

## Mixed Flow Roof Fans (RMH)

### Installation and Wiring Instructions



RMH31514  
RMH35514A  
RMH40014A  
RMH40034B  
RMH45014A  
RMH45034B  
RMH50014A  
RMH50034B  
RMH56034A  
RMH56036A  
RMH63034  
RMH63036

***Vent-Axia***<sup>®</sup>

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.  
THESE INSTRUCTIONS SHOULD BE LEFT WITH THE END USER.





## **READ AND SAVE THESE INSTRUCTIONS**

*PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION. INSTALLATION AND WIRING INSTRUCTIONS SHOULD BE LEFT WITH END USER.*

Air moving equipment may present mechanical, electrical or noise hazards. To minimize risks associated with these potential hazards, it is essential that safety, installation, operation and maintenance instructions are followed. Implementation of these instructions should always be undertaken by technically competent personnel.

Potential mechanical hazards must be eliminated by guarding against access to the rotating parts whilst the air moving equipment is operating. A range of guards are available for this purpose from Vent-Axia.

Installation work, both mechanical and electrical, must be undertaken in accordance with the safety and installation instructions before switching on the unit.

Maintenance work should not be attempted before first switching off and isolating the fan and its control from the electrical supply and ensuring that it cannot be accidentally turned back on again. It is essential to ensure that rotating parts have come completely to rest before maintenance work commences.

Air moving equipment may generate unacceptable noise levels when in operation. It may be necessary to take appropriate action to reduce sound levels. A range of products are available for this purpose from Vent-Axia.

### **IMPORTANT**

1. All electrical connections should be made by a properly qualified electrician. The fan must be sited and connected in accordance with current I.E.E. Wiring Regulations, BS7671 (U.K.), or the appropriate standards in your country.
2. DO NOT use this appliance when the following are generated or present: Excessive grease or oil laden air, corrosive or flammable atmospheres.
3. When the fan is installed in a room containing a fuel burning appliance, the installer must ensure that the air replacement is adequate for both the fan and the fuel burning appliance.
4. If a fan is used to supply air into a room, the installer must ensure that the fan intake is located at least 600mm away from any flue outlet.
5. Site away from direct sources of heat. Ambient temperature range:

<i>RMH31514</i>	<i>-15°C to +60°C</i>
<i>RMH35514</i>	<i>-15°C to +60°C</i>
<i>RMH40014</i>	<i>-15°C to +60°C</i>
<i>RMH40034A</i>	<i>-15°C to +60°C</i>
<i>RMH45014</i>	<i>-15°C to +60°C</i>
<i>RMH45034A</i>	<i>-15°C to +60°C</i>
<i>RMH50014</i>	<i>-15°C to +60°C</i>
<i>RMH50034A</i>	<i>-15°C to +60°C</i>
<i>RMH56034</i>	<i>-15°C to +45°C</i>
<i>RMH56036</i>	<i>-15°C to +60°C</i>
<i>RMH63034</i>	<i>-15°C to +55°C</i>
<i>RMH63036</i>	<i>-15°C to +60°C</i>
6. When installing unit, take care not to damage electrical or other hidden utilities.
7. Check the details on the rating label for correct voltage, frequency, speed, phase insulation class and IP rating.
8. Select the correct direction of rotation for the fan. Three phase units require a trial connection. To change direction of rotation, interchange any two phase supply leads.
9. It is the responsibility of the installer to ensure that all aspects of system design are taken into consideration.
10. Due to the weight of units it is recommended that two people are involved in the installation and that appropriate lifting gear is used.

## **Description**

The RMH mixed flow roof fan is designed as a roof extract ventilator. It is supplied fully assembled, ready for installation and incorporates a service isolator.

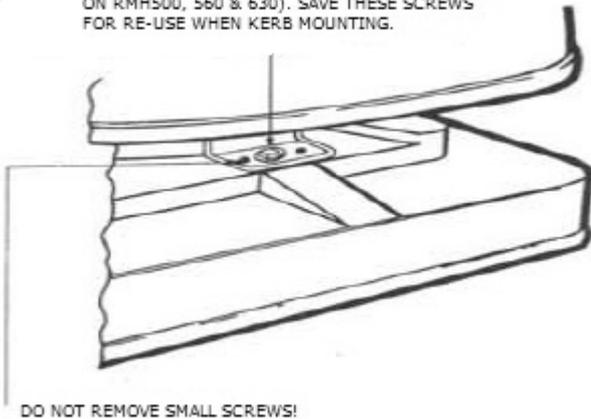
The mounting plate is moulded with a fixed bellmouth to ensure optimum efficiency and precise alignment. The weather cowl is also moulded to produce a smooth internal surface and has a tough UV resistant external finish. All models are equally suitable for flat or inclined roofs and are suitable for kerb or purlin box mounting.

## **Transport and Handling**

The fans should be transported horizontally and only lifted by the base.

## **Removal from transit packing**

REMOVE 4-OFF COACH SCREWS ONLY IN ORDER TO DETACH UNIT FROM TRANSIT TIMBER (8-OFF ON RMH500, 560 & 630). SAVE THESE SCREWS FOR RE-USE WHEN KERB MOUNTING.



## **MOUNTING**

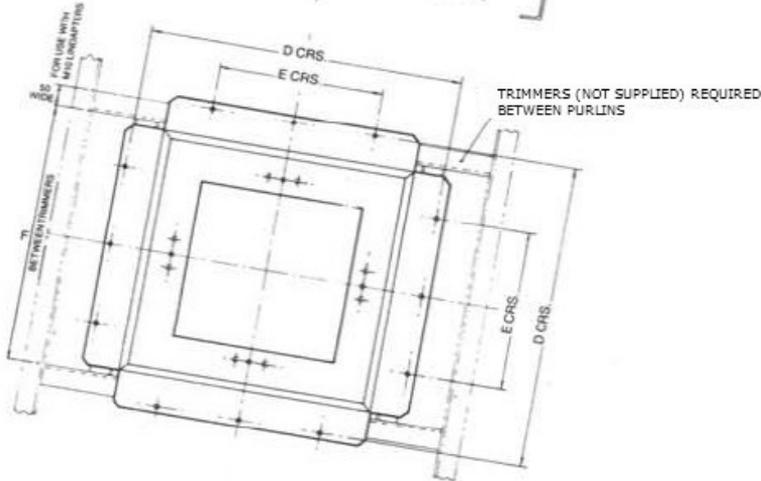
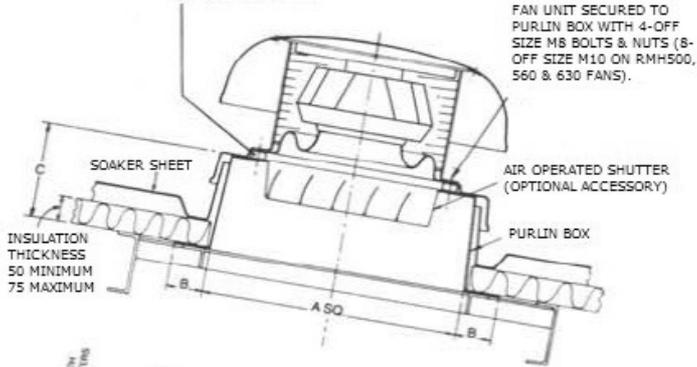
Each fan is supplied and assembled ready for installation.

For ease and quick mounting, the following points are important:

1. The fan should be installed with its base plate mounted securely to either a roof kerb or purlin box. When fixed to a kerb made of concrete, bricks or wood, make absolutely sure that the surface on which the fan is to be mounted is clean and level. In order to ensure an airtight fit, use a seal of non-porous material.
2. When mounting on a purlin box, note that trimmers (not supplied) will be required between purlins in order to support the purlin box.
3. Study details in the diagrams showing the two alternative methods of mounting.
4. Place the fan on the kerb or purlin. Tighten bolts/screws evenly and not too hard in order to prevent deformation of the base. Check by hand that the impeller runs smoothly and without fouling.
5. If the fan inlet is less than 2.3m high, a suitable guard must be fitted.

## DETAILS FOR PURLIN MOUNTING

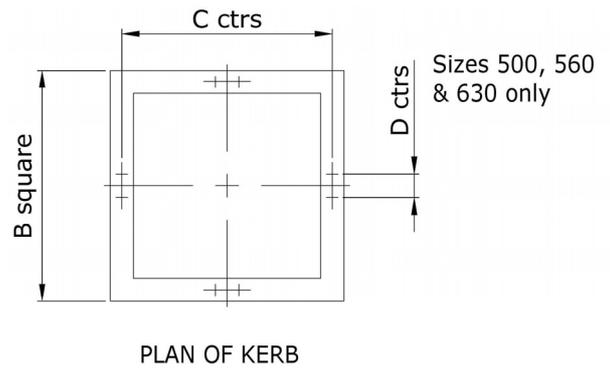
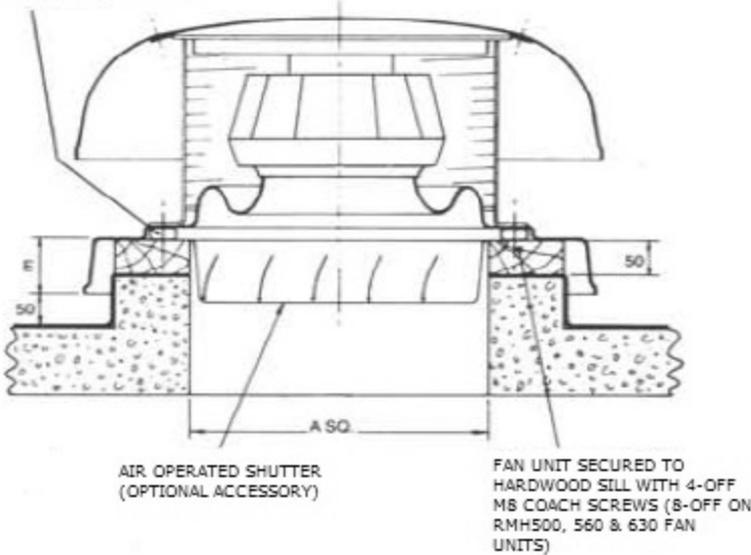
SPACERS (SUPPLIED FIXED TO UNIT) MUST BE USED.



FAN SIZE	A	B	C	D	E	F
315	625	90	240	765	400	653
355/400	725	90	240	865	500	753
450	890	70	250	990	650	878
500/560/630	1030	75	250	1140	760	1028

## DETAILS FOR KERB MOUNTING

SPACERS (SUPPLIED FIXED TO FAN UNIT) MUST BE USED.



FAN SIZE	A	B	C	D	E
315	400	600	470	-	83
355/400	500	700	570	-	83
450	650	850	690	-	103
500/560/630	790	990	842	100	103

# GENERAL WIRING INSTRUCTIONS

**WARNING – THE FAN AND ANY ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING INSTALLATION AND/OR MAINTENANCE. THE EQUIPMENT MUST BE EARTHED.**

**Connection to the mains supply must be in accordance with current regulations.**

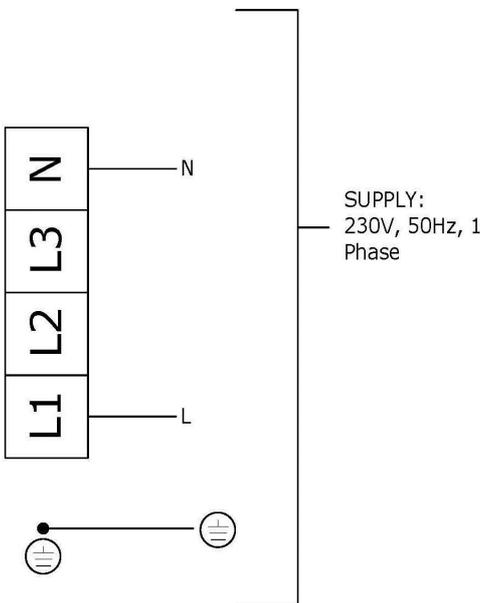
**The equipment should be provided with an all-pole isolator switch having a contact separation of at least 3mm and suitably sized circuit breakers.**

**It is recommended that wiring to the unit be made in flexible conduit to facilitate maintenance.**

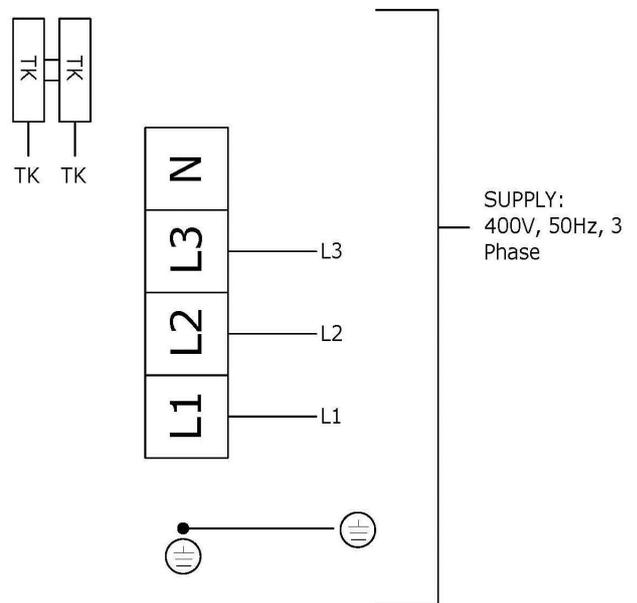
**The motor thermal protector (TK) must be connected into the control circuit.**

1. All electrical connections should be made by a properly qualified electrician.
2. All wiring and connections must be carried out in accordance with current regulations.
3. Ensure the switch is in the 'OFF' position.
  - a. Remove the lid of the isolator and connect unit in accordance with wiring diagrams.
  - b. Ensure that the earth connection has been made.
  - c. Ensure that any motor thermal protection switch is connected into the circuit.
  - d. After making wiring connections, check that they are all correct and secure, replace lid ensuring that all screws nuts and glands are adequately tightened to prevent the ingress of dirt and moisture.
  - e. When wiring in conjunction with a speed controller, see instructions supplied with the controller.

SINGLE PHASE



THREE PHASE



Note: A trial connection should be made in order to check that the direction of fan rotation is correct. If incorrect, interchange any two phases of the three phase supply.

## NOTES ON RUNNING

### Before Connecting the power supply and running the Fan Check...

- Is wiring complete as per wiring diagram?
- Are all fixings secured?
- Are all relevant guards fitted?
- Are all Circuit protection devices fitted?
- Are all Terminal box covers and sealing glands secured?
- Are all Earth connections secured?

Check that no hazard exists for persons in the locality of the fan. Switch on the fan and check that the fan rotation is correct as per the direction arrows on the fan plate/casing. If not isolate power supply and check wiring. For three phase fans interchange of any two phase leads on the supply will change rotation. Check that the current (amps) taken by the fan does not exceed the current shown on the rating plate.

## **INSTALLER AND ELECTRICAL CONTRACTOR RESPONSIBILITY**

Vent-Axia Ltd, as suppliers of the equipment cannot be responsible for the final installation and electrical connection of the product on site. We have made reasonable effort to offer guidance and assistance but the installer and electrical contractor on site have a responsibility for ensuring the equipment is safely and securely installed and electrically/mechanically safe in accordance with statutory requirements.

The fans are supplied as a component to be incorporated into a ventilation system. The final complete system installation that includes the fans MUST meet the requirements of:-

Low voltage Directive 72/23/CEE

Machinery Directive 89/392/CE

Electromagnetic Compatibility Directive 89/336/CE

If the fan is installed in an area where there is possible danger to safety or health then guards MUST be fitted.

Guards suitable for many applications are available from Vent-Axia Ltd.

Please remember that fans need maintenance, cleaning and inspection. Allow for reasonable access for these operations to be carried out safely.

If in doubt, please ask.

## ***ROUTINE INSPECTION/MAINTENANCE***

**THIS MUST BE UNDERTAKEN BY A COMPETENT PERSON.**

**ISOLATE UNIT FROM ELECTRICAL SUPPLY AND ENSURE THAT IT CANNOT BE ACCIDENTALLY TURNED BACK ON.**

For additional safety during maintenance, a SERVICE SWITCH is provided on the fan terminal box.

NOTE: This is not an isolating switch and should not be used to start or stop the fan.

1. We recommend that after three months the fan should be inspected and cleaned to remove deposits on the impeller or motor. Thereafter, it should be checked and cleaned periodically as experience dictates, or at least twice a year.
2. If a buildup of dirt/deposits is evident then this should be carefully cleaned off. Please take care not to damage the fan or affect the balance of the impeller motor assembly (balance weights may be fitted to the impeller).
3. If the fan is handling dust-laden air, we recommend that a filter is fitted to the system (suitable filters are available from Vent-Axia Ltd.).
4. The fan motors are fitted with 'sealed for life' bearings and therefore do not require any lubrication.
5. Check that all fasteners and guards are secure.

# **Vent-Axia**<sup>®</sup>

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TECHNICAL SUPPORT:       Tel: 0344 8560593   Fax: 01293 539209

For details of the warranty and returns procedure please refer to [www.vent-axia.com](http://www.vent-axia.com) or write to Vent-Axia Ltd, Fleming Way, Crawley, RH10 9YX

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