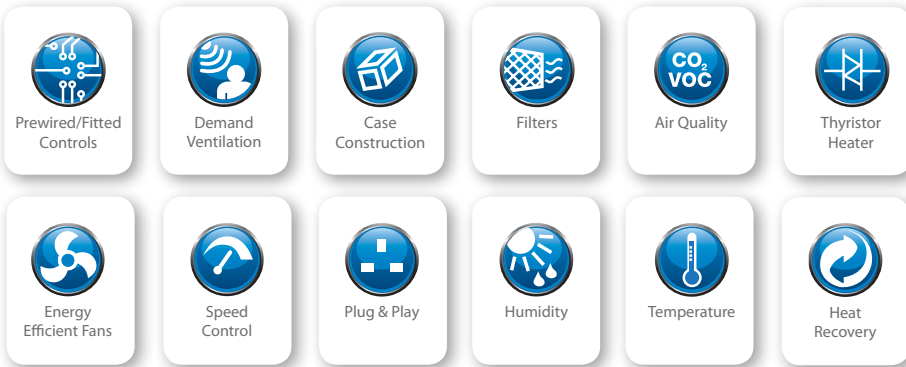
Demand ventilation solutions.

BlueSense philosophy combines intelligent control technologies with energy saving products, services and engineering expertise. BlueSense helps meet energy reduction commitments by optimising the equipment performance, improving energy efficiency, saving money and increasing equipment life expectancy.

BlueSense can be applied to a variety of projects and applications, providing efficient solutions whilst supporting design for best practice and sustainability.

BlueSense Features

- ▶ Inbuilt intelligent controls technology
- ▶ Optimises performance and efficiency
- ▶ Demand ventilation control improves air quality, reducing energy consumption and lowering operating costs
- ▶ Combined CO₂ and VOC sensing technology with energy efficient speed control
- ▶ Extending equipment life expectancy and reducing maintenance
- ▶ Short term payback on capital expenditure
- ▶ Extended warranty



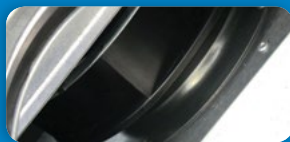
Dome Extract BlueSense

All products in the Dome Extract range can form part of a BlueSense energy saving package. Specify BlueSense to ensure, Dome Extract units are optimised with pre-wired controls, energy efficient speed controller and air quality sensor. All of these work in unison, reducing energy consumption and saving money.

A BlueSense Example



Dome Unit with Integral Controls



EC fan - with full control



Sensor Options



The sign of energy saving products, services and expertise



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

Bespoke Ventilation Solutions

As well as offering a wide range of standard ventilation products, VES are able to build bespoke solutions for special applications and requirements.

Our experience with controls also enables high level of integration with Building Management Systems or existing solutions, as well as matching to niche applications.

With VES you really get the full package without needing to mix and match suppliers.

Bespoke Options:

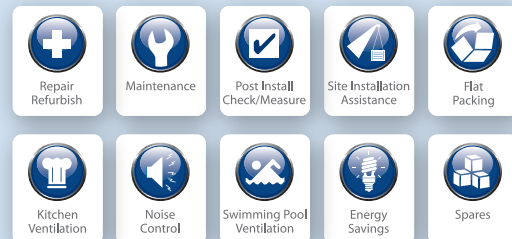
- ▶ Controls Integration
- ▶ Aesthetic requirements and paint colour finishes
- ▶ Further cooling/heating options
- ▶ Specific filtration applications i.e. Carbon, Grease, HEPA
- ▶ Flat packing and site assistance

Specialist Site Services

VES operates a Specialist Site Services division, which is a market leader in the repair and refurbishment of any make or model of air handling equipment.

For buildings with faulty and deteriorating ventilation plant, the obvious choice may appear to be replacement. However there are many reasons, not least economic ones, why the repair or refurbish alternatives should also be explored.

Features of Specialist Site Services



In addition to being a First Class ISO Certified Manufacturer, the VES Specialist Site Services Division is the largest on-site solutions provider in the country.

Assistance in all Market Sectors



For all enquires about our services please contact us on +44 (0)8448 15 60 60
or email sssales@ves.co.uk



► **Hundreds of Ventilation Products**



Sales Freephone
0800 31 66 000
vesdirect.co.uk

Product Specification

Dome Roof Extract

1.1. General

- A. Provide a Roof mounted extract fan unit to meet the performance and configuration as indicated in the schedule and detail drawings. The unit shall be tested to BS EN ISO 5801:2008 and shall be of the Dome high performance fan type as manufactured by VES Andover Ltd a company accredited with BS EN ISO 9001:2008.

1.2. Unit Construction

- A. The cowl and base shall be manufactured using GRP and shall conform to BS 3532:1990 (Type C) but if specified can be supplied to BS 3532:1990 (Type E) having class II fire retardant characteristics in accordance with BS 476-7:1997.
- B. The roof unit fan shall be supplied with a 4-sided fan guard. Fan guards shall comply with safety guidelines established in BS EN ISO12499:2008.
- C. The supplied fan guards shall be manufactured from galvanized sheet steel to BS EN 10143:2006 and powder coated to match GRP.
- D. The unit colour will be in accordance with specification.
- E. The weatherproof unit is fitted with motor weather guard to prevent water ingress as manufactured by VES Andover Ltd.
- F. The Base shall have an integrated raised inlet eye for the fan.
- G. The unit shall be supplied with four lifting lugs for safe handling and shall conform to safety standard BS EN 60950-1:2006. The lifting lugs shall be removable to enable removal once unit is in situ.

1.3. Impeller and Motor

- A. The impeller and motor shall be selected to provide a low energy solution and conform to building regulations part L as well as being compliant with the ErP directives. This shall apply to both units of the EC and AC ranges.
- B. The impeller shall be a high efficiency centrifugal backward curved design and shall be of a Glass fiber reinforced plastic construction.
- C. The impeller shall be balanced in accordance with UNI ISO 1940-1:2003.
- D. The motor shall have a die cast enclosure in aluminium alloy and shall be external rotor type with ball bearings.
- E. The motor shall be insulated to thermal class 155 (Previously insulation class F).
- F. The motor shall have a protective finish.
- G. The motor shall be fitted with Plug connection for ease of maintenance and shall be connected to a local isolator as standard.

1.4. Ancillaries

- A. The Roof extract unit and ancillaries shall be of the Dome type as manufactured by VES Andover Ltd.

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

Product Code Guide

Dome Roof Extract			Options					Ancillaries Examples	
Product	Fan Size	Phase	Wiring	Motor	Unit Protection	Controls	Colour	Name	Part No.
DME	133	-1	[null]	[AC = null]	/BM	/I	/R7004	AC	
	315	-3	/S	/EC				Soaker Sheet Base	/SKBASE
	350		/D					Purlin Box	SKPB450
	400							Inverter IP54	IN03/3434-0055/GN/IP54
	450							Speed Regulator, Remote	CFSC1
	500								
	560								
	630								
								EC	
								Speed Regulator, Remote	CFSC1
							Soaker Sheet Base	/SKBASE	
							Purlin Box	SKPB450	
							Air Quality Sensor	AQ/D, AQ/R	
Product			Wiring	Motor	Controls	Controls	Controls		
DME=Dome Extract			[null] /S=Star /D=Delta	[AC=null] /EC=Electronically -Controlled	/BM=Bird Mesh	/I=Isolator	/R=RAL (colours)		

Example Coding

EC DME 315-1/EC/BM/I

AC DME 315-1/BM/I