

# AIRBEAM Wall Extract Units

## Installation, Operation and Maintenance Manual

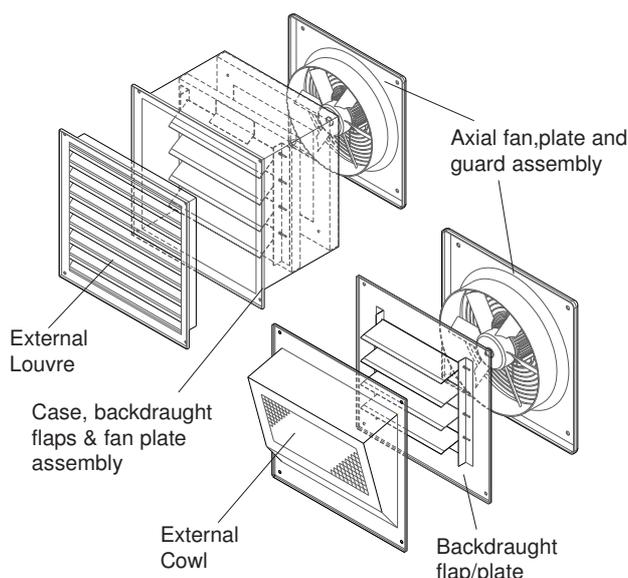


Fig. 1 Unit arrangement  
Top: Louvre unit  
Bottom: Cowl unit

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## 1 Introduction

The AIRBEAM series is a range of extract wall units, with a duty range of between 0.11 and 1.2m<sup>3</sup>/s. The range offers an unobtrusive design, with a number of outlet/housing options. Standard operating temperature of the unit is -20 to +50°C and the fans are rated at IP54.

For further technical details regarding dimensions and weights contact VES on **08702 404340**, quoting the sales order (SO) number and the unit type as found on the unit nameplate or visit [www.ves.co.uk](http://www.ves.co.uk).

## 2 Receipt of Goods

Immediately upon receipt of goods check for possible damage in transit paying particular attention to fan impeller. Prior to installation please check to ensure smooth rotation of the impeller after transit. Also check to ensure that any ancillary items are included. These will normally be supplied fitted or in the case of small items taped to the unit.

In the event of any damage having occurred or if any item is found missing, it is essential to inform VES Andover Ltd. within **3 working days** of delivery quoting sales order (SO) number and the unit type as found on the unit nameplate. After this period we will be unable to accept any claim for damaged or missing goods.

## 3 Installation

The entire system must be considered for safety purposes and it is the responsibility of the installer to ensure that all of the equipment is installed in compliance with the manufacturer's recommendations, with due regard to the current HEALTH AND SAFETY AT WORK ACT and conforms to all relevant statutory regulations. Where a unit is installed so that a failure of components could result in injury to personnel, precautions should be taken to prevent such an injury.

### IMPORTANT !

Only experienced fitters should undertake this work. Take necessary safety precautions when working in elevated positions

The AIRBEAM unit is specifically designed for wall mounting, in the vertical plane only. A hole must be cut in the wall to the following dimensions prior to installation; note the difference in opening size between louvre and cowl housings see *fig 2*. Trim the wall opening as required to make good.

Unit	Louvre		Cowl	
	Lined hole size (mm)	Weight (kg)	Lined hole size (mm)	Weight (kg)
315	505 x 505	21	340 x 340	12
355	505 x 505	25	395 x 395	15
400	595 x 595	23	450 x 450	12
450	595 x 595	28	495 x 495	16
500	675 x 675	33	575 x 575	19
560	745 x 745	39	635 x 635	25
630	835 x 835	42	710 x 710	25

Fig. 2 Approximate unit weights & opening dims

When selecting the location for your Airbeam, it is critical to ensure there are no immediate obstructions to the airflow as this will cause a loss of performance.

These products contain rotating parts and electrical connections which can be a danger and could cause injury, although unlikely as all fans are fitted with motor side guards. The axial fans utilised in the Airbeam range also generate noise; it is advised that if activities have to be conducted in close proximity to the working units the noise level should be taken into account.

Taking the previously mentioned points into consideration, it is advised that this unit should installed out of normal reach of personnel.

### IMPORTANT !

It is the responsibility of the installer to ensure that the unit is installed in a manner which will not result in injury or damage to either the unit or property.

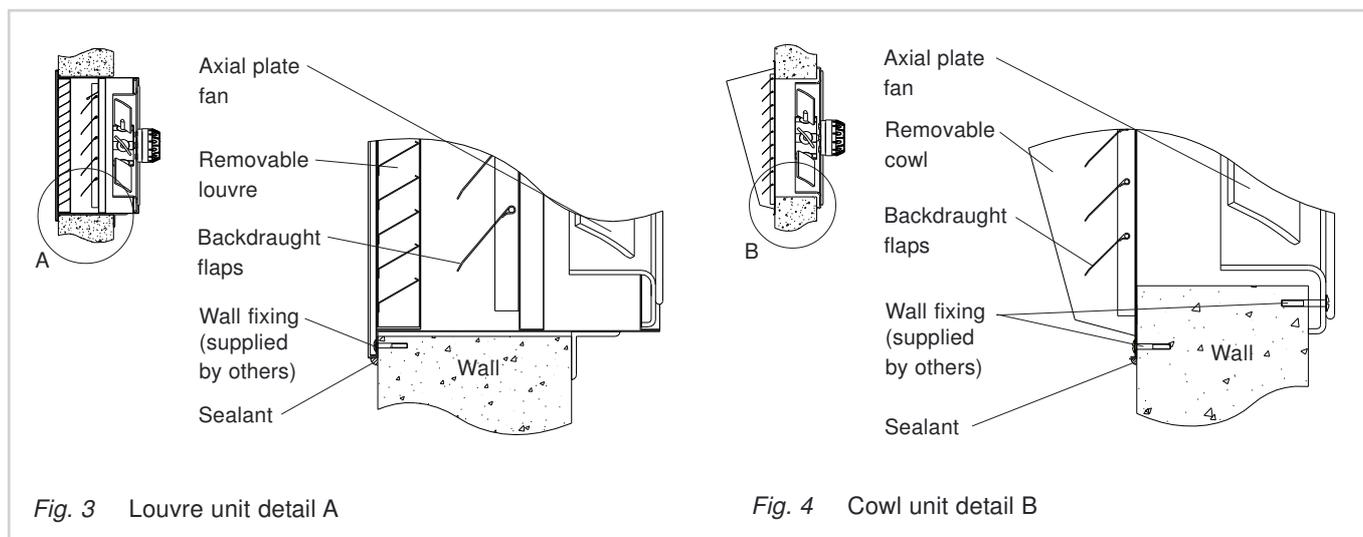
#### Louvre unit

Remove the front louvre from the wall sleeve. To ease installation, the fan should also be removed by removing the fan fixing bolts, ensuring after installation the fan plate is reattached in the correct position. Insert the unit in the opening from the outside of the ventilated area, taking care to avoid damaging the external finish (reducing the unit's resistance to corrosion).



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### 3 Installation continued

Push the unit all the way home until the external flange lies flush with the wall. Match drill fixing holes into the wall through the fixing holes in the casing. Relocate the front louvre on the casing and fix to the wall using appropriate fixings (supplied by others) through both plates together using the holes provided. A bead of sealant can be run around the joint between the flange and wall to ensure full weatherproofing as required see *fig 3*. It is the installer's responsibility to determine the type of fixing to be used, and whether any extra support is required.

#### Cowl unit

Separate the two plates which make-up the external part of the unit. Taking care to ensure that the cutout on the unit matches up with the opening in the wall, mark out the location of the fixing holes on the wall. Match drill the fixing holes on the wall. Carefully put the two plates together, offer up to the wall opening and secure into place through both plates, using appropriate fixings (supplied by others). A bead of sealant can now be run around the joint between the edge of the plate and the wall to ensure weatherproofing as required.

To fit the fan plate, remove the fan from the packaging. Offer the fan up to the inside wall, again ensuring that it is central to the wall opening, match drill fixing holes in the wall. Attach the fan rigidly to the mounting surface, using appropriate fixings (supplied by others). Should this surface be uneven it will be necessary to pack between the fan plate and the wall to prevent any distortion to the bellmouth causing the impeller to foul. It is the installer's responsibility to determine the type of fixing to be used, and whether any extra support is required.

**IMPORTANT** When replacing the external louvre or cowl care should be taken to ensure that the fixings are securely tightened.

Consideration must also be given by the installer for adequate illumination of the unit location in order for safe maintenance.

### 4 Wiring

AIRBEAM series contain an axial plate fan, acting as an extract unit.

All electrical connections must be carried out in accordance with the current edition of the I.E.E REGULATIONS and only competent electricians should be allowed to affect any electrical work to our units.

**IMPORTANT** Do not connect any unit to an electrical supply voltage outside of that indicated on the motor nameplate.

A local isolator must be fitted and mains cables should be suitably sized and terminated as shown in *fig 6 & 7*. Electrical details are shown in *fig 5*. Make the connection in the fan terminal box using the gland provided.

*Fig.5* Electrical Details

Model	Fan speed RPM	Motor size kW	FLC 230V	FLC 400V
ABM 315 / 4 - 1	1400	0.14	0.67	-
ABM 355 / 4 - 1	1400	0.16	0.76	-
ABM 355 / 6 - 1	900	0.10	0.44	-
ABM 400 / 4 - 1	1400	0.25	1.06	-
ABM 400 / 6 - 1	900	0.12	0.54	-
ABM 450 / 4 - 1	1400	0.45	1.96	-
ABM 450 / 6 - 1	900	0.17	0.74	-
ABM 450 / 8 - 1	700	0.12	0.68	-
ABM 500 / 4 - 1	1400	0.72	3.29	-
ABM 500 / 6 - 1	900	0.29	1.40	-
ABM 500 / 8 - 1	700	0.15	0.75	-
ABM 560 / 4 - 1	1400	0.90	3.67	-
ABM 560 / 4 - 3	1400	1.03	-	1.83
ABM 560 / 6 - 1	900	0.40	1.83	-
ABM 560 / 8 - 1	700	0.24	1.34	-
ABM 630 / 4 - 3	1400	1.23	-	2.13
ABM 630 / 6 - 1	900	0.54	2.40	-
ABM 630 / 6 - 3	900	0.53	-	1.10
ABM 630 / 8 - 1	700	0.28	1.47	-



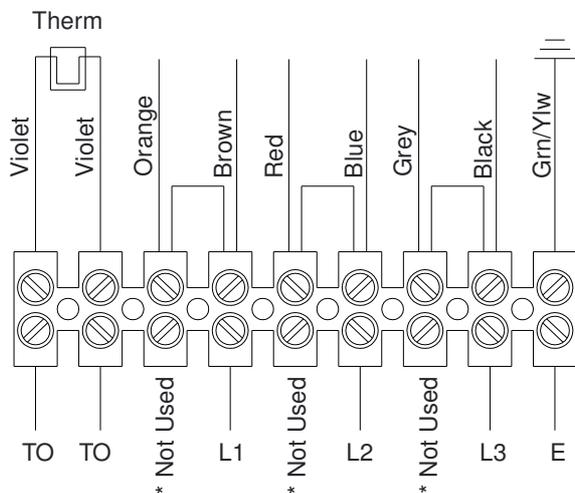
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### 3 Wiring *continued*

#### Standard motor wiring arrangement

Fig.7 400V 3Ph 50Hz



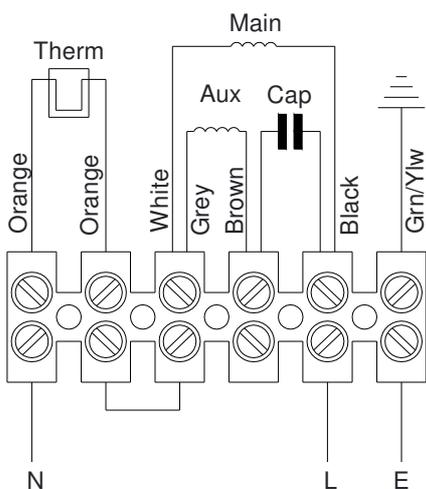
**Note:** A trial connection of the three phase (3Ph) supply should be made to check that the fan rotates in the correct direction as indicated on the fan. If the rotation is incorrect, interchange any two phases of the incoming supply at the terminal block.

#### IMPORTANT !

When used in conjunction with a SC310SD speed controller additional wiring connections will be required - refer to the appropriate controller wiring diagram or document ID Ref:678 for further details\*.

#### Standard motor wiring arrangement

Fig.8 230V 1Ph 50Hz



#### IMPORTANT !

When used in conjunction with a speed controller refer to the appropriate controller wiring diagram

### 5 Maintenance

In general, this series of units require very little maintenance. All fan and motor bearings are supplied fully greased, lubricated and sealed for life. In the unlikely event of component failure, spares are available from stock at VES Andover Ltd.

#### IMPORTANT !

Before attempting to carry out any work on our units, the unit **MUST BE COMPLETELY ISOLATED** from its electrical supply. Ensure a minimum of two minutes after electrical disconnection before commencing work. This will allow any moving part to come to a rest, all accompanying documentation including warning labels on the unit must be referenced

#### WARNING !

When used in conjunction with an Inverter for speed control, a minimum of 5 minutes should be given to allow for the capacitors to discharge before starting work

Care should also be taken whilst cleaning the unit in the event that wind or air movement should cause the fan to freewheel.

#### Annual checks

Check inside the unit for an accumulation of dust, grease etc. If the fan impeller is heavily soiled, clean out carefully (ensure the unit is properly isolated). Failure to do this periodically could lead to a loss of performance or the fan to become out of balance, leading to bearing failure. Check the drainage holes (cowl unit only) are clear of debris and service as required. Clean the external louvre/cowl to ensure that performance is maintained. Inspect the backdraught shutters for signs of damage (cracks or bending).

#### IMPORTANT !

When removing the louvre/cowl please note that these fixings secure the units into position and by removing these the unit may be released from the wall. This is particularly important with the cowl unit as the backdraught plate would be unsupported.

When enquiring after or ordering spares contact VES Customer Services Department, quoting the sales order (SO) number and unit type as found on the unit nameplate.

**Telephone 08702 40 43 40**

**Fax 08702 40 45 50**



**PLEASE ENSURE THAT THIS DOCUMENT IS PASSED ON TO THE END USER.**

We reserve the right to alter the specification without notice

## CE Declaration of Conformity

Date: 20th. May 2015  
Product: Airbeam Wall Ventilation Units  
Type: ABM  
Manufacturer: VES Andover Limited

The product above is produced in accordance with EC Council Directives:

2004/108/EC (Electromagnetic Compatibility Directive)

2006/42/EC (Machinery Directive)

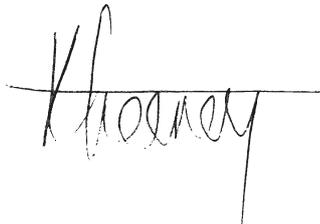
The European Harmonised Standards applied are:

BS EN ISO 12100:2010, BS EN ISO 13857:2008, EN61000, EN 60204-1, BS EN 60950-1:2006

Basis of Self attestation:

Quality Assurance to ISO 9001-2008, BSI Reg. Firm Cert. No. Q05375

Signature of Manufacturer:

Name:	Signature	Position of Signatory:
R. Peters		Deputy Managing Director
K. Feeney		Engineering Associate Director