

# Centrifugal Upblast & Sidewall Exhaust Models CUE, CUBE and USGF

- General Clean Air • Restaurant Grease
- High Wind • Seismic • Smoke Control • Contaminants



BUILDING VALUE IN AIR.



November  
2024

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## Model Comparison

Model	Location		Mounting					Airflow				Application								Drive Type		Impeller Type			Performance	
	Outdoor	Indoor	Roof Curb	Base/Floor	Hanging	Wall	Ceiling Mounted	Exhaust	Supply	Reversible	Recirculate	General/Clean Air	Contaminated Air	Spark Resistant	Grease (UL 705 Supplement SC)	Smoke Control (UL 705 Supplement SD)	High Wind (150 mph)	High Temp (above 200°F)	Seismic Certification	Belt	Direct	Centrifugal	Propeller/Axial	Mixed Flow	Maximum Volume (cfm)	Maximum Static Pressure (in. wg)
CUE	✓		✓			✓		✓				✓	✓	✓	✓		✓	✓	✓		✓	✓			14,700	3
CUBE	✓		✓			✓		✓				✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			30,000	5
USGF	✓		✓					✓				✓	✓		✓			✓		✓		✓			6,800	3.25

When you buy a Greenheck roof upblast or sidewall exhaust fan, you'll receive a fan with the industry's best performance and durability for general clean air, restaurant grease, smoke control, light contaminants, seismic, high wind, and hurricane applications. Both roof upblast and sidewall configurations are specifically designed to discharge air directly away from the mounting surface.

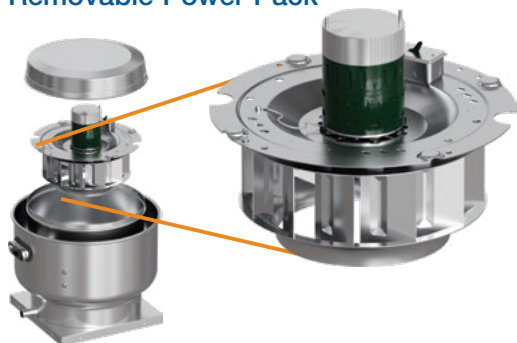
- Performance as cataloged is assured. All fan sizes are tested in our AMCA accredited laboratory and all models are licensed to bear the AMCA Sound, Air and FEI Performance seal. See [Performance Catalog](#) for data.
- UL/cUL Listed for Power Ventilators, Restaurant Exhaust Appliances and Smoke Control Systems.
- Greenheck subjects these products to extensive life testing, ensuring the fans will provide many years of reliable performance.



Greenheck models CUE and CUBE have been redesigned to include standard features that make these fans even easier to install and service. These upblast powered roof ventilators are ideal for new or replacement fan installations in clean air, restaurants, emergency smoke control, light contaminants, seismic, and high wind and hurricane applications.

## NEW FEATURES\*

### Removable Power Pack



## BENEFITS

### Time and money saver

- Direct drive Power Pack consisting of a wheel, motor, and support pan makes motor replacement and servicing 50% faster.

### Toolless Entry



### Faster entry into motor compartment

- Motor cover removal requires no tools and can be quickly opened by the push of two buttons.
- No screws to strip or lose.

### Lower Hoodband Height



### Easy access for maintenance

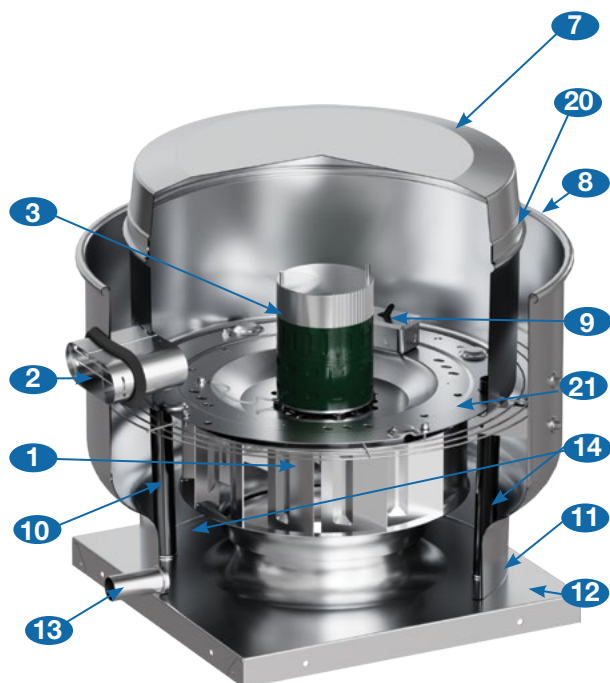
- Lower hoodband height allows for easier access to serviceable components making it a breeze to service.

\*Available on fan sizes 060 to 240

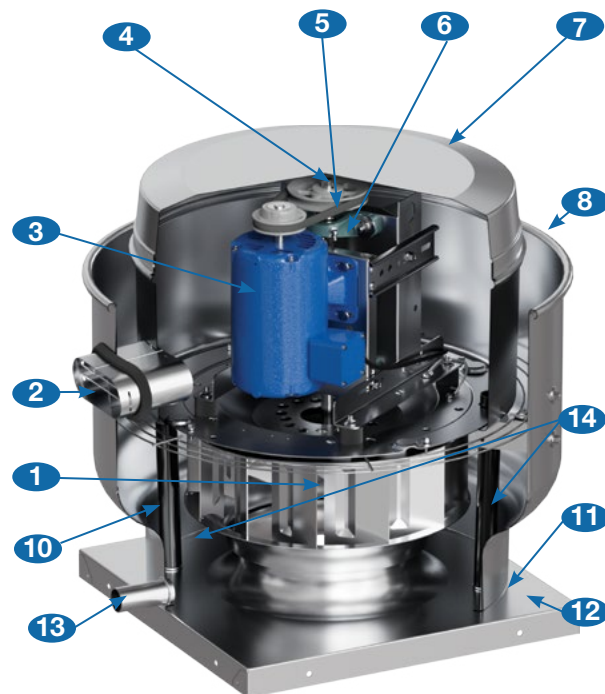
Standard Construction Features			CUE CUBE	USGF
1	Wheel	A backward-inclined, non-overloading centrifugal wheel is utilized to generate high efficiency and minimal sound. Wheel cones are carefully matched to the venturi for maximum efficiency. Each wheel is statically and dynamically balanced for long life and quiet operation.	✓	✓ *Non-Stick, Steel
2	Breathing Tube	Cooling fins located on top of the fan wheel draw outside air through a large breather tube directly into the motor compartment. Positive motor cooling with fresh air results in maximum motor life.	✓	✓
3	Motor	Carefully matched to the fan load and mounted out of the airstream.	✓	✓
4	Fan Shaft	Precisely sized, ground and polished so the first critical speed is at least 25% over the maximum operating speed. Where the shaft makes contact with bearings, close tolerances result in longer bearing life.	✓	✓
5	Drive Assembly	Belts, pulleys and keys are oversized 150% of driven horsepower. Machined-cast pulleys are adjustable for final system balancing. Belts are static-free and oil-resistant.	✓	✓
6	Bearings	100% factory tested and designed specifically for air handling applications with a minimum L <sub>10</sub> life in excess of 100,000 hours (L <sub>50</sub> life in excess of 500,000 hours).	✓	✓
7	Motor Cover	Constructed of aluminum. Attached with stainless steel fasteners for easy removal and access to the motor compartment and drive assembly.	✓	✓ *Steel
Not Shown	Stainless Steel Fasteners	Allow easy removal and access to the motor compartment and drive assembly.	✓	✓
8	Windband	One-piece, heavy-gauge aluminum with a rolled bead for extra strength directs exhaust air away from the mounting surface.	✓	✓ *Steel
9	Disconnect Switch	NEMA-1 switch is factory-mounted and wiring is provided from the motor as standard (other switches are available). All wiring and electrical components comply with the National Electric Code (NEC) and are either UL/cUL Listed or Recognized.	✓	✓
		NEMA-3R switch is factory-mounted and wired as standard. All wiring and electrical components comply with the National Electric Code (NEC) and are either UL/cUL Listed or Recognized.		
10	Internal Supports	Heavy-gauge supports provide additional strength to withstand wind loads of 150 PSF and support motor and drives.	✓	✓
11	Leakproof Construction	One-piece windband is continuously welded to the curb cap for leakproof protection on models CUE, CUBE, and USGF through size 240 and all sizes with UL/cUL 705 Supplement SC (restaurant exhaust).	✓	✓
12	Curb Cap with Mounting Holes	One-piece for a weathertight fit. Constructed of aluminum with an integral deep spun venturi. Aluminum curb cap has prepunched mounting holes to ensure correct attachment.	✓	✓ *Steel
13	Drain/Grease Trough	Allows for one-point drainage of water, grease and other residues.	✓	✓
Not Shown	Nameplate	Embossed aluminum nameplate for longevity of serial number identification.	✓	✓
14	Internal Conduit Chase	For easy internal electrical wiring in applications. Not available on UL 705 Supplement SC (restaurant exhaust) rated fans per NFPA 96.	✓	
15	Permatector™ Coating	Typically used for applications that require corrosion resistance in indoor and outdoor environments.		✓
16	Clean-Out Port	Allows for easy cleaning of the entire centrifugal wheel through a 4-inch diameter hole on the outside of the fan windband. Meets NFPA 96 standard.		✓
17	Hinged Curb Base with Cables	Allows maintenance personnel to gain access to wheel and ductwork for regular inspection and cleaning by utilizing the factory-assembled hinge.		✓
18	Vibration Isolation	True vibration isolators consist of two independent studs separated by a neoprene (rubber) center. Reduces vibration and noise transfer between the drive system and fan housing. (No metal-to-metal contact. Factory-mounted ground wire used to ground system).	✓	✓
19	Internal Lifting Points	Internal lifting points on belt driven fans and most direct drive fans above size 140.	✓	✓
20	Toolless Hood Entry	Access motor compartment without tools. Available on sizes 240 and smaller.	✓	
21	Powerpack	Effortlessly remove motor, drive components and wheel for easy service outside of the fan housing. Available on sizes 240 and smaller.	✓	

\*Differences from the standard construction feature.

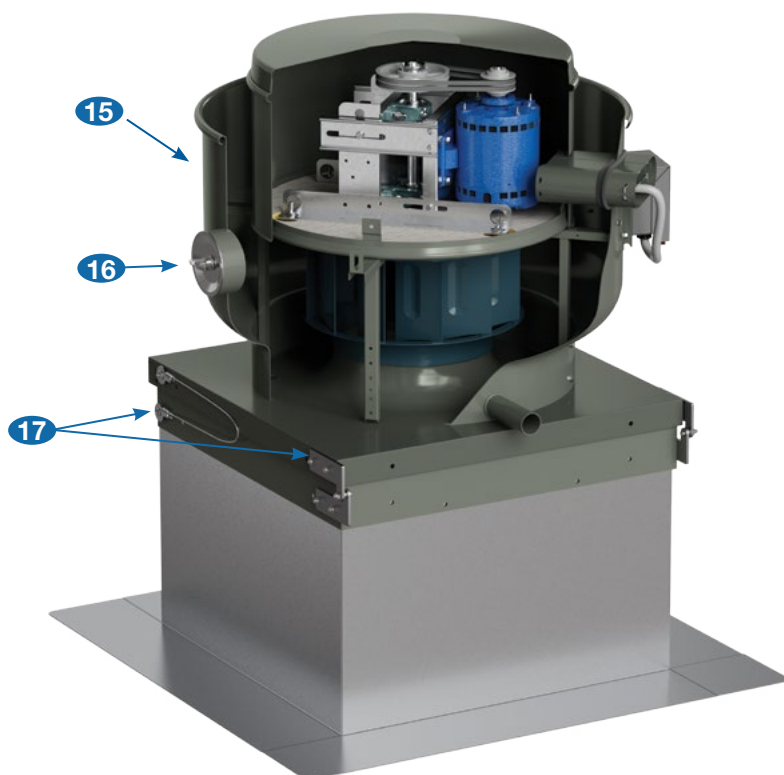




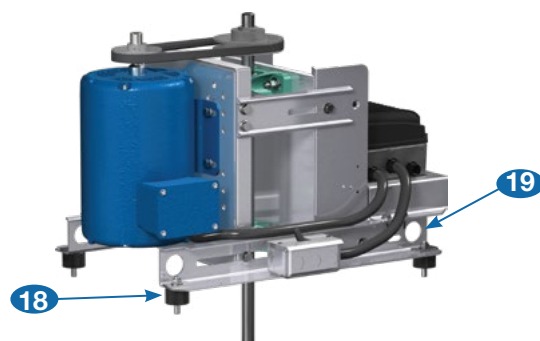
**Model CUE**



**Model CUBE**



**Model USGF**



The following chart shows options and accessories available on Greenheck's roof upblast and sidewall exhaust fans.

Options and Accessories	CUE	CUBE	USGF
Sidewall Mount	✓	✓	
Roof Curbs	✓	✓	✓
Wall Bracket	✓	✓	
Curb Extensions	✓	✓	✓
Vented Curb Extensions	✓	✓	✓
Adapter/Reducer	✓	✓	
Curb Seal	✓	✓	std.
Windband Extension	✓	✓	✓
Hinged Curb Cap	✓	✓	✓
Hinged Base (Size 300-480)	✓	✓	std.
Lifting Points	✓	✓	✓
Configurable Curb Cap	✓	✓	
Mylar Nametag	✓	✓	
Grease Trap	✓	✓	✓
Grease Trap with Absorbent Material	✓	✓	✓
Grease Pan Kit	✓	✓	
Clean-Out Port	✓	✓	std.
Heat Baffle		✓	✓
Hood Hasps	✓	✓	✓
Birdscreen	✓	✓	
Wall Grille	✓	✓	
Non-Stick Aluminum Wheel	✓	✓	std.
Disconnect Switches	✓	✓	✓
Dampers	✓	✓	
Speed Controllers	✓		
Motor Starters	✓	✓	✓
UL 705	✓	✓	
UL 705 Supplement SC (Restaurant)	✓	✓	std.
UL 705 Supplement SD (Smoke)		✓	
Coatings	✓	✓	✓

**Sidewall Mount** — Allows for a horizontal discharge with a square mounting base, models CUE and CUBE.



**Roof Curbs** — Wide variety of roof curbs are available for mounting the fan to the roof including: vented, flanged, pitched and sound-absorbing.



**Wall Bracket** — Available for our sidewall mounted CUE and CUBE fans for non-grease applications. This is a different option for wall mounting versus using a curb. *Note: Your wall opening will be slightly different when using the wall bracket.*



**Curb Extensions** — Mounts between roof curb and fan for additional height from roof top.

**Vented Curb Extensions** — Mounts between roof curb and roof-mounted fan to meet NFPA requirements of 40-inch (1016 mm) minimum discharge above the roof when mounted on a minimum 8-inch (203 mm) high roof curb.



**Adapter/Reducer** — This is used when you need to fit a fan to an existing curb. Use the adapter when the fan square size is smaller than the existing curb. The reducer is used when the fan square size is larger than the existing curb.



**Curb Seal** — Foam or high-temperature seal between fan and curb to ensure proper sealing when attached to a curb.

**Windband Extension** — Aluminum tube raising the fan discharge height.



**Hinged Curb Cap** — The hinged curb cap allows the entire fan to swing open to allow maintenance personnel access to the wheel and ductwork for regular inspection and cleaning. Available as factory-mounted or shipped loose.

**Hinged Base** — Available on sizes 300 up to 480, allows for easy maintenance. Hinge and restraining cables are factory-mounted to a sub-base attached directly to the curb without additional height added.



## External Lifting Points —

For fans size 240 and smaller, use this for lifting the unit or securing the fan in heavy wind applications.



**Tie Down Points** — On sizes 300 and larger, there would be four brackets located on the windband.



**Configurable Curb Cap** — Curb cap available in multiple sizes for installation on existing curbs without an adapter.

**Grease Trap** — Polypropylene trap designed to collect grease residue to avoid drainage onto roof surface. Only available with UL 705 Supplement SC. Also available with absorbent material (restaurant exhaust).  
*Shown on a CUBE-180*



**Grease Pan Kit** — Used for our sidewall-mounted CUE and CUBE fans.

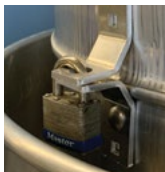


**Clean-Out Port** — Patented removable plug allows for easy spray or steam cleaning of wheel through the windband. Available on select models.



**Heat Baffle** — The heat baffle is an insulation heat barrier mounted to the support pan. The heat baffle is designed to act as a shield against the high temperatures of grease exhaust applications.

**Hood Hasp** — Additional brackets attached to the motor compartment and vertical hoodband. This provides a location for security lock. (Lock not included)



**Birdscreen** — Stainless rigid wire to protect the fan discharge from birds or small objects.

**Wall Grille** — Covers interior wall opening on sidewall mounted fans. Available on CUE or CUBE fans.



**Non-Stick Aluminum Wheel** — Patented coating helps prevent wheel imbalance in heavy grease applications and allows buildup on wheel to be easily removed.



**Disconnect Switches** — Assorted NEMA-rated switches are available for electrical shutoff and safety including: dust-tight, rainproof and corrosion-resistant.



**Dampers** — Designed to prevent outside air from entering back into the building when fan is off. Includes gravity and motorized dampers. Not available with UL/cUL 705 Supplement SC (restaurant exhaust or USGF fans).



**Speed Controllers** — Available for use with shaded pole and permanent split capacitor motors on direct drive fans. They provide an economical means of system balancing.

**Motor Starters** — The fundamental function of a motor starter is to protect the motor from damage that can occur from overheating. With a Greenheck motor starter you will be provided with the best motor protection available. Not applicable with a Vari-Green® motor.

Specific model components may include: SmartStart™ technology, physical interface, overload protection, disconnect, magnetic contractor, NEMA-1 or NEMA-3R steel enclosures and pre-engineered easy system integration. For complete information on specific Greenheck motor starter models, refer to the motor starters page on [greenheck.com](http://greenheck.com).



**UL/cUL 705** — Models CUE and CUBE are available with Listed for Power Ventilators (Electrical).

**UL/cUL 705 Supplement SC (Formerly UL-762)** — Models CUE and CUBE, sizes 099 and larger, available with Listed for Power Ventilators for Restaurant Exhaust Appliances. Model USGF comes standard with UL 705 Supplement SC.

**UL/cUL 705 Supplement SD**  
**Power Ventilators for Control Systems** — Model CUBE is available with Listed for Power Ventilators for Smoke Control Systems.

*Note: Model sizes CUBE-099, 160XP, 240XP, 300HP, 300XP & 360XP are excluded from Ventilators for Smoke Control Systems*

**Coatings** — A variety of coatings and colors are available for decorative to protective applications. See [Coatings Application Guide](#) for more details.



**Permatector™** is our standard coating on steel fans and is typically used for applications that require corrosion resistance in indoor and outdoor environments.



**Hi-Pro Polyester** is resistant to salt water, chemical fumes and moisture in more corrosive atmospheres. Typically used for applications that require superior chemical resistance, excellent abrasion and outdoor UV protection, this coating exceeds protective qualities of air dried Heresite and air dry phenolic. Customers can choose from seven standard decorative colors or color match any color.



**Macropoxy with UV topcoat** is a two-coat extreme duty coating system. The base coat of Macropoxy is designed specifically for harsh environments, while the topcoat is used for its chemical and UV resistance. Together this system offers the greatest protection in adverse environments, such as marine or chemical processing applications. Customers can choose from seven standard decorative colors.

*Note: Colors are subject to change. See [Performance Coatings for Commercial & Industrial Fans](#) for more details.*





## Clean Air Applications

### Models CUE and CUBE

These spun aluminum fans are designed specifically for roof or wall-mounted applications. General clean or lightly contaminated exhaust air can be discharged directly upward, away from the roof surface, or discharged out and away from building walls.

- Most advanced motor cooling of any fan in its class.
- One-piece windband, continuously welded to the curb cap, ensures leak-proof construction for the life of the fan on sizes 240 and smaller.
- Performance as cataloged is ensured. All fan sizes are tested in our AMCA accredited laboratory and all models are licensed to bear the AMCA Sound, Air and FEI Performance seal.
- Greenheck subjects these products to extensive life testing, ensuring the fans will provide many years of reliable performance.



## Restaurant and Grease Applications

### Models CUE and CUBE

When you choose a Greenheck fan, you have selected a fan with the industry's best performance and durability for restaurant and grease applications. Spun aluminum exhaust fans, models CUE and CUBE sizes 099 and larger, are specifically designed for use in restaurant applications to discharge air directly away from the mounting surface.

- Most advanced motor cooling of any fan in its class.
- One-piece windband, continuously welded to the curb cap, ensures leakproof construction for the life of the fan on sizes 240 and smaller.
- UL/cUL 705 Supplement SC Listed for exhausting restaurant grease exhaust.

## Ultimate Steel Grease Fan for Heavy Grease Applications

### Model USGF

Fan model USGF is the industry's best for performance and durability for heavy grease applications. This spun steel exhaust fan is specifically designed to remove large amounts of grease and/or contaminants associated with solid fuel cooking and discharge the air directly away from the mounting surface.

- Only spun steel fan in the industry.
- Withstands the most severe cooking conditions.
- Most advanced motor cooling of any grease fan. Capable of continuously handling 400°F (204°C) airstream temperatures.
- UL/cUL 705 Supplement SC Listed for restaurant grease exhaust.





## Emergency Smoke Control

### Model CUBE

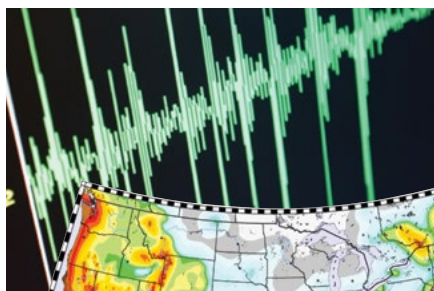
Greenheck model CUBE with the smoke control option provides the industry's best performance and durability for smoke control applications (as found in emergency smoke control systems).

*Note: Model sizes CUBE-099, 160XP, 240XP, 300HP, 300XP & 360XP are excluded for Emergency Smoke Control.*

- UL/cUL Listed for 500°F (260°C) for 4 hours and 1,000°F (538°C) for 15 minutes.
- Half the weight of traditional smoke control fans, an ideal choice for roof load concerns.
- Low profile, height is less than half of traditional smoke control fans, maximum of 48½ inches (1,334 mm) from curb cap to top of the fan.
- Multiple applications, capable of exhausting general clean air and satisfying emergency smoke control regulations.

## Seismic

### Models CUE and CUBE

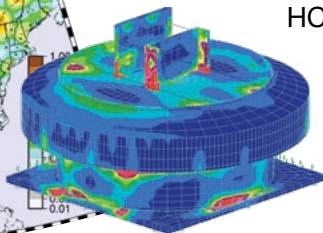


With changes in building codes and standards, more equipment is being required to be seismically certified in areas of the country not commonly thought of as being in seismically active zones.

The International Building Code (IBC) is designed to provide model code regulations that safeguard public health and safety in all U.S. communities. With this code, the standards are intended to improve the performance and design of nonstructural systems subject to seismic events.

The state of California, one of the most active seismic areas in the United States, has the Health Care Access and Information (HCAI) Department. HCAI regulates the design and construction of

health care facilities to ensure they are safe and capable of providing services to the public after a seismic event. HCAI developed their own unique certification process to incorporate the IBC and ASCE testing standards to ensure equipment remains operable after a seismic event.



### Protocols designed for seismic standards:

#### Seismic Testing Criteria

All Greenheck seismically certified models have been tested using the most severe seismic event that is found on the Spectral Response Map per IBC Figures 1613.5 (1-2). Our testing is performed under the worst-case scenario using the highest mapped seismic load, highest level occupancy category, worst-case site class, and highest code mandated importance factor. This testing allows Greenheck seismically certified fans to be used anywhere in the United States under any conditions.

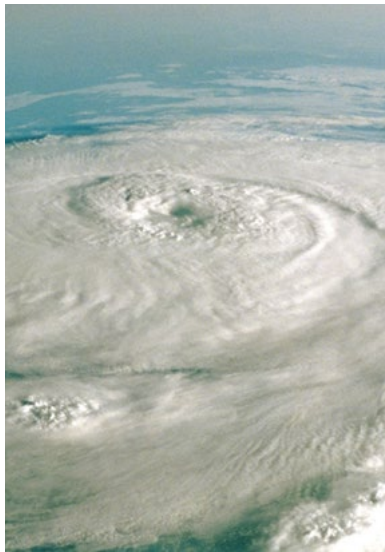
#### California HCAI Test Protocols

The California Department of Health Care Access and Information (HCAI) requires all certified models to be shake table tested in accordance with ICC ES AC-156, in which the fans are physically subjected to the same or greater forces than they will see during a seismic event. Subjecting models CUE and CUBE fans to this type of testing ensures the fans will operate without problems after a seismic event.

#### HCAI Certification

The HCAI certification numbers and supporting documents can be viewed on HCAI's website. This ensures that the fan has been subjected to and passed rigorous testing standards.





## High Wind and Hurricane

### Models CUE and CUBE

Most hurricane damage is caused by high winds that produce extreme forces on buildings and structures. Additionally, wind-borne debris can also cause detrimental effects to objects and structures. Greenheck's rooftop fans and ventilators undergo extensive testing procedures ensuring they meet the requirements needed to withstand severe weather conditions.



Atlantic, Gulf and Pacific history of major hurricane tracks.

### Protocols designed to protect against wind-borne debris and severe wind loads:

#### Structural Performance Load

A static load that is 1.5 times the design load (195 pounds per square foot pressure) is applied both positive and negative to simulate wind force loads in each direction. Structural Performance per Dade County Protocol TAS-202 (ASTM E-330).

#### Large Missile Impact Test

Large Missile Impact Testing is required when objects are 30 feet or less from the ground. The test is per Dade County Protocol TAS-201. The test unit is impacted three times with a piece of lumber (2 in. x 4 in. x 6 ft.) weighing approximately nine pounds and traveling at 34 mph. This simulates wind-borne debris striking the fan.

#### Miami-Dade NOA Numbers

View the certifications on the [Miami-Dade County](#) website. Models CUE and CUBE are the first upblast aluminum/steel fans in the industry that have received a Miami-Dade NOA for high wind (150 mph) and hurricane zones.

#### Florida Product Approved

View the approval on the [Florida Department of Business & Professional Regulation](#) website.

#### Certified Independent Third-Party Testing

Each Greenheck model has been subjected to extensive testing procedures. The CUE and CUBE have been certified by an independent third-party to the ASTM E-330 Static Pressure Difference Standard, Florida Building Code Test Protocols TAS-202 Static Pressure Difference and TAS-201 Large Missile Impact. All tests are videotaped for documentation of test method and results.

### Large missile impact test



## Models CUE and CUBE



Greenheck's Vari-Green (VG) motor combines motor technology, controllability and energy efficiency into a single low-maintenance unit.



### Benefits

- The motor can attain up to IE5 efficiency ratings and reduce energy consumption.
- Watt savings of 30-70% depending on RPM.  
Note: As motor speed is turned down, efficiency stays high as compared to an AC motor, which decreases dramatically.

- Operates cooler than a standard AC motor at lower RPMs. A cooler motor has longer motor life and reduces energy consumption.
- 75% usable RPM turndown versus 30%.
- CUE fans with Vari-Green motors can provide all the CFM and static pressure ranges of a comparable belt drive.
- Maintenance costs are reduced as there are no belts or bearings to replace and no pulleys to adjust.
- Direct drive fans are often preferred where maintenance access is difficult.
- Provides a solution for demand-controlled ventilation applications.
- The more efficient motor technology will positively impact the fan's Fan Energy Index (FEI) rating.

### Controllability

One of the greatest strengths of the Vari-Green platform is the ease of balancing. You have access to the whole turn down at your finger tips.

Local: For the simplest of applications, you can have a dial on the fan. This potentiometer allows you to set the speed with the turn of a knob.

Remote: Vari-Green motors, 1/10 hp to 10 hp, accept a 0-10V signal. This modulating speed reference can come from any device such as a Building Automation System (BAS), Vari-Green Controls or controllers by others. This speed signal is linear, therefore a 5V signal is instructing the motor to go 50% speed. A 0V signal will stop the motor.

### Vari-Green Information



	Vari-Green Motor	Vari-Green Motor	Vari-Green Drive
Identifier	VG	VG	VGD
Motor Technology	EC Motor	EC Motor	AC Induction Motor
Integrated Drive	Yes	Yes	In Fan
HP Available	1/15 thru 2	1 thru 10	1/2 thru 10
Phase	Single	Single or Three	Three
Voltage	115, 208-230, 277	115, 208-230, 380-480	208-230, 380-480
Motor Enclosure	TENV, ODP	TEFC	Variable
Direct/Belt Drive	Direct	Direct, Belt	Direct, Belt
<b>Capability</b>			
Dial On Board	X	X	X
0-10 VDC Control	X	X	X
Vari-Green Controls	X	X	X
Modbus/BACnet® Comms		X	X
Bluetooth Available		X	X
Mobile App		X	X
> 75% Turn Down	X	X	X
Programmed at Factory	X	X	X
Programmed I/O		X	X
Motor Protections	X	X	X

For complete details visit, [greenheck.com](http://greenheck.com).



## Vari-Green Controls

**Transformer** - Provides 24V power from the existing line voltage at the fan to the Vari-Green® motor and controls. Dual voltage primary (120/240V) transformer provided with the fan.



**Hand/Off/Auto** - Creates either a control or an accessory to other controls. Four modes are selectable. Hand mode: control of the motor at this device. Off mode: stops the motor. Auto-Local mode: select a speed at this control and toggle the fan on or off via voltage or dry inputs. Auto-Remote mode: accepts a speed reference signal from other devices and passes that to the motor when a voltage or dry input signal is received. Provides 24V power for other controls and an auxiliary contact for damper control.

**Remote Dial** - Allows for remote, manual airflow adjustments. Wall plate with dial may be mounted in a standard 2x4 inch electrical junction box.

**Two-Speed Control** - Control allows motor RPM to be set at two independent speeds (high or low). Meets minimum airflow requirements with the ability to bump up to high speed in an emergency or meet maximum airflow requirements, or reset down to low speed for energy conservation.

**Constant Pressure Control** - Control the Vari-Green® motor via static (variable volume) or velocity (constant CFM) pressure on the inlet or outlet side of the fan.

**Air Quality, Volatile Organic Compounds (VOC)** - Control a Vari-Green motor via changes in VOCs. VOCs are gasses that are emitted from humans, building materials, perfumes, foods, and furniture off-gassing. Range is 0-2000 CO<sub>2</sub> PPM equivalent.

**Air Quality for Temperature and Humidity** - Control the Vari-Green motor via changes in temperature, humidity, or both. Range is 32° to 120°F and 0% to 100% relative humidity.

## Vari-Green Drive

Vari-Green Drive model VGD-100+ is constructed with a NEMA-4X rated enclosure to ensure a long life operating under outdoor environmental conditions. Every Vari-Green drive is compatible with all Vari-Green controls or any industry control sending a 0-10V signal. Model VGD-100+ is also equipped with Modbus/BACnet® communications allowing for seamless integration to building management systems.



Greenheck's Vari-Green Drive is a factory-mounted, wired, and programmed variable frequency drive. Specifically designed for use in air handling applications, the Vari-Green Drive expands variable volume operation and simplifies speed adjustment for three phase applications.

### Benefits

- Variable volume control from the factory on larger fan sizes where Vari-Green motors may not be available.
- R<sup>3</sup> filtering and short leads mitigate harmonics.
- Quick start-up and simplistic commissioning as each drive comes preprogrammed and installed from the factory.

Analog Input	1
Digital Inputs	4
Relay Output	2
On-Board PID Control	X
Modbus RTU / BACnet® MSTP	X
Enclosure	NEMA-4X
Control Voltage Output	24VDC
Damper Actuator Output	24VDC
Bluetooth Device Interface	X

## Vari-Green Drive 100+ App

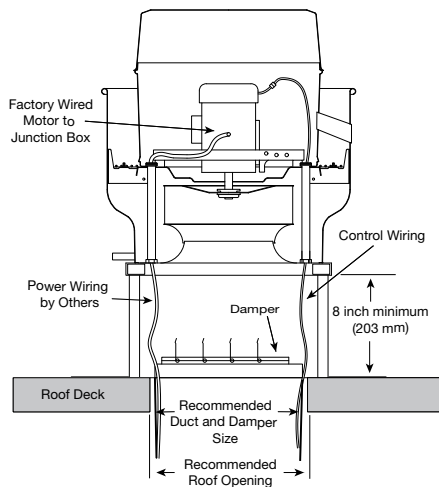


Vari-Green Drive model VGD-100+ features a smartphone companion app available for download from the app store. Manually control and monitor the drive from the app as well as access any advanced programming features. For more information about the companion app and its capabilities, reference the VGD-100+ Quick Start Guide located on greenheck.com and the documentation section of the app.



## General Clean Air/Fume Hood (Non-Grease)

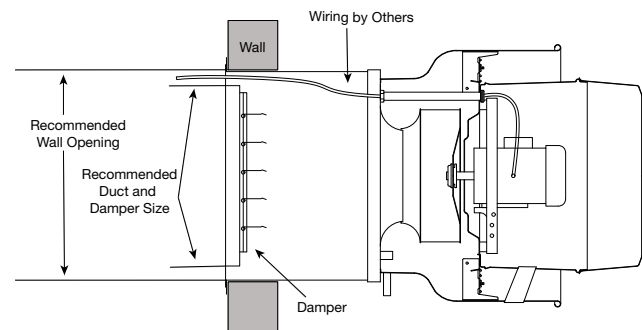
All CUE and CUBE exhaust fans are designed for applications ranging from clean air to contaminated air. A typical installation is shown.



**Models CUE and CUBE  
Roof-Mounted**

When roofing materials extend to the top of the curb, roof curbs should be 1½-inches (¾-inch on a side) less than the unit curb cap to allow for roofing and flashing.

- For recommended duct size, damper size and roof opening dimensions, refer to the performance data catalog.
- Installation must include a means for inspecting, cleaning and servicing the exhaust fan.



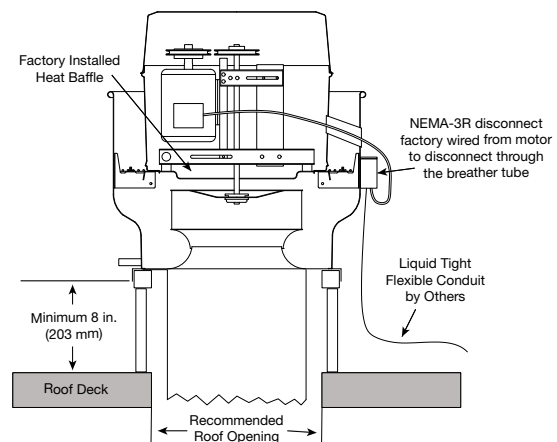
**Models CUE and CUBE  
Wall-Mounted**

## Emergency Smoke Control

The CUBE with smoke option is specifically designed for Emergency Smoke Control applications. These fans are UL/cUL Listed for Power Ventilators and Power Ventilators for Smoke Control Systems for 500°F (260°C) for 4 hours and 1,000°F (538°C) for 15 minutes.

- Due to the varying airstreams encountered in commercial ventilation, system designers must be aware of national, state, and local codes and guidelines governing these installations. Consult with local code authorities before proceeding with any ventilation project.
- When roofing materials extend to the top of the curb, roof curbs should be undersized 1½-inches (¾-inch on a side) less than the unit curb cap to allow for roofing and flashing.
- For recommended duct size, damper size and roof opening dimensions, refer to the performance data catalog.

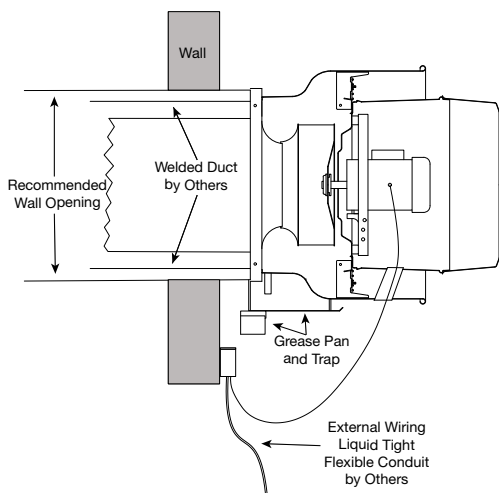
- Installation must include a means for inspecting, cleaning and servicing the exhaust fan.
- Exhaust fans used in emergency smoke applications must have external wiring. (Wiring must not be installed in the airstream).



**Model CUBE**

## Commercial Kitchen (Grease)

Models CUBE, USGF and model CUE sizes 099 and larger, are designed to meet restaurant and food service applications. These fans are UL/cUL Listed Power Ventilators for Restaurant Exhaust Appliances and have been tested under high temperature [400°F (204°C)] and abnormal flare-up [600°F (316°C)] conditions.

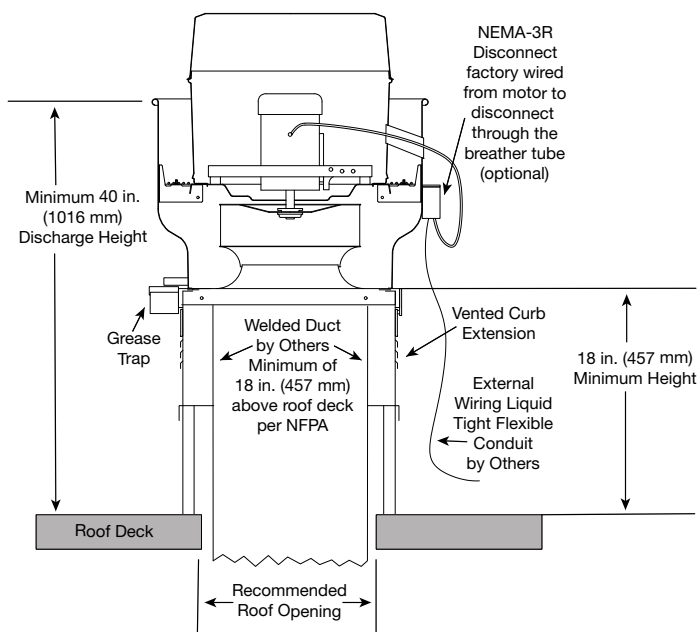


**Models CUE and CUBE  
Wall-Mounted**

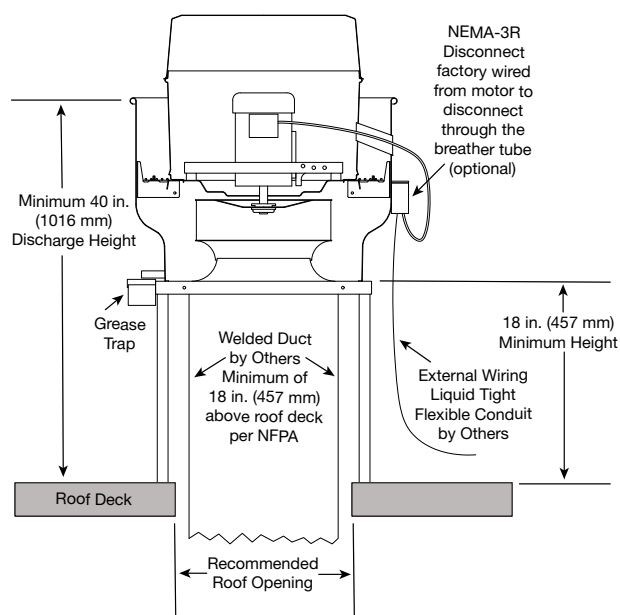
- Due to high temperatures and grease-laden airstreams in commercial kitchen ventilation, system designers must be aware of governing codes and guidelines. The National Fire Protection Association (NFPA) is the primary source which governs many codes for commercial kitchen ventilation. Selected information from NFPA 96 is shown below. Consult with local code authorities before proceeding with any kitchen ventilation project.
- Exhaust fans used in kitchen ventilation applications must have external wiring entering through the breather tube. (Wiring must not be installed in the airstream).
- Installation must include a means for inspecting, cleaning and servicing the exhaust fan. Greenheck offers a Hinged Curb Cap option for upblast exhaust fans.
- No dampers are to be installed in the system.

**Note:**

- The typical installations shown on these two pages are recommendations based on national codes. Local authority may supersede these recommendations.
- Defaults to NEMA-1 Standard, NEMA-3R is optional (shown in drawings).



**Models CUE and CUBE  
Vented Installation**



**Models CUE and CUBE  
Non-Vented Installation**



# Quick Delivery and Quick Build Programs



Greenheck offers an extensive selection of Quick Delivery (QD) and Quick Build (QB) offerings. The QD program is Greenheck's stock program and the QB program offers configurable fans in 1, 3, 5, 10, 15 or 25 days.

Hundreds of in stock ventilation products and accessories are available for shipment to your jobsite in less than 24 hours from our strategically located warehouses throughout the world.



## 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.*

Product warranties can be found online at [Greenheck.com](http://Greenheck.com), either on the specific product page or in the literature section of the website at [Greenheck.com/Resources/Library/Literature](http://Greenheck.com/Resources/Library/Literature).

