



Model SQ Direct Drive Centrifugal Inline Fans

Installation, Operation and Maintenance Manual

Installation

Upon receiving unit, check for any damage and report it immediately to shipper. Also check that all accessory items are accounted for. Move fan to desired location and determine position of access panels, discharge, and motor. Make sure inlet and outlet have at least 2.5 times the wheel diameter (duct diameter) before any obstructions like an elbow or transaction. Attach fan to suitable framework as specified (hanging or base vibration isolators are recommended). See chart below for dimensions of vibration isolator centerlines (Fig. 1). See Fig. 2 for physical dimensions.

The voltage rating of the motor must be checked for compatibility to supply voltage prior to final electrical connection. Electrical lead-in wires are then connected to the factory supplied safety disconnect switch. All wiring must conform to local and national codes.

Vibration Isolator Dimensional Data

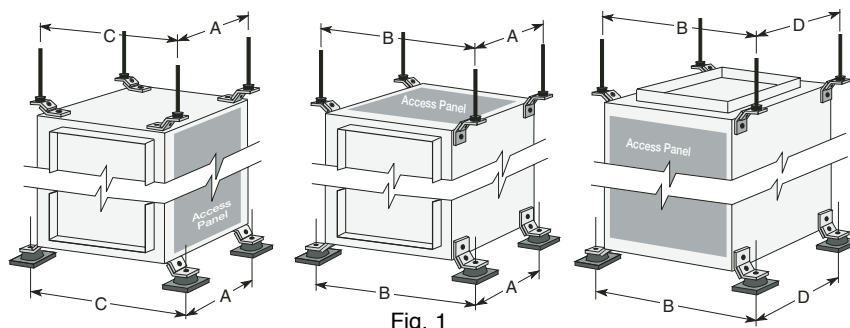


Fig. 1

Unit Size	A	B	C	D
60-75	10 ⁵ / ₈	16 ³ / ₄	14 ¹ / ₂	8 ⁷ / ₈
80-95	13 ¹ / ₄	19 ³ / ₄	17 ¹ / ₂	11 ⁷ / ₈
100	18 ⁵ / ₈	21 ³ / ₄	19 ¹ / ₂	13 ⁷ / ₈
120	18 ⁵ / ₈	23 ³ / ₄	21 ¹ / ₂	15 ⁷ / ₈
130	18 ⁵ / ₈	25 ³ / ₄	23 ¹ / ₂	17 ⁷ / ₈
140	19 ¹ / ₂	27 ³ / ₄	25 ¹ / ₂	19 ⁷ / ₈
160	23 ¹ / ₂	31	28 ¹ / ₂	22 ⁷ / ₈

All dimensions are in inches.

SQ Dimensional Data

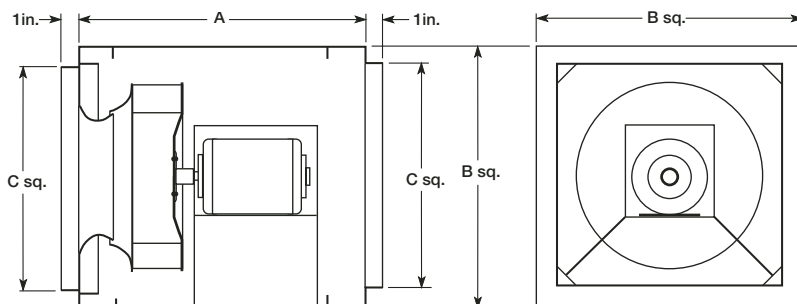


Fig. 2

Unit Size	A	B	C	Material Thickness (ga.)	Approx. Unit Weight (lbs.)
60-75	13	12	8 ⁷ / ₈	20	25
80-95	16	15	11 ⁷ / ₈	20	40
100	21	17	13 ⁷ / ₈	20	60
120	21	19	15 ⁷ / ₈	20	75
130	21	21	17 ⁷ / ₈	20	90
140	22	23	19 ⁷ / ₈	18	105
160	26	26	22 ⁷ / ₈	18	130

All dimensions are in inches.

Pre-Starting Checks

Check all fasteners for tightness. The wheel should rotate freely and be aligned as shown in Fig. 3. Wheel position is preset and the unit tested at the factory. However, movement may occur during shipment, and realignment may be necessary. Centering (height alignment) may be accomplished by loosening the set screws in the wheel and moving the wheel to desired position.

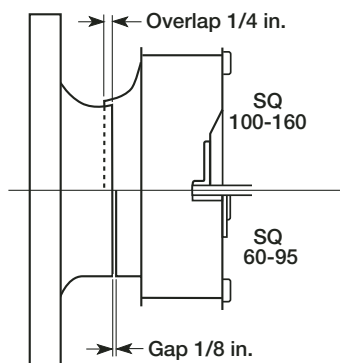


Fig. 3

Wheel Rotation

Direction of wheel rotation is critical. Reversed rotation will result in poor air performance, motor overloading and possible burnout. Check wheel rotation (all SQ fans have CW wheel rotation when viewed from top of fan) by momentarily energizing the unit. Rotation should be clockwise as shown in Fig. 4 and correspond to the rotation decal on the unit.

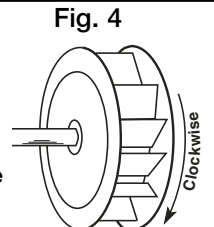


Fig. 4

Maintenance

Motor maintenance is generally limited to cleaning and lubrication (where applicable). Cleaning should be limited to exterior surfaces only. Removing dust buildup on motor housing ensures proper motor cooling. Greasing of motors is only intended when fittings are provided. Many fractional motors are permanently lubricated and should not be lubricated after installation. Motors supplied with grease fittings should be greased in accordance with manufacturer's recommendations. With motor temperatures under 104°F (40°C), the grease should be replaced after 2000 hours of running time as a general rule.

Wheels require very little attention when moving clean air. Occasionally, oil and dust may accumulate causing imbalance. When this occurs, the wheel and housing should be cleaned to ensure smooth and safe operation.

All fasteners should be checked for tightness each time maintenance checks are performed prior to restarting unit.

A proper maintenance program will help these units deliver years of dependable service.

Duct Length

The inlet and outlet duct length should be approximately two to three wheel diameters long before and after the fan to achieve cataloged performance.

Side Discharge

Make sure discharge is orientated in the same direction as originally ordered, performance will change with different discharge positions. Refer to Fig. 5 for proper side discharge definition. Refer to the CAPS program or consult factory for performance corrections.

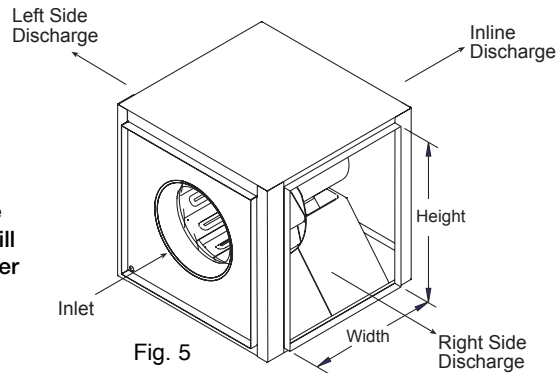


Fig. 5

Side Discharge Duct Openings

Unit Size	Width	Height
60-75	9 ⁷ / ₈	8 ⁷ / ₈
80-95	12 ⁷ / ₈	11 ⁷ / ₈
100	13 ⁷ / ₈	13 ⁷ / ₈
120	15 ⁷ / ₈	15 ⁷ / ₈
130	17 ⁷ / ₈	17 ⁷ / ₈
140	19 ⁷ / ₈	19 ⁷ / ₈
160	22 ⁷ / ₈	22 ⁷ / ₈

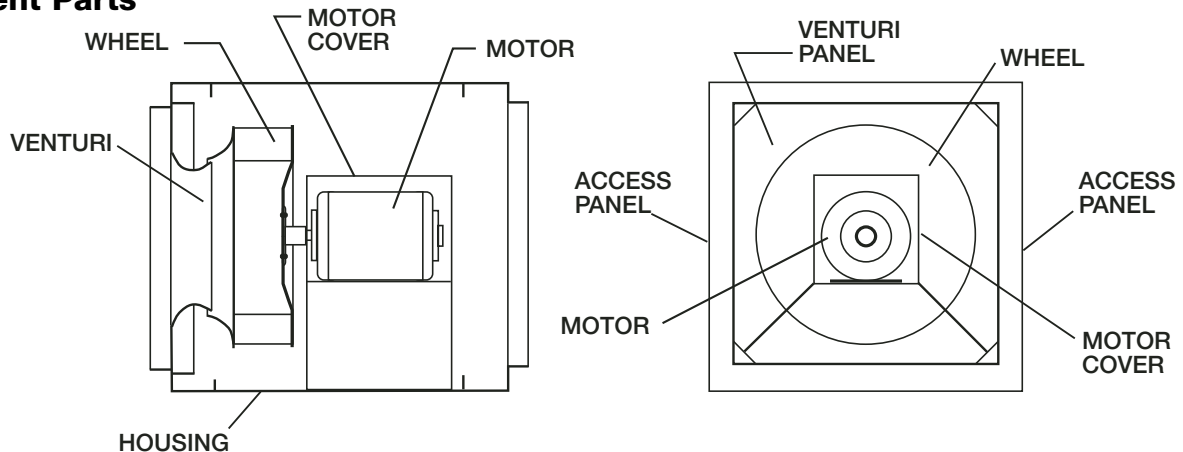
All dimensions are in inches.

Troubleshooting

Problem	Cause	Corrective Action
Reduced Airflow	System resistance too high	Check system: for proper operation of backdraft or control dampers, obstruction in ductwork, etc.
	Unit running backwards	Correct as shown in Fig. 4
	Excessive dirt buildup on wheel	Clean wheel
	Improper wheel alignment	See Fig. 3 and Pre-Starting Checks
Excessive Noise or Vibration	Wheel improperly aligned and rubbing	See Fig. 3 and Pre-Starting Checks
	Foreign objects in wheel or housing	Remove objects, check for damage
	Unbalance of wheel caused by excessive dirt and grease buildup	Remove buildup

NOTE: Before taking any corrective action, make certain unit is not capable of operation during repairs

Replacement Parts



NOTE: Each fan bears a manufacturer's nameplate with model number and serial number embossed. These numbers will assist the local Greenheck representative and the factory in providing service and replacement parts.

WARRANTY

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the purchase date. Any units or parts which prove to be defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid. Motors are warranted by the motor manufacturer for a period of one year. Should motors furnished by Greenheck prove defective during this period, they should be returned to the nearest authorized motor service station. Greenheck will not be responsible for any removal or installation costs.

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.



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