

# ECLIPSE INFORMATION GUIDE

## “SMJ” SERIES BLOWERS



## 1.0 Applications

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Eclipse “SMJ” Blowers are centrifugal blowers that provide low pressure air for industrial combustion systems. They are also used for cooling, conveying, drying, liquid agita-

tion, smoke abatement, vacuum cleaning, fume and dust exhausting, and other applications where air temperatures are under 220°F.

## 2.0 Installation

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### 2.1 Blower Installation

Install the blower in an accessible location on a level concrete floor or other substantial mounting platform. The top of the blower base should be level to avoid unnecessary wear on the motor bearings. The blower may be bolted to the platform through the mounting holes provided in the blower base. To prevent vibration which can shorten motor bearing and rotor life, install compressed rubber mounting pads between the blower base and floor.

### 2.2 Blower Environment

If the blower is mounted in a location where excessive airborne solids are present, use an air filter on the blower inlet or connect the inlet to clean outside

air with a pipe no smaller than the blower inlet. Eclipse strongly recommends the use of a combustion air filter suitable for the operating conditions. Blowers can be purchased with filter installed, or filters can be added in the field.

An optional inlet, with an ANSI flange, is available for applications requiring silencers or direct piping.

Provide access to the blowers for inspection and maintenance.

### 2.3 Filter Mounting

To mount a filter in the field, remove the grill from the fan cover plate. Align the six holes on the back of the filter housing with the corresponding holes on the fan cover plate, as shown in Figure 1 on page 3. Secure the filter housing to the fan cover plate with six self-tapping screws.



## 3.0 Piping

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### 3.1 Housing Rotation

SMJ Blowers are available in four different outlet positions. The outlet position that requires the least number of piping bends should be used.

If desired, the outlet position can be changed in the field by disassembling the side plate, rotor, and housing, from base. The housing can then be rotated to the desired outlet position and the blower re-assembled. See Figure 2.

### 3.2 Minimize Pressure Losses

Air piping should be of ample size, piping runs kept short as possible, and number of bends kept to a minimum in order to avoid excessive pressure losses. As a general rule, when using a blower in a combustion system, keep the air manifold the same size as the blower outlet up to the point of branching off to individual burners. Make sure that all piping is air tight to prevent leakage which causes excessive power consumption.

### 3.3 Piping Support

**Do not use the blower to support the piping.** Use independent pipe hangers for this purpose.

### 3.4 Using Flexible Piping

Use a flexible collar or pipe to connect the blower to the manifold if:

- a) The manifold is 30 feet or longer;
- b) The manifold is vertical and longer than 15 feet;
- c) One blower supplies multiple burners.

### 3.5 Outlet Flange Specifications

SMJ Blowers are provided with either threaded or flanged outlet, depending on blower size. Flanged outlets are drilled to standard 125# ANSI specifications. Companion flanges are available from Eclipse as optional equipment.

## 4.0 Electrical Supply

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### 4.1 Check Motor Nameplate

Check the motor nameplate to be sure the motor is correct for the electrical service. Follow the wiring instructions on the motor nameplate. All wiring and fuses must be ample to supply proper voltage and current to the motor. All AC motors should be

equipped with a contactor or magnetic starter having thermal overload protection. Check to see that proper heaters are installed in the motor starter.

### 4.2 Check The Rotor

On initial startup, check to see that the rotor is turning in the correct direction. **If rotation is wrong, reverse wiring.**

## 5.0 Maintenance

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### CAUTION

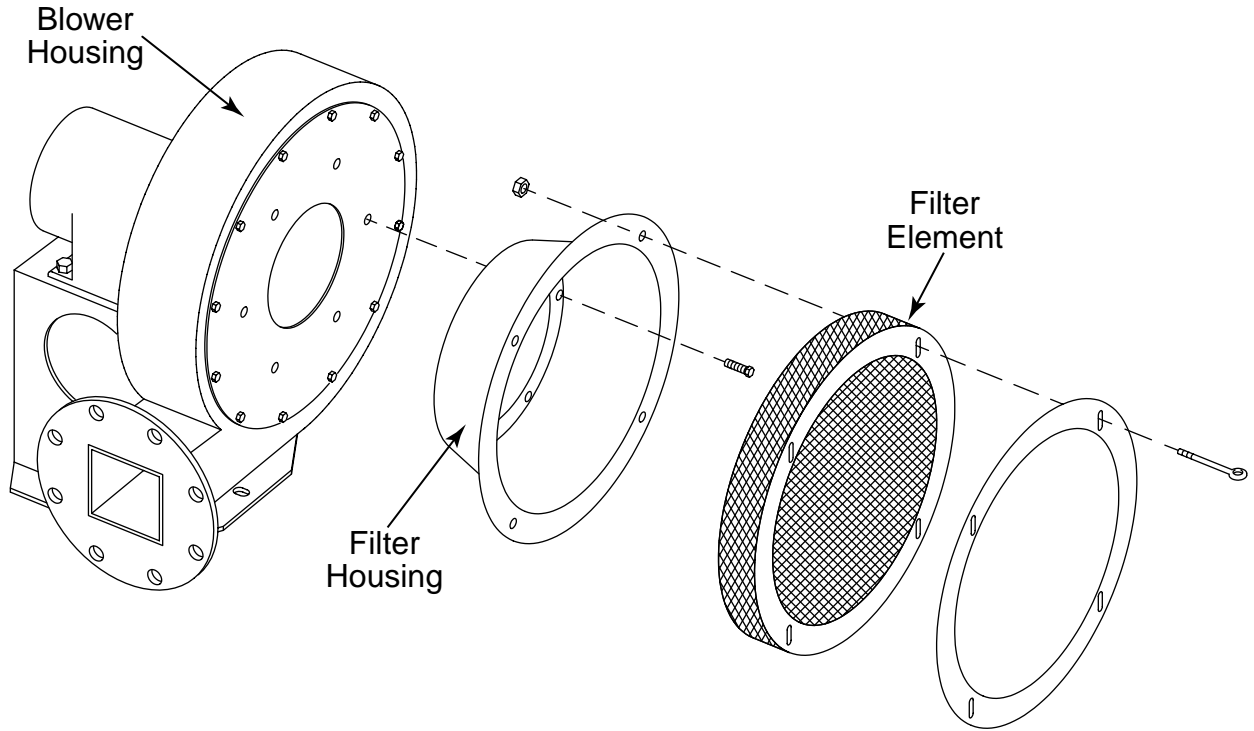
A blower should never be run with both air inlet and outlet wide open. Proper restriction must be located in either inlet or discharge line to avoid overloading and damaging the motor.

**5.2** Clean any accumulation of dirt or dust from the rotor and interior of the blower housing as required. After cleaning, make sure that any remaining dirt does not unbalance the rotor.

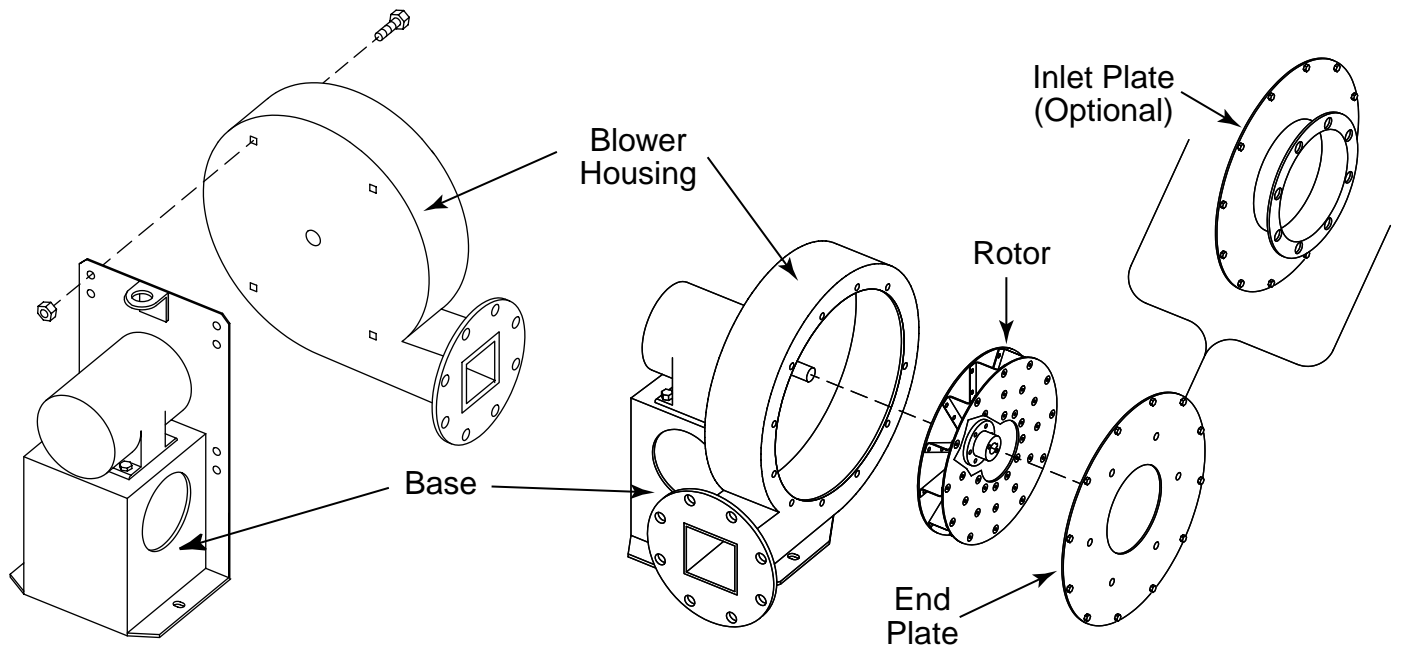
**5.3** If the rotor fails, carefully check the motor bearings for excessive wear. Worn bearings are usually the cause of rotor failure.

**5.1** Protect the motor from excessive heat and overload conditions. See the motor nameplate for temperature specifications.

**FIGURE 1—FILTER MOUNTING**



**Figure 2—Housing Rotation**



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