

8 MAINTENANCE

Recommended preventative maintenance will contribute to the long life and dependability of the equipment. The use of proper checks and adjustments at the recommended intervals is of utmost importance.

8.1 Pre-Start Checks

Before first start up or start up after being out of service:

- Ensure impeller blades spin freely, without obstruction by checking and ensuring clearance between the blades and the casing.
- Check all bolts and fixing points are secure, especially the anchoring bolts for the motor platform and the retaining screws for the keyway securing the impeller to the motor shafts
- Ensure motor cables are fastened properly and enclosed.
- Check that all guards are installed correctly.

8.2 Periodic Services

Monthly:

- Signs of obvious damage, i.e. damaged paint work, dents, scratches, cracks
- Cracks/corrosion on equipment
- Loose or missing bolts
- The air intake space and mesh/grids should be inspected for any obstructions
- Inspect the motor bodies for any signs of dust or debris build up between the fins if necessary remove the build up with an air hose

6 Months:

- Check motor terminals for tightness and proper contact,
- Check starting equipment terminals for tightness
- Check mechanical operation of thermistor relays, thermal overloads etc

12 Months:

- Check bearings for abnormal noise, vibration or overheating
- Check winding resistance between supply terminals and compare to original values taken at commissioning
- Check supply voltage at the motor terminals
- Check all mounting bolts for tightness, cracks or signs of fatigue
- Check all impeller blades for tightness, cracks or signs of fatigue

CAUTION

CLEANING OF THE CLADDINGS OF THE EQUIPMENT, PANELS AND CONTROLS SHALL BE DONE WITH A SOFT DRY CLOTH OR SLIGHTLY SOAKED IN A NEUTRAL DETERGENT SOLUTION; DO NOT USE ANY TYPE OF SOLVENT. NEVER PRESSURE WASH DIRECTLY ONTO THE MEDIA OR PERFORATED MEDIA. THIS CAN CAUSE DAMAGE TO THE SOUND ATTENUATION MATERIAL AND THE MANUFACTURER SHALL NOT BE LIABLE FOR WARRANTY.

8.3 Motor Servicing

8.3.1 Lubrication Interval

Motor	Lubricant	QTY	Frequency
WEG W22 160M 11kW	Mobil Polyrex EM	11g	25,000 h
WEG W22 <160M	Sealed for life bearings	N/A	N/A

8.3.2 Motor Bearing Lubrication Procedure

To lubricate the bearings with the motor stopped, proceed as follows:

- Before lubricating, clean the grease nipple and immediate vicinity thoroughly;
- Lift grease inlet protection;
- Remove the grease outlet plug;
- Pump in approximately half of the total grease indicated on the motor nameplate and run the motor for about 1 (one) minute at rated speed;
- Switch-off the motor and pump in the remaining grease;
- Lower again the grease inlet protection and reinstall the grease outlet protection.

To grease the motor while running, proceed as follows:

- Before lubricating, clean the grease nipple and immediate vicinity thoroughly;
- Pump the total grease indicated on the motor nameplate;
- Lower again the grease inlet protection.

8.4 Storage Instructions

If the equipment is not installed immediately, it must be stored in a dry and clean environment, with relative humidity not exceeding 60%, with an ambient temperature between 5 °C and 40 °C, without sudden temperature changes, free of dust, vibrations, gases or corrosive agents. The equipment must be stored in horizontal position, without placing objects on it. Do not remove the protection grease from shaft end to prevent rust.

9 TROUBLE SHOOTING

The table below provides a basic list of problems that may occur during operation, possible causes and recommended corrective actions. If in doubt, refer to Fanquip for technical support.

Problem	Possible Cause	Corrective Action
Fan will not start	Isolator left in open position	Close the isolator
	Damage to cables	Check cable resistance, inspect and replace damaged cables
	Thermal overload on motor	See "Motor overheating"
	Obstruction jamming the impeller or motor cowling	Remove obstruction, rotate impeller by hand to confirm free rotation
	Impeller clashing with casing	Clean build up from casing and impeller, realign impeller & motor with casing. Tighten motor hold down bolts. Rotate impeller by hand to confirm free rotation.
	Taperlock loose	Check if motor is rotating without impeller. Reinstall taperlock in accordance with manufacturer's instructions.
	Wrong motor connection	Correct the motor connection
	Motor failure	Refer to motor manual or replace motor
Low air flow	Wear/damage to impeller	Replace impeller
	Blade angle not correct	Correct blade angle or replace impeller
	Blockage	Inspect and remove blockages. Clean build up from guarding and ducting.
	Taperlock loose	Check if motor is rotating without impeller. Reinstall taperlock in accordance with manufacturer's instructions.
Air flow in wrong direction	Motor rotation direction incorrect	Change motor rotation direction by rewiring motor connections
	Impeller orientation incorrect	Install impeller in correct orientation
Motor current outside normal range	Blockage	Inspect and remove blockages. Clean build up from guarding and ducting.
	Blade angle not correct	Correct blade angle or replace impeller
	Motor failure	Refer to motor manual or replace motor
Motor overheating	Build up on motor	Clean motor

	Too many stop/starts per hour	Reduce the number of stop/starts per hour
	Over current	See "Motor current outside normal range"
	Inadequate bearing lubrication	Lubricate bearings
	Excessive bearing grease	Follow motor nameplate lubrication quantities/intervals. Ensure grease relief ports are not blocked.
	Bearing failure	Replace motor or motor bearings. Can use vibration analyzer to confirm bearing failure is present
Abnormal noise	Inadequate bearing lubrication	Lubricate bearings
	Loose fasteners	Check and tighten all hold down bolts
	Bearing failure	Replace motor or motor bearings. Can use vibration analyzer to confirm bearing failure is present
	Impeller clashing with casing	Clean build up from casing and impeller, realign impeller & motor with casing. Tighten motor hold down bolts. Rotate impeller by hand to confirm free rotation.
	Motor failure	Refer to motor manual or replace motor
High vibration	Loose fasteners	Check and tighten all hold down bolts
	Bearing failure	Replace motor or motor bearings. Can use vibration analyzer to confirm bearing failure is present
	Motor failure	Refer to motor manual or replace motor
	Impeller out of balance	Clean all build up from the impeller, ensure the blades are not excessively corroded, worn or cracked. Replace the impeller if necessary.