



**powrmatic**



# **Calecon Range**

## **Users, Installation and Servicing Instructions**

**WARNING: THIS APPLIANCE MUST BE EARTHED**



# powrmatic

## Certificate of Guarantee



### **Dear Customer**

This is to certify that this appliance is guaranteed for one year (parts only) from the date of original commissioning.

### **To make a claim**

In the first instance you must contact your appliance supplier, or installer and provide:-

1. The Calecon type and serial number.
2. The original commissioning documentation.
3. As much detail as possible on the fault.

Your supplier, or installer will then contact Powrmatic to make a guarantee claim on your behalf.

### **Conditions of Guarantee**

1. The appliance must have been installed by a competent recognised installer, and in accordance with the manufacturers instructions, building regulations and local regulations.
2. The appliance has been professionally commissioned.
3. The appliance has been maintained on a yearly basis by a competent servicing company.
4. The appliance has been used in accordance with the manufacturers instructions.
5. No unauthorised repairs or modifications have been made.
6. Powrmatic 'General Conditions of Sale' have been observed.
7. Except for the obligation of Powrmatic Ltd to perform warranty repairs during the guarantee period, Powrmatic will not be liable in respect of any claim for direct or indirect consequential losses, including loss of profits or increased costs arising from loss of use of the appliance, or any event arising there from.

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**Important: This certificate must  
be kept with the appliance**

# Users Instructions

The Calecon units you have installed are operated automatically, by an inbuilt thermostat, to turn on when the air temperature at high level exceeds the thermostat setting. The Calecon units then recirculate this warm air to ground level and minimise the temperature gradient between low and high level. The units turn off automatically when the air temperature at high level falls below the setting on the thermostat.

In some installations a low level master control may be installed to provide User control of the units.

## 1. Maintenance

Regular servicing is essential to maintain efficient, reliable and safe operation of the units. Users are strongly recommended to have the Calecons serviced by a qualified person at least annually and preferably at the end of the heating season.

## 2. IMPORTANT

Free access must be maintained to the Calecon units for servicing purposes.

All Calecon units use electricity to power them and contain moving parts, the fan. It would be hazardous to tamper with or attempt to service unless you are a competent person in the field of Electrical work.

If you have any safety questions reference the servicing and installation of this equipment please do not hesitate to contact our head office for expert advice.

Your safety is paramount to us.

## Installation & Servicing Instructions

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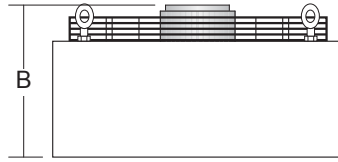
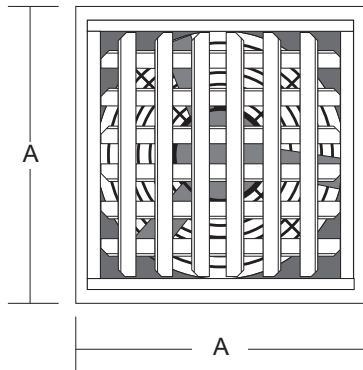
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# 1. Introduction

Calecon thermal economiser units will automatically recirculate the high level hot air in high roofed buildings drastically reducing stratification and heat losses.

Mounted externally on the unit is the air temperature sensing thermostat. Units are fully pre-wired, fully tested and fitted with four eyebolt suspension points.

# 2. Technical Data



## Dimensions & Weights

Model	A	B	Weight kg
	mm	mm	
CEC1250	500	360	16.5
CEC2250	600		21.0
CEC3750	655		24.5
CEC6500	805		35.0

# Specifications

Model	Maximum Throw for various Temperature Differentials				Airflow		Fan Motor			Weight
	5°C	10°C	15°C	20°C			Power	1ph	3ph	
	m				cfm	m³/s	w	A		kg
CEC1250	9	7	5.5	5	1250	.590	110	0.6	0.3	16.5
CEC2250	12	8	7	6	2250	1.062	290	1.6	0.5	21.0
CEC3750	18	12	9	8	3750	1.770	420	2.4	1.3	24.5
CEC6500	24	15	13	10	6500	3.067	370	2.7	1.3	35.0

# 3. General Requirements

## 3.1. Location

Calecon units will be effective in any high roofed building where temperature stratification will otherwise occur.

## 3.2. Electricity Supply

Wiring external to the unit must be installed in accordance with the I.E.E. Regulations and any local regulations which apply. Calecon units are supplied for 230V~ or 400V 3~N. The fan motor starting amps are approximately 3 times the full load current.

# 4. Installation of Units

## 4.1. General

Units should be installed at the highest available locations and in positions where the downward directed airflow will not be impeded by racking or other obstructions. Ensure that units are not mounted so as to obstruct the movement of overhead cranes, forklift trucks etc.

Where multiple units are being used their positioning should ensure as even airflow pattern in the building as practicable.

## 4.2. Speed Control Units

Manual, or temperature controlled, speed regulators may be used in conjunction with Calecon units to provide greater system flexibility. If the speed regulators are not of Powrmatic supply it must be established that they are compatible with the Calecon units. Refer to the instructions with the speed controllers for wiring details.

## 4.3. Fitting

The unit may be installed either:

- a) suspended by suitable drop rods, chains or straps or,
- b) on specifically designed brackets.

Whatever method of installation is used it must be capable of adequately supporting the weight of the unit (*See Section 2*). Before installing the unit any existing trusses, walls, brackets etc., must be inspected to ensure they are suitable. All supports should be protected against the effects of rust or corrosion. When the heater is suspended it is essential that the electrical connection is made with a flexible connection.

## 4.4. Electrical Connections

All units are fully pre-wired and only require final connections for the incoming mains supply.

The electrical supply must be run to a point adjacent to the unit and be suitably terminated to provide an isolation point that will prevent activation of the unit during servicing. Refer to the Specifications data above to ascertain the electrical loading of the unit(s) being installed so that cables of adequate cross-sectional area to safely carry that load are used for the electrical installation.

The length of the conductors between the cord anchorage and the terminals must be such that the current carrying conductors become taut before the earth conductor if the cable or cord slips out of the cord anchorage. Any external controls that are used in conjunction with the units must be of an approved type.

1. Remove the two screws securing the electrical panel to the casing and hinge down panel.
2. Pass the incoming supply cable through the cable gland on the top of the unit.

3. Connect the live and neutral wires to the terminal block. The incoming earth wire should be fitted with a ring type crimp terminal and clam ped onto the earth stud using the spare nut and washer provided.
4. Tighten the cable gland and secure the electrical panel back to the casing.

## 5. Commissioning

### 5.1. Electrical Installation

Checks to ensure electrical safety must be carried out by a qualified person.

### 5.2. Unit Operation

**Caution:** When the electrical supply is turned on the unit may start immediately depending on the ambient temperature.

1. Turn the thermostat on the side of the unit to its lowest setting
2. Turn on the electrical supply and the fan should run.
3. In the case of 3ph units check that the fan direction is correct.

If it is not proceed as follows:-

- a) Switch of and isolate the electrical supply.
  - b) Remove the two screws securing the electrical panel and hinge panel down. Interchange any two of the incoming live wires. Replace electrical access panel and repeat from step 2 above.
4. Adjust the outlet louvres to give the required air pattern and floor level air velocity viz. Louvres at 45° will give a wide spread pattern and lower floor level air velocities, louvres at 90° will give a narrow throw pattern and and higher floor level air velocities.
  5. Set the thermostat to the required value, normally 2° above the design temperature of the building where speed regulators are not being used. If speed regulators are installed set the thermostat 2° - 3°C below the building design temperature to act as a low temperature cut-off. When temperature controlled speed regulators are fitted set the thermostat to the building design temperature.

## 6. Servicing

**Warning:** Before undertaking any servicing turn off and isolate the electrical supply. Use a safe means of access.

Units should be serviced at least annually.

Motors are sealed for life and do not require servicing.

1. Remove the two screws securing the electrical panel to the casing and hinge down panel.
2. Disconnect the incoming electrical connections and the earth lead. Release the locking nut of the cable gland on the top of the unit and withdraw the incoming supply cable.
3. Release the unit from its suspension points and lower to a safe working area.
4. Remove the four eyebolts securing the fan to the casing and lift out fan.
5. Clean off any build up of dust.
6. Ensure that the ventilation slots of the thermostat are clear.
7. Reassemble unit in reverse order and reinstall.

## 7. Replacement of Failed Components

**Warning:** Before undertaking any component replacement turn off and isolate the electrical supply.

### 7.1. Fan

1. Complete steps 6.1 to 6.4

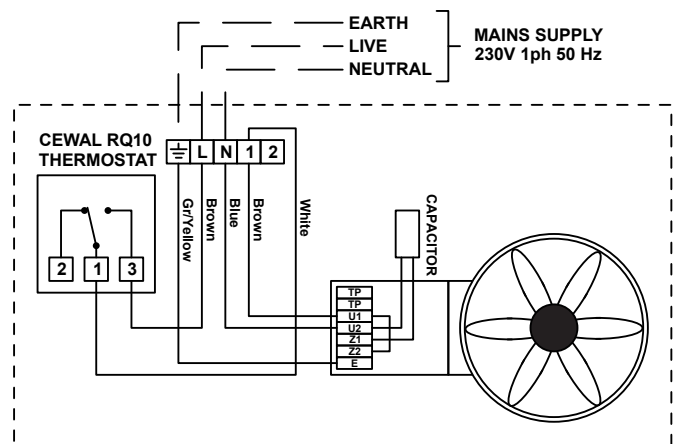
2. Remove terminal box cover from motor and disconnect motor wiring.

3. Check that replacement fan is of the correct type. Reassemble unit in reverse order and reinstall.

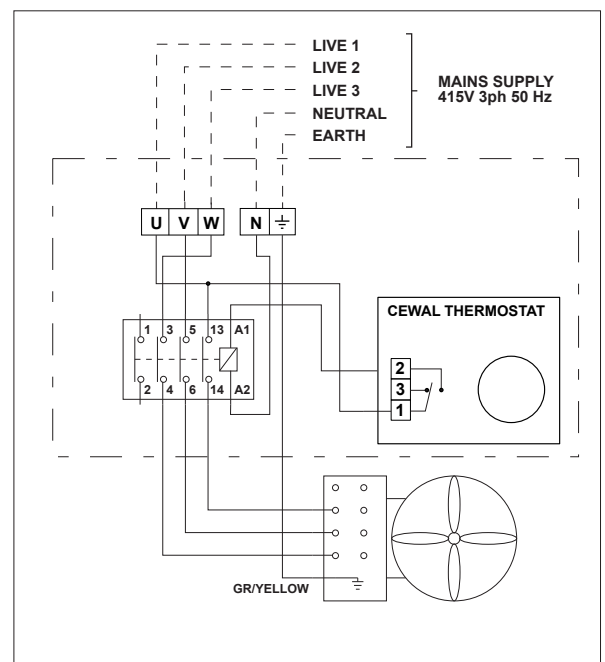
### 7.2. Thermostat

1. Pull off the thermostat cover, whilst pushing in the side retaining tabs with a small screwdriver, and disconnect electrical connections.
2. Remove the two screws securing the thermostat to the electrical panel.
3. Reassemble in reverse order.

## 8. Wiring Diagrams



1ph Calecon CE1250 -6500 - S&P FANS



3ph Calecon CE1250 -6500 - S&P FANS

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