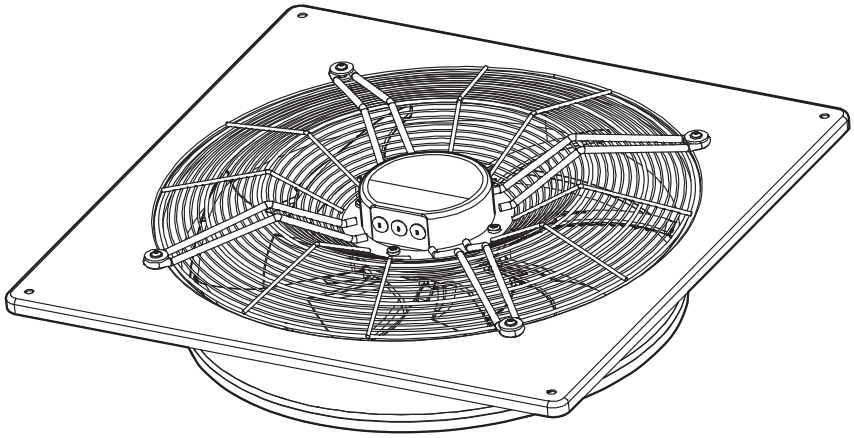
VES Andover Ltd. Eagle Close, Chandlers Ford Ind. Est, Eastleigh, Hampshire, SO53 4NF
Tel: 08448 15 60 60 Fax: 02380 26 12 04 E-mail: vesltd@ves.co.uk Web: www.ves.co.uk

ORIGINAL INSTRUCTIONS
VES Ref: ID 1112
Issue C
May 2015

Plate Axials Fans

Installation, Operation and Maintenance Manual



Important Please ensure this document and all other relevant documentation is passed on to the end user. This manual forms an integral part of the product and should be kept for the working life of the product. Additional copies of this and supporting documents are available by contacting VES or by visiting **www.ves.co.uk** and following the 'Download O&M's link.

Warning Indicates hazards associated with electric current and high voltages

Caution Indicates hazards that require safety advice for personnel or potential unit/property damage

Important Indicates important information

Contents

Introduction 1

The Plate Mounted Axial series is a range of AC and EC axial fans avaliable in sizes from 250mm to 800mm, with a duty range of between 0.26 and 7.5m³/s. The range offers an unobtrusive design, with a number of outlet/housing options available. For Standard operating temperatures and IP ratings see page 4.

For further technical details regarding dimensions and weights contact VES Andover Ltd. on **08448 15 60 60**, quoting the sales order (SO) number and the unit type as found on the unit name plate or visit **www.ves.co.uk**.

Plate Axials Fans

Installation, Operation and Maintenance Manual

Nomenclature 2

Part Number Coding

	Point Description	Point Variants	Details (as appropriate)
1	Product	**AXP**	Plate Axial Fans
2	Unit Size	**250....800**	Sequential
3	Pole	**[EC=Null]**	Not Applicable
		/4	4 Pole
		/6	6 Pole
4	Phase	**-1**	1 Phase
		-3	3 Phase
5	Variant	**/1**	Fan Variant
		/2	Fan Variant
6	Motor Type	**/AC**	AC Motor
		/EC	EC Motor
7	Grille	**/GL**	Fitted Grille

Typical Example AXP350-1/1/EC/GL

AXP	350		-1	/1	/EC	/GL
(1)	(2)	(3)	(4)	(5)	(6)	(7)

Receipt of Goods Handling 3

Immediately upon receipt of goods, check for possible damage in transit paying particular attention to fan impellers, coil connections and unit casing. Prior to installation please check to ensure alignment and 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 to be missing, it is essential to inform VES Andover Ltd. within **7 days** of delivery quoting sales order number and the unit type, as found on the unit nameplate. After this period, VES would be unable to accept any claim for damaged or missing goods.

Installation 4

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. If the unit is installed where there is a reasonable possibility of persons or objects coming into contact with the impeller whilst operational, a guard should be fitted or steps taken to prevent this. It is the installer's responsibility to ensure that access panels are not obstructed in any way and safe working access for maintenance must be provided in accordance with Health and Safety and Building Regulations. For confirmation of required access please see the appropriate unit outline drawing.

For optimum unit performance, careful consideration must be paid to the location of the unit in relation to the ductwork and associated items; placing the unit directly adjacent to a bend in ductwork will impede airflow and reduce performance. Consideration must also be given by the installer for adequate illumination of the unit location in order for safe maintenance. Further consideration should be given to the unit's position and should be secured into place as appropriate; this is especially important with external mounting as the wind and elements may effect the overall stability of the unit.

When moving the unit, handle with care and in such a manner as to avoid damaging the external finish as this may reduce the ability to resist corrosion.

Plate Axials Fans

Installation, Operation and Maintenance Manual

Installation 4 Continued

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

Important It is the responsibilty 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.

Caution If the fan unit is installed where there is a reasonable possibility of persons or objects coming into contact with the impeller whilst operational, a guard should be fitted or steps taken to prevent this.

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 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 fan should installed out of normal reach of personnel.

Wiring 5

Warning The electrical supply **must be fully isolated** before attempting to affect any work on this unit. All electrical connections to any unit must be carried out in accordance with the current edition of the I.E.E Regulations, only competent Electricians should be allowed to affect any electrical work to our units.

Important It is the responsibility of the installer to ensure that a suitable cable gland (giving adequate protection and strain relief) is fitted, and in doing so also ensure that no internal components are damaged during this installation.
It is the customer's responsibility to supply earth fault protection through the building installation device and a dedicated, isolated power supply with overload protection.

Warning Do not connect any unit to an electrical supply voltage outside of that indicated on the motor name plate.

Important When fans are used in conjunction with a speed controller refer to the appropriate controller wiring diagram.

Important **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 termination point.

Plate Axials Fans

Installation, Operation and Maintenance Manual

Wiring 5 Continued

EC Axial Fan details Table. 1

Unit Type	Voltage (VAC)	Motor Size (KW)	Motor Full Load Current (A)	Fan Speed (RPM)	Maxinimum Operating Temperature (°C)	IP Rating	Wiring Diagram
AXP250-1/1/EC/GL	230 1 Phase	0.11	0.9	2580	60	IP44	Fig 1
AXP300-1/1/EC/GL	230 1 Phase	0.15	1.15	1900	60	IP44	Fig 1
AXP350-1/1/EC/GL	230 1 Phase	0.45	2.4	1950	60	IP54	Fig 2
AXP400-1/1/EC/GL	230 1 Phase	0.52	2.7	1800	60	IP54	Fig 2
AXP450-1/1/EC/GL	230 1 Phase	0.31	1.65	1300	60	IP54	Fig 2
AXP500-1/1/EC/GL	230 1 Phase	0.84	4.4	1440	60	IP54	Fig 3
AXP500-3/1/EC/GL	400 3 Phase	1.00	1.7	1550	60	IP54	Fig 3
AXP560-1/1/EC/GL	230 1 Phase	0.58	3.2	1110	60	IP54	Fig 3
AXP560-3/1/EC/GL	400 3 Phase	1.25	2.1	1450	60	IP54	Fig 3
AXP630-1/1/EC/GL	230 1 Phase	0.85	4.3	1050	60	IP54	Fig 3
AXP630-3/1/EC/GL	400 3 Phase	1.25	2	1200	60	IP54	Fig 3
AXP710-1/1/EC/GL	230 1 Phase	0.66	3.4	890	60	IP54	Fig 3
AXP710-3/1/EC/GL	400 3 Phase	1.95	3.2	1150	65	IP54	Fig 3
AXP800-3/1/EC/GL	400 3 Phase	0.83	1.45	700	60	IP54	Fig 3
AXP800-3/2/EC/GL	400 3 Phase	3.1	4.8	1100	55	IP54	Fig 3

AC Axial Fan details Table. 2

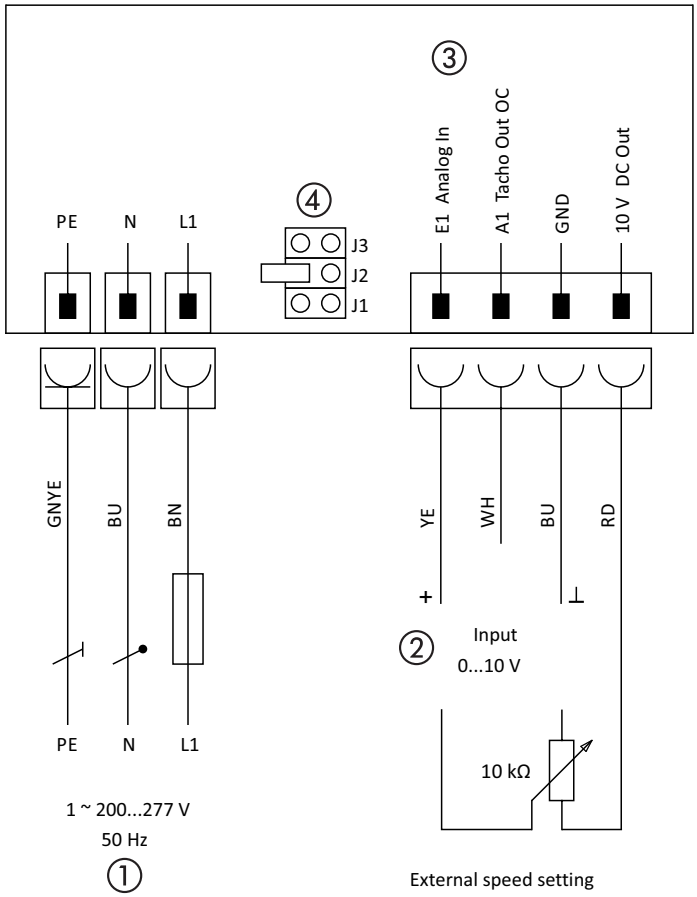
Unit Type	Voltage (VAC)	Motor Size (KW)	Motor Full Load Current (A)	Fan Speed (RPM)	Maxinimum Operating Temperature (°C)	IP Rating	Wiring Diagram
AXP250/4-1/1/AC/GL	230 1 Phase	0.05	0.24	1370	55	IP44	Fig 4
AXP300/4-1/1/AC/GL	230 1 Phase	0.10	0.42	1330	60	IP44	Fig 5
AXP310/4-1/1/AC/GL	230 1 Phase	0.14	0.62	1360	50	IP44	Fig 4
AXP350/4-1/1/AC/GL	230 1 Phase	0.18	0.77	1230	60	IP44	Fig 4
AXP400/4-1/1/AC/GL	230 1 Phase	0.26	1.15	1320	55	IP54	Fig 6
AXP450/4-1/1/AC/GL	230 1 Phase	0.56	2.5	1320	70	IP54	Fig 6
AXP500/6-1/1/AC/GL	230 1 Phase	0.30	1.3	910	70	IP54	Fig 6
AXP500/4-1/1/AC/GL	230 1 Phase	0.76	3.3	1230	70	IP54	Fig 6
AXP560/6-1/1/AC/GL	230 1 Phase	0.46	2.2	930	70	IP54	Fig 6
AXP560/4-3/1/AC/GL	400 3 Phase	1.05	2.2	1280	70	IP54	Fig 7
AXP630/6-1/1/AC/GL	230 1 Phase	0.74	3.4	910	70	IP54	Fig 6
AXP630/4-3/1/AC/GL	400 3 Phase	2.40	4.6	1320	65	IP54	Fig 7
AXP710/6-1/1/AC/GL	230 1 Phase	0.95	4.4	850	65	IP54	Fig 6
AXP710/6-3/1/AC/GL	400 3 Phase	0.94	1.7	900	70	IP54	Fig 7
AXP800/6-3/1/AC/GL	400 3 Phase	1.60	3.6	920	70	IP54	Fig 7

Plate Axials Fans

Installation, Operation and Maintenance Manual

Wiring 5 Continued

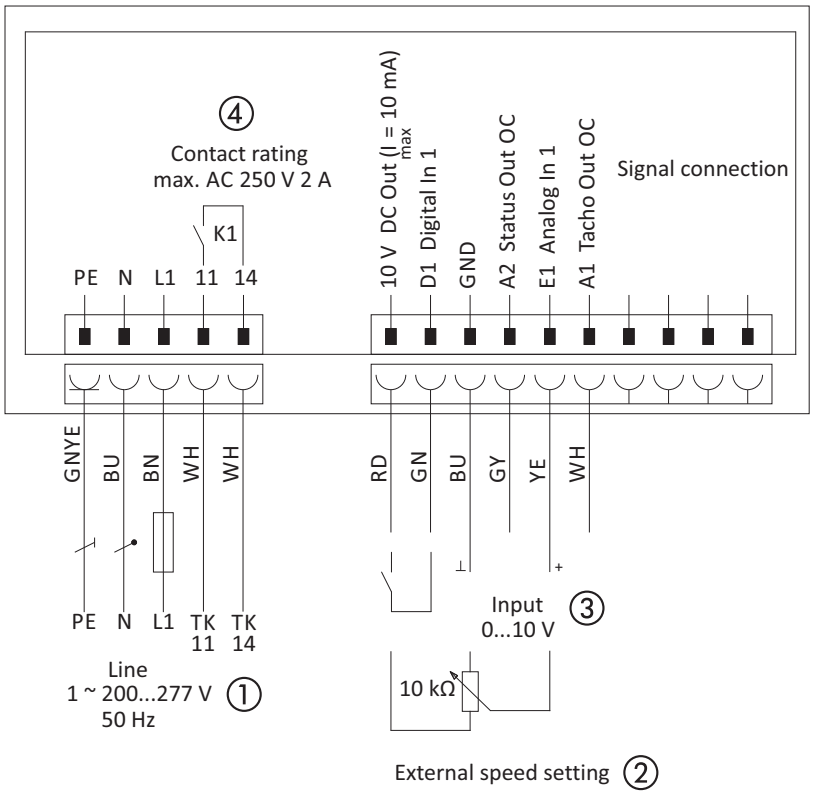
Fig. 1



① Mains 200...277 V
② External speed [reset 0...10 V
③ Signal Connection
④ Operating Mode Selection (J2 and J3) and reversal of direction of rotation (J1)

Wiring 5 Continued

Fig. 2



① Line
② External Speed Setting
③ Input
④ Contact Rating

Wiring 5 Continued

Fig. 3

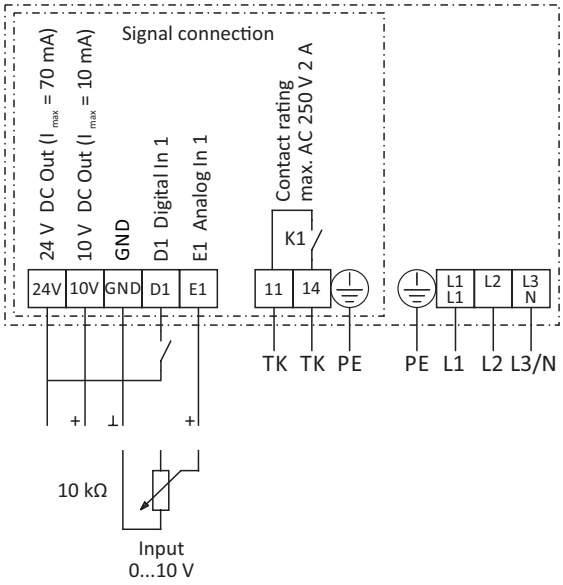
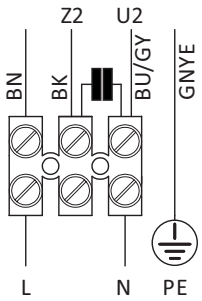


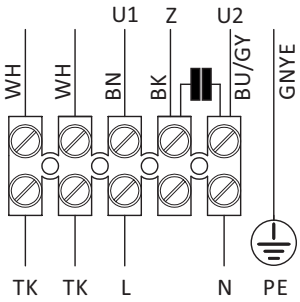
Fig. 4

Other speeds possible with capacitors connected in series



Cable Colours:
U2 - Blue or Grey
Z2 - Black
TB - Brown

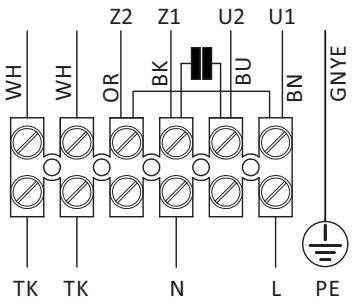
Fig. 5



Cable Colours:
WH - White
BN - Brown
BK - Black
BU/GY - Blue or Grey
GNYE - Green-Yellow

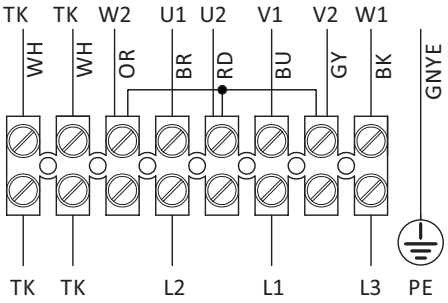
Wiring 5 Continued

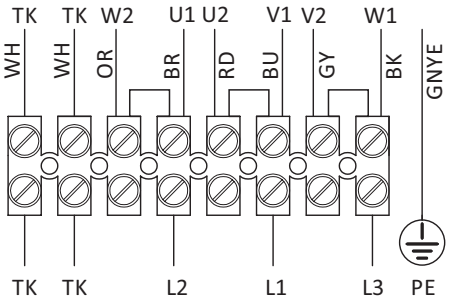
Fig. 6



Cable Colours:
U1 - Brown
U2 Blue
Z1 - Black
Z2 - Orange
Tk - White

Fig. 7





Cable Colours:
U1 - Brown
V1 - Blue
W1 - Black
U2 - Red
V2 - Grey
W2 - Orange
TK - White

Plate Axials Fans

Installation, Operation and Maintenance Manual

Maintenance 6

In general, this series of fans 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 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.

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.

Important

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

Six Monthly 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.

The fan impeller should be cleaned every 6 months. Failure to clean the fan on a regular basis could result in loss of fan performance, or cause it to fall out of balance. If a fan is stationary for long periods in a humid atmosphere, it should be switched ON for minimum of two hours every month to remove any moisture that may have condensed within the motor.

The security of fastenings and the integrity of components should be checked regularly as part of the routine maintenance operation. Check all painted items to ensure that they have not deteriorated, particularly where adverse environmental conditions prevail.

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

Spares & Repairs

Tel: 08448 15 60 60 • Fax: 02380 26 12 04

WEEE Directive

At the end of their useful life the packaging and product should be disposed of via a suitable recycling centre. Do not dispose of with normal household waste. Do not burn.

Q 05375

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

VES Andover Ltd.
Eagle Close, Chandlers Ford Ind. Est.
Eastleigh, Hampshire SO53 4NF
Tel: 08448 156060 Fax: 02380 261204
E-mail: vesltd@ves.co.uk Web: www.ves.co.uk

CE *Declaration of Conformity*

Date: 20th. May 2015

Product: Plate Axial Fans

Type: AXP

Manufacturer: VES Andover Limited

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

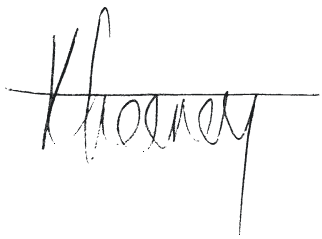
2004/108/EC (Electromagnetic Compatibility Directive)

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