



## Installation, operation and Maintenance Manual

### Unit: Chameleon LPHW & Electric

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## 1 Pre Installation

### 1.1 Delivery Check

On receipt of delivery check the unit and packaging for any damage. Report any transport damage to Diffusion immediately, or within three working days.

Make sure that all ordered parts have been delivered. Any shortfall should be reported to Diffusion immediately.

### 1.2 Handling

The unit must be handled with care, to avoid damage to the grille and painted surfaces. Distortion of the chassis and damage to the internal components may occur as a result from impact.

### 1.3 Storage

Units should not be stacked. The units should be carefully stored under dry and dust free conditions in their packaging until required.

## 2 Installation

### 2.1 General

Make sure that the structure on which the unit will be suspended/mounted is capable of supporting the weight of the unit. The weight is shown on the G/A drawings.

The upper part of the unit, is the air inlet, therefore do not obstruct in any way, as unit failure will result.

Unit fixings, pipework and electrical connections are concealed behind the two end shrouds. These shrouds can be removed for access/adjustment.

The unit must be positioned as close to the entrance/exit as possible.

The maximum mounting height of the unit (finished floor level to discharge grille face) is 3.5 metres.

The unit has two external panels that are fixed by 6mm allen key headed screws. The panels can be removed to access all internal components.

### 2.2 Hanging the unit

Unit is to be suspended/mounted and levelled using four 10mm drop rods. Two integral brackets are located on each end of the unit for this purpose. Removal of the external panels will allow access to the internal fixings and components. Exact fixing centres are detailed on G/A drawings.

#### Mounting the unit

The base plate is to be mounted and levelled using four 18mm holes provided, paying particular attention to the direction of airflow (see G/A drawing) as it does need to be mounted in a certain position. The unit must then have the two bottom stainless steel casings removed to provide access to the fixings. It can then be mounted and secured onto the base plate using the four M16 bolts and washers. The M16 nuts are welded onto the top flange of the mounting base plate for this purpose. Panels can then be fitted in accordance with the additional vertical panels and grilles document.

### 2.3 Installation of external panels (vertical unit)

Base plate previously supplied should have already been mounted on site into correct position as per installation, operation and maintenance manual.

Unit is be fitted onto the base plate using four M16 nuts and washers. These will be fixed into the welded nuts on the base plates.

Each unit has four external panels that have protective wrap on at present; this can be removed when the panels are fitted.

Fit the two external top panels to the frame of the unit using the 4mm allen key headed screws, making sure that they are not tightened at this time.

Then the two external bottom panels can be fitted to the frame of the unit, once again not tightening these (using the specified screws).

The grille can then be fitted to the discharge spigot of the unit using the 4mm allen headed screws supplied. The grilles have been numbered for each unit.

The two rear infill panels (box section) can then be fitted to the unit using the longer 4mm allen headed screws, once again not tightening at present.

The four external panels (2 top and 2 bottom) can then be tightened, making sure that they are aligned correctly.

The grille and rear infill panels can then also be tightened.

The top panel (round plate) can then be fitted to the unit using the 4mm allen headed screws supplied.

The bottom stainless steel trim can then be fitted and fixed to the unit and base plate. This trim could be put around the bottom of the unit at the start of the installation if cables are being fitted via the rear of the unit.

## 2.4 Pipe connections

Pipe connections are made through the shrouds that are located on the top of the unit on the horizontal version and through the base plate on the vertical version. Pipe sizes and inlet/exit points are detailed on G/A drawings/sales literature. The pipe shrouds should be fitted after the pipe connections are complete.

## 2.5 Electrical connections

The unit requires a 415/3ph/50Hz electrical supply that is terminated within the control box and should be connected in accordance with the wiring diagram and current IEE regulations.

The unit has an integral controlbox that houses the speed transformer, controller and electrical consumables. These can be accessed by removing the external panels.

**Warning: The unit must be earthed. Make sure that the mains supply you are working on is switched off.**

# 3 Operation

## 3.1 Unit operation

LPHW Version: The unit shall be supplied with our energy saving control system offers state of the art design and with the use of PID control and air off sensing technology, the heat output can be infinitely varied automatically by increasing or reducing the water flow rate via a 3-port valve on water version to maintain the preset air off temperature, whilst maintaining constant air velocity. The standard package is equipped with an off coil temperature sensor offering manual summer/winter settings for all year round control. A remote LCD control plate housing 4 speeds & off will be offered as standard.

Electric Version: The unit shall be supplied with our energy saving control system offers state of the art design and with the use of PID control and air off sensing technology, the heat output can be infinitely varied automatically by either increasing or reducing the average electrical power to the heating elements on the electric version to maintain the preset air off temperature, whilst maintaining constant air velocity. The standard package is equipped with an off coil temperature sensor offering manual summer/winter settings for all year round control. A remote LCD control plate housing 4 speeds & off will be offered as standard. Should the airflow fail, or reduce to dangerously low levels due to obstruction or fan failure, the manual over heat safety cut out will operate. This cuts the electrical power to the heating elements and shuts them down, which prevents the unit from seriously over heating and becoming a safety hazard.

The unit has an integral controlbox that houses the speed transformer, controller and electrical consumables. This can be accessed by removing the external panels.

## 3.2 Safety Instructions

**Warning:**

**Do not insert any objects into the inlet or discharge openings.**

**Never block the inlet or discharge openings.**

**During operation the surface of the unit can become hot.**

**Make sure mains power supply is switched off, whilst working on the unit.**

**When the unit is switched off, residual heat will be present for a period of time, DO NOT remove the access panel or carry out any maintenance until the heat has dissipated sufficiently to a level where it is safe to do so.**

3.3 Operations of options

Remote or return air Thermostats: To control electric heating on/off on electric version and fan on/off on LPHW version (Standard or Energy saving controls).

Energy saving controls: Refer to controls O&M manual for details.

4 Maintenance and Servicing

4.1 Safety Instructions

**Warning: Before maintaining/servicing the unit:**

**Make sure mains power is switched off, (i.e. fused spur or main circuit breaker).**

**Wait until fans/motors have stopped rotation.**

**Allow the unit to cool down after operation.**

**Coil fins and elements fins can be sharp.**

**Use all necessary safety equipment required by current HSE legislation.**

4.2 General maintenance

Access to all the components can be made by removing the external panels.

Fans: Impeller blades should lightly brushed/cleaned at regular intervals, this is to remove any dust that has gathered. The fans have sealed for life bearings and therefore require no lubrication.

LPHW Coils: Fins should be lightly brushed/cleaned at regular intervals; this is to remove any dust that has gathered.

Electric Elements: Fins should be lightly brushed/cleaned at regular intervals; this is to remove any dust that has gathered.

5 Spares Parts

5.1 Spares lists

Contact spares department

6 Drawings

6.1 G/A Drawings

As attached drawings

6.2 Wiring Diagrams

As attached drawings

## General information

The goods supplied are subject to et Environmental standard terms and conditions of sale, a copy of which is available on request. If anything in these installation operation and maintenance instructions conflicts with the terms and conditions, then the terms and conditions will apply.

Each unit is individually tested both mechanically and electrically. A test label is attached to each unit signed by the tester for each test completed.

Liability for the contents of this guide:

However much care might have been taken in ensuring the correctness and, where necessary, completeness of the description of the relevant parts, et Environmental disclaims all liability for damage resulting from any inaccuracies and/or deficiencies in this guide.

Should you detect any errors or ambiguities in this guide then we would be pleased to hear from you: it helps us to improve our documentation even further.

et Environmental has a policy of continuous development and therefore reserves the right to alter information contained in this literature without prior notice.

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# **Declaration of Conformity**

This certificate declares that the following et Environmental plc products:

**Over door heaters, space heating units, fan convectors and vent units.**

Have been designed and manufactured in accordance with the requirements of the council directive 89/336/EEC relating to Electromagnetic Compatibility by the application of the following EMC generic standards.

EN50 081.1 1992

EN50 082.1 1992

Providing installation is carried out in compliance with BS 5345 & BS 6959 and that correct EMC practices are applied, and that any cable glands and connections to the units are approved for use in the relevant environment.