

2.4 TRANSPORT – HOISTING INSTRUCTIONS

WARNING



- *Danger when transporting the unit!*
- *Improper transport can cause injury to the personal.*
- *Ensure that at least two people carry the unit. Secure the load during transit to prevent it from tipping or falling. In the case of palletized deliveries, use only lifting and transport vehicles with sufficient carrying capacity.*

CAUTION



- *Danger when transporting the unit!*
- *Improper transport can cause damage to the unit.*
- *Ensure the load during transit to prevent it from tipping or falling. In the case of palletized deliveries, use only lifting and transport vehicles with sufficient carrying capacity.*

2.5 PRESERVATION METHODS

When storing the unit for a temporary period, the following points must be noted:

- Store the unit in its original packaging.
- The storage location must be protected from the elements, dry and free of dust.

CAUTION



- *Danger from impacts and vibrations.*
- *Risk of damage to the unit.*
- *The unit must be protected from impacts, vibrations etc.*

3. MAINTENANCE

The supplied axial fans are high-quality and reliable units. However, to guarantee the permanent functioning and performance of the units, regular maintenance and inspection by technical experts is necessary.

NOTE

Maintenance must only be performed by trained technical personnel in observance of this operation manual and the regulations in force.

WARNING



- Rotating fan wheels
- Risk of injury!
- Before performing any work on the unit, ensure that it is powered down. Ensure that the unit is secured against being switched back on at an appropriate point of the on-site power supply.



- High voltage installed
- Risk of electric accident!
- Disconnect the heater from the power supply before attempting any maintenance work. Ensure that the unit is secured against being switched back on at an appropriate point of the on-site power supply.

NOTE

The warranty will be invalidated by damage which is attributable to the non-performance of regular essential inspections.

3.1 PREVENTIVE MAINTENANCE

The following maintenance tasks must be performed at the indicated time intervals.

Task Code	Task	Frequency	Task duration	Skill of personnel	Required tools	Remarks	Action Reference
PM-1	Check the unit	Quarterly (2.160 operating hours)	1 hour	Mechanic / electrician	Insulated screwdriver, laser thermometer	--	PM-2
PM-2	Replace bearings	Every 30.000 operating hours	2 hours	Mechanic	Deep groove ball bearing extraction kit, teflon hammer, screwdriver set	--	--

6.1.1 Quarterly maintenance (every 2.160 operating hours)

6.1.1.1. Check the unit (PM-1)

WARNING



- Power supply voltage 3x440V.
- Risk of electric accidents.
- Before performing the following work, you must ensure that the unit is powered down and that the mains voltage is secured against being switched back on. Before finishing with the unit, ensure that the electrical terminal box is properly closed.



- Rotating fan wheels
- Risk of injury!
- Before performing any work on the unit, ensure that it is powered down. Ensure that the unit is secured against being switched back on at an appropriate point of the on-site power supply.

1. Check for obstructions or debris in fan.
2. Inspect fan impeller for dust or dirt accumulation; clean if necessary with a cotton cloth.
3. Inspect fan impeller for cracks. If found, remove fan from service immediately.
4. Check fan impeller for proper rotation.
5. Check and tighten all bolts and set screws.
6. Check all bearings for excessive temperature with the laser thermometer.
7. Check that all surfaces, coatings or paint are in good condition.
8. Check the alignment of impeller, inlet cone, bearings and shafts.
9. Check that motor is not overloaded.

Required tools: insulated screwdriver and laser thermometer.

6.1.2 Motor bearing replacement (every 30.000 operating hours) (PM-2)

Every 30.000 operating hours it is recommended to replace the motor bearings. The motor bearings references are indicated in Section 6.3 “Recommended Spare Parts / Special Tools”.

Read all instruction steps below before performing any maintenance.



- Power supply voltage 3x440V.
- Risk of electric accidents.
- Before performing the following work, you must ensure that the unit is powered down and that the mains voltage is secured against being switched back on. Before finishing with the unit, ensure that the electrical terminal box is properly closed.

WARNING

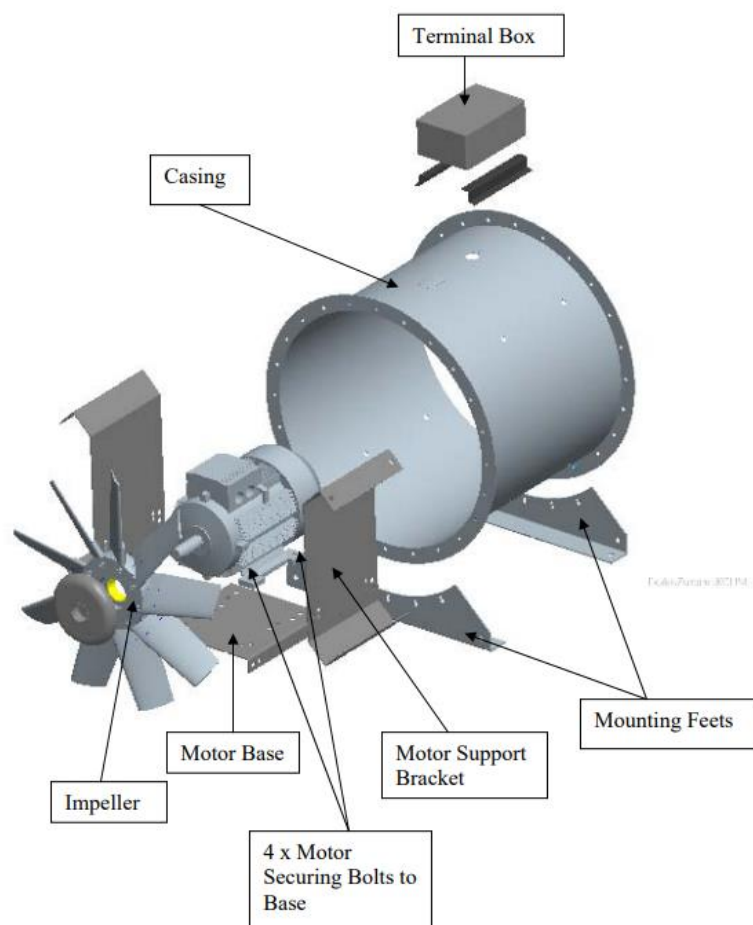


Figure 1 Axial fan schematic

1. Make sure all power to the fan is completely dis-connected or "locked out"
2. Remove fan cover screws and remove fan cover.
3. Loosen cooling fan clamping screw.



Figure 2 Loosening the cooling fan clamping screw

4. Use a big screwdriver to jack out the cooling fan.
5. Remove the cooling fan.
6. Unscrew the nut of the 4 studs holding the motor cover.
7. Remove all 4 studs.
8. Tap the end motor cover lightly.



Figure 3 Tapping the end motor cover lightly

9. Remove both the front and end cover completely.
10. Remove the stator and use a bearing puller to remove the bearings (D-End and ND-End).



Figure 4 Using the bearing puller

11. The bearings are dismantled completely by jacking the screws on the puller.
12. Replace new bearings and tap them until they fully seat.

Required tools: Deep groove ball bearing extraction kit, teflon hammer, screwdriver set .



Figure 5 Required tools

6.2 CORRECTIVE MAINTENANCE

The following corrective maintenance tasks must be performed as indicated by the Troubleshooting indications in Section 5.

Task Code	Task Description	Task Duration	Skill of personnel	Required tools
CM-1	Replacing the motor	1h	Electrician	Wrench set, screwdriver set

6.2.1 Replacing the motor (CM-5)

- Disconnect electrical connections.
- Unbolt the four mounting bolts of the motor.
- Replace the faulty motor with the new one.
- Retighten the mounting bolts.

Required tools: wrench set, screwdriver set



Figure 6 Required tools