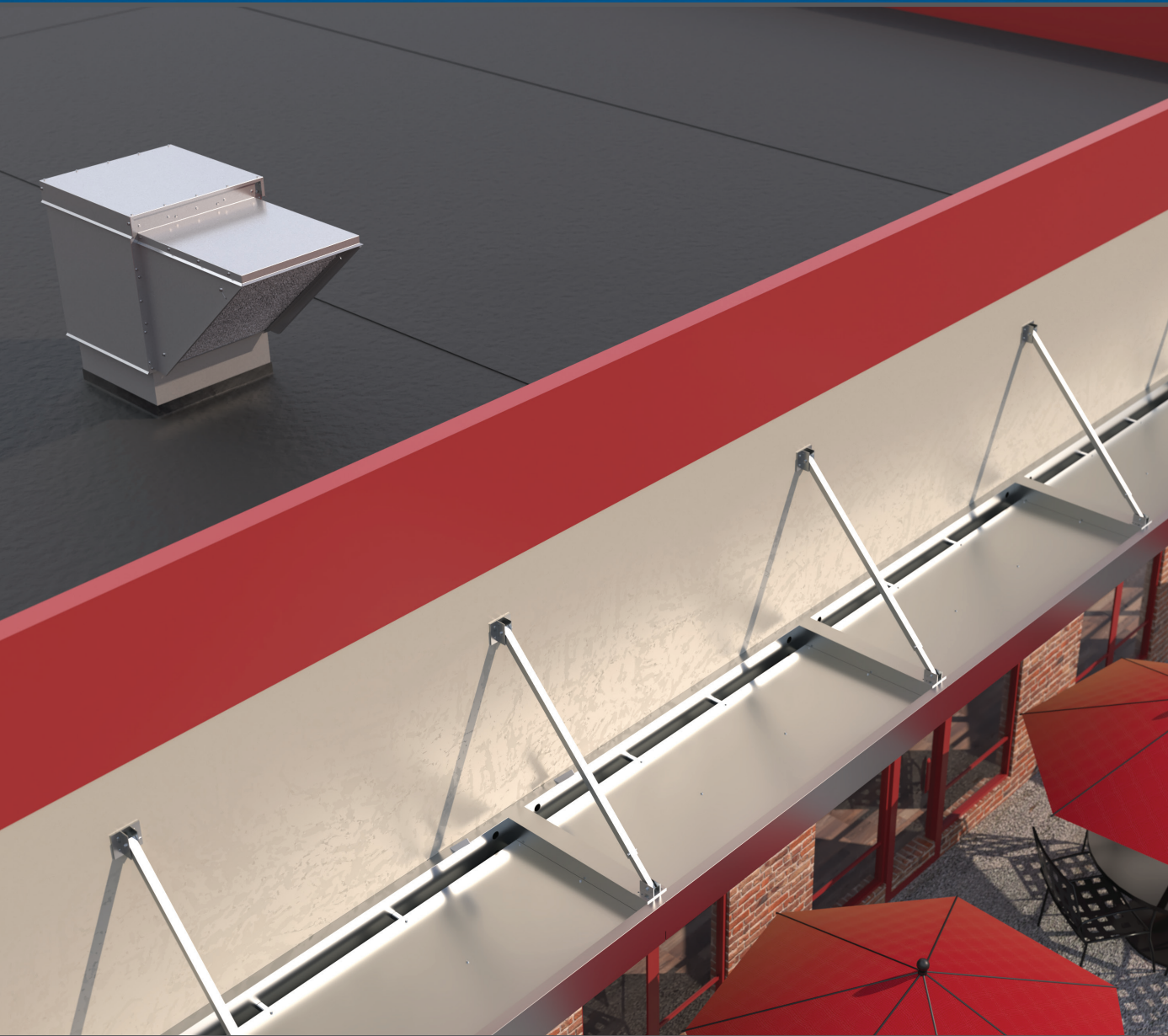


# Untempered Mixed Flow Roof Supply Fan Model KSQ



BUILDING VALUE IN AIR.

 **GREENHECK**  
Building Value in Air.

December  
2023

# Untempered Mixed Flow Roof Supply Fan

Model KSQ provides a unique combination of installation flexibility, ease of service, high efficiency, and low sound levels. Fans are compact and ideal for filtered roof-mounted supply or untempered make-up air systems in clean air environments. These fans deliver competitive advantages in a wide range of applications. Washable aluminum filters are provided with the option to add pleated MERV 13 filters.

## SIZES

- Direct drive sizes 7 - 33

## PERFORMANCE

- Up to 16,750 cfm
- Up to 3.75 in. wg of static pressure

## CONFIGURATIONS

- Horizontal or bottom intake
- Horizontal or bottom discharge

## APPLICATIONS

- Filtered Roof Supply
- Untempered Make-Up Air
- Kitchen Supply
- Clean Air Environments
- Stairwell/Elevator Shaft Pressurization

## FEATURES AND BENEFITS

- Mixed flow wheel improves airflow and efficiency while reducing sound and footprint (many selections meet or exceed FEI >1)
- Panels on either side of a unit provide quick access and inspection
- Totally enclosed direct drive motors eliminate the need for a motor cover, improve accessibility and reduce maintenance
- Aluminum 1-inch filters are provided standard; MERV 13 filters are optional
- 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



Greenheck Fan Corporation certifies the model KSQ 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 quiet operation. Panels are weather-resistant and designed for long lasting durability and dependability. UL/cUL 705 listed for outdoor use. Weatherhood and outdoor covering ships knocked-down for field installation.

## 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.

## Access Panels\*

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

## Filtration

Both horizontal and bottom intake hoods come standard with 1-inch washable aluminum filters. In applications where higher levels of filtration are required, 2-inch MERV 13 filters are available with bottom intake hoods.

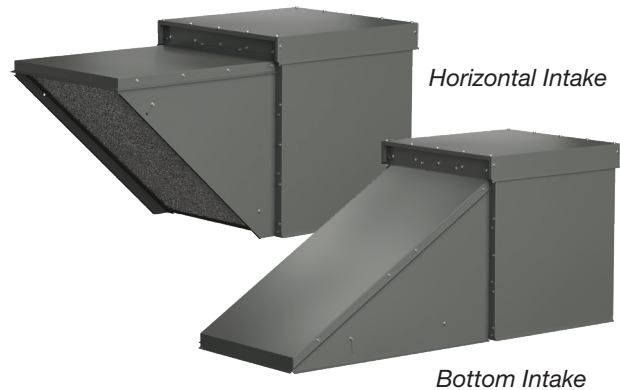


## Discharge

Discharge configuration can be either horizontal or bottom. Horizontal discharge is connected through ductwork into building.

## Intake

Intake configuration can be either horizontal or bottom. Changing the configuration will change the fan's performance.



## Disconnect Switches

A NEMA-3 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. Fan wheel is not coated.



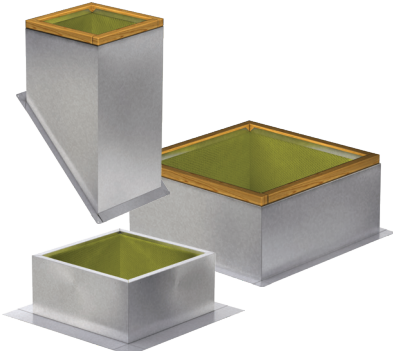
Permatector™ is our standard coating. Typically used for applications that require corrosion resistance in indoor and outdoor environments. Color is RAL 7023 concrete grey.



Hi-Pro Polyester is resistant to salt water, chemical fumes and moisture in more corrosive atmospheres. It has superior chemical resistance, excellent abrasion and outdoor UV protection. This coating has protective qualities that exceed Air Dry Heresite. Color RAL 7023 concrete grey is standard; choose from seven standard decorative colors or color match any color.

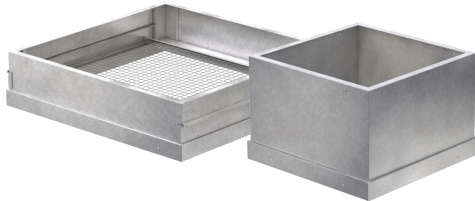
## Roof Curbs

Prefabricated roof curbs reduce installation time and costs by ensuring compatibility between the fan, the curb, and the roof opening. All curbs are available with one-inch, two-inch, or no insulation. A wide variety of roof curbs are available including: flanged, pitched, and sound-absorbing.



## Curb Extensions

Extensions raise the fan discharge above the roof line and provide an accessible mounting location for dampers. Insect screen bases, constructed with a removable fine mesh, are recommended for applications where insect entry must be prevented.



## Roof Curb Adapters/Reducers

Welded curb adapters designed to adapt the fan to an existing curb size. Useful in retrofit applications where current curb size is larger/smaller than the KSQ curb dimensions.

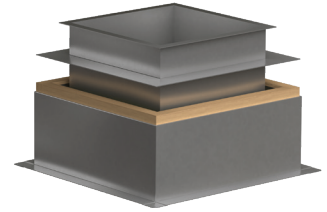
## Equipment Supports

Equipment supports are designed for use on both insulated and non-insulated flat roof decks. They are mounted directly to the deck structure, then roofed and flashed for weather tightness.



## Duct Adapters

Duct adapters fit over the roof curb and support the top of the duct allowing ductwork to be completed before the fan is set in place. Duct adapters also limit performance losses by directing airflow into the duct.



## Square Duct Mounting Collars

Outlet square duct mounting collars are available for slip fit duct connection on horizontal discharge only. Square duct mounting collars are shipped separate for field installation.

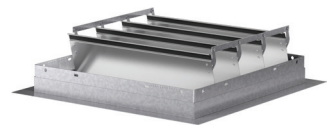
## Isolator Kits

Complete isolation kits for 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.





## KSQ - 16 - M2 - VG - QD

**FAN SIZE**  
7 through 33

**QUICK DELIVERY**  
(Stocked configuration)

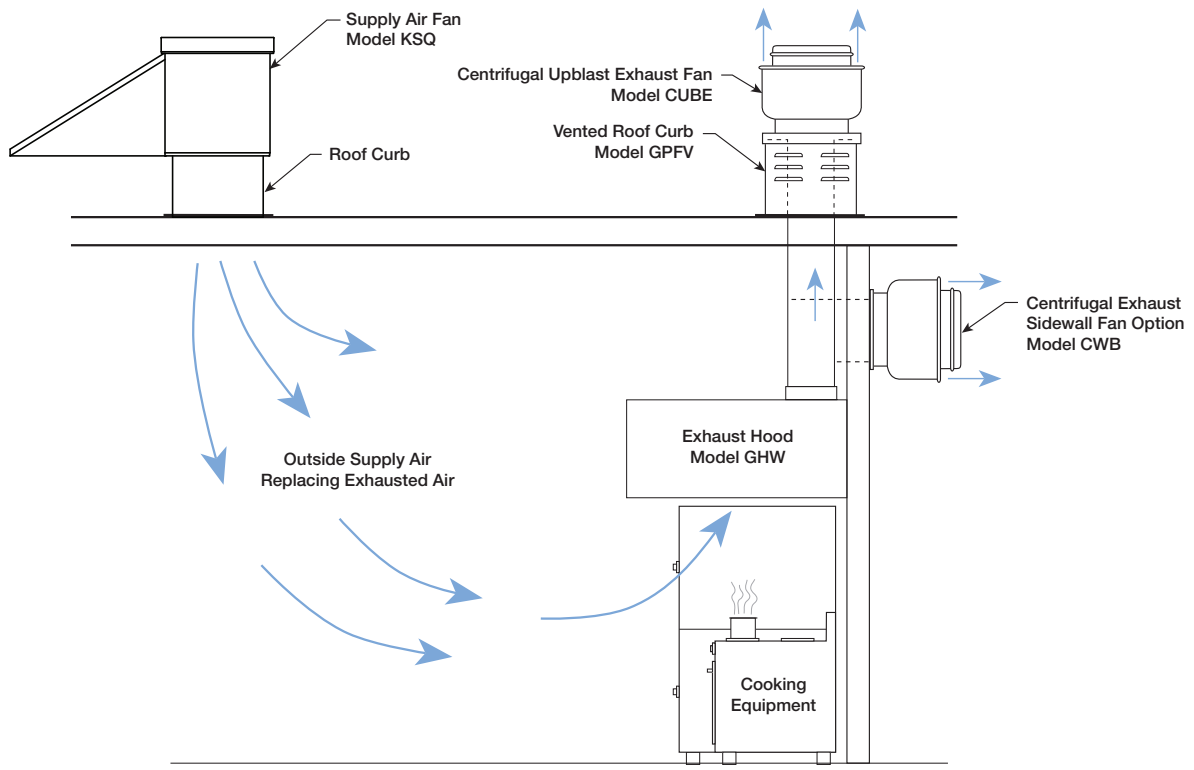
**VARI-GREEN® MOTOR**  
(On select models)

**WHEEL TYPE**  
M - Mixed Flow

**WHEEL MATERIAL**  
1 - Composite  
2 - Aluminum

## Typical Installation

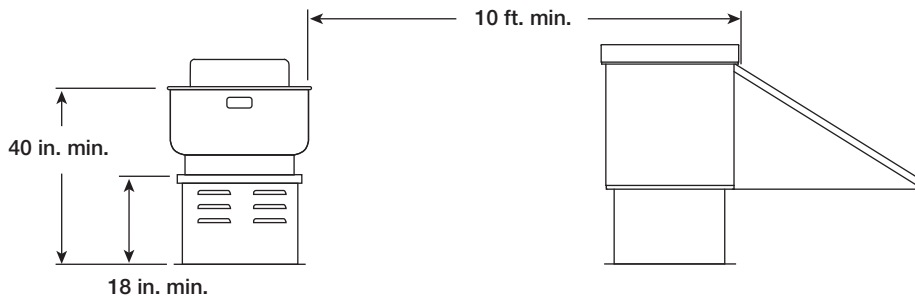
Model KSQ untempered roof supply fan is designed for roof mounting in clean air systems. Typically used in a kitchen setting, the bottom intake hood allows for a closer installation between kitchen supply and exhaust fans. For horizontal discharge a minimum of three wheel diameters of ductwork are required to minimize system effect losses. Installation must meet all local governing codes, NEC, and when used in a kitchen exhaust scenario NFPA 96.



The National Fire Protection Association (NFPA) specifies minimum distance criteria for restaurant exhaust and supply fans:

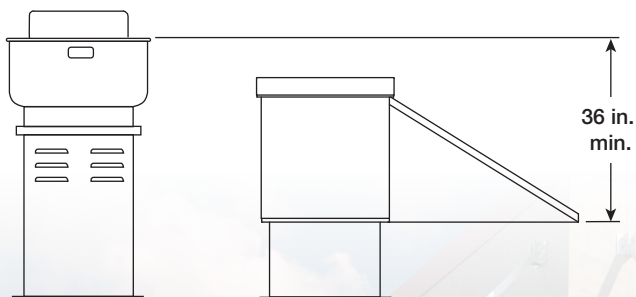
## Option A

- Roof deck to top of exhaust fan windband:  
40 inches minimum
- Roof deck to top of curb:  
18 inches minimum
- Supply fan intake:  
10 feet minimum from all exhaust fans



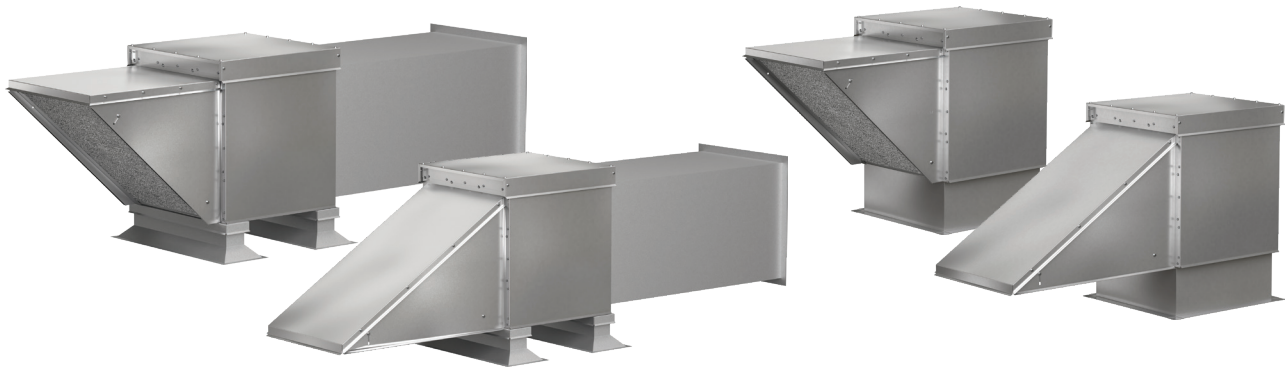
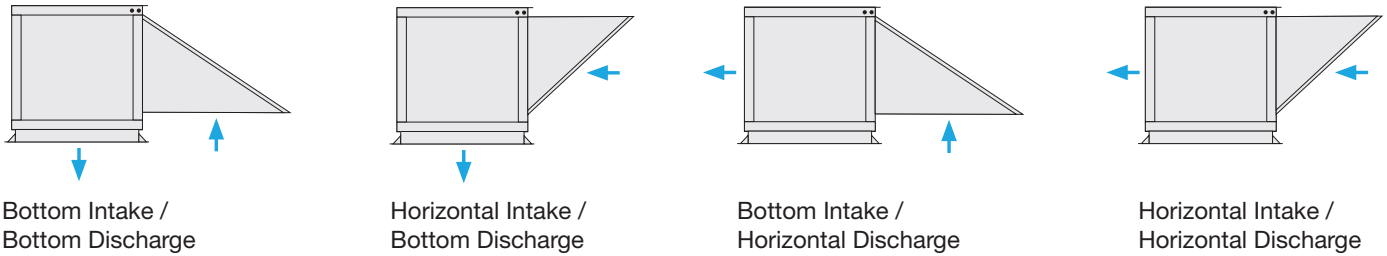
## Option B

For applications where the 10 foot horizontal distance cannot be met, vertical separation between exhaust and supply must be at least 36 inches. Bottom intake hood configurations are ideal for this application.

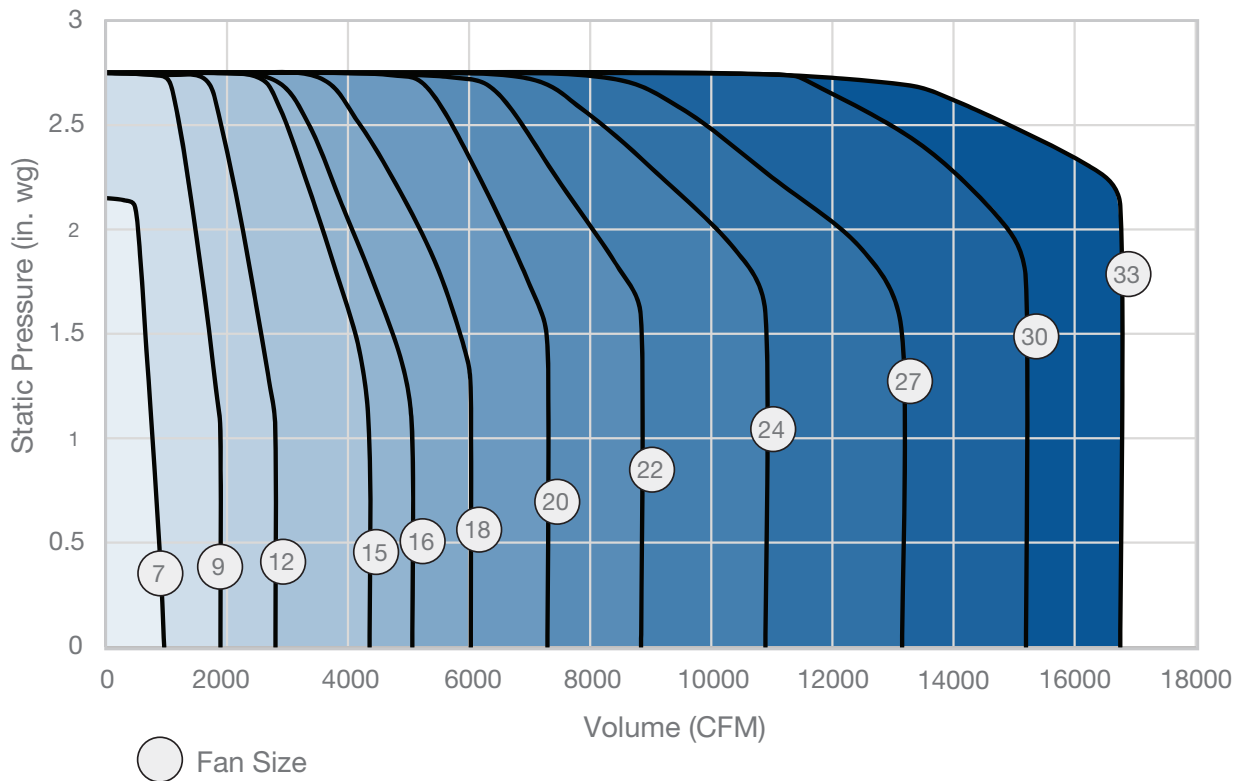


## Discharge Configurations

Four different KSQ configurations are available based on the system's requirements. MERV 13 filters are only available with bottom intake hood configurations.

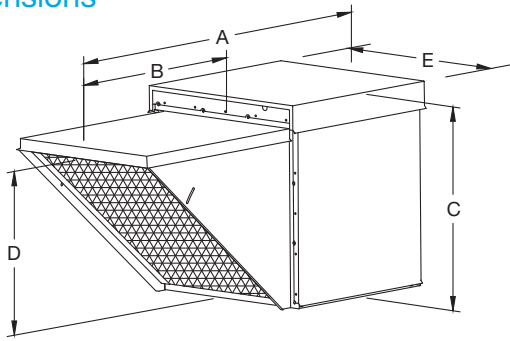


## Performance

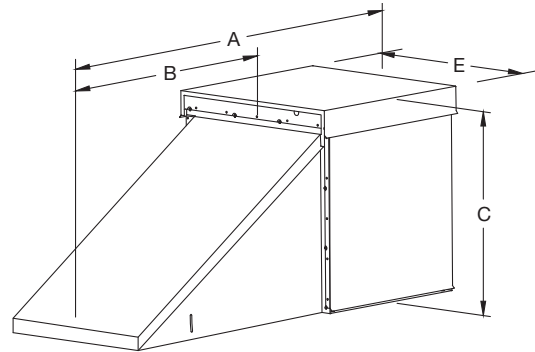


Performance shown is for unit with horizontal intake and bottom discharge. Performance will change slightly depending on the intake/discharge configuration.

## Fan Dimensions



Horizontal Intake



Bottom Intake

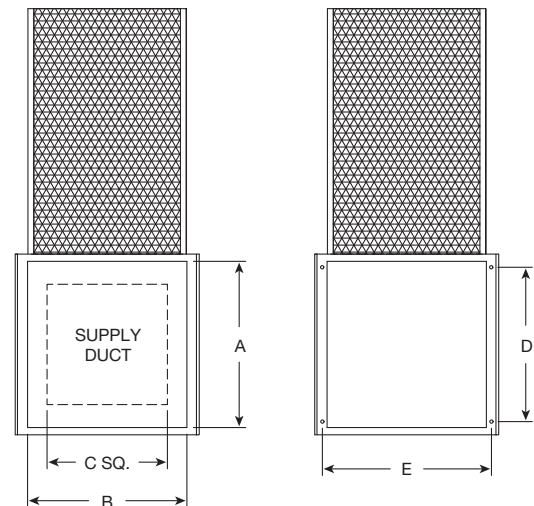
Fan Size	Horizontal Intake					Bottom Intake				Max Fan Weight <sup>^</sup>
	A	B	C	D	E	A	B	C	E	
7	32-1/2	17	16-3/8	11-3/8	15-1/4	36	20-3/8	16-3/8	15-1/4	55
9	36-1/2	19	20-7/8	16	19	41-3/4	25-1/4	20-7/8	19	76
12	43-1/2	22-1/2	23-1/4	18-1/4	22-1/8	50	29	23-1/4	22-1/8	99
15	54-3/4	29-1/4	27	22	25-7/8	62-1/8	36-1/2	27	25-7/8	138
16	57	30-3/8	29	24	28	65-1/4	38-3/4	29	28	163
18	59-1/4	31-1/2	31-5/8	26-5/8	30-1/2	69	41-1/4	31-5/8	30-1/2	212
20	64 3/4	34-1/2	34-1/4	29-1/4	33	75-1/2	45-1/4	34-1/4	33	243
22	71-1/4	38-1/8	37	32	36	82-3/4	49-5/8	37	36	297
24	78-1/2	42	40-1/2	35-1/2	39-3/8	91-1/2	54-7/8	40-1/2	39-3/8	350
27	86	46	44	39	42-7/8	100-1/8	60-1/8	44	42-7/8	486
30	94-1/2	50-1/2	48	43	46-7/8	109-1/4	66-1/4	48	46-7/8	575
33	103-3/4	55-3/8	52-1/4	47-1/4	51-1/4	121-3/8	72-7/8	52-1/4	51-1/4	699

All dimensions in inches and weight is shown in pounds. <sup>^</sup>Weight shown is standard galvanized construction and largest cataloged totally enclosed motor.

## Mounting Dimensions

Fan Size	Recommended Curb Size		C	D	E
	A (Length)	B (Width)			
7	11-1/2	14-1/4	8-1/4	12	13-1/8
9	15-1/4	16-1/4	11-1/4	14	16-7/8
12	18-1/4	19-1/4	14-1/4	17-1/2	20
15	22	24-1/4	18-1/4	22	23-3/4
16	24	25-1/4	18-1/4	23	25-3/4
18	26-3/4	26-1/4	22-1/4	24-1/8	28-3/8
20	29-1/4	29	24-1/4	26-5/8	31
22	32-1/4	31-3/4	27-1/4	29-1/2	33-3/4
24	35-1/2	35-1/4	30-1/4	33	37-1/4
27	39	38-1/2	33-1/4	36-1/2	40-3/4
30	43	42-3/4	36-1/4	40-1/2	44-3/4
33	47-1/2	47	40-1/4	44-3/4	49

Dimensions in inches.



Curb Mounting  
Bottom Discharge

Equipment Support/  
Isolator Mounting  
Horizontal Discharge



Model KSQ is available with Greenheck's Vari-Green® technology. Greenheck's Vari-Green products are designed for efficiency, controllability, and low maintenance.

## Motors

The Greenheck Vari-Green motor is an electronically commutated (EC) motor that operates on single or three phase AC input power and internally converts it to DC power providing improved 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 mounted dial on fan potentiometer (speed control) or wired to accept a 0-10 VDC control signal from an external source.



## Controls

Greenheck offers a wide array of control options for pairing with 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)



# Extraordinary Service

## 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.

## Computer Aided Product Selection

All Greenheck products are supported by the industry's best product literature, electronic media and two product selection tools – CAPS<sup>®</sup>, our computer aided product selection software program and eCAPS<sup>®</sup>, our online selection tool. These programs will guide you from initial design through detailed submittals.



And, of course, you can always count on the personal service and expertise of our national and international representative organization. To locate your nearest Greenheck representative call 715-359-6171 or visit our website at [www.greenheck.com](http://www.greenheck.com)

## 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](http://greenheck.com) within the product area tabs and in the Library under Warranties.

