

Square Mixed Flow Fans (MFQ)

Installation and Wiring Instructions



MFQ35014
MFQ40014
MFQ45014
MFQ50014

MFQ40034
MFQ45034
MFQ50034
MFQ56034
MFQ56036
MFQ63034
MFQ63036

Vent-Axia[®]

Vent-Axia controls must be used with this fan!

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

CE

ORIGINAL INSTRUCTIONS

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.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning use of this appliance by a person responsible for their safety.

Young children should be supervised to ensure that they do not play with the appliance.

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:

MFQ35014 -15°C to +60°C

MFQ40014 -15°C to +60°C

MFQ45014 -15°C to +60°C

MFQ50014 -15°C to +60°C

MFQ40034 -15°C to +60°C

MFQ45034 -15°C to +60°C

MFQ50034 -15°C to +60°C

MFQ56034 -15°C to +45°C

MFQ56036 -15°C to +60°C

MFQ63034 -15°C to +55°C

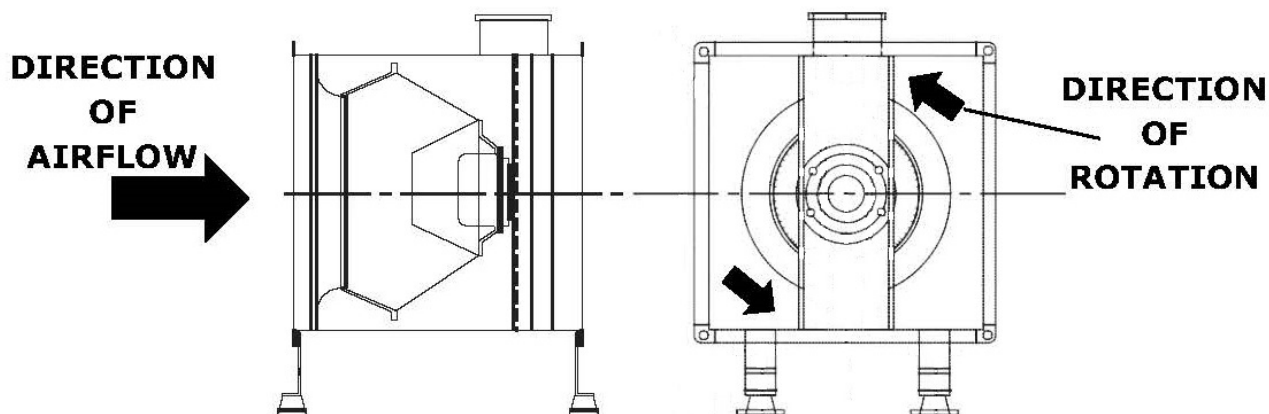
MFQ63036 -15°C to +60°C

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. Remove the rubber grommet fitted in the sight port next to the terminal box to view rotation. 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 at least two people are involved in the installation.

FAN MOUNTING

1. A duct mounted in-line fan. Short duct runs terminating close to the fan (i.e. within 1.5m) require suitable guards.
2. The fan can be mounted in a variety of ways and at any angle to suit the application.
3. Plan the installation carefully, taking into consideration the safety points noted above, before securely fixing the fan using appropriate screws, bolts, rubber bushes, etc.
4. A range of accessories are available from Vent-Axia to assist installation including flexible connectors, mounting feet, anti-vibration mounts and attenuators.

Suggested fan mounting using mounting feet and anti-vibration mounts.



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.

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. To comply with safety standards, an all pole isolator switch with a contact gap of at least 3mm must be fitted adjacent to the fan.
4. Remove the cover from the terminal box to expose the main terminal block and the thermal protection block (TK). The thermal protection device fitted is an automatic resetting type which must always be included in the circuit. For ducted applications a manual reset is required, an ancillary circuit will be required with the TK switch connected into the circuit. **To comply with safety standards, this product must be installed with Vent-Axia overload relays or controls.**
5. Connect the power supply from the local isolator (via any appropriate controls if fitted) to the terminal box via the supplied cable gland using between 4.0mm and 7.0mm diameter cable. Refer to the wiring diagrams and select the appropriate connections for the fan, controller or other devices as being installed. If in doubt, please ask.
6. **CAUTION:** In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility
7. Ensure that all earth connections have been made.
8. After making connections inside the terminal box, replace the cover ensuring that the sealing gasket is in place. Also ensure that all cable gland nuts, grommets etc. have been used correctly to prevent the ingress of water.

NOTES ON RUNNING

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

Are all links and 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.

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 build up 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. The fan motors are fitted with 'sealed for life' bearings and should not require maintenance under normal circumstances.

Wiring Diagrams:

Important Notes: - The electrical circuit must be protected with an all pole isolator having a minimum of 3mm contact separation with suitable fuses or circuit breaker. For ducted applications the Thermal Protector (TK) must be connected into a control circuit in order to ensure that the fan cannot restart before the fault condition is cleared and the circuit manually reset. **To comply with safety standards, this product must be installed with Vent-Axia overload relays or controls.**

Vent-Axia D.O.L. Starter/Overload and Speed Controller stock reference numbers:

Product	Starter	Overload	Electronic Controller	Auto Transformer Controller
MFQ35014	444744	444701	10303103A	10314103A
MFQ40014	444744	444702	10303103A	10314103A
MFQ45014	444744	444703	10303106A	10314105A
MFQ50014	444744	444705	10303110A	10314109A
MFQ40034	444747	444700	Not available	10314302A
MFQ45034	444747	444701	Not available	10314304A
MFQ50034	444747	444702	Not available	10314304A
MFQ56034	444747	444703	Not available	10314307A
MFQ56036	444747	444701	Not available	10314304A
MFQ63034	444747	444705	Not available	10314311A
MFQ63036	444747	444702	Not available	10314304A

Fig. 1

Single phase MFQ

Connected to a D.O.L. Starter

1 PHASE SUPPLY
(230V 50Hz)

230V D.O.L. starter

A suitable sized overload relay must be fitted to provide motor protection.

N.B. Links between terminals 1 to A1, 3 to 6 and 5 to 95 must be fitted, and the link between terminals 14 to 96 must be **REMOVED**.

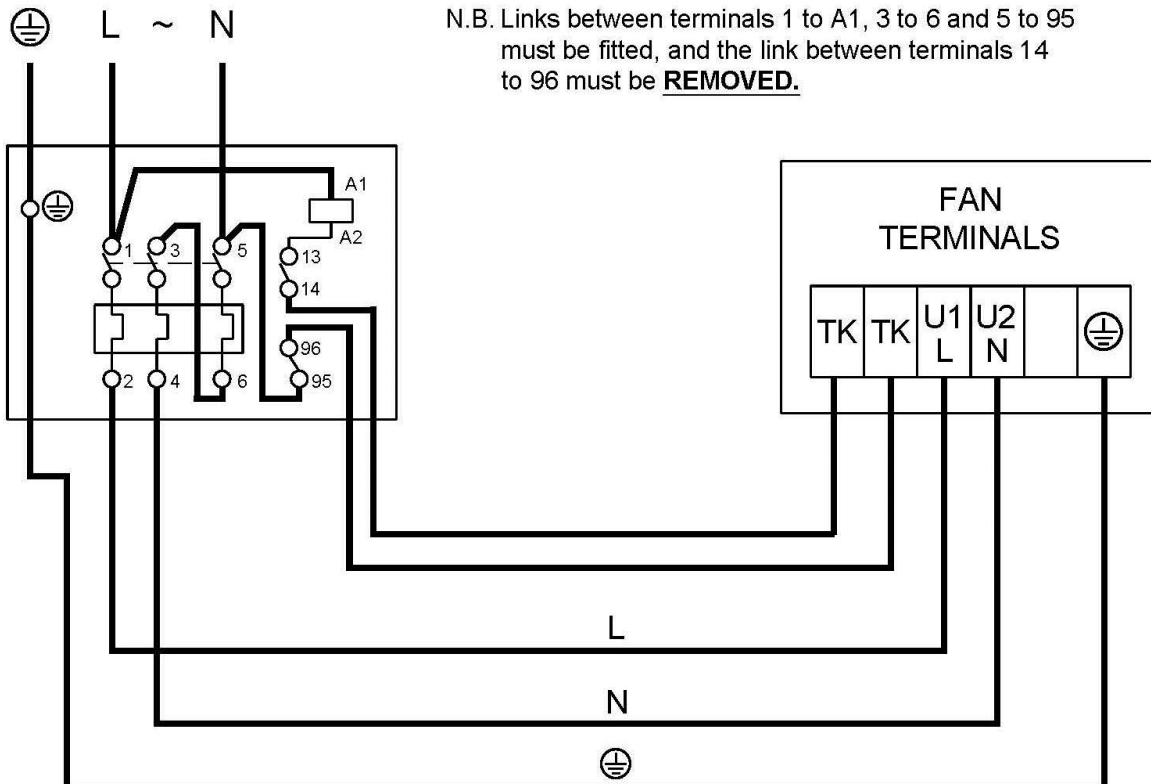


Fig. 2
Single phase MFQ

Connected to a D.O.L. Starter and an Auto Transformer Speed Controller with no TK connections

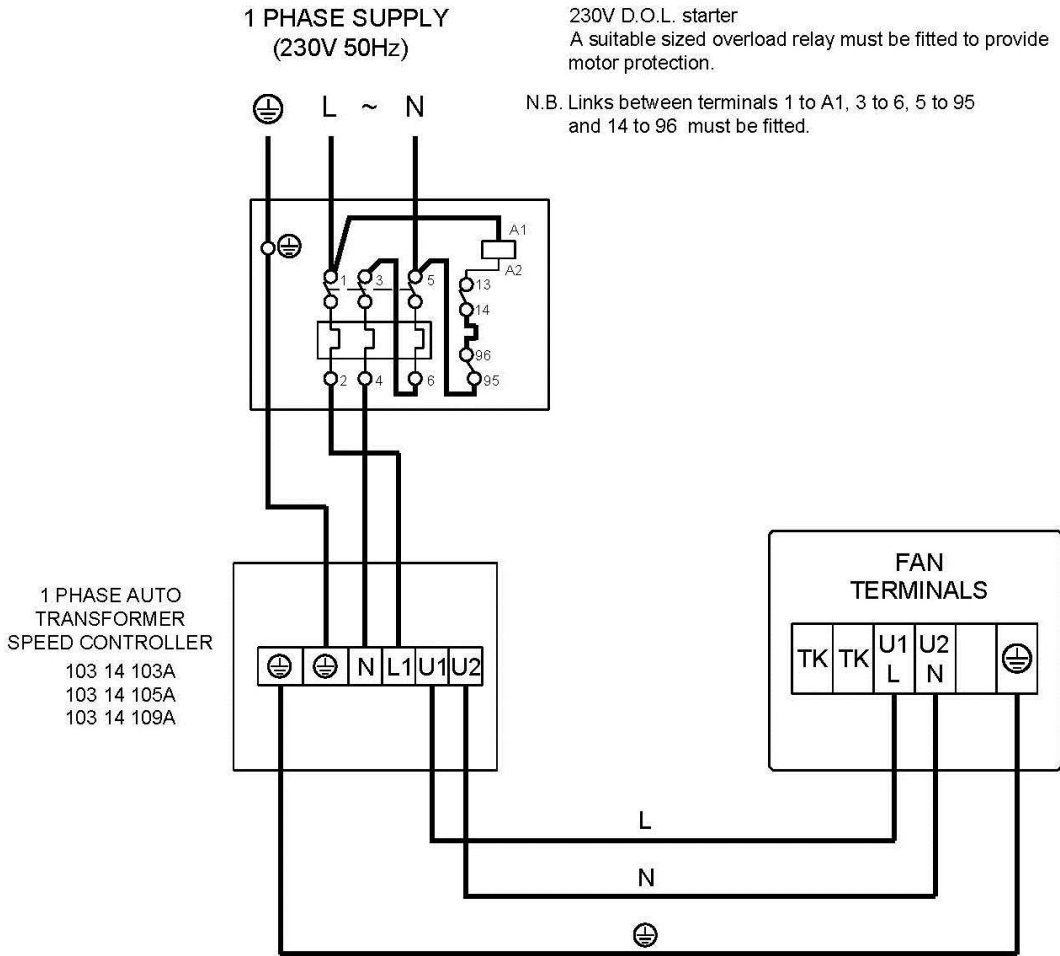


Fig. 3
Single phase MFQ

Connected to an Electronic Speed Controller

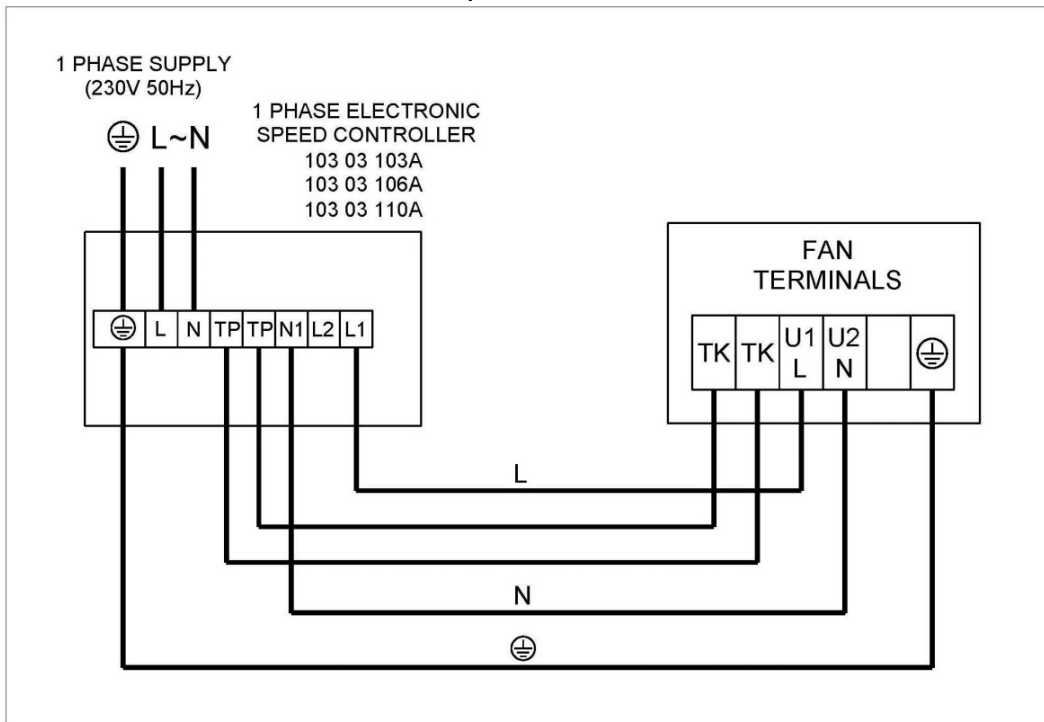


Fig. 4
Three phase MFQ
 Connected to a D.O.L. Starter

3 PHASE SUPPLY
 (400V 50Hz)

400V D.O.L. starter
 A suitable sized overload relay must be fitted to provide motor protection.

N.B. Links between terminals 1 to A1 and 5 to 95 must be fitted, and the link between terminals 14 to 96 must be **REMOVED**.

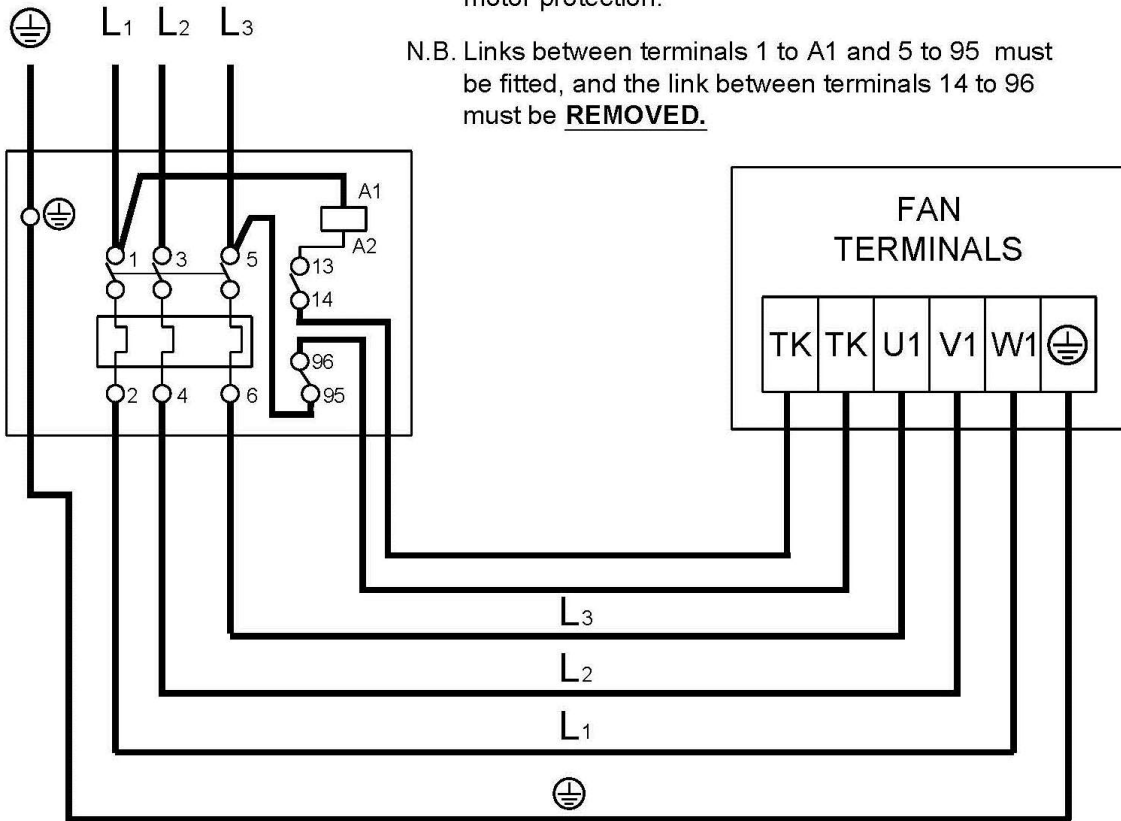


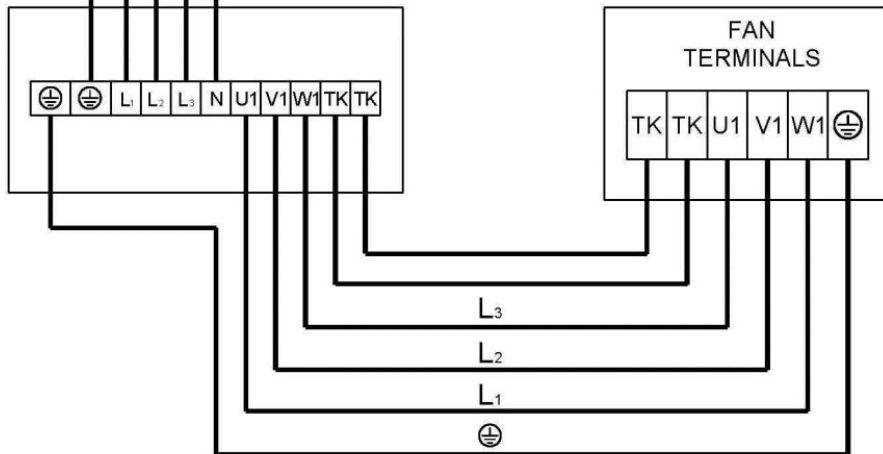
Fig. 5
Three phase MFQ
 Connected to an Auto Transformer Speed Controller

3 PHASE SUPPLY
 (400V 50Hz)

L₁ L₂ L₃ N

3 PHASE AUTO
 TRANSFORMER
 SPEED CONTROLLER

103 14 302A
 103 14 304A
 103 14 307A
 103 14 311A



Notes:-

Vent-Axia[®]

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SALES ENQUIRIES: Tel: 0844 8560590 Fax: 01293 565169

TECHNICAL SUPPORT: Tel: 0844 8560593 Fax: 01293 539209

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