

OPERATING PRINCIPLES



The Fuller 4500 Series rotary blowers are the positive displacement type with two figure-eight shaped impellers rotating in opposite directions inside the casing. As each lobe of an impeller passes the blower inlet, it traps a quantity of air equal to exactly one-fourth the displacement of the blower. This entrapment occurs four times per revolution. The entrained air is forced around the case to the blower outlet. Timing gears accurately position the impellers in relation to each other to maintain the minute clearances so vital to the high volumetric efficiency of the rotary positive blower.

Equipment Check

Immediately after receipt of the equipment, a careful check should be made to insure that all items shown on the packing list have been received and have not been damaged in shipment.

A claim should be registered with the carrier for damaged or lost items of the shipment.

Installation

Lifting and Handling

Reasonable care should be taken during unloading and moving to insure against undue strain on the blower.

When eye bolts or lifting lugs are used for support, it should be pointed out that they are designed and intended to be strong enough to handle the weight of the blower only. See figure 1.

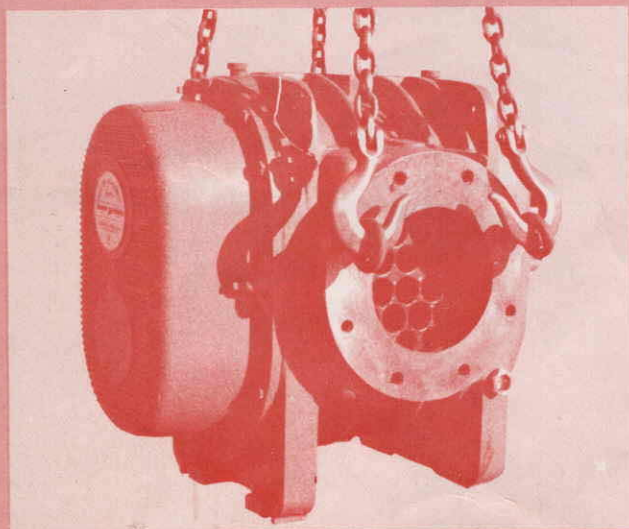


FIGURE NO. 1

Installation (Cont'd.)

Protective covers and rust preventatives should be left in place until just prior to installation.

Foundation

For permanent installation, we recommend concrete foundations be provided, and the equipment should be grouted to the concrete. It is necessary that a suitable base be used, such as a steel combination base under blower and motor, or a separate sole plate under each. Before grouting, equipment must be level, free of all strains, and anchored so no movement will occur during setting of grout.

After grout has completely hardened, a recheck is necessary to compensate for shrinkage, etc. If required, add shims under blower feet to obtain final level and alignment.

Where jack screws or wedges are used during grouting, they must be backed off or removed before final tightening of anchor bolts.

Where a concrete foundation is not feasible, care must be taken to insure anchoring to firm structural members.

Alignment

Series 4500 machines have internal thrust bearings to maintain impeller axial position whether belt driven or direct coupled to driver. When belt driven, faces of sheaves must be in line after proper belt tension has been achieved. On direct connect units, alignment and lubrication of couplings should be made in accordance with specifications of coupling manufacturers.

When mounted drives are supplied from the factory, proper alignment has been established before shipment. However, during shipping, handling and installation it is likely that the alignment has been disturbed and final adjustment must be made before start up.

Rotation

Series 4500 blower and gas pumps are assembled for rotation in **ONE DIRECTION ONLY**. To achieve the quiet operation characteristic of the 4500 machines, the intake and discharge parts are not interchangeable. Proper rotation is shown by the directional arrow over the drive shaft extension.