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PRODUCT GUIDE FOR

Ventaire PW

Radial Blade Direct Drive Fan

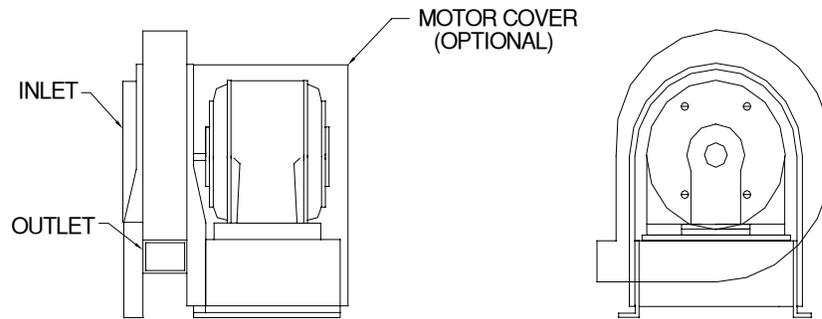


FIG 1

INTRODUCTION

1. Prior to installation inspect all components received for shipping damage. If damage occurred contact your Ventaire representative for assistance.
2. Read **ALL** instructions before proceeding with any installation, operation, or maintenance.

INSTALLATION

1. The fan should be mounted on a rigid, flat, level foundation. Vibration isolators are recommended and should be installed in position and leveled before positioning the fan.
2. Once all the bolts are tightened, the fan can be lifted into position on the vibration base. Make sure the airflow is correct for the duct connection, and bolt the fan securely into position.
3. When the motor and drive are furnished separately, they should be mounted next. If the unit is mounted on an integral, structural steel base or concrete inertia base, adjust it with leveling bolts.
4. Recheck the interior of the fan housing for debris. Rotate the wheel to insure it is not rubbing or binding. Check the clearance of the wheel and the inlet cone. If rubbing exists, loosen the bolts on the cone and shift the cone until clearance is obtained. If it is still rubbing, shift the wheel rearward to obtain clearance and retighten the screws.

BEARINGS

1. All bearing and wheel set screws should be checked and tightened, and rechecked after the first 50 to 100 hours of operation.
2. Lubricate the fan bearings while the fan is running with a handgun until a slight bead of grease is noticeable around the bearing. **DO NOT OVER LUBE.**
3. Bearings should be examined periodically for lubrication, and more often in high operation or heat. With each examination, check alignment of the drives and tightness of the screws and bolts.

ELECTRICAL CONNECTIONS

1. Before connecting the motor to the electric supply, check the electrical characteristics as indicated on the motor nameplate to ensure proper voltage and phase.

<< CAUTION >>

A ground wire must be run from the blower motor housing to a suitable electrical ground such as a properly grounded metallic raceway or a ground wire system.

2. Make sure the fan is dry and run the motor unconnected to the load for a short time for further drying to check the ball bearings.
3. If a controller is furnished, the wiring diagram in the controller must be followed. Remember that a single-phase motor is connected only to a single-phase supply of proper voltage (three phase, three phase supply).
4. It is recommended that in every motor connection, an overload device be installed between the current supply and the motor to protect the motor from under-voltage conditions and motor overloads.
5. If motorized shutters are supplied, care must be taken that they are connected to the correct voltage supply or have been supplied with adequate transformers.
6. After electrical connections are completed, apply just enough power to start the unit.
7. With the air system in full operation and all ducts attached, measure the motor input and compare with the nameplate rating to determine if the motor is operating under safe load conditions.

MAINTENANCE

Maintenance is very routine and uncomplicated. Follow the steps below to ensure a unit that is both effective and efficient.

<< CAUTION >>

Before attempting any repair work, be certain that all power to the motor and electrical accessories are turned off and locked in the off position.

1. Periodically remove dirt from the blower wheel and housing.
2. Check tightness of wheel set screws.
3. After disconnecting the power source, check the wiring to see if insulation is damaged or frayed.
4. Re-lubricate motor per manufacturer's instructions. Remove any excess lubricants.

BEARING REPLACEMENT:

Support wheel and shaft, then remove drives and loosen and remove bearing bolts. Loosen the retaining setscrews on the bearing collars and remove bearings.

SHAFT REPLACEMENT:

After following the steps listed for the removal of the bearings, loosen the setscrews in the wheel hub. With the wheel securely blocked, pull the shaft from the wheel.

WHEEL REMOVAL:

After following the steps above for bearing and shaft removal, remove the inlet cone by removing eight bolts, which then permits the wheel to be lifted out through the inlet. This can also be done with the shaft in place.

TROUBLE SHOOTING

Upon startup of your Ventaire unit, a few minor problems may be encountered due to transporting the unit. These defects can easily be corrected in the field.

<< CAUTION >>

Before attempting any repair work, be certain that all power to the unit is turned off.

1. NOISE IN FAN: Shut fan down and check for foreign objects and remove.
2. WHEEL HITTING INLET CONE: Turn wheel by hand to determine where the wheel is hitting. Loosen bolts holding inlet cone and re-center.
3. THUMPING NOISE: When rotating the wheel by hand, if a sound like something dropping is present, check setscrews in the wheel hub and tighten.
4. BEARING NOISE: Check for alignment and lubricate bearings.
5. DRIVE NOISE: Check sheaves for alignment. Check set screws to be sure that they are tight. Check the belt tension. Check the adjustable pulley to be sure that all belts are properly seated.
6. FAN VIBRATION: NOTE: All fan wheels are statically and dynamically balanced at the factory, and run out is checked. After final assembly, the unit is checked to ensure vibration level is within tolerance.

If excessive vibration is noted, check the following:

- a. Bearing and drive alignment.
- b. Mismatched belts.
- c. Wheel or sheaves loose on shaft.
- d. Loose or worn bearings.
- e. Loose mounting bolts.
- f. Motor out of balance.
- g. Sheaves eccentric or out of balance.
- h. Vibration noise improperly balanced.
- i. Worn or corroded wheel (replace if bad).
- j. Accumulation of material on wheel (material accumulation should be scraped off).

<< CAUTION >>

Do not attempt to increase speed on any equipment before checking the catalog or consulting the factory for brake horsepower for the particular unit. This is so you don't overload the motor or place the fan in another class due to tip speed of the wheel, which may result in damage to the fan or cause personal injury.

5. Carefully level unit using shims (on rigid mount fans) at mounting hole locations. Fans mounted with vibration isolators may be leveled by adjusting the hardware.

ELECTRICAL CONNECTION

1. Use flexible conduit to the motor in order to prevent the transmission of any vibration throughout the conduit. Motor not having thermal overload protection should be provided externally with overload protection.
2. On application where the blower is installed outdoors, it is recommended that a weather hood be attached in order to protect the motor from inclement weather. Bolt holes are provided for attaching same.
3. When power is connected check the rotation of the wheel to verify that it is rotating toward the discharge opening. Refer to the wiring diagram on the inside on the terminal plate to change rotation of motor. It is also advisable to check the amperage draw in the motor at time of start up and compare with nameplate amperage.

MAINTENANCE

The three basic rules of motor maintenance are:

1. Keep the motor clean.
 2. Keep the motor dry.
 3. Keep the motor properly lubricated.
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1. Blow dust off periodically (with low pressure air) to prevent motor from overheating.
 2. For lubrication schedule of the motor refer to the unit instruction plate on the motor.
 3. The V belt drives need periodic inspection, re-tensioning, and occasional belt replacement. Tension 50% greater than V-belt manufacturer for normal operation. This will reduce re-tensioning requirements
 4. Check fan decals for bearing lubrication requirements.
 5. Periodically inspect the wheel blades of the unit installed in dirty or greasy air. Remove accumulations so as to prevent excessive vibrations.



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12-MONTH WARRANTY

VENTAIRE warrants their products, to the original purchaser, to be free from defects in material and workmanship under normal use and service (except for those cases which buyer supplied materials are used) for a period of 12 months from the original date of shipment. During the warranty period, **VENTAIRE**, will at its option, repair, replace, or issue credit for any components that are deemed defective by **VENTAIRE**.

Buyer's failure to pay the full amount due within (60) days of invoice shall release seller from any and all liability or obligation to any warranty.

Before returning equipment for repair or replacement, a **Return Authorization Number** must be obtained from **VENTAIRE** (952-894-6637). The **Return Authorization Number** must be written on the outside of all shipping cartons. Items returned without a **Return Authorization Number** will be refused. Items returned should be in original condition in which it was received and must be accompanied with a written explanation of the reason(s) for their return.

This warranty does **not** cover damage caused by accident, misuse, misapplication, or unauthorized service modification.