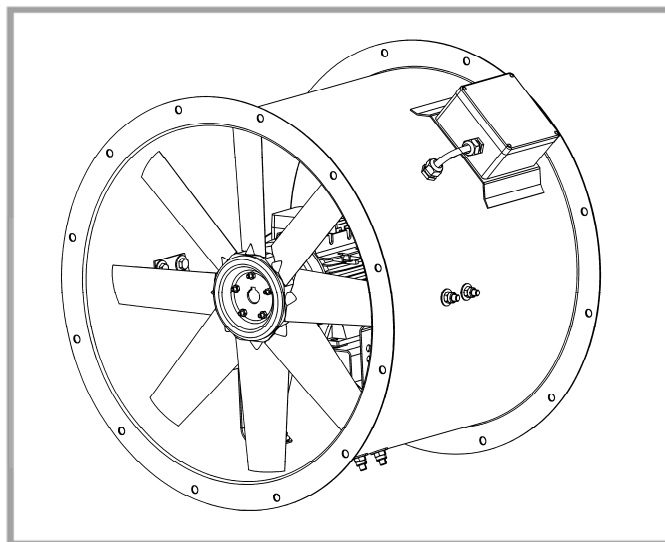


# eTurboprop

## High Pressure Axial Fans

Installation and Wiring Instructions



Stock Ref. N°

ETP45012  
ETP50012  
ETP56012  
ETP63012  
ETP45032  
ETP50032  
ETP56032  
ETP63032

**Vent-Axia®**

PLEASE READ INSTRUCTIONS IN CONJUNCTION WITH THE ILLUSTRATIONS.  
PLEASE SAVE THESE INSTRUCTIONS

IP65

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# INSTALLATION AND WIRING INSTRUCTIONS FOR THE VENT-AXIA ETURBOPROP CASED AXIAL FAN



## **IMPORTANT: READ THESE INSTRUCTIONS BEFORE COMMENCING THE INSTALLATION**

Medium pressure axial fans are not ready to use products, but designed as components for air supply and air extraction as well as for process engineering.

The fans may only be operated when they are installed as intended, and when safety is ensured by safety equipment according to DIN EN 294 (DIN EN ISO 12 100) or by other protection measures.

DO NOT install this product in areas where the following may be present or occur:

- Excessive oil or a grease laden atmosphere.
- Corrosive or flammable gases, liquids or vapours.
- Ambient temperatures higher than 40°C or less than -5°C.
- Relative humidity above 90%
- Possible obstructions, which would hinder the access or removal of the Fan.
- Sudden ductwork bends or transformations close to the Fan.

## **SAFETY AND GUIDANCE NOTES**

- All wiring to be in accordance with the current I.E.E. Regulations, or the appropriate standards of your country and **MUST** be installed by a suitably qualified person.
- The Fan should be provided with a local 2 / 3 pole isolator switch having a contact separation of at least 3mm.
- Ensure that the mains supply (Voltage, Frequency, and Phase) complies with the rating label.
- The Fan should only be used in conjunction with the appropriate Vent-Axia products.
- It is recommended that the connection to the terminal box is made with flexible cable/conduit.
- When the Fan is used to remove air from a room containing a fuel-burning appliance, ensure that the air replacement is adequate for both the fan and the fuel-burning appliance.
- If the Fan is used to supply air into a room, the installer must ensure that the fan intake is located a minimum of 600mm from any flue outlet.
- This Fan is designed as an inline ducted unit to be positioned between lengths of ducting. Short duct runs terminating within 1.5m must incorporate suitable guards unless the unit is mounted higher than 2.3m.
- Where ducted Fans are used to handle moisture-laden air, a condensation trap should be fitted. Horizontal ducts should be arranged to slope slightly downwards away from the Fan.
- Certain applications may require the installation of sound attenuation material to achieve the sound levels required. An auto transformer speed controller is also recommended.
- The impellers are only intended for the transfer of air or air like mixtures. They cannot be used in hazardous areas for the transfer of gas, mist, vapours or mixtures. Nor can they be used for the transfer of solids, or solid components in the transfer medium.
- Only operate the fan according to the intended application and only in the operating ranges given in the information on the rating plate.
- When using a frequency converter to control the speed care should be taken to ensure that the maximum permissible speed cannot be exceeded if there is a fault in the frequency converter.
- Mounting, electrical connection and commissioning must only be carried out by trained personnel (definition in DIN EN 50 110 or IEC 364).
- When using motors without temperature monitors, it is imperative to use a motor circuit breaker.
- Protective components such as safety devices may neither be removed, circumvented nor their function put out of order. Non-observation or misuse can lead to physical injury or damage to the fan or installation.
- If the fan is located in danger zone, then the manufacturer or operator shall ensure that hazards shall be prevented on both the inlet side as well as the discharge side over the entire length by appropriate protective constructions which meet the requirements to DIN EN 294.

### ***Transport storage***

- Avoid excessive vibration and shock loads.
- Pay attention to any damage.
- Store the fan in a dry, dust- and vibration-free environment.
- Avoid excessive storage times.

## **INSTALLATION**

### ***Fan mounting***

- The fan is suitable for mounting at any angle using mounting feet.
- Securely mount the fan using the appropriate screws, bolts, rubber bushes, anti-vibration mounts etc.
- Flexible connections should be used to connect to the inlet and outlet.
- Ensure that there is adequate clearance for accessing and the removal of the fan if appropriate.

- Observe the safety information!
- When connecting to a duct system ensure free flow to and from the impeller. Remove foreign substance.
- Mount the fan housing without any tension.
- Ensure that the direction of rotation and airflow is correct. The direction of rotation is indicated by the arrow given on the fan housing.
- Secure the screws properly for a base and flange mounting, e.g. by using spring washers.

**Wiring**



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

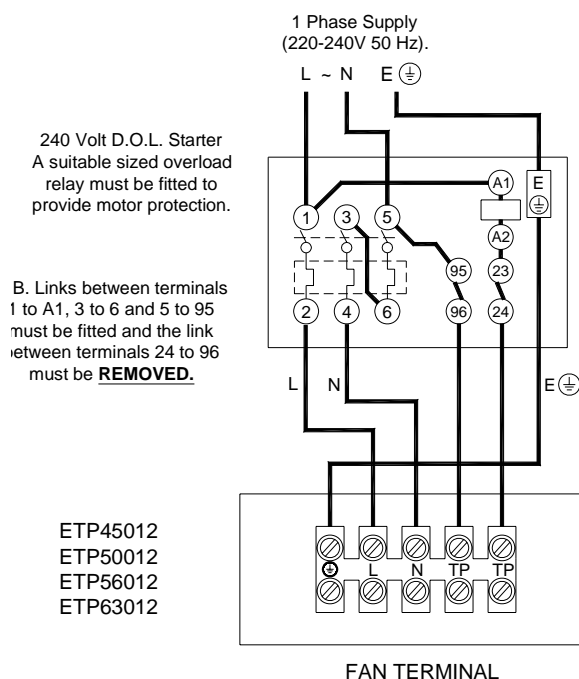
- Select and follow the appropriate wiring diagram (Figs.1-7)

Phase	Diameter	Frequency Inverter	Transformer Voltage Control	Electronic Voltage Control	DOL Starter
1~	450		✓	✓	✓
	500		✓	✓	✓
	560		✓	✓	✓
	630		✓	✓	✓
3~	450	✓	✓	✓	✓
	500	✓	✓	✓	✓
	560	✓	✓	✓	✓
	630	✓	✓	✓	✓

- Check that all connections have been made correctly. Ensure that all terminal screws and cable clamps are securely fastened.
- The cable entry must be by a suitable grommet or cable gland.
- Reconnect the power supply and ensure the eTurboProp Cased Axial fan is operating correctly and the rotation of the impeller match the rotation arrows on the outer casing (Fig.8).
- May only be undertaken by technically trained personnel (DIN EN 50 110 or IEC 364).
  - Before making the electrical motor connections, compare the connection specifications with the specifications on the motor identification plate.
  - The connections are made in accordance with the circuit diagram indicated on the inside of the housing. In order to prevent damage to the motor windings, the motors are fitted with normally closed thermal protector and must be used under all circumstances. The motor is protected from interference to a large extent by a functioning protective device for the motor which has been correctly selected and properly installed.

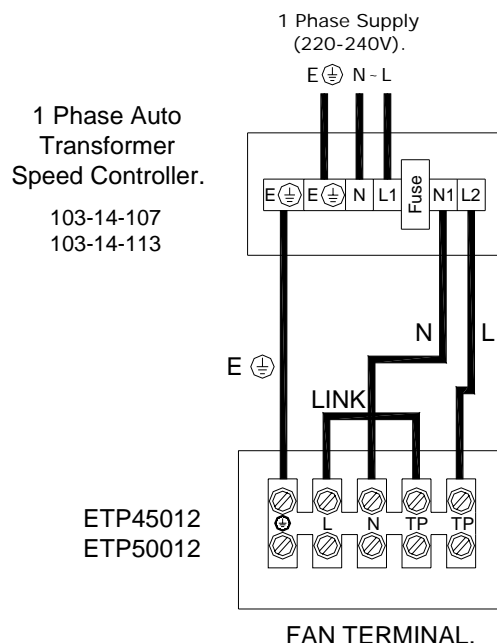
**Fig.1**  
**SINGLE PHASE eTURBOPROP FAN.**

Connected to a D.O.L. Starter.



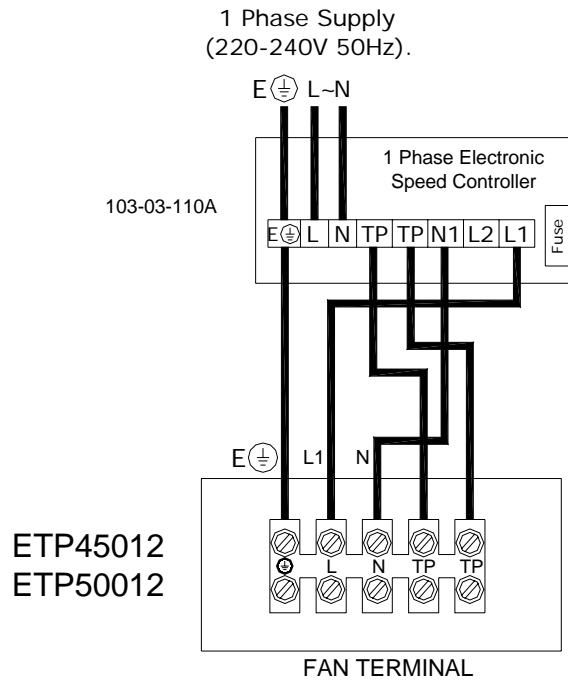
**Fig.2**  
**SINGLE PHASE eTURBOPROP FAN.**

Connected to an Auto Transformer Speed Controller.



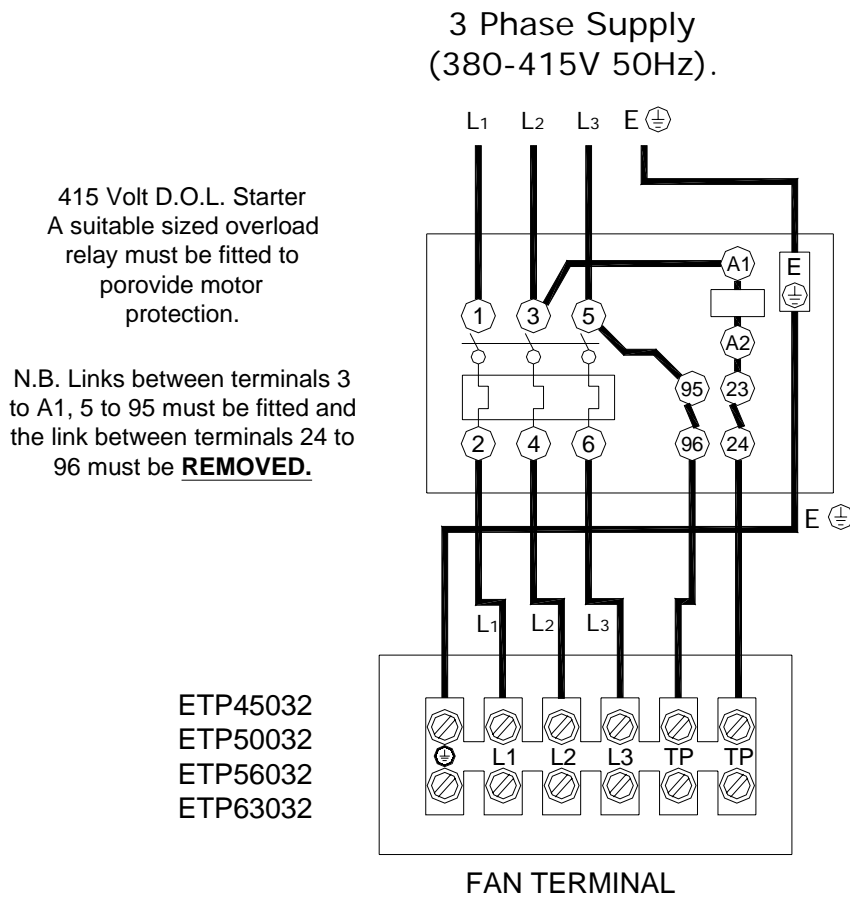
**Fig.3**  
**SINGLE PHASE eTURBOPROP FAN.**

Connected to an Electronic Speed Controller.



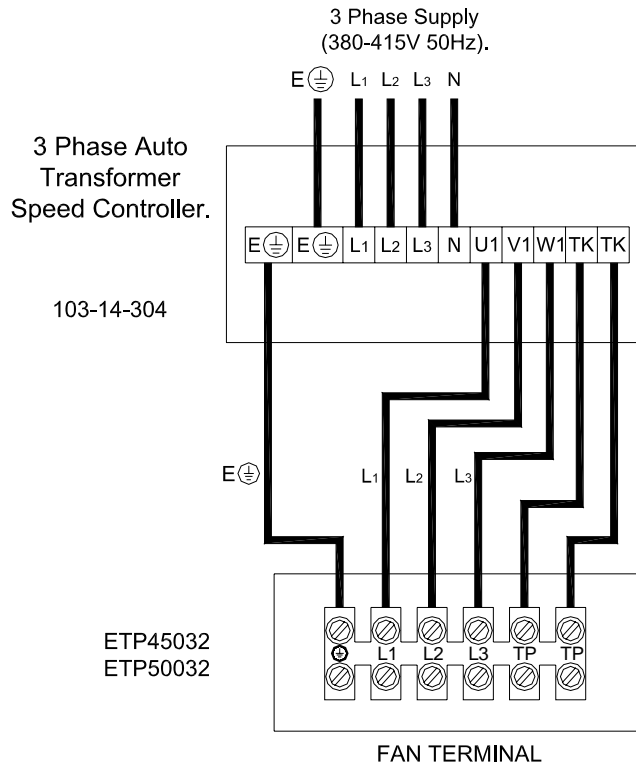
**Fig.4**  
**THREE PHASE eTURBOPROP FAN.**

Connected to a 415V COIL D.O.L Starter.

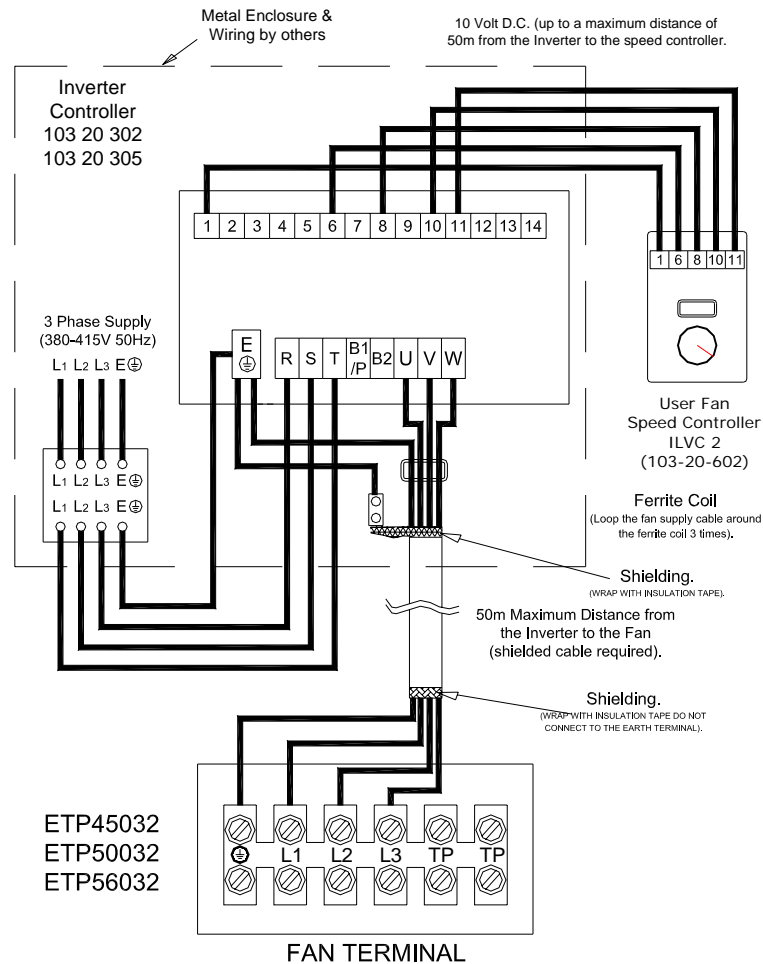


**Fig.5**  
**THREE PHASE eTURBOPROP FAN.**  
 Connected to an Auto Transformer Speed Controller.

3

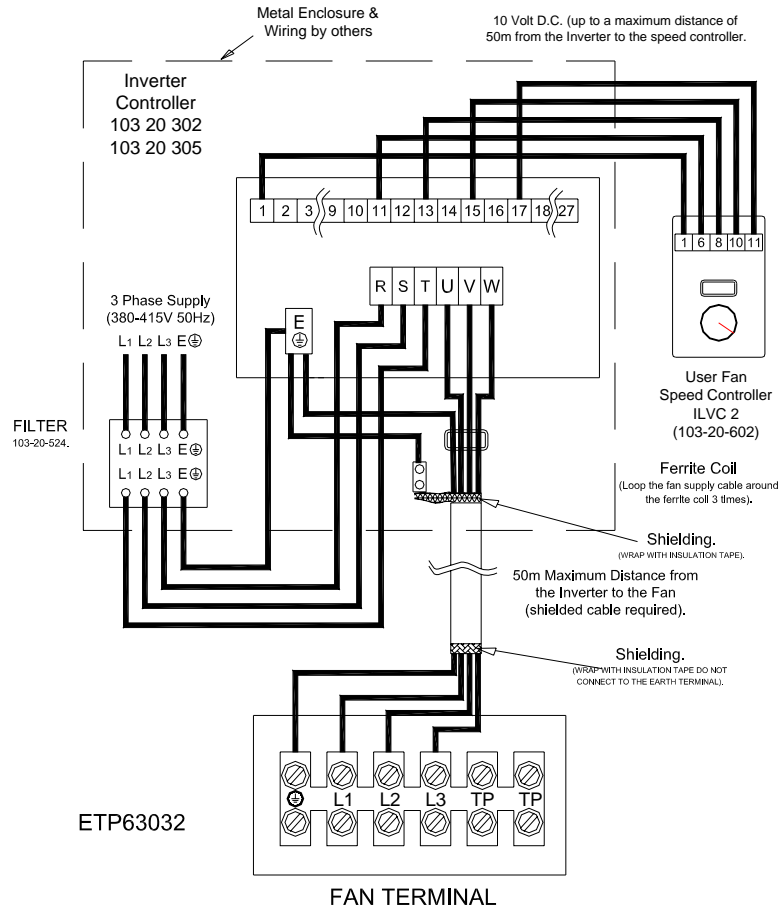


**Fig.6**  
**THREE PHASE eTURBOPROP FAN.**  
 Connected to an Inverter Controller.



**Fig.7**  
**THREE PHASE eTURBOPROP FAN.**

Connected to an Inverter Controller.



**Operating Conditions**

- Do not operate the fan in atmospheres with risk of explosion - danger of sparking - danger of explosion.
- Do not exceed the maximum operating speed.

**Commissioning**

- Before initial operation, check the following:
  - Any residual materials from mounting and other foreign bodies have been removed from the impeller and the suction area.
  - Installation and electrical connection have been properly completed.
- Commissioning may only take place if all safety instructions (DIN EN 50 110) have been checked and danger can be excluded.
  - Check the current consumption! If the current consumption is higher than that is stated on the motor rating plate, the fan must be disconnected immediately.
  - Check the direction of rotation and the direction of airflow.
  - Check that the fan operates smoothly with no critical unbalance, or damage caused during handling or transportation.

**ROUTINE INSPECTION AND MAINTENANCE**

**ISOLATE THE eTURBOPROP CASED AXIAL FAN FROM THE ELECTRICAL SUPPLY AND ENSURE THAT IT CANNOT BE RECONNECTED DURING THE INSPECTION/MAINTENANCE.**

- The fan should, at intervals appropriate to the installation, be inspected and cleaned to ensure there is no build up of dirt or other deposits on the impeller or the motor. (Caution - Take care not to dislodge any balance weights which may be fitted to the impeller). If the fan is handling dust laden air it is recommended that a filter is installed.
- The fan motors are fitted with sealed for life/maintenance free bearings and do not require lubrication.

**OVERHEATING PROTECTION**

The fan motors are fitted with Standard Thermal Overload Protection. This will automatically switch the fan off in the event of a fault condition. If this occurs, isolate the fan from the power supply and check for any obstruction. Leave the fan for a short period of time for the motor to cool before reconnecting the power supply. If the fault reoccurs isolate the power supply and call a service engineer

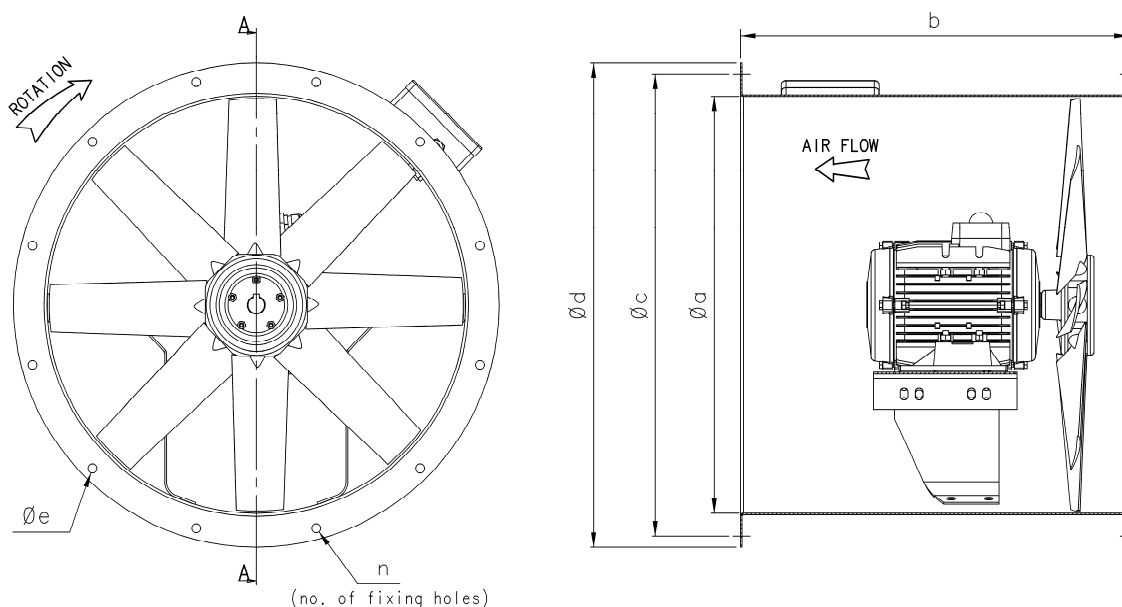
**REPAIRS AND MAINTENANCE**

- Check the fan for mechanical oscillations in accordance with DIN ISO 14694 every 12 months. The maximum permissible vibration severity is 2.8 mm/s (measured at the bearing shield on the impeller side or in accordance with specific customer agreements).
- Depending on the use and the medium in which it operates, the impeller and housing are subject to normal wear.
- Deposits on the impeller can lead to imbalance and hence to damage (risk of fatigue fracture)
  - The impeller can “break” - lethal hazard!
- Maintenance operation is only to be performed by trained service personnel.
- For all repair and maintenance work:
  - Observe the safety and labour regulations (DIN EN 50 110, IEC 364).
  - The impeller must be at a standstill!
  - Power supply to be switched off. Make sure it cannot be switched back on during maintenance.
  - When operating by means of frequency converter, ensure that the waiting time is maintained after safety disconnection - see manufacturer’s operating instructions regarding capacitor discharge time.
  - Verify the absence of voltage.
  - No maintenance work during fan operation.
  - Objects can fall into the fan. Check before restart.
  - Do not deform the blades - out-of balance!
  - Take note of abnormal operating noise!
- After dismantling and reinstalling an impeller, the entire rotating unit must be rebalanced in accordance with DIN ISO 1940, T1.

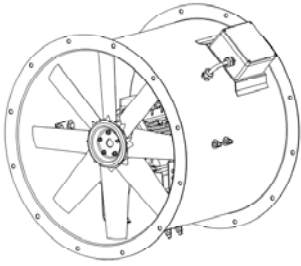
**CLEANING**

- Regular inspection, if required and cleaning where necessary to prevent unbalance due to ingress of dirt.
- Clean the fans’s flow area.
- The maintenance interval depends on the level of contamination.
- You can clean the entire fan with a moist cloth.
- Do not use any aggressive, paint solvent cleaning agents when cleaning.
- Never use a high-pressure water-spray for cleaning. You may use standard water spray according to IP65 protection standard.
- Never use water for cleaning while the fan is connected to the power supply. Risk of electric shock

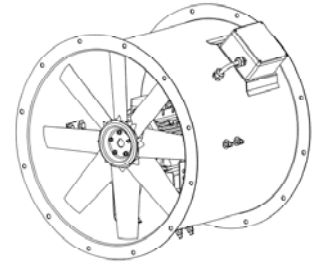
**Fig.8  
FAN DIMENSIONS.**



	Øa	b	Øc	Ød	Øe	n	Kg approx.	
							1~	3~
450	Ø450	375	Ø500	Ø530	Ø12	8	31	25
500	Ø500	375	Ø560	Ø590	Ø12	12	36	31
560	Ø560	520	Ø620	Ø650	Ø12	12	49	40
630	Ø630	520	Ø690	Ø720	Ø12	12	51	54



# Vent-Axia®



## Extend your eTurboprop product guarantee from 3 to 5 years

Just complete and return the attached sheet  
Fax back to :- 01293 534898

Name:-	
Address:-	
Postcode:-	
e-mail address:-	
Tel No:-	
Model installed:-	
Fan Serial No (i.e J055952-280709-6):-	
Wholesaler/retailer purchased from:-	
Date of installation:-	
Fan has been installed In accordance with the fan Instructions:-	Signed by installer.....

The guarantee is offered to you as an extra benefit, and does not effect your legal rights

## Vent-Axia®

Head Office: Fleming Way, Crawley, West Sussex, RH10 9YX. Tel: 01293 526062 Fax: 01293 551188

UK NATIONAL CALL CENTRE, Newton Road, Crawley, West Sussex, RH10 9JA

SALES ENQUIRIES: Tel: 0844 8560591 Fax: 01293 534898

TECHNICAL SUPPORT: Tel: 0844 8560595 Fax: 01293 455197

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