

# **CENTRIFUGAL TYPE FANS**

## **OPERATING & MAINTENANCE INSTRUCTIONS**

**IMPORTANT:** Before erection and starting of the fan the following procedure should be followed. Failure to observe these instructions may lead to a fan bearing seizure or damage to the motor.

1. Ensure that the shaft and bearings have not become misaligned in transit.
2. In the case of grease lubricated ball/roller bearings check that the lubrication is satisfactory.
3. When a fan set is inoperative it is recommended that the bearing lubrication be checked and that both fan and motor shafts be rotated by hand about every 10 days to prevent damage to bearings.
4. **ROTATION:** Check the instructions on the motor nameplate and check that the fan rotation is correct as shown by the direction arrow on the fan casing. Reverse rotation with radial and forward curved bladed impellers will give reduced performance and power consumption but can cause severe overloading of the motor in the case of backward bladed impellers.

### **ERECTION**

When installing a fan the foundation should be checked to ensure that it is firm and even. Avoid stain on the fan casing by tightening the foundation bolts a few turns each in rotation. The fan shaft should be perfectly level. Shafts and bearings should be checked for correct alignment.

Standard Fans fitted with a bearing in the inlet should not operate at air temperature above 80°C (176°F). The inlet ducting should be an easy fit so that no strain is placed on the fan that would affect the bearing. It may also be necessary to provide an access door in the ducting close to the fan inlet to facilitate bearing maintenance and lubrication.

All other standard fans should not operate at temperatures above 100°C (212°F). When ordering replacements please quote serial number and in all cases of bearings, the shaft diameter.

### **VEE BELTS**

If the fan is driven through vee belts, the pulleys must be correctly aligned and the best tensioned in accordance with the drive manufacturers instructions. Position the pulleys near to the fan and motor bearings in order to keep the load imposed by the tension of the vee belts to a minimum. Where keyless taper bushed pulleys are used, the protective grease film should be removed from the bore and outside surface of the bush, also from the tapered bore of the pulley. The grub screws in the bush should be tightened gradually and alternatively until all are pulled up very tightly. The belts should be inspected from time to time and any slackness taken up by moving the position of the motor on the slide by means of tension screws. Under average conditions the majority of stretch takes place in vee belts during the first few days under load. It is therefore recommended that newly installed vee belts be examined and the tension increased if necessary after the first few days under load and thereafter as required. Excessive wear on the sides of the vee belt means misalignment of the pulleys and this should be rectified at once. New and used vee belts should not be run together in the same set and vee belts of different types and brands should not be mixed. Always fit all new or used matched vee belts in the same set.

Extra care during the first few hours of operation will result in efficient and long vee belt life.

### **GENERAL MAINTENANCE FOR BALL AND ROLLER BEARINGS**

Ball or roller bearings are of the self-aligning plummer block type incorporating either single row deep groove ball bearings or double row ball/spherical roller bearings and are complete with seals against the ingress of dust. They are initially charged with grease when assembled. A grease nipple is fitted to the sealed units incorporating the deep groove ball bearing to enable re-greasing if considered necessary (normally no more than once a year). A good quality lithium base grease should be used.

Fans fitted with plummer blocks incorporating double row self-aligning ball bearings or spherical roller bearings are suitably packed with grease on assembly. Free space in the plummer block should only be partly filled with grease (approximately 40%) since over filling can cause over heating of the bearing.

The re-greasing interval for these bearings is dependent on type, size, speed, operating temperature and grease.

Further information can be obtained from our sales office.

The manufacturers reserve the right to alter specification without prior notice.