

**OPERATING AND MAINTENANCE INSTRUCTIONS**  
**FOR 'BI' SERIES FANS**

**ORDER NO:** 1234

**FAN SIZE:** 250 BI

**FAN SERIAL NO:** 1234

**VOLUME:** As Curves

**PRESSURE:** As Curves

**FAN SPEED:** 1360 rpm

**DRIVE ARRANGEMENT:** Direct

  

**MOTOR MAKE:** TEC

**kW:** 0.37

**FRAME SIZE:** 71

**SPEED:** 1360

**ENCLOSURE:** EEXD

**SUPPLY:** 415-3-50

**FULL LOAD CURRENT:** 1.05 Amps

**STARTING CURRENT:** 3.67 Amps

**Fan Case:**

Fabricated from polypropylene sheet reinforced with GRP (Grey – 00A09)

**Impeller:**

Backward inclined fabricated from PP.

**Stand:**

Fabricated from mild steel rolled sections with a hot dipped galvanised finish.

**Grillage:**

Fabricated from mild steel rolled steel channel with a hot dipped galvanised finish.

**Anti Vibration Mountings:**

AL 30 manufactured by AVA Limited.

**Motors:**

WEG machines or equivalent manufacture relevant standard – BS 4999, ISO9001, EN29001 Class 'F' insulation and designed to IP 55 unless otherwise stated.

**Installation of a Fan:**

The fan should be sited on a level base, or alternatively, utilise a purpose made grillage. Anti-vibration mountings should be positioned between the fan and the supporting structure in order that vibration is not transmitted. It is important that the fan is fitted with flexible connections on both the inlet and discharge. The connections must be aligned so that no external forces are brought to bear on the fan case.

The performance figures are based on good inlet conditions to the fan. Poor inlet conditions (i.e. banjo connections, loose inlet flexibles, bends adjacent to the inlet etc.) should be avoided since they are detrimental to the performance and induce airborne noise.

The motors are suitable for direct on line starting below 4 kW. It is strongly recommended that starters with 'single phasing protection' be employed in order to safeguard the motor from installation faults.

**Electrical Installation & Safety:**

It is important that the motor enclosure is soundly earthed by a metallic conduit run, by separate earth continuity conductor, or by separate earth bonding. In all cases the installation must be made and tested, and for this feature by a competent person, before the supply is applied to the motor.

Connection diagrams are supplied with each motor pertinent to its installation. Check that the supply details correspond with the data carried on the motor rating plate. Check the security of all electrical connections, plugs, sockets, etc., before switching on the supply.

It may be necessary to 'jog' the motor in order to determine the rotation. Instructions on reversing the rotation are given on the relevant connection diagram. If the fan and motor has been put in storage, check that no foreign matter, such as paper, etc., is present inside, as this can lead to disintegration of the impeller upon starting.

Test the installation resistance between phases, also to earth, with a 'Megger' at 500 v. This should not be less than 1 ohm. The motor should be taken to a dry, warm place until the correct resistance value is attained.

If these motors are not fitted with anti condensation heater coils and intermittent use is envisaged in a cold environment, a further check should be made to ensure that the terminal box is free from condensation.

### **Before Starting the Fan:**

Check that the impeller is free to rotate without catching. Check that the cable entry to the motor terminal box is secure and weatherproof.

Check that the ductwork is free from debris and that it is of adequate construction to withstand the pressure developed. Check that dampers in the system are shut when starting up to avoid the possible overloading of the motor. When commissioning, the dampers may be adjusted to give the design duty required.

### **After Starting the Fan**

Immediately check that the current being drawn does not exceed the full load current shown on the motor name plate.

If you are using a 3 phase motor make sure that the currents measured do not vary by more than 5%.

### **Maintenance**

#### **Fan Case:**

The case requires little attention other than a wash occasionally to remove atmospheric grime. The drain point should be kept clear of any build up of contaminant sedimentation.

If you are to work within the fan case then find out what fume/material may have passed through the system and protect yourself accordingly.

**Impeller:**

The impeller should be visually inspected periodically and any foreign matter carefully removed with water and mild detergent.

**Motor:**

The motor should be kept as clean as possible. Check that the cowl intake vents are not choked – this would restrict the flow of cooling air to the motor and cause overheating. On assembly, bearings are correctly packed with grease sufficient for at least two years continuous operation without attention under normal conditions. (Equivalent to approximately 5 years of 12 hours per day service). The recommended grease is Shell Alvania RA, or other maker's equivalent. The maintenance of the motor bearings is described in the manufacturers instructions.

**NOTE!**

**If the fan is not used for any length of time, then the bearings should be turned regularly to avoid race damage, which may induce premature failure of the bearing.**

**Prior to altering the speeds of these fans, it is important that you consult our technical staff for advice.**

**Our policy is one of continuous improvement and we reserve the right to alter any details of our products at any time without giving notice.**

**IF IN DOUBT PLEASE DO NOT HESITATE TO CONTACT US**