

LIMPET Ceiling Extract Fans

Installation, Operation and Maintenance Manual

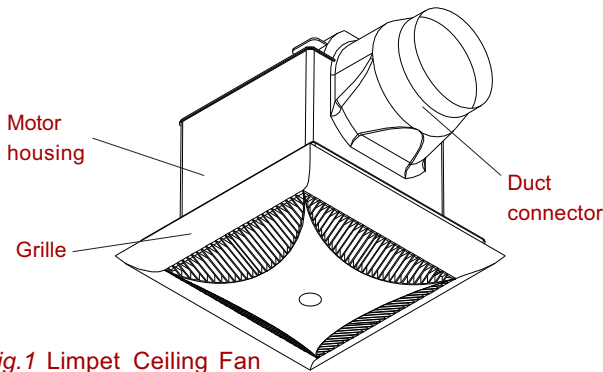


Fig.1 Limpet Ceiling Fan

IMPORTANT !

This manual must be read in full before Installation, Operation and Maintenance of the unit/s supplied.

Please ensure that this document is passed 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 documentation are available by contacting VES or by visiting www.ves.co.uk and following the 'Download O&Ms' Link.

Contents

		page
1	Introduction	1
2	Receipt of Goods	1
3	Installation	1
4	Wiring	3
5	Maintenance	4

1 Introduction

The LIMPET series is a range of ceiling mounted extract fans available in three sizes with a duty range of between 0.025 m³/s and 0.08 m³/s. Standard operating temperature of the unit is 0 ~ +40°C

For further technical details contact VES on **08702 404340** quoting the sales order number and the unit type as found on the unit nameplate.

2 Receipt of Goods

Immediately upon receipt of goods, check for possible damage in transit, paying particular attention to fan impellers and casework. Prior to installation please check to ensure smooth rotation of the impeller. 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 **7 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.

For optimum unit performance, careful consideration must be given to the location of the unit in relation to the ductwork and associated items; placing the unit directly adjacent to a bend in ductwork may impede airflow and reduce performance see *fig.7*. Consideration must be given by the installer to the positioning of the unit to ensure that access for maintenance can be provided in line with the Health and Safety and Building Regulations. Adequate illumination of the units location must also be considered in order to carry out maintenance safely.

We recommend installing the LIMPET at a minimum height of 2.4 metres, when installing the extract fan always ensure access is allowed for fan maintenance.

For fixing the unit to the ceiling follow the installation options below.

IMPORTANT !

This unit is not suitable for wall mounting.

A: Using the steel angles provided see *fig. 2*

In order to facilitate installation we have provided two pre-punched steel angles for fixing to a ceiling grid (max. size 600x600mm).

- Cut hole in ceiling tile (centered) to suit opening of unit see *fig.6*.
- Fit loose spigot to unit using fixings supplied (LCE400 only)
- Attach tile between unit ceiling flange and support angle using 6mm bolts provided.
- Drop fan & tile assembly into ceiling tile grid.
- Clip on plastic grille see *fig.9*.

B: Using a fabricated pattress see *fig.3*

The unit can be installed using a pattress (not supplied). This is recommended in instances where a larger unit is used or if the unit is installed in a larger or non-standard ceiling grid or ceiling.

- Cut hole in ceiling tile to suit opening of unit see *fig.6*.
- Fabricate a pattress (plywood, MDF etc.) with a cutout to suit the unit size and outside dimensions to suit the application i.e. ceiling grid.
- Fit loose spigot to unit using fixings supplied (LCE400 only).
- Attach tile to unit and pattress using 6mm bolts provided.
- Drop fan and tile assembly into ceiling tile grid.
- Clip on the plastic grille see *fig.9*.

C: Using steel angles & optional vandal proof grille see *fig.4*

Follow the steps as described in section A, instead of screwing the grille into place, push the grille upto the ceiling ensuring the welded studs pass through the holes in the flange of the unit. Secure the grille/fan case together (with the ceiling sandwiched between them) with the wing nuts supplied.

LIMPET Ceiling Extract Fans

Installation, Operation and Maintenance Manual

3 Installation continued

Fig.2 A: Standard installation on ceiling tiles

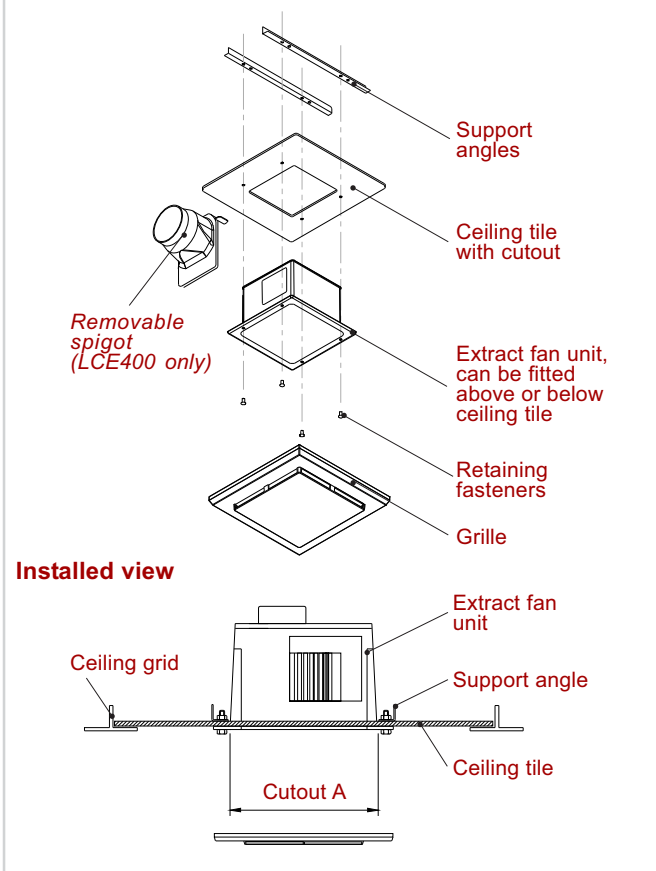


Fig.3 B: Installing unit with supporting pattress

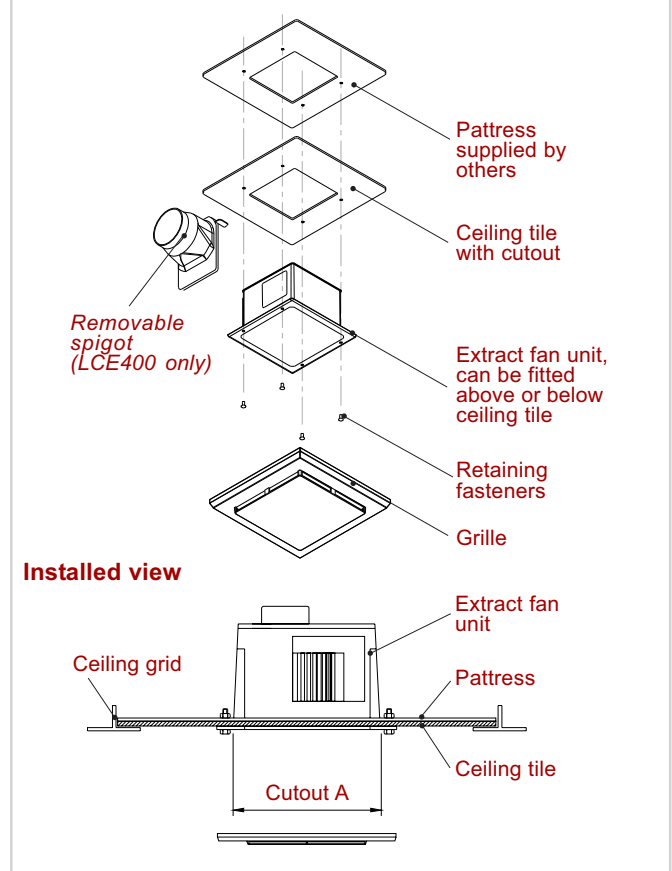


Fig.4 C: Unit with vandal proof grille

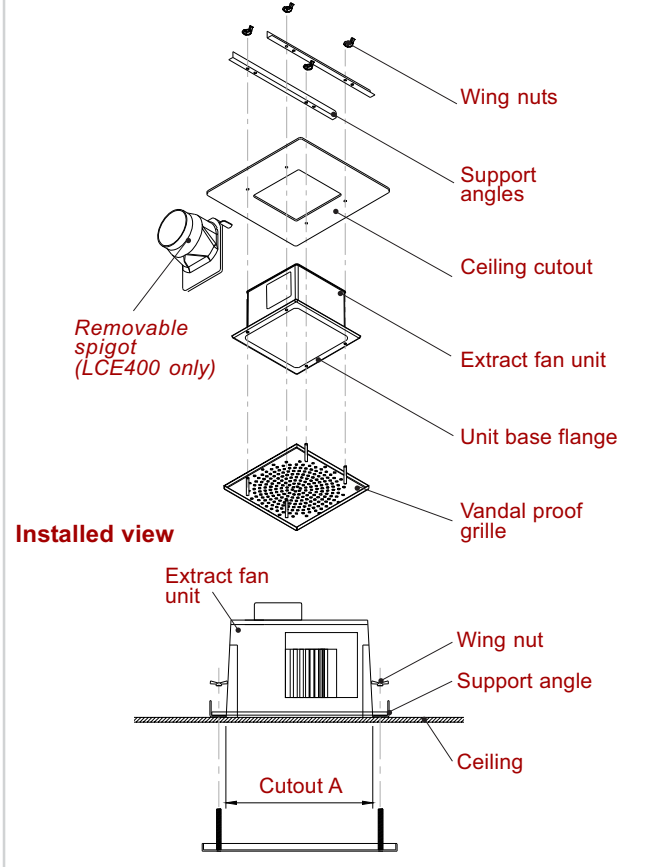
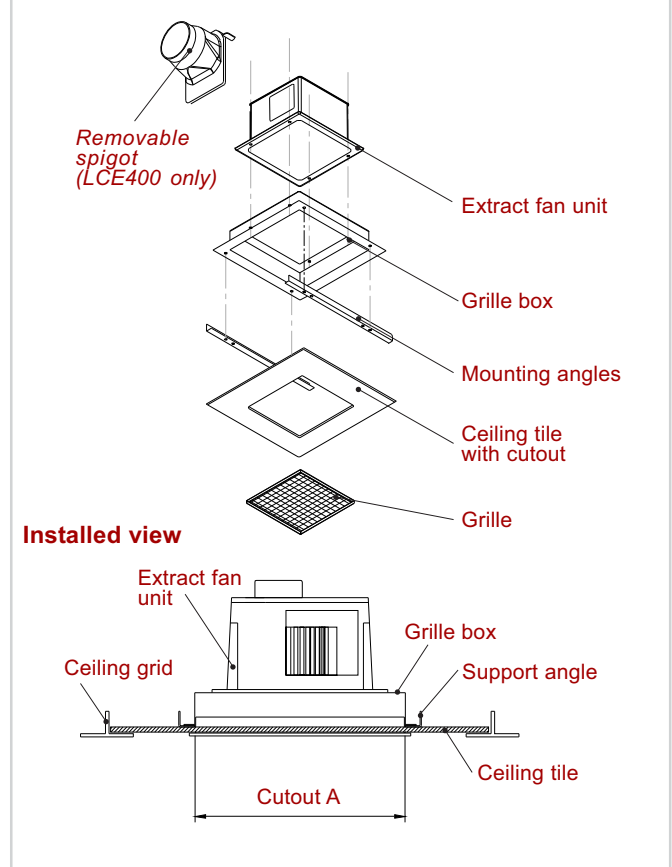


Fig.5 D: Unit with special grille



LIMPET Ceiling Extract Fans

Installation, Operation and Maintenance Manual

3 Installation continued

D: Using Optional grille and grille box see fig.5

The grille box will be supplied to suit the dimensions of the grille (cutout 'B') and the inlet size of the extract unit.

- Cut hole in ceiling tile (centered) to suit the size of the inside flange of the grille. For sizes see fig.6.
- Secure extract unit to grille box using bolts provided.
- Secure both angles to underside of grille box flange.
- Drop fan and grille box assembly into ceiling tile grid on top of ceiling tile
- Clip on the plastic grille see fig.9.

Model	Cutout size	Clearance req. in ceiling void *	Ø Duct mm
LCE160	270 x 270	250	100
LCE250	311 x 311	250	150
LCE400	315 x 315	350	150

Fig.6 Cutout sizes for ceiling tiles and ductwork.

*Allow an additional 50mm for grille box where used.

Spigots should not be used to support the ductwork they should be used solely as a means of ductwork connection.

IMPORTANT !

Before duct work is connected to the unit ensure the back draught flaps are in the down position.

Installing the extract duct.

Duct must be selected to suit the spigot diameter of the unit, indicated in fig.6. Follow the steps below to install ductwork see fig.7 & 8:

- Clip removable round spigot back into position.
- Push duct over spigot and secure with duct tape or band (Do not over tighten).
- Follow the wiring guidelines on the following page.
- If supplied, fit the optional wall shutters as indicated.

Fig.7 For optimum performances **AVOID** the following scenarios:

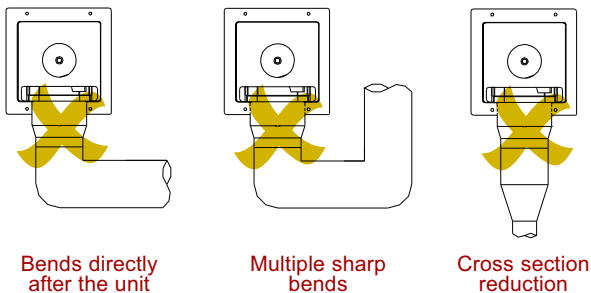


Fig.8 Typical installation with optional with optional wall shutters shown

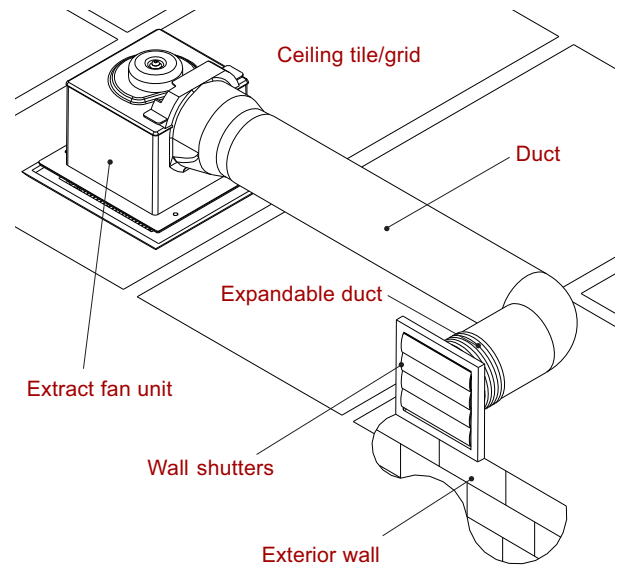
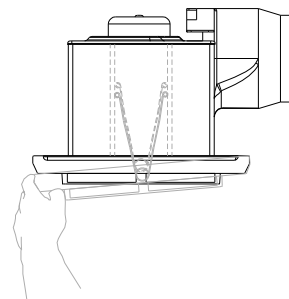
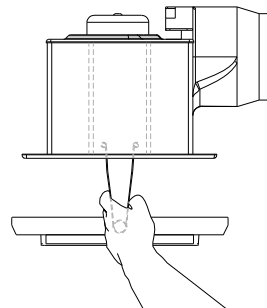


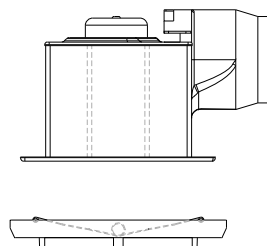
Fig.9 Removing the grille



Step 1
Gently lower the grille (use the edge of the grille)



Step 2
Squeeze the retaining clips and remove the grille



Grille fully removed, retaining clips fully extended. When reinstalling the grille, return retaining clips to guides in casework. This is easiest one clip at a time (seperately).

LIMPET Ceiling Extract Fans

Installation, Operation and Maintenance Manual

4 Wiring

All electrical connections to any unit 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.

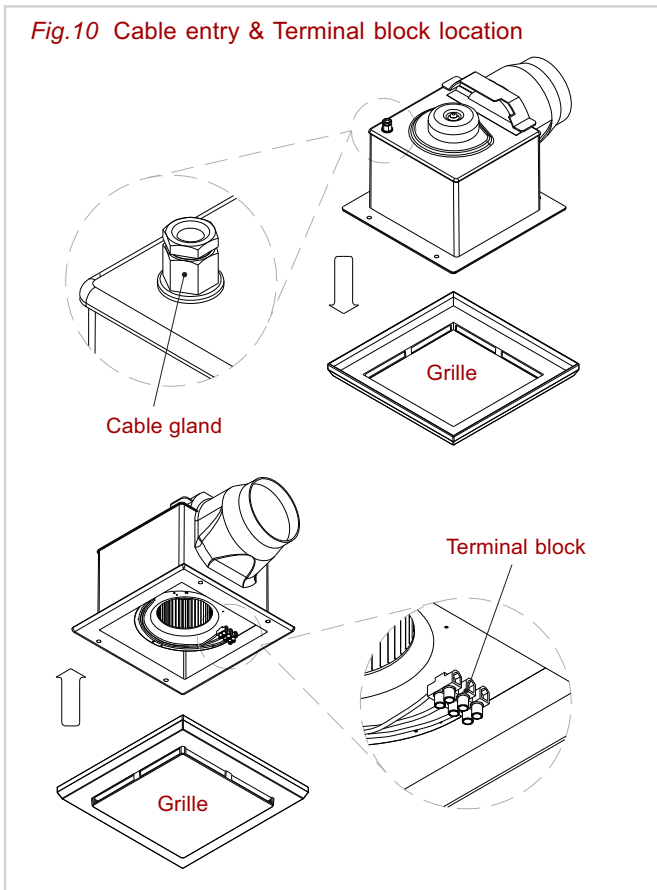
IMPORTANT !

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 to account for motor start up currents. 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.12 & 13*. Electrical details are shown in *fig.11*.

To connect the unit to a mains supply; remove the grille from the front of the unit, a terminal block mounted on the fan scroll see *fig.10* will be clearly visible for connecting to the supply. Feed the cable through the cable gland on the back of the unit see *fig.10*, into the fan section. Connect the supply to the terminal block ensuring the wire is secured to avoid being drawn into the impeller.

Fig.10 Cable entry & Terminal block location

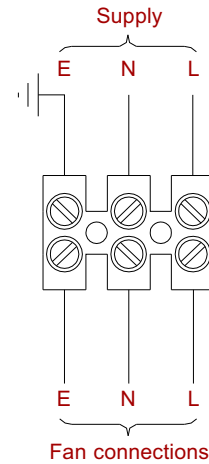


Electrical Details				
Model	Motor Input (W)	FLC* (A)	Fan Speed (RPM)	Supply Voltage
LCE160	35	0.09	1250	230 V 1Ph 50Hz
LCE250	60	0.16	1250	230 V 1Ph 50Hz
LCE400	45	0.21	1221	230 V 1Ph 50Hz

Fig.11 Electrical details

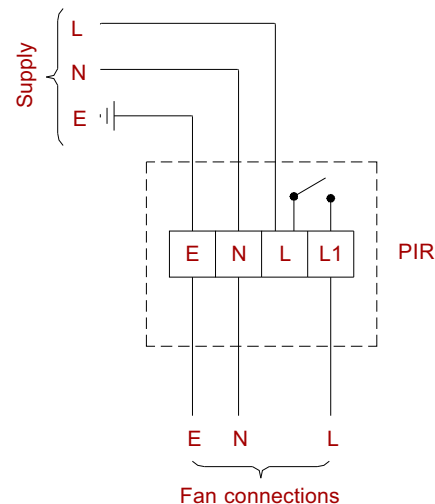
Standard fan wiring arrangement

Fig.12 230 V 1Ph 50Hz supply



PIR/fan wiring arrangement

Fig.13 230 V 1Ph 50Hz supply, wiring diagram to suit VES PIRs ESPIR/W1 & ESPIR/C1 ONLY



Note: If alternative PIR is to be used, manufacturers wiring diagram and installation instructions must be consulted.

LIMPET Ceiling Extract Fans

Installation, Operation and Maintenance Manual

5 Maintenance

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

In general, this series of units require very little maintenance. All fan and motor bearings are supplied fully 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 maintenance work or repair work on our units, all accompanying documentation including warning labels on the unit must be referenced

Recommended checks

Ensuring the unit is isolated:

- Remove the grille see *fig.9*.
- Clean the grille using luke warm water and light detergent (soap & water), rinse clean and dry thoroughly.
- Ensure there is no build up of dust in the fan, vacuum clean or wipe with duster if necessary.
- Refit the grille, again see *fig.9*.

Failure to do this periodically could lead to a loss of performance or the fan to become out of balance, leading ultimately to bearing failure.

IMPORTANT !

Do not clean the casework or grille with alkali solution or powerful detergent as this will damage the finish. Do not spray water near the extract fan.

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

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.

Telephone	08448 156060
Fax	02380 261204



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

We reserve the right to alter the specification without notice

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CE Declaration of Conformity

Date: 20th. May 2015
Product: Limpet Centrifugal Ceiling Fans
Type: LCE
Manufacturer: VES Andover Limited

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

2004/108/EC (Electromagnetic Compatibility Directive)

2006/95/EC (Low Voltage Directive)


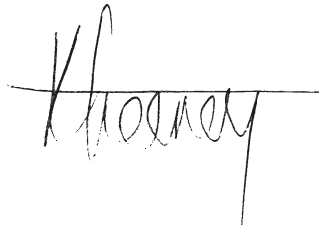
The European Harmonised Standards applied are:

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