



Climatisation - Réfrigération - Traitement d'air - Echanges thermiques

Département V.T.A.

ADDITIONAL TO TECHNICAL BROCHURE N° 96 74

**INSTRUCTIONS FOR MOUNTING AND
MAINTENANCE OF AXIAL FANS**

A/ SETTING UP :

1 / Precautions to be taken before set up :

- Check that fan has not been damaged during transport
- Avoid any check that could damage the material, the balance of the impeller and the space between impeller and casing
- Insure by hand-driving that the impeller rotates freely on its shaft
- Check that the electric current on mains corresponds with supplied voltage of motor
- Check the proper tightening of the bolts
- Check that the safety devices (mechanical/electrical) are on service

2/ Set-up :

a) Connection and fixation of the fan

- Insure that support and connection are plant to avoid any distorsion of the fan and its connection during fixation
- When the fan is mounted on anti-vibration mountings, the following accessories are required : common plate for fan and motor, inlet and outlet connection by supple sleeve
- Check the alignment of supple sleeves with connection sleeves
- Ambient temperature around motor must no exceed 40 °C (or else according specifications)

3/ Electrical connection :

- Follow the wiring diagram to be found on motor plate, terminal box or on cover of terminal box
- Thermic protection : a control circuit-breaker is recommended. The thermic sitting must correspond to the motor amperage, a burnt motor is never under guarantee.

4/ Staring up and setting :

- Make sure that the rotation direction of the impeller and the direction of the flow correspond to the direction of the arrows
- Check that sound level and vibrations are correct
- Control absorbed power of the motor (it must be compatible with motor power)
- Do not exceed the maximum rotation speed and temperature, if the fan is not adapted for overspeed and overheating.

NB : In presence of anomaly, stop the fan and look for reasons. A fast intervention can avoid a serious damaging. Call CIAT if necessary.

B/ MAINTENANCE

1/ Lubrication of the motor :

The instructions for setting up, maintenance and lubrication of the motor are supplied with the motor. The motor bearings being lubricated for life, no intervention is required.

Exception: Some motors have apparent grease nipples, the quality of grease and the relubrication periodical times are indicated on the motor plate

2/ Lubrication of the bearings :

The bearings with or without nipples are pre-lubricated

- Without nipple : lubricated for life
- With nipples : do not over-lubricate too frequently (use a grease with a base Lithium)

The bearing-block with a nipple allows a periodic lubrication

To insure a good substitution and ejection of the worn grease, injection of fresh grease must be realized in low air-pressure, bearing in rotation (before, clean the head of nipple)

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3/ Access-door :

Some fans blowing warm air are equipped with an access-door
In this case, check :

- The cleanness of the impeller
- The free rotation of the impeller
- The proper tightening of the screw fixing the hub on shaft
- Check the proper tightening of the bolts

4/ Accessories :

Check appearance of supple sleeves and anti-vibration mountings

5/ Mounting and dismounting of the impeller :

- Motor-shaft must be cleaned from anti-corrosion protection, let the key in place
- Put first in place the fixing cone after greasing the bore taking care to put the highest diameter on the motor side (this work can be made easier in case of short tolerances tightened by introduction of a screw driver in the chink of the cone in order to separate the sides)
- The cone must be assembled taking care to adjust the small side diameter and the end on the motor shaft
- Then set the impeller putting face to face the holes of fixation of the impeller and those of the fixing-cone, lock with two male-screws
- Check the correct position of the impeller (centrage, unimpeded rotation, position in regard of the motor and the casing)
- To set down, it is sufficient to remove the two screws and with one, screw on in the dored hole of the insert moulded on the hub

NB :: Due to the efficiency of the fixing system called "MAXIBLOC" it is not necessary to fit a fixing screw and his lock washer at the end of the motor shaft.

6 Modification of the impeller characteristics :

- If the air-volume or the pressure of the fans has to be modified, it is possible to realize the operation in situ by modifying the pitch angle of the blades
- It is necessary to unlock the bolts of the hub and then to move the blades on the required angle as indicated on the drawing
- This operation can be made without dismounting the fan by measuring the required blade angle at the extreme end of the blades with a page on which will be noted the different blade angles (from 8 to 32°). The reference plane table is the flange of the casing (angle 0°). This operation, for a low variation of blade angle, does not require a new balance of the impeller.

IMPORTANT : Check the nuts and rings every time you modify the pitch angle

C/ STORAGE

- The fan must be stored secure, without dust, temperature and humidity
- Obstruct inlet and outlet
- Every 6 months, let the impeller turn by hand to avoid damage of the bearing, and move the stopping-point of the electric motor
- Before starting add or change grease can be necessary on the fan and the motor bearings

IMPORTANT :

- No warranty can be accepted if the motor burns because of insufficient protection
- For any claim or spare parts, precise the reference number of the fan noted on the fan plate.

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