

Square Inline Mixed Flow Fans Model SQ Direct Drive



Model SQ mixed flow fans provide a unique combination of installation flexibility, rugged construction, ease of service, high efficiency, and low sound levels. Fans are compact and ideal for supply, exhaust, return or make-up air systems in indoor or outdoor clean air applications where space and efficiency are important. These fans deliver competitive advantages in a wide range of applications including offices, apartments/condos, manufacturing, education, and health care facilities.

SIZES	PERFORMANCE	MOUNTING OPTIONS	APPLICATIONS
<ul style="list-style-type: none"> Direct drive sizes from 7 - 33 	<ul style="list-style-type: none"> Up to 27,800 cfm Up to 3 in. wg of static pressure 	<ul style="list-style-type: none"> Any configuration, horizontal or vertical, can provide straight-through airflow as well as a variety of discharge options 	<ul style="list-style-type: none"> Clean Air Environments Indoor/Outdoor Ducted/Unducted Intake/Exhaust Make-up Air/Return Air

FEATURES AND BENEFITS

- Mixed flow wheel improves airflow and efficiency while reducing sound and footprint
- Housing design allows the fan to slide in and out of ductwork for easy installation
- Straight-through airflow design minimizes blockages and improves efficiency
- Panels on either side of a unit provide quick access and inspection
- Isolation mounting is integral to the fan and does not require additional bracketry
- Totally enclosed motors eliminate the need for a motor cover and improve motor access
- Vari-Green® motor offering up to and including 10 hp



PRODUCT CERTIFICATIONS

Greenheck takes pride in offering a high-quality, reliable product. We invest our resources into designing, testing and manufacturing products to ensure customer satisfaction.

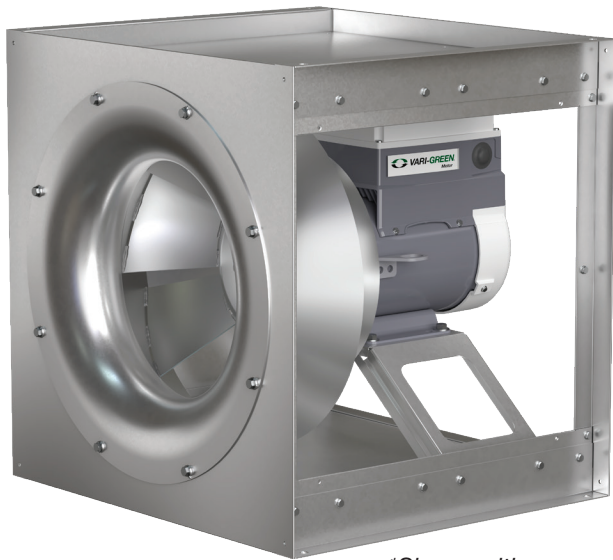


UL/cUL 705
Listed for Electrical
Listed for Indoor and Outdoor Use
File no. E40001

UL electrical and outdoor are optional and must be specified



Greenheck Fan Corporation certifies the model SQ fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



**Shown with access panels removed*

Housing Construction

Fan housing is constructed of rigid structural members and formed galvanized steel panels designed to maximize outlet area for efficiency and quieter operation.

Wheel

Mixed flow wheel technology delivers industry-leading performance, efficiency and sound. Each wheel is statically and dynamically balanced.

Motor

Totally enclosed motors allow for easier access by not requiring an additional motor cover. Maximize your efficiency and controllability by using Greenheck's Vari-Green® motors.

Isolator Brackets

Isolator brackets are integral to the fan and allow the fan to be mounted in any position (horizontal/vertical). Vertical applications require the use of included brackets. Fans can be base-mounted or ceiling hung.

Access Panels

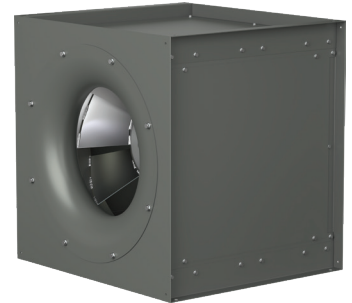
The cabinet construction features two removable access panels permitting easy access to all interior components.

Disconnect Switches

A NEMA-1 disconnect switch is provided as standard. All wiring and electrical components comply with the National Electric Codes and materials are UL Listed. Other NEMA enclosure disconnect switches are optional.

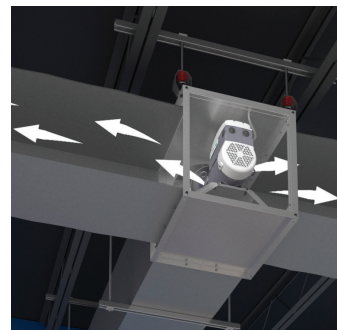
Coatings

A variety of special coatings ranging from enamels to phenolics are available for decorative or protective purposes. When a special coating is selected for the fan, accompanying accessory items are also coated unless specified.



Side Discharge

Fans are configurable with a variety of discharge options - inline, left, right or any combination of the three. This option can help to reduce system effect and installation labor. In addition this helps to reduce the overall footprint of the fan and the ductwork. (Details on page 7.)



Outdoor Construction

Weather-resistant galvanized steel construction for long lasting durability and dependability. Option can be applied to any ducted horizontal base mount outdoor application. Kit ships separate from fan for field assembly. UL/cUL 705 listed for outdoor use.



Inlet and Outlet Guards

Inlet and outlet guards provide protection for non-ducted applications. Guards are fabricated of welded wire on a galvanized steel frame to resist corrosion in demanding environments. Guards are OSHA compliant and are easily removed for maintenance or inspection of the fan.



Square Duct Mounting Collars

Inlet and outlet square duct mounting collars are available for slip fit duct connection. Square duct mounting collars are shipped separate for field installation.

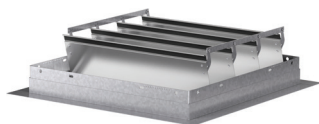
Isolator Kits

Complete isolation kits for hanging or base mount applications are available with either neoprene or spring isolators and are sized to match the weight of the specified fan size.



Backdraft Dampers

Gravity or motorized parallel blade dampers (model WD-330) are available for duct mounting. These dampers feature sturdy galvanized frames, aluminum blades with vinyl blade seals, and a balanced design for minimal resistance to airflow. Dampers are shipped separate for field installation.



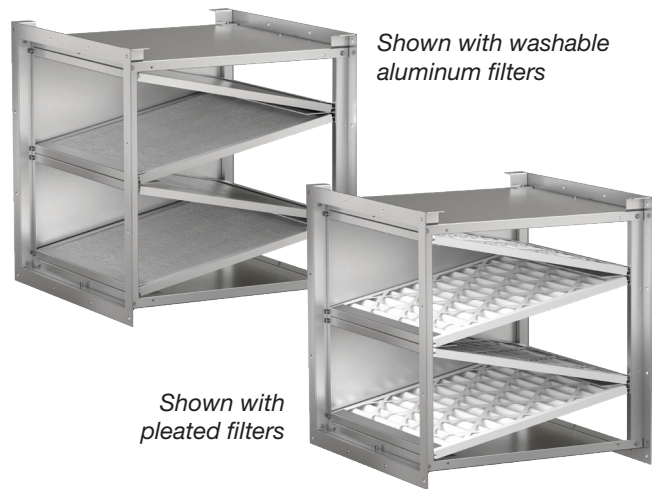
Control Dampers

Square, opposed blade volume control dampers (model VCD) are available for duct mounting. These dampers feature sturdy galvanized frames, and steel blades with optional blade and jamb seals. A balanced design results in minimal resistance to airflow. Dampers are shipped separate for field installation.



Filter box

The filter box is designed to provide a compact and convenient clean air solution while eliminating the costly process of designing, fabricating, and installing custom filter assemblies. The filter section features removable access panels on both sides and allow for simple and fast filter maintenance. A variety of washable aluminum, MERV 8, and MERV 13 filters are available. (More details on page 8.)



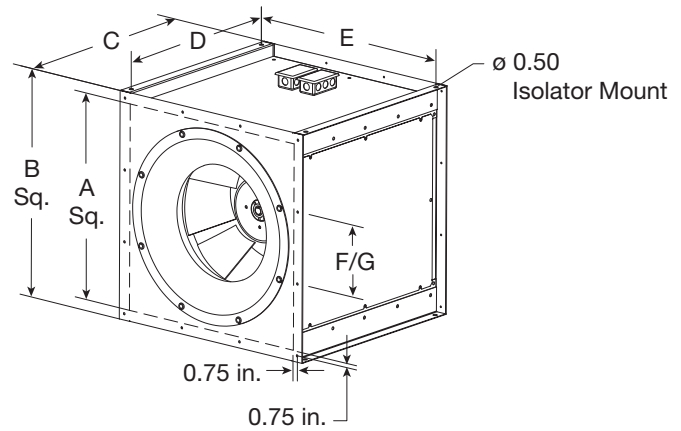
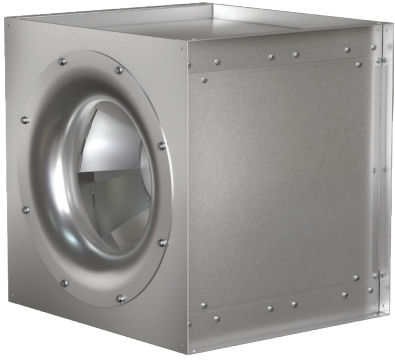
Shown with washable aluminum filters

Shown with pleated filters

Insulated Housing

For noise reduction and condensation control, the interior of the fan housing can be lined with a 1-inch fiberglass duct liner. It is recommended for applications when fans are placed in acoustically sensitive locations. The duct liner reduces the sound levels from the inlet and outlet of a fan as well as radiated sound values.

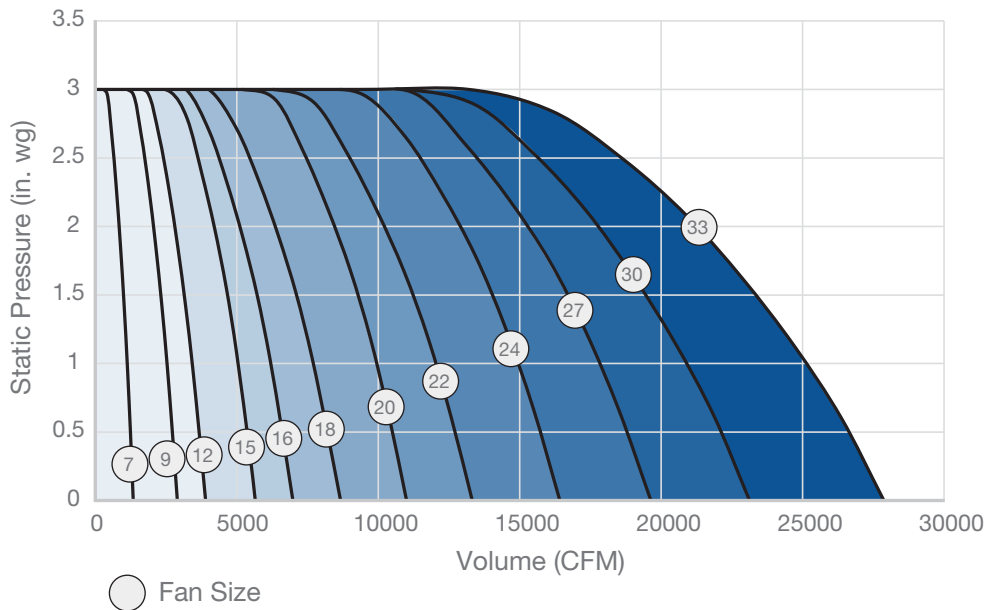
Dimensions



Fan Size	A Sq.	B Sq.	C	D Isolator	E Isolator	F Hole Spacing	G Holes Per Side	Max Fan Weight [^]
7	11-3/8	14-3/8	14-1/2	12	13-1/8	6-1/2	3	41
9	15-1/8	18-1/8	16-1/2	14	16-7/8	8-1/4	3	52
12	18-1/4	21-1/4	20	17-1/2	20	9-7/8	3	145
15	22	25	24-1/2	22	23-3/4	11-3/4	3	163
16	24	27	25-1/2	23	25-3/4	8-1/2	4	171
18	26-5/8	29-5/8	26-5/8	24-1/8	28-3/8	9-3/8	4	203
20	29-1/4	32-1/4	29-1/4	26-5/8	31	10-1/4	4	218
22	32	35	32	29-1/2	33-3/4	11-1/4	4	389
24	35-1/2	38-1/2	35-1/2	33	37-1/4	9-1/4	5	415
27	39	42	39	36-1/2	40-3/4	10-1/8	5	596
30	43	46	43	40-1/2	44-3/4	11-1/8	5	643
33	47-1/4	50-1/4	47-1/4	44-3/4	49	9-3/4	6	866

All dimensions in inches and weight is shown in pounds. [^]Weight shown is standard galvanized construction and largest cataloged totally enclosed motor. Dimensions A and B are same for height and width.

Performance





SQ - 16 - M2 - VG

FAN SIZE
7 through 33

VARI-GREEN® MOTOR
(On select models)

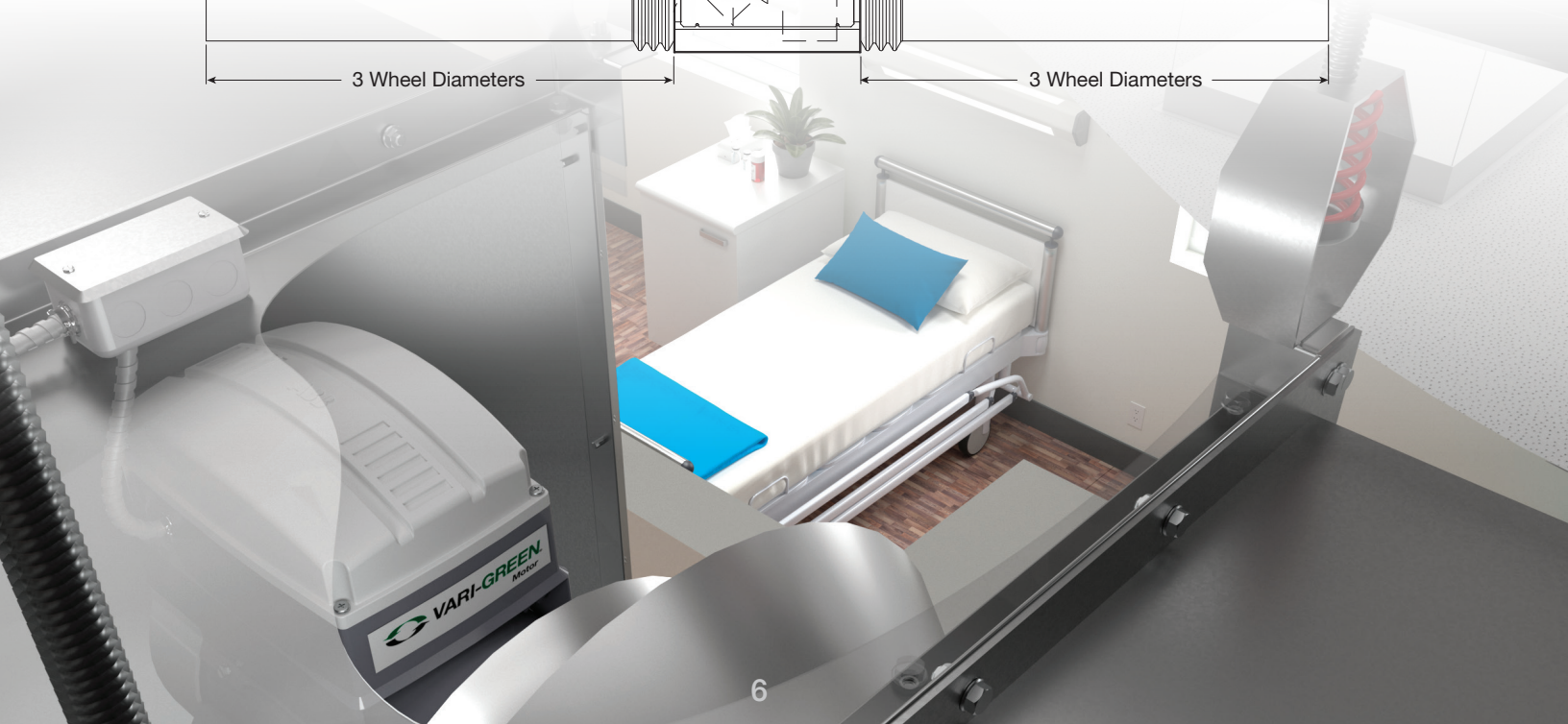
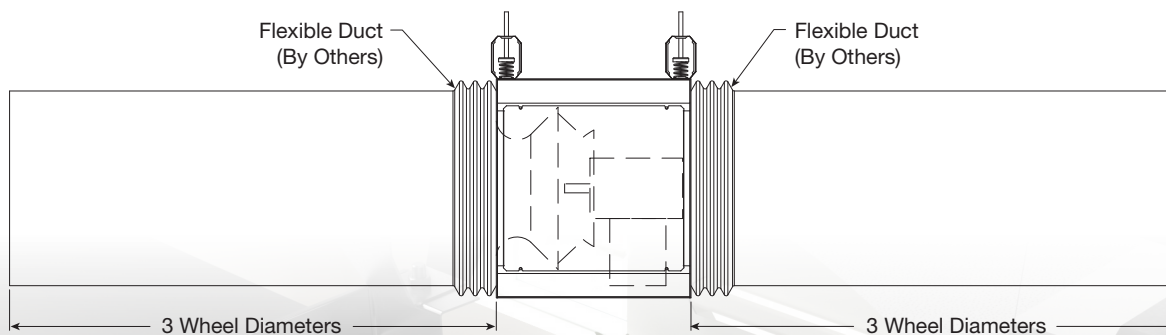
WHEEL TYPE
M - Mixed Flow

WHEEL MATERIAL
1 - Composite
2 - Aluminum

Typical Installation

Model SQ ducted inline fans are designed for the exhaust, supply or recirculation of air in a building. All SQ fan models can be mounted horizontally or vertically. Typical installation requires ductwork on the inlet and outlet side of the fan. A minimum of three wheel diameters is required on the inlet and outlet of the fan to minimize system effect losses. See the diagram below for a typical installation.

Installations can include flexible duct connections (by others) on either the inlet or outlet side of the fan or both. External isolators are recommended, hanging (shown below) or base mounted. Installation must meet all local governing codes and the NEC.



The side discharge option helps to reduce system effect. It will improve the system performance and reduce installation labor. Fans are configurable with a variety of discharge options - inline, left, right, or any combination of the three. In addition this helps to reduce the overall footprint of the fan and the ductwork.

The Figure 1 example shows the air being discharged into the corner. It will take several duct lengths before the airflow becomes laminar or smooth again after making the turn.

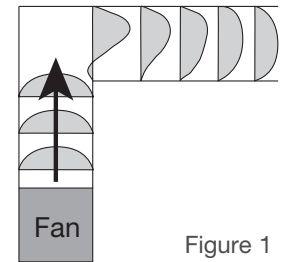


Figure 1

In Figure 2, the fan is placed in the corner using a side discharge. In this configuration the air flow pattern at discharge is smooth and supports a more predictable system. The duct length on the discharge side should be approximately two to three wheel diameters to achieve catalog performance.

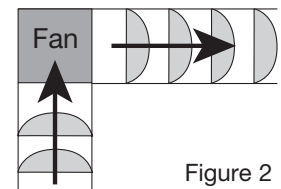


Figure 2

Fan performance will change slightly with different discharge positions. Performance corrections are available in Greenheck's CAPS® (Computer Aided Product Selection) program. Use Figure 3 to locate the orientation to fit your application.

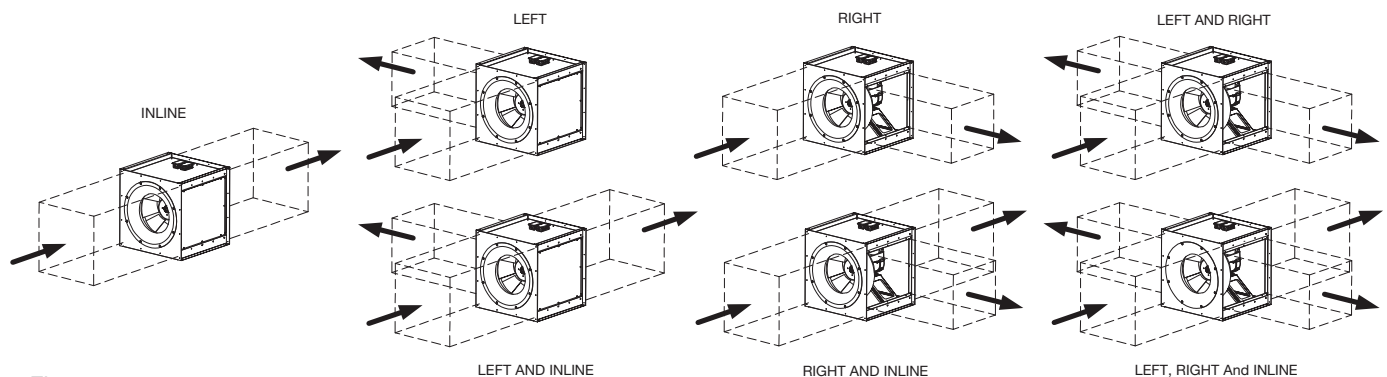


Figure 3

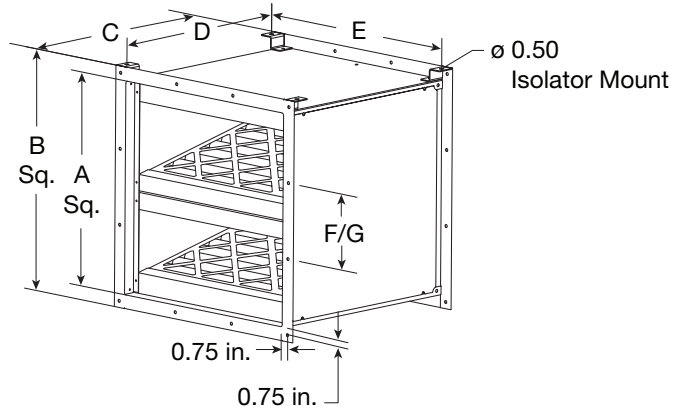
Side Discharge Duct Openings

Fan Size	Width	Height
7	11-1/4	6-3/4
9	13-1/4	10-1/8
12	16-3/4	13-1/4
15	21-1/4	17
16	22-1/4	19
18	23-3/8	21-5/8
20	26	24-1/4
22	28-3/4	27-1/8
24	32-1/2	30-1/2
27	35-3/4	34
30	39-3/4	38
33	44	42-3/8

Dimensions in inches.



The filter box is designed to provide a compact and convenient clean-air solution. Factory-assembled as a single unit eliminates the costly process of designing, fabricating, and installing custom filter assemblies. The filter section features removable access panels on both sides to remove and replace filters for simple and fast maintenance. The filter box is shipped separately for field installation.



Fan Size	A Sq.	B Sq.	C	D Isolator	E Isolator	F Hole Spacing	G Holes Per Side	Max Fan Weight [^]	Filter Size(s)	1-Inch Filter Quantity	2-Inch Filter Quantity
7	11-3/8	14-3/8	23-1/2	21-1/4	13-1/8	6-1/2	3	33	10x20	2	2
9	15-1/8	18-1/8	27-1/2	25-1/4	16-7/8	8-1/4	3	47	14x25	2	2
12	18-1/4	21-1/4	27-1/2	25-1/4	20	9-7/8	3	58	16x25	3	2
15	22	25	27-1/2	25-1/4	23-3/4	11-3/4	3	74	20x25	3	3
16	24	27	25	22-3/4	25-3/4	8-1/2	4	76	22x22	4	3
18	26-5/8	29-5/8	27-1/2	25-1/4	28-3/8	9-3/8	4	95	25x25	4	4
20	29-1/4	32-1/4	27-1/2	25-1/4	31	10-1/4	4	109	25x25	5	4
22	32	35	27-1/2	25-1/4	33-3/4	11-1/4	4	117	16x25 14x25	5 5	4 4
24	35-1/2	38-1/2	27-1/2	25-1/4	37-1/4	9-1/4	5	141	16x25	10	10
27	39	42	27-1/2	25-1/4	40-3/4	10-1/8	5	155	16x25 25x25	6 6	5 5
30	43	46	27-1/2	25-1/4	44-3/4	11-1/8	5	168	20x25	12	10
33	47-1/4	50-1/4	27-1/2	25-1/4	49	9-3/4	6	193	20x25 25x25	6 6	6 6

All dimensions in inches and weight is shown in pounds. [^]Weight shown is standard galvanized construction and aluminum filters. Filter section will ship separate from unit and is to be bolted to unit on site. When installing ensure there is enough clearance on the side of the filter box to access and remove filters.



Greenheck's Vari-Green® products are designed for efficiency, controllability and low maintenance.

Motors

The Greenheck Vari-Green motor is an electrically commutated (EC) motor that operates on single or three phase AC power input and internally converts it to DC power providing better speed control capabilities (up to an 80% turndown) and higher efficiencies than standard motors. The Vari-Green motor blends technology, controllability and energy efficiency in a low maintenance package that has changed the way the industry designs, specifies and operates air movement equipment. Depending on power rating, Vari-Green motors are available in both single and three phase with either a dial-mounted potentiometer (speed control) or wired to accept a 0-10 VDC control signal from an external source.



Controls

For expanded controllability, Greenheck offers many different solutions to fit any need. Controls are designed specifically for Vari-Green motors. These controls are available for applications requiring manual operation or demand-controlled ventilation (DCV). Applications utilizing DCV controls provide only the desired amount of ventilation, delivering building owners savings on their energy bills.

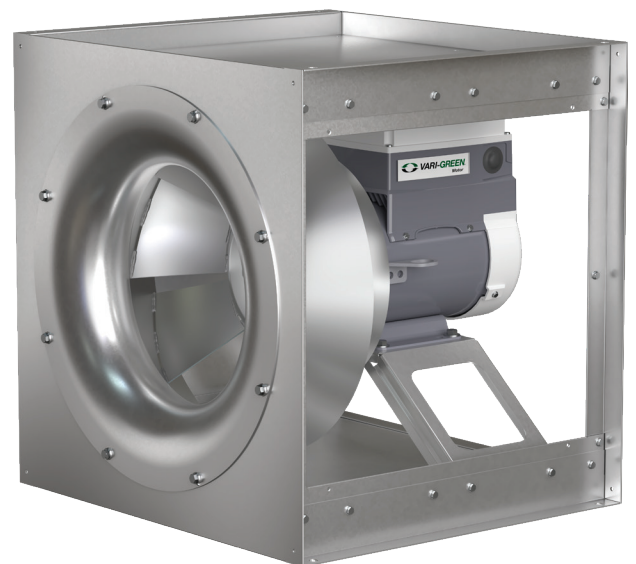


Manual Controls

- Dial on Fan
- Remote Dial
- Touch Remote

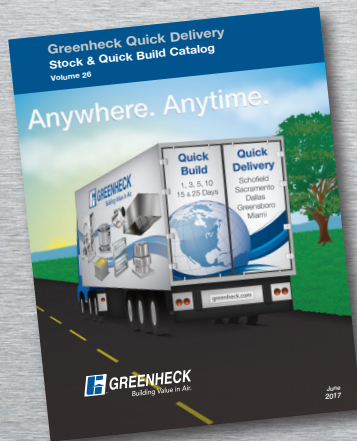
Demand Controlled Ventilation

- Hand/Off/Auto (HOA)
- Constant Airflow
- Constant Pressure
- Air Quality - Volatile Organic Compound (VOC)
- Air Quality - Temperature/Humidity
- 0-10 VDC Signal from Building Management System (BMS)



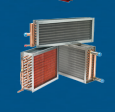
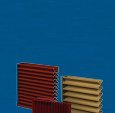
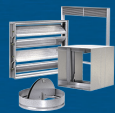
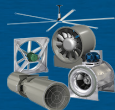
Quick Delivery and Quick Build

Greenheck's Quick Delivery (QD) and Quick Build (QB) programs have the industry's most comprehensive offering of commonly requested ventilation equipment.



The QD program has more than 1000 of the most in-demand products in stock, ready to ship. Some products require specific customization to meet the demands of a project, The QB program offers an even larger assortment of configure-to-order products built just for you, in the time frame you need!

Greenheck's Quick Build (QB) program ensures these products can be manufactured as needed in 1, 3, 5, 10, 15, and 25-day manufacturing cycles.



Building Value in Air

Greenheck delivers value to mechanical engineers by helping them solve virtually any air quality challenges their clients face with a comprehensive selection of

top-quality, innovative air-related equipment. We offer extra value to contractors by providing easy-to-install, competitively-priced, reliable products that arrive on time.

And building owners and occupants value the energy efficiency, low maintenance and quiet dependable operation they experience long after the construction project ends.

Our Commitment

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

Specific Greenheck product warranties are located on greenheck.com within the product area tabs and in the Library under Warranties.

