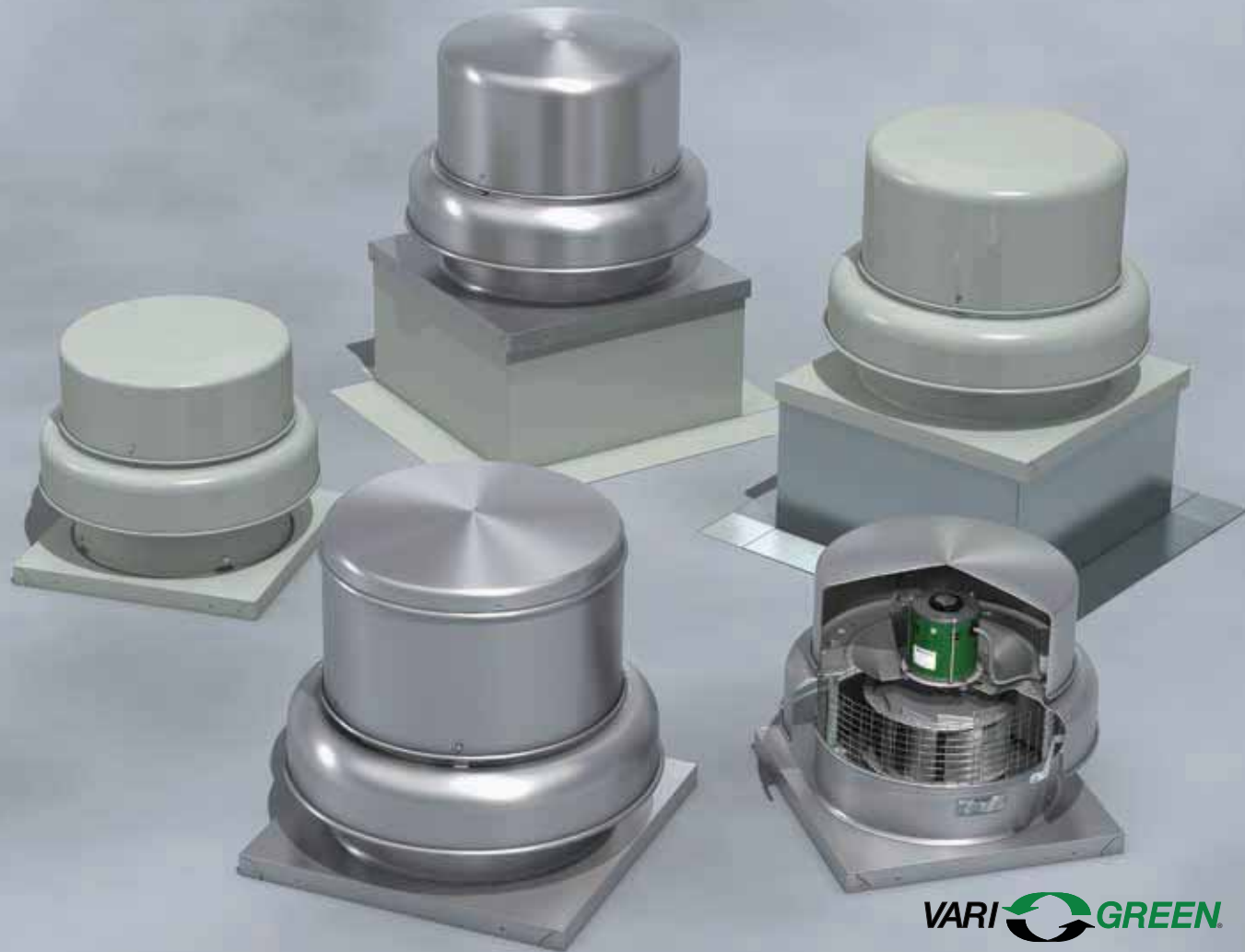


# Centrifugal Roof Downblast Exhaust Fans Models G and GB

- General Clean Air
- Light Contaminants
- Seismic
- High Wind
- Variable Volume



BUILDING VALUE IN AIR.



VARI  GREEN.

*Performance data now included.*

 **GREENHECK**  
Building Value in Air.

March  
2013

# Models G and GB

## Spun Aluminum • Downblast Centrifugal Roof Exhaust Fans



### Contents

Model Comparison . . . . .	3
Construction Features . . . . .	4-5
Emergency Smoke Control . . . . .	6
Seismic . . . . .	6
High Wind & Hurricane. . . . .	7
Vari-Green® Motor and Controls. . . . .	8-9
Demand Control Ventilation. . . . .	9
Roof Curbs, Options, Accessories . . . . .	10-11
Typical Installations . . . . .	12-13
Model Number Code . . . . .	13

### PERFORMANCE AND DIMENSIONS:

Models G-060-095 . . . . .	14-17
Models G-097-G203 . . . . .	18-31
GB-071-200HP . . . . .	18-32
Models GB-220-540 . . . . .	33-46

### SPECIFICATIONS:

Vari-Green® Motors and Controls . . . . .	47
Direct Drive, Model G . . . . .	48
High Wind & Hurricane, Seismic . . . . .	49
Belt Drive, Model GB. . . . .	50
High Wind & Hurricane, Seismic & Smoke Control . . . . .	51
Quick Build Programs . . . . .	52
Our Commitment . . . . .	52

## Codes and Certifications



Greenheck Fan Corporation certifies that the Models G and GB 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. The certified ratings for Models G and GB are shown on pages 14 - 46.



G and GB models are listed for electrical (UL/cUL 705) File no. E40001  
 GB models for Emergency Smoke Control Systems (UL/cUL Listed for 500°F (260°C) for 4 hours and 1,000°F (538°C) for 15 minutes) File no. MH17511

*\*UL/cUL is optional and must be specified*

### High Wind Certification

Miami-Dade NOA No. 12-0120.13 for high wind and hurricane zones

### Seismic Certification

OSHPD No. 0148-10 - Office of Statewide Health Planning and Development (California)  
 IBC 2009 and 2012 - International Building Code



### Enjoy Greenheck's extraordinary service, before, during and after the sale.

Greenheck offers added value to our wide selection of top performing, energy-efficient products by providing several unique Greenheck service programs.

- Our Quick Delivery Program ensures shipment of our in-stock products within 24 hours of placing your order. Our Quick Build made-to-order products can be produced in 1-3-5-10- or 15-day production cycles, depending upon their complexity.
- Greenheck's free Computer Aided Product Selection program (CAPS), rated by many as the best in the industry, helps you conveniently and efficiently select the right products for the challenge at hand.
- Greenheck has been Green for a long time! Our energy-saving products and ongoing corporate commitment to sustainability can help you qualify for LEED credits.
- Our 3D service allows you to download at no charge lightweight, easy-to-use AutoDesk™ Revit™ 3D drawings for many of our ventilation products.

Find out more about these special Greenheck services at [greenheck.com](http://greenheck.com)

# Models G and GB

## Spun Aluminum • Downblast Centrifugal Roof Exhaust Fans

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 762)	Smoke Control (UL)*	High Wind**	Continuous High Temp (above 200°F)	Belt	Direct	Centrifugal	Propeller/Axial	Mixed Flow	Maximum Volume (cfm)	Maximum Static Pressure (in. wg)	Relative Cost
G	✓		✓				✓				✓		✓			✓			✓	✓				6,308	1.75	\$
GB	✓		✓				✓				✓		✓		✓	✓			✓	✓				44,700	3.25	\$

\* Smoke Control available on models: 101, 101HP, 121, 131, 141, 141HP, 161, 161HP, 200, 240, 300, 360, 420 and 480.  
 \*\* High wind limited to sizes 300 and smaller

Greenheck models G and GB centrifugal roof exhaust fans provide the industry's best performance and durability for general clean air applications where air is discharged downward, toward the roof surface.

- Broadest performance in the industry, up to 3.25 in. wg (810 Pa) and 45,000 cfm (76,500 m<sup>3</sup>/hr).
- Most advanced motor cooling of any fan in its class.
- 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 and Air Performance seals.
- UL Listed for electrical.
- Greenheck subjects these products to extensive life testing, assuring you that the fans will provide years of reliable performance.



### Direct Drive, G

- Use for short and/or low resistance ductwork

### Belt Drive, GB

- For average length and/or average resistance ductwork
- High volume/average pressure

### High Pressure, GB-HP and G-HP

- For long and/or high resistance ductwork
- Low volume/high pressure

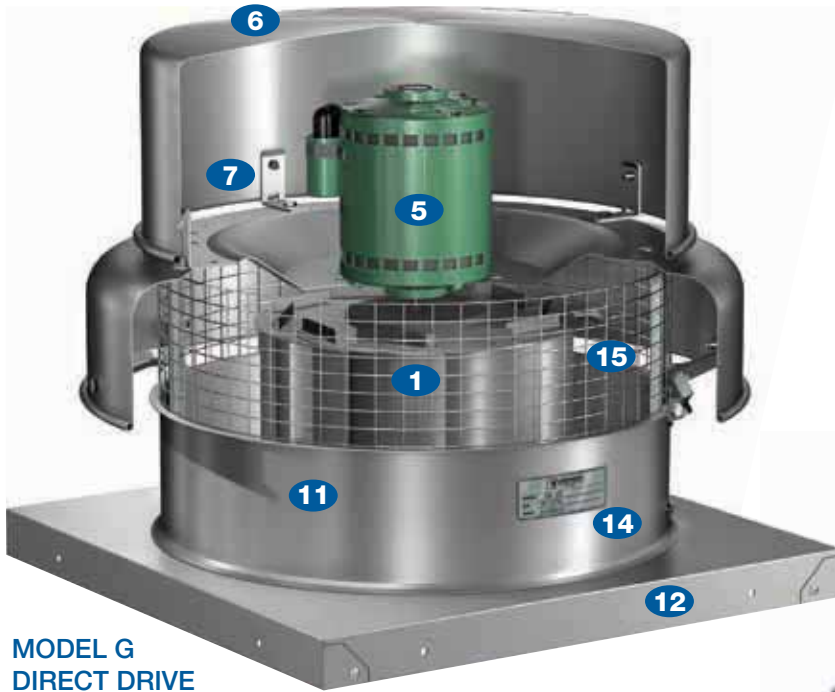


Standard Construction Features	
<b>1</b> Wheel	An aluminum, backward-inclined, non-overloading centrifugal wheel is utilized to generate high-efficiency and minimal sound. Wheel cones are carefully matched to the venturi for maximum efficiency. Each wheel is robotically welded and statically and dynamically balanced for long life and quiet operation.
<b>2</b> 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 Electrical Code® (NEC) and are either UL Listed or Recognized.
<b>3</b> 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, tight tolerances result in longer bearing life.
<b>4</b> 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 of 500,000 hours).
<b>5</b> Motor	Carefully matched to the fan load and is mounted out of the airstream.
<b>6</b> Motor Cover	Constructed of aluminum and attached with fasteners that provide for easy removal and access to motor compartment and drive assembly.
<b>7</b> Motor Cooling	Cooling fins located on top of the fan wheel draw outside air through a large space between the fan shroud and the motor cover directly into the motor compartment. Positive motor cooling with fresh air results in maximum motor life.
<b>8</b> Lifting Points	Various lifting points are located on the drive frame and bearing plate (on select sizes).
<b>9</b> True Vibration Isolation	Vibration isolators, with no metal-to-metal contact, support the drive assembly and wheel for long life and quiet operation.
<b>10</b> 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.
<b>11</b> Lower Windband	Heavy-gauge aluminum with formed edges for added strength and provides weather resistance.
<b>12</b> Curb Cap	Curb cap (with integral deep spun venturi) is constructed of aluminum and is one-piece for a weather-tight fit.
<b>13</b> Internal Conduit Chase	A large diameter conduit for installing electrical wiring through the curb cap into the motor compartment.
<b>14</b> Nameplate	Permanent stamped aluminum plate for exact model and serial number identification.
<b>15</b> Galvanized Birdscreen	Rigid wire protects the fan discharge from birds and small objects.
<b>16</b> Fan Shroud	One-piece, heavy-gauge aluminum with a rolled bead for extra strength directs exhaust air downward.
<b>17</b> Mounting Holes	Curb cap has prepunched mounting holes to ensure correct attachment to the roof.

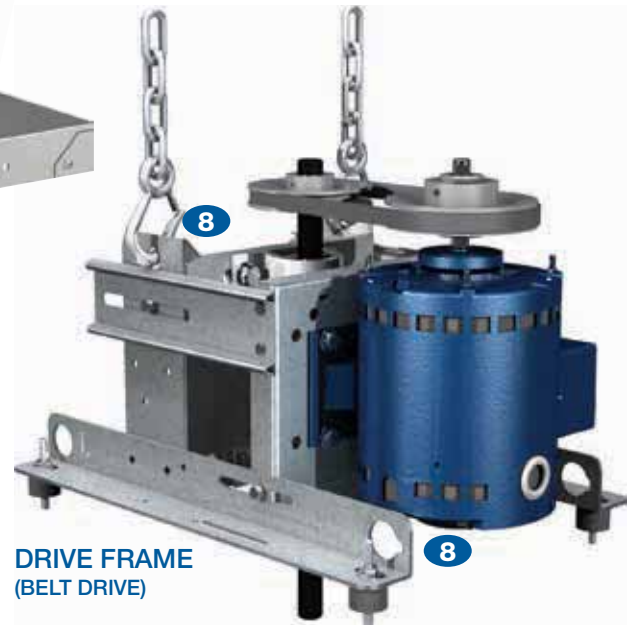
High Wind Construction Features	
<b>18</b> Internal Supports	Heavy-gauge supports and bracing are added for additional strength to withstand a load of 75 psf.
<b>19</b> Reinforced Wind Band	High wind fans include additional reinforcement for maximum strength.
Roof Curb (page 10)	High wind-load fans are certified for use with Greenheck model GPFHL, GPFHD, GPF or equivalent in high wind applications. Roof curbs ship separate for field installation with attachment details provided.



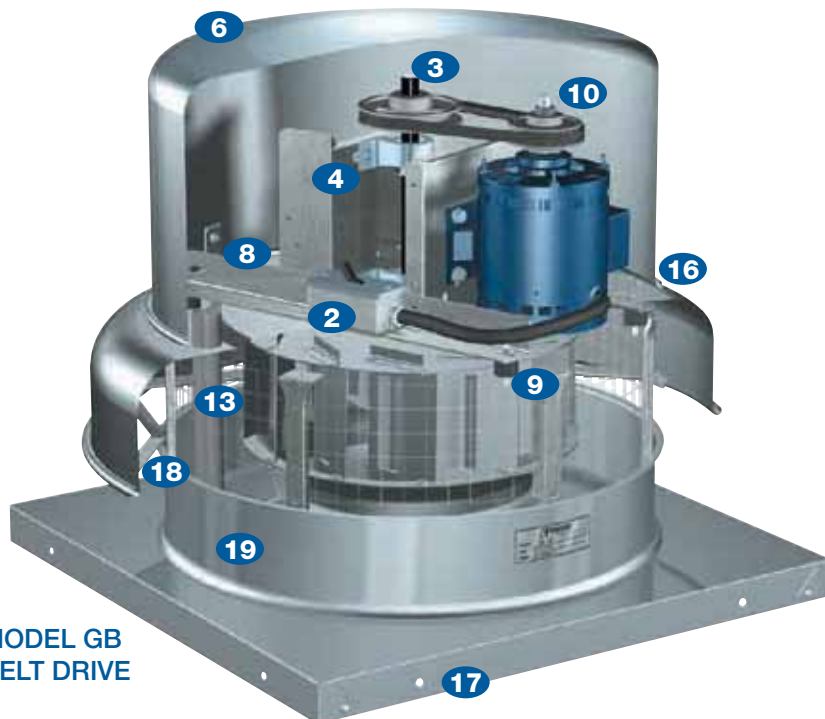
# Construction Features Models G and GB



MODEL G  
DIRECT DRIVE



DRIVE FRAME  
(BELT DRIVE)



MODEL GB  
BELT DRIVE



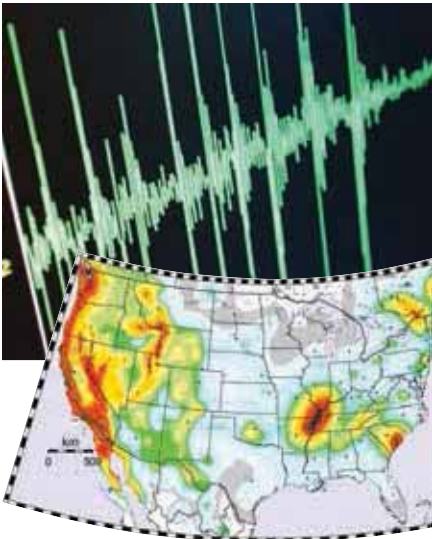
## Emergency Smoke Control - GB

When you buy a Greenheck model GB with the smoke control option, you receive a fan with the industry's best performance and durability for smoke control applications (as found in emergency smoke control systems).

**GB smoke control models are:**  
101, 101-HP, 121, 131, 141, 141-HP,  
161, 161-HP, 200, 240, 300, 360,  
420, 480

- 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, ideal choice for roof load concerns.
- Low profile, height is less than half of traditional smoke control fans, maximum of 52½ inches (1334 mm) from curb cap to top of fan.
- Multiple applications, capable of exhausting general clean air and satisfying emergency smoke control regulations.

## Seismic - G and GB



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. This code is intended to improve the performance and design of non-structural systems subject to seismic events.

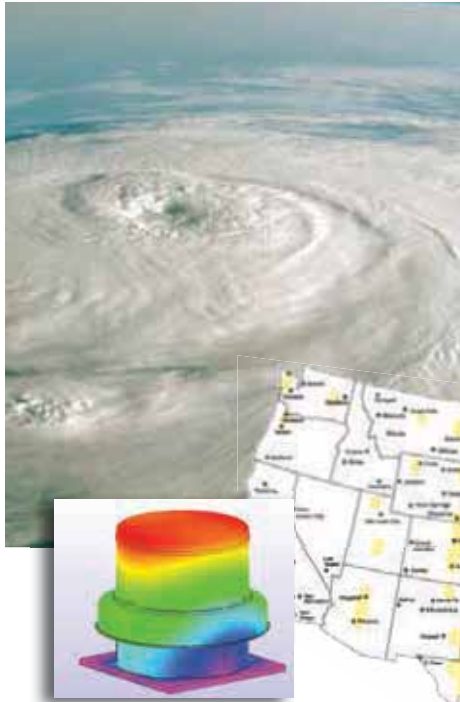
The State of California, one of the most active seismic areas in the United States, has the Office of Statewide Health Planning and Development (OSHPD) to regulate the design and construction of healthcare facilities to ensure they are safe and capable of providing services to the public after a seismic event.

OSHPD developed their own unique certification process to incorporate the IBC and ASCE testing standards to ensure equipment remains operable after a seismic event.

**Note:** All G and GB models meet seismic requirements.

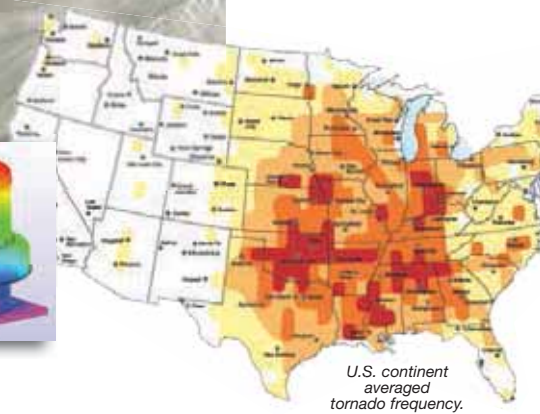
### Protocols designed for seismic standards:

<b>Seismic Testing Criteria</b>	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, thereby allowing Greenheck's seismically certified fans to be used anywhere in the United States under any conditions
<b>California OSHPD Test Protocols</b>	The California Office of Statewide Health Planning and Development (OSHPD) requires all certified models 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 Greenheck model G and GB fans to this type of testing ensures the fans will operate without problems after a seismic event.
<b>OSHPD Certification No. 0148-10</b>	The OSHPD certification numbers and supporting documents can be viewed on OSHPD's website ensuring that the fan has been subjected to and passed rigorous testing standards.
<b>State Licensed P.E. Calculations</b>	When using the fans in applications which are not covered by California OSHPD standards, Greenheck models G and GB have been certified by a third party engineering firm to IBC 2009, 2012 and ASCE 7-05 standards. These engineers hold professional engineering (P.E.) licenses in all 50 states, so no matter where your job is located, you are backed by a P.E. signature for your state.
<b>Certified Independent Third-Party Testing</b>	All Greenheck seismically certified fan models have gone through extensive testing procedures. Greenheck models G and GB have been certified to IBC 2009, 2012, ASCE 7-05 and California OSHPD standards through both engineering calculations and shake table testing of all models by independent third party engineering firms.



## High Wind and Hurricane - G and GB

Greenheck is leading the High Wind Standard for roof top fans and ventilators. Forceful winds and wind-borne debris are the cause of most hurricane damage. Hurricane winds start at 75 mph. and can exert a force of 75 pounds per square foot of pressure—or over 900 pounds on a fan and curb. Forceful winds are not the only problem, wind-borne debris can also cause detrimental effects to objects and structures. High winds and extreme forces are the cause of most storm damage. By analyzing calculations, computer simulations, actual testing, and other standards—Greenheck developed the High Wind Standard.




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

<b>Structural Performance Load</b>	A static load that is 1.5 times the design load (91.5 pounds per square foot of pressure) is applied both positively and negatively to simulate wind force loads in each direction. Structural Performance per Dade County Protocol TAS-202 (ASTM-E330).
<b>Miami-Dade County Test Protocols</b>	Greenheck worked with Miami-Dade County to outline a High Velocity Hurricane Zone standard for rooftop fans. Greenheck model USGF was the first rooftop fan certified and approved by the Miami-Dade Building Code Compliance office and Texas Department of Insurance for use in hurricane zones. Models G and GB have been certified by an independent third party to the ASTM E-330 Static Pressure Difference Standard, Florida Building Code Test Protocol TAS-201 (large missile impact), 202 (static pressure difference) and 203 (cyclic pressure) Static Pressure Difference.
<b>Miami-Dade NOA Numbers</b>	The certifications can be viewed on the Miami-Dade County website under the NOA numbers listed here. Models G and GB are the first downblast aluminum fans in the industry that have received a Miami-Dade NOA for high wind and hurricane zones. Miami-Dade NOA 12-0120.13 for models G and GB.
<b>Florida Product Approval</b>	Florida Product Approval ensures that products which have been approved can be used anywhere in the State of Florida which are not governed by the Miami-Dade County high wind regulations. More information can be found on the Florida Building Code website. Florida Product Approval FL13225.1 for models G and GB
<b>State Licensed P.E. Calculations</b>	Structural calculations performed by a licensed Professional Engineer (P.E.) on models G and GB include Finite Element Analysis (FEA) and a stamped P.E. report of the fans compliance to ASCE 7-05 Minimum Design Loads for Buildings and Other Structures Standard and the Florida Building Code. The ASCE 7-05 Standard meets the IBC, Florida and Miami-Dade codes.
<b>Computational Fluid Dynamics (CFD)</b>	All Greenheck high wind models have been analyzed using Computational Fluid Dynamics (CFD). CFD is computer software designed to simulate the flow of high speed winds over the surface of objects. The software records the force profile exerted on the fan so it can be utilized in Finite Element Analysis (FEA).
<b>Finite Element Analysis (FEA)</b>	Utilizing the results from CFD analysis, Greenheck can accurately predict the stress, strain, and deflection resulting from high wind loads. Greenheck high wind units have been proven to withstand high winds through Finite Element Analysis utilizing CFD results.



## Model G

 Greenheck's electronically commutated (EC) Vari-Green (VG) motor combines motor technology, controllability and energy-efficiency into one single low maintenance unit and is the industry's first fully controllable motor. When combined with Greenheck's G fans, all the CFM and static pressure ranges of a belt drive can be attained with the benefits of a direct drive.

Motor Information			
HP	RPM	Voltage	HZ
1/6	1725	115, 208-240	50/60
1/4	1725	115, 208-240	50/60
1/2	1725	115, 208-240	50/60
3/4	1725	115, 208-240	50/60
1	1725	115, 208-240	50/60
2	1725	208-240	50/60
Extended RPM Motors			
1/2	2500	115	50/60
3/4	2200	115	50/60

## Benefits

Operates on AC power that's converted to DC—providing a more efficient motor operation as compared to an AC operation.

- The motor can attain up to 85% efficiency 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 that decreases dramatically.
- Operates cooler than a standard AC motor at lower RPMs. A cooler motor has longer motor life and reduces energy consumption.
- 80% usable RPM turndown versus 30%, see Motor Turndown Comparison chart at right.
- G 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.

## Vari-Green Advantages

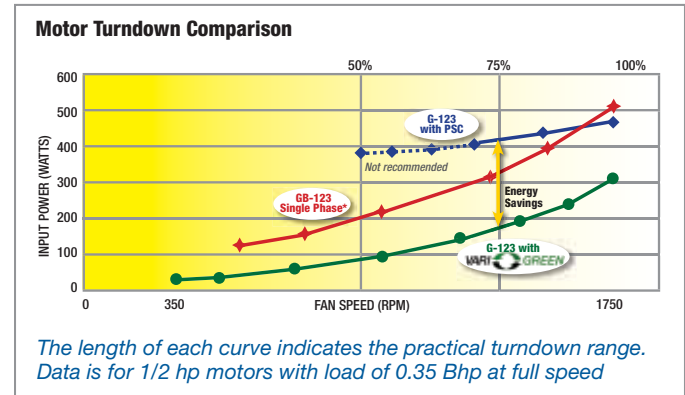
- Initial cost is similar to a belt drive
- Lower operating cost
- No maintenance, no belts, pulleys or bearings
- Easy RPM adjustment

## Features

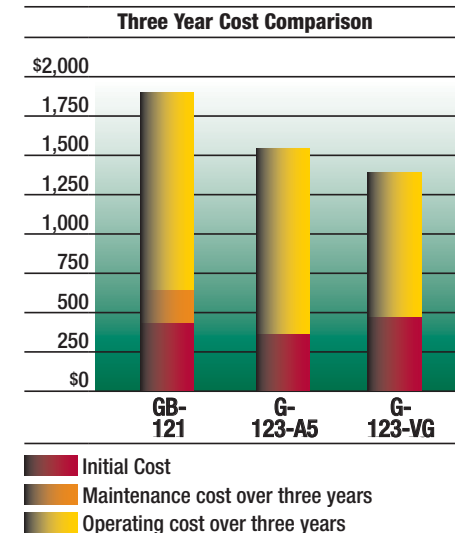
1. **Dial on Motor Control** - a potentiometer (dial on motor control) is mounted on the motor for easy speed adjustment for system balance. Simply turn the dial. There are no belts and pulleys to adjust.
2. **Control Wire Inputs** - the motor accepts a 0-10V DC signal from Building Automated Systems or other controls to adjust motor speed.



## Comparisons: Belt, Direct Drive with PSC and Direct Drive with Vari-Green



## Constant Volume Life Cycle Analysis



*Analysis is based on operating costs for a period of three years where the fans operate continuously at 1725 rpm, 24/7, with an energy rate of \$0.10/kWh. Maintenance on the GB-121 is estimated at \$65/yr.*

*Note: Example is based on a relative cost. Use and installation variables may produce different results.*

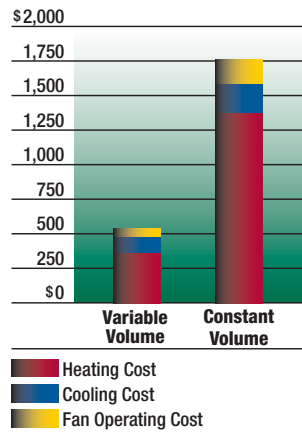


## Demand Control Ventilation for Multistory Buildings



Applications requiring constant pressure or variable volume can utilize G fans with Vari-Green motors and Vari-Green controls. Demand control ventilation systems reduce the amount of energy used by decreasing the speed of the fan when demand is low. This in turn lessens the amount of conditioned air exhausted and further reduces total operating costs associated with air conditioning and heating in multistoried buildings such as hotels, multifamily complexes, institutional facilities, and high rise commercial buildings.

### Variable Volume Operating Cost Analysis

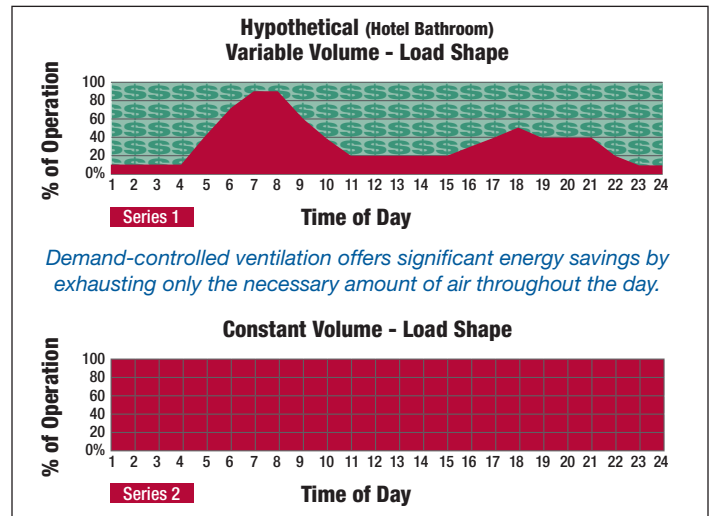


*Example of potential savings based on a northeast city in the USA using Vari-Green components for variable volume.*

The Vari-Green constant pressure control is preprogrammed and easy to install for applications that include venting dryers, bathrooms, residential type kitchen space or industrial process exhaust.

Contact [fans@greenheck.com](mailto:fans@greenheck.com) for more information.

### Daily Operating Comparison: Variable Volume and Constant Volume



*Demand-controlled ventilation offers significant energy savings by exhausting only the necessary amount of air throughout the day.*

Note: A standard VFD compatible motor can also function within a Variable Volume system.

## 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.

**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 with Integral Transformer** 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 for energy conservation.

**Constant Pressure Control - Indoor** - Control Vari-Green motor via static (variable volume) or velocity (constant CFM) pressure on the inlet or outlet side of the fan. Optional one or two duct or room probes for use in:

- Multifamily structures - Apartments, condos, hotels; clothes dryers, residential kitchens and bathrooms.
- Institutional facilities - Schools, prisons, multistory office buildings; bathrooms.

### Constant Pressure Control - Outdoor

Control a Vari-Green motor via static pressure on the inlet side of the fan. Includes one duct probe and transducer for use in:

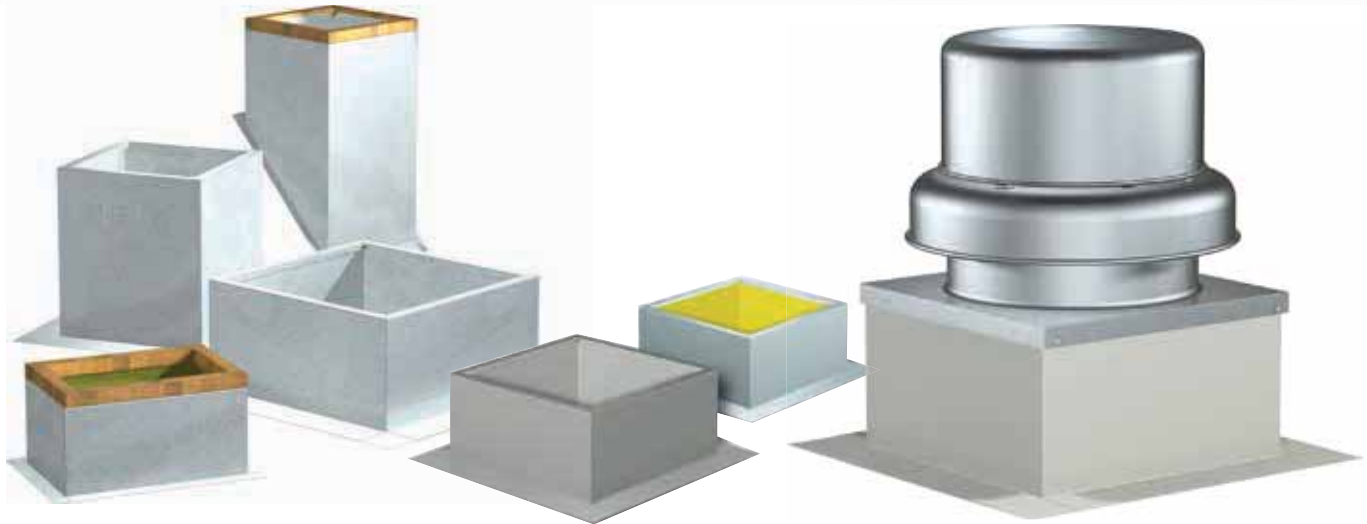
- Multifamily structures - Apartments, condos, hotels; residential kitchen, dryer facilities and bathrooms.
- Institutional facilities - Schools, prisons, multistory.

**Air Quality – VOC** - Control a Vari-Green motor via changes in volatile organic compounds (VOC's). VOC's 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.

- Institutional facilities – Schools, court house, hospitals; bathrooms, waiting rooms, cafeteria.
- Commercial buildings – Office space, conference rooms, bathrooms, break room.

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

- Multifamily structures - Apartments, condos, hotels; bathrooms, utility rooms.
- Commercial buildings - Office buildings, office space, conference rooms, utility rooms, bathrooms.



## Roof Curbs

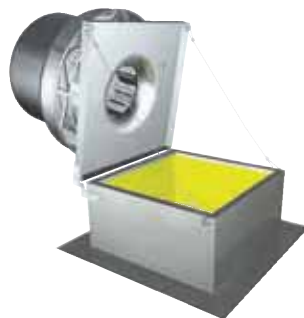
Prefabricated roof curbs reduce installation time and costs by ensuring compatibility between the fan, the curb and roof opening. All curbs are insulated with fiberglass. A wide variety of roof curbs are available, including: flanged, pitched and sound-absorbing.

### Hinged Curb Cap with Cables (Field Installed)

Mounted to the curb cap, allows entire fan to tilt away from curb for access to wheel and ductwork. Includes restraint cables.

### Hinged Base (Factory Mounted)

Allows for easy maintenance. Hinge and restraining cables are factory mounted to a subbase attached directly to curb without additional height added.



### Curb Seal

Rubber seal between fan and curb to assure proper sealing when attached to a curb.

### Curb Extensions

Extensions raise the fan discharge above the roofline 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.



## High Wind and Severe Duty Roof Curbs

**GPF/GPFP/GPFR** – Approved for high wind applications up to a 75 psf wind-load rating. Constructed of 18 gauge steel, formed and welded sides, and a 5-inch flashing flange. GPF is available up to 42 inches in height. GPFP and GPFR are available up to 24 inches in height.

**Severe Duty Curbs** – Designed for heavy compression loads exceeding 1,000 lbs. and carry a 130 psf wind-load rating.

**GPFHL (Heavy Load)** - 14 gauge galvanized steel with internal vertical support members and a 5-inch flashing flange.

**GPFHD (Heavy Duty)** - 12 gauge galvanized steel with internal vertical support members and a double thick 5-inch flashing flange.

**GPFHL** and **HD** are available up to 24 inches in height. Note: Maximum 24 inch height restriction on all curb models certified for high wind.

*For detailed curb information refer to Roof Curbs, Extensions and Equipment Supports catalog.*

Mounting details for the roof curb to the roof substrate and the fan to the curb are included with each model G and GB installation manual.

*For additional severe duty information, refer to the Greenheck High Wind brochure.*

### Tie-Down Points

Four brackets located on the shroud for securing the fan in high wind applications. Cables and anchors by others.



## Speed Controllers for Standard Motors

Available for use with shaded pole and permanent split capacitor (PSC) open motors on model G fans. They provide an economical means of system balancing with direct drive fans.



## Disconnect Switches

A wide selection of NEMA rated switches are available for positive electrical shutoff and safety, including: dust-tight, rainproof, and corrosion-resistant. Switches may be internally or externally mounted.



## Dampers

Designed to prevent outside air from entering back into the building when fan is off. Includes gravity and motorized dampers. Damper sizes are shown on each performance data page.



## 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.



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

## Birdscreen

Galvanized mesh is standard, optional aluminum or stainless steel rigid wire are also available.



G and GB models are Listed for electrical (UL/cUL 705) File no. E40001

GB models for Emergency Smoke Control Systems (UL/cUL Listed for 500°F (260°C) for 4 hours and 1,000°F (538°C) for 15 minutes) File no. MH17511

**Note:** UL/cUL is optional and must be specified.

## Coatings

A wide variety of coatings and colors are available. Greenheck coatings and resistance charts can be found in the Performance Coatings Commercial and Industrial Fans catalog and in our Product Application Guide—Performance Coatings for Ventilation Products.



**Primer** is applied at the factory to allow for final finish in the field.



**Permatector™** is our standard coating. 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.



**Baked Enamel Decorative Coatings** are heat cured enamels applied either as wet paints or electrostatic powders. Customers can choose from 16 standard decorative colors or color match any color.



### General Clean Air (figure 1)

Models G and GB exhaust fans are designed to meet the needs of general clean air applications. Tests were conducted to assure safe, rugged and reliable fans.

Due to the varying types of airstreams encountered in commercial ventilation, system designers must be aware of national, state, and local codes and guidelines governing these installations. Local code authorities should be consulted before proceeding with any ventilation project.

- When roofing materials extend to the top of the curb, roof curbs should be 1½ inches (¾ inch on each 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 pages. (starting on pg. 14)
- Installation must include a means for inspecting, cleaning and servicing the exhaust fan.

### High Wind, Hurricane and Seismic (figure 2)

- Roofing materials can extend to the top of the curb, roof curbs should be 1 inch (25 mm) total, or ½ inch (13 mm) on each side, less than the unit curb cap to allow for roofing and flashing.

*Note: The typical installations shown are recommendations based on national codes. Local authority may supersede these recommendations.*

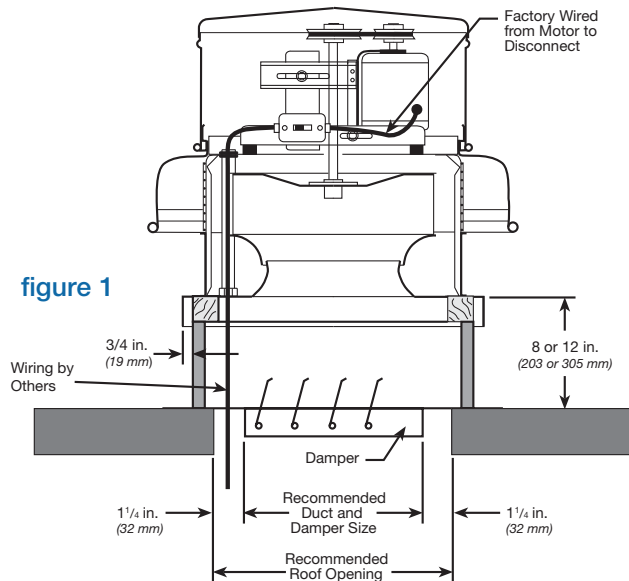


figure 1

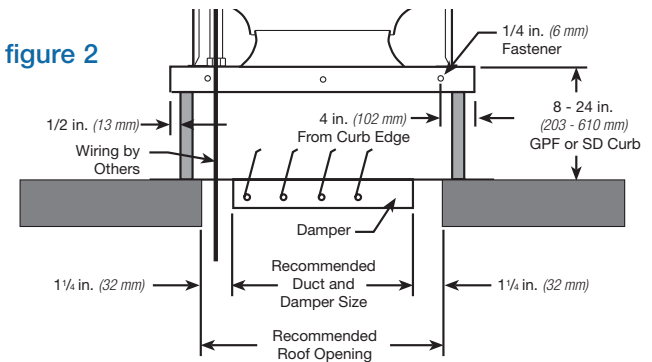
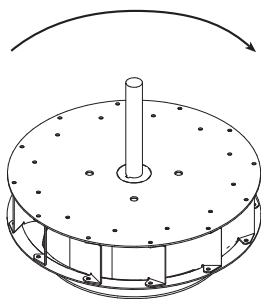


figure 2



Clockwise

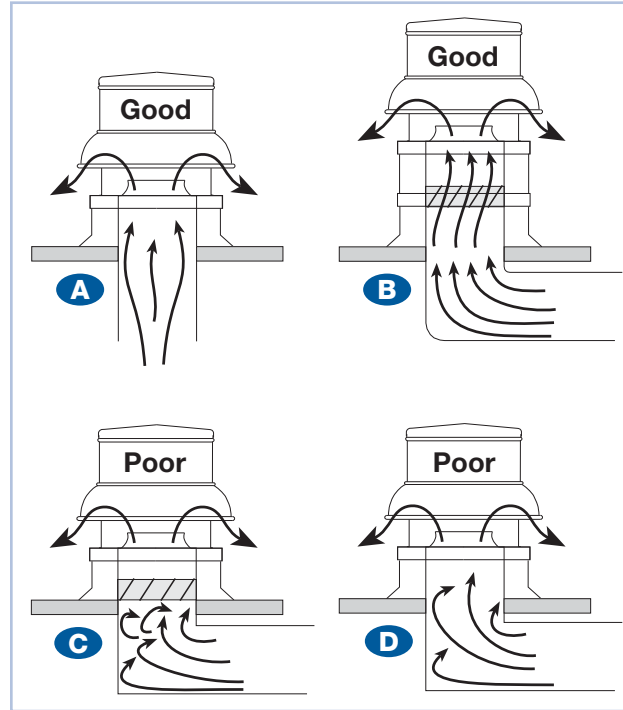
### Wheel Rotation

Direction of rotation is very critical. Rotation in the wrong direction will result in excessive horsepower, possible motor burnout, and increased noise levels. Check rotation by energizing the unit momentarily. The rotation should be the same as the rotation decals affixed to the unit and is clockwise when viewed from the top of the unit.

## Fan Inlet Connections

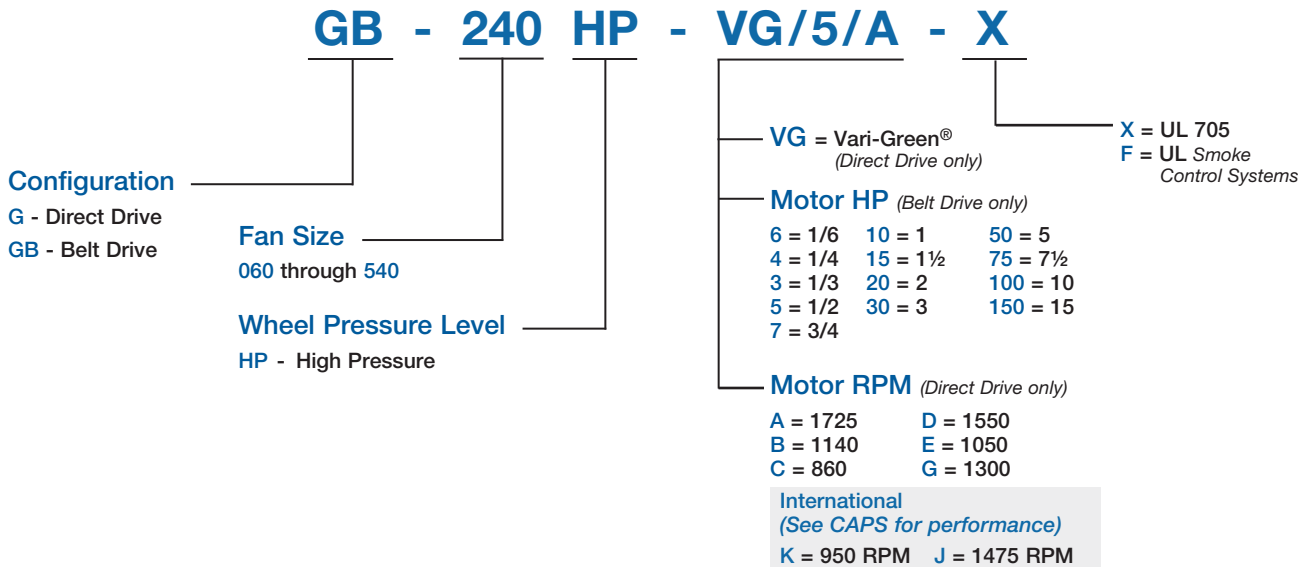
In order to assure proper fan performance, caution must be exercised in fan placement and connection to the ventilation system. Obstructions, transitions, poorly designed elbows, improperly selected dampers, etc., can cause reduced performance, excessive noise, and increased mechanical stress. For performance to be as published, the system must provide uniform and stable airflow into the fan.

- A** Provide uniform airflow at fan inlet to assure optimum performance.
- B** Provide uniform airflow at fan inlet and through the damper to assure optimum performance.
- C** Dampers must open fully. Use motorized dampers in low airflow applications to reduce losses.
- D** Avoid sharp turns or entrance conditions which cause uneven flow. Use turning vanes in elbows to reduce adverse effects.

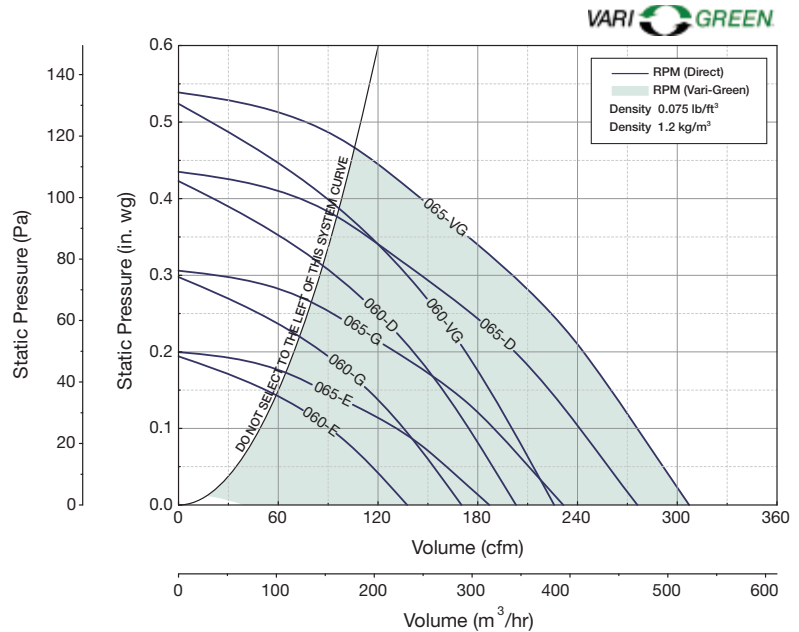
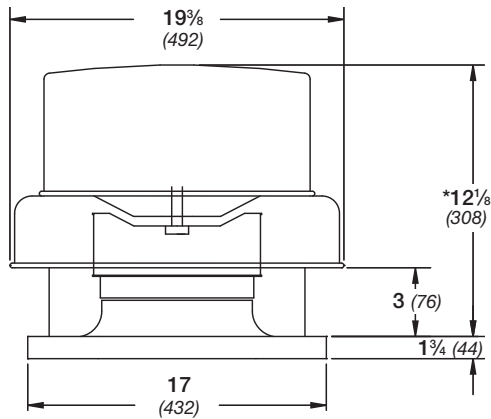


## Model Number Code

The model number code system is designed to completely identify the fan. The correct code letters must be specified to designate belt or direct drive. The remainder of the model code is determined by the size and performance.



# Roof Downblast - Exhaust Direct Drive G-060 • G-065



Damper Size = 8 x 8 (203 x 203)  
 Roof Opening = 10½ x 10½ (267 x 267)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 15 lbs. (7 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor.  
 ^Weight shown is largest cataloged Open Drip-Proof motor.

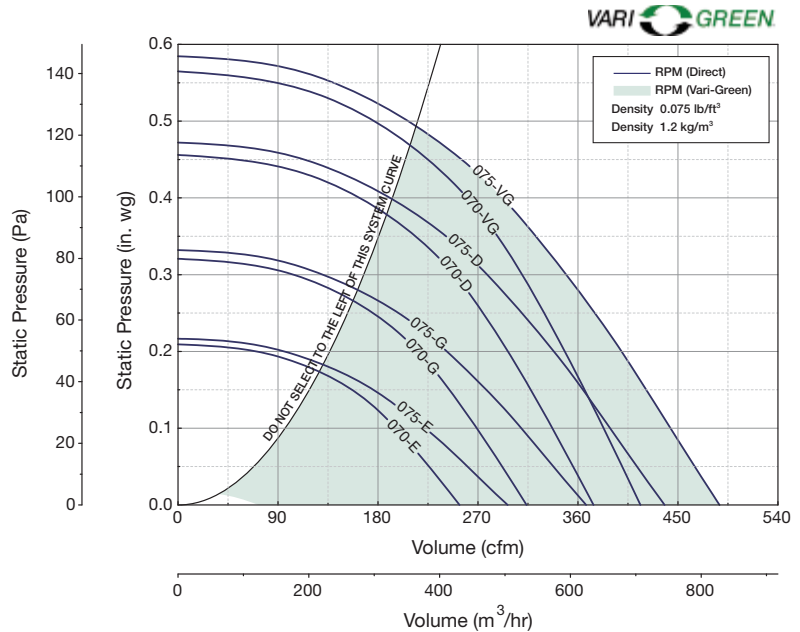
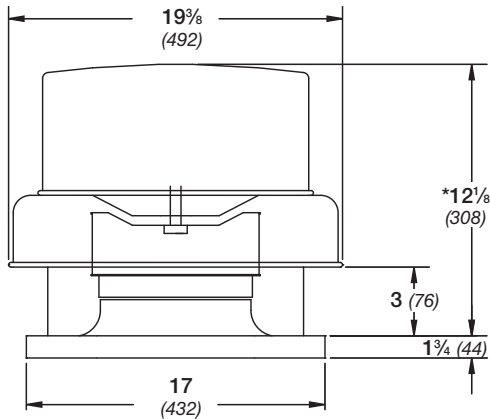
Direct Drive RPM		
E-1050 RPM	G-1300 RPM	D-1550 RPM

Direct Drive	Motor HP	Fan RPM	Static Pressure in Inches wg										
			0	0.05	0.1	0.125	0.15	0.2	0.25	0.3	0.375	0.4	
<b>060</b>													
VARI GREEN	E-1/200	1050	CFM	138	116	90	73	53					
			BHP	0.00	0.00	0.01	0.01	0.01					
			Sones	1.7	1.7	1.7	1.7	1.7					
	G-1/100	1300	CFM	170	153	135	125	113	85				
			BHP	0.01	0.01	0.01	0.01	0.01	0.01				
			Sones	2.9	2.8	2.8	2.7	2.7	2.6				
	D-1/60	1550	CFM	203	188	173	166	158	140	120	92		
			BHP	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02		
			Sones	4.3	3.9	3.8	3.8	3.8	3.7	3.7	3.6		
		1725	CFM	226	213	199	193	186	173	155	137	101	89
			BHP	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
			Sones	5.4	4.9	4.9	4.8	4.8	4.8	4.7	4.6	4.5	4.4
<b>065</b>													
VARI GREEN	E-1/100	1050	CFM	187	161	130	110	87					
			BHP	0.01	0.01	0.01	0.01	0.01					
			Sones	2.2	2.1	1.9	1.8	1.7					
	G-1/60	1300	CFM	231	211	189	178	163	130	92			
			BHP	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
			Sones	3.2	3.1	3	2.9	2.9	2.8	2.7			
	D-1/30	1550	CFM	276	259	241	232	223	201	176	145	96	
			BHP	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
			Sones	4.9	4.6	4.5	4.5	4.4	4.3	4.3	4.1	4	
		1725	CFM	307	292	276	268	260	243	223	201	160	146
			BHP	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
			Sones	6.4	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.7	5.7

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.



# Roof Downblast - Exhaust Direct Drive G-070 • G-075



- Damper Size = 8 x 8 (203 x 203)
- Roof Opening = 10 1/2 x 10 1/2 (267 x 267)
- Shroud Thickness = 0.064 (1.6)
- Motor Cover Thickness = 0.040 (1.0)
- Curb Cap Thickness = 0.064 (1.6)
- ^Approximate Unit Weight = 15 lbs. (7 kg)

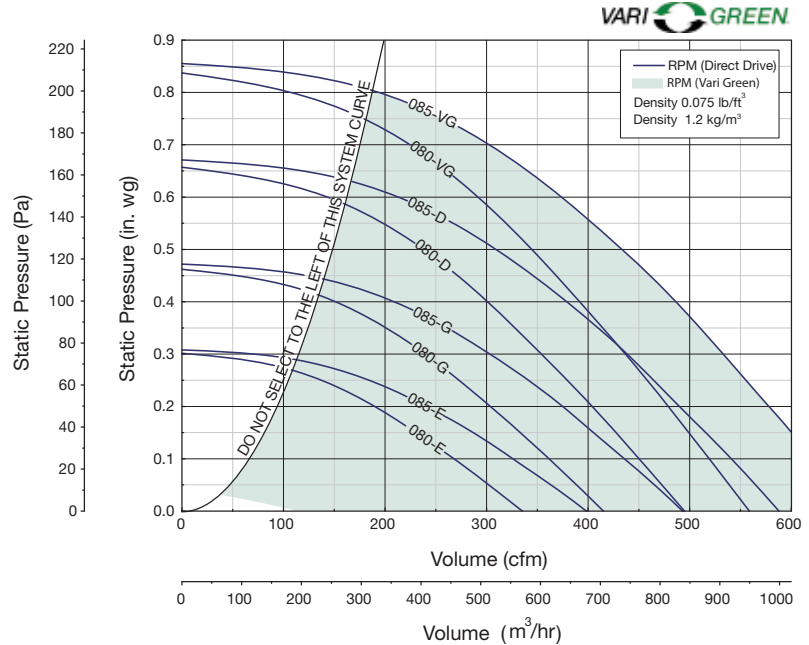
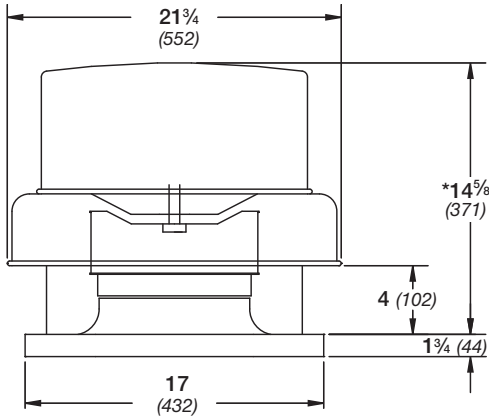
All dimensions in inches (millimeters). \*May be greater depending on motor.  
^Weight shown is largest cataloged Open Drip-Proof motor.

Direct Drive RPM		
E-1050 RPM	G-1300 RPM	D-1550 RPM

Direct Drive	Motor HP	Fan RPM	Static Pressure in Inches wg										
			0	0.05	0.1	0.125	0.15	0.2	0.25	0.3	0.375	0.4	
<b>070</b>													
VARI GREEN	E-1/100	1050	CFM	253	226	195	179	152					
			BHP	0.01	0.01	0.01	0.01	0.01					
			Sones	2.7	2.1	1.7	1.5	1.2					
	G-1/60	1300	CFM	314	292	269	257	244	214	171			
			BHP	0.01	0.01	0.02	0.02	0.02	0.02	0.02			
			Sones	4.1	3.7	3.4	3.3	3.2	2.9	2.6			
	D-1/30	1550	CFM	374	356	337	327	317	297	274	244	190	
			BHP	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	
			Sones	5.6	5.4	5.2	5.1	5.1	4.9	4.7	4.5	4.1	
		1725	CFM	416	400	383	375	366	348	329	309	270	253
			BHP	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
			Sones	6.8	6.7	6.7	6.6	6.6	6.5	6.3	6.2	5.9	5.7
<b>075</b>													
VARI GREEN	E-1/80	1050	CFM	297	260	222	200	176					
			BHP	0.01	0.01	0.01	0.01	0.01					
			Sones	3.6	3.1	2.9	2.8	2.6					
	G-1/50	1300	CFM	367	338	309	293	277	241	195			
			BHP	0.02	0.02	0.02	0.02	0.02	0.02	0.02			
			Sones	4.1	3.9	3.7	3.7	3.7	3.6	3.5			
	D-1/25	1550	CFM	438	413	389	377	364	337	309	277	214	
			BHP	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.03
			Sones	6.1	5.8	5.6	5.4	5.3	5.1	4.9	4.9	4.8	
		1725	CFM	487	465	443	432	421	399	374	349	306	292
			BHP	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
			Sones	8.0	7.5	7.2	7.1	6.8	6.5	6.2	6.1	6.0	6.0

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Direct Drive G-080 • G-085



Damper Size = 10 x 10 (254 x 254)  
 Roof Opening = 12½ x 12½ (318 x 318)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 19 lbs. (9 kg)

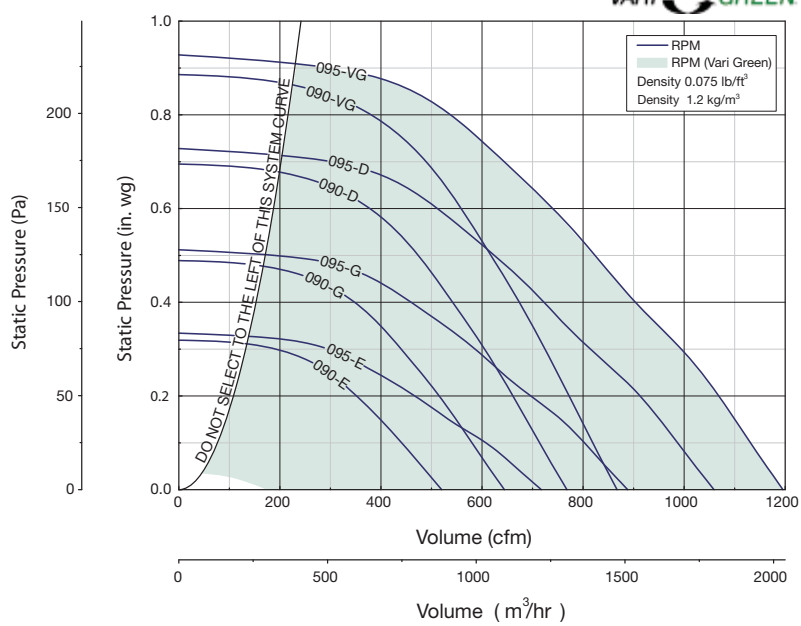
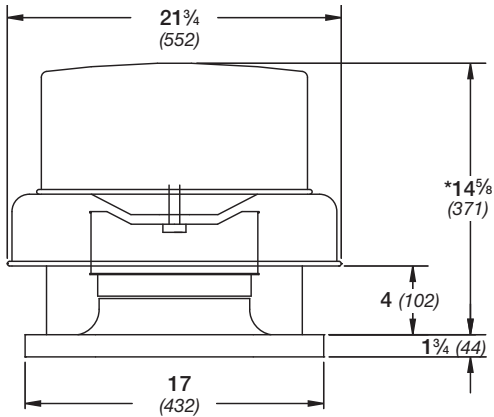
All dimensions in inches (millimeters). \*May be greater depending on motor.  
 ^Weight shown is largest cataloged Open Drip-Proof motor.

Direct Drive RPM  
 E-1050 RPM    G-1300 RPM    D-1550 RPM    VG-1725 RPM

Direct Drive	Motor HP	Fan RPM	Static Pressure in Inches wg										
			0	0.1	0.125	0.15	0.2	0.25	0.3	0.375	0.5	0.625	
<b>080</b>													
VARI GREEN	E-1/40	1050	CFM	335	268	249	230	189	134				
			BHP	0.01	0.02	0.02	0.02	0.02	0.02				
			Sones	3.8	3.7	3.6	3.7	3.9	4.2				
	G-1/30	1300	CFM	415	361	348	333	303	272	239	174		
			BHP	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03		
			Sones	5.4	5.4	5.4	5.4	5.4	5.5	5.6	5.9		
	D-1/20	1550	CFM	495	450	439	427	404	379	354	314	237	
			BHP	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.06	
			Sones	7.3	7.3	7.3	7.3	7.3	7.2	7.3	7.3	7.6	
		1725	CFM	551	511	501	490	469	449	426	392	332	260
			BHP	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08
			Sones	9.1	9.1	9.1	9.1	9	8.9	8.9	8.9	9.1	9.4
<b>085</b>													
VARI GREEN	E-1/40	1050	CFM	398	326	307	286	240	179				
			BHP	0.01	0.02	0.02	0.02	0.02	0.02				
			Sones	4	3.9	3.9	3.9	4.1	4.3				
	G-1/30	1300	CFM	493	436	420	405	375	340	302	233		
			BHP	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04		
			Sones	5.5	5.3	5.3	5.3	5.3	5.3	5.4	5.5		
	D-1/20	1550	CFM	588	541	528	515	490	464	439	394	308	168
			BHP	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06
			Sones	7.6	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.6	8.1
		1725	CFM	654	612	602	590	567	544	521	486	419	340
			BHP	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.08	0.08
			Sones	9.5	9.4	9.4	9.3	9.3	9.3	9.3	9.3	9.3	9.4

Performance certified for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Direct Drive G-090 • G-095



Damper Size = 10 x 10 (254 x 254)  
 Roof Opening = 12½ x 12½ (318 x 318)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 22 lbs. (10 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor.  
 ^Weight shown is largest cataloged Open Drip-Proof motor.

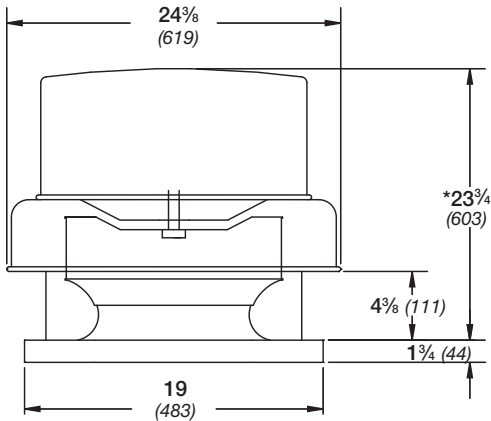
Direct Drive RPM  
 E-1050 RPM    G-1300 RPM    D-1550 RPM    VG-1725 RPM

Direct Drive	Motor HP	Fan RPM	Static Pressure in Inches wg										
			0	0.1	0.125	0.15	0.2	0.25	0.3	0.375	0.5	0.625	
<b>090</b>													
VARI GREEN	E-1/40	1050	CFM	520	441	420	398	351	293				
			BHP	0.01	0.02	0.02	0.02	0.02	0.02				
			Sones	4	3.9	3.9	4	4.1	4.2				
	G-1/25	1300	CFM	644	580	565	549	515	478	440	373		
			BHP	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05		
			Sones	5.4	5.4	5.4	5.4	5.4	5.5	5.5	5.6		
	D-1/15	1550	CFM	768	714	701	688	662	633	605	557	473	338
			BHP	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.08	0.07
			Sones	7.6	7.5	7.5	7.5	7.5	7.4	7.4	7.4	7.4	7.8
		1725	CFM	855	806	794	782	759	735	709	671	600	522
			BHP	0.06	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.10	0.11
			Sones	9.7	9.5	9.5	9.5	9.5	9.4	9.4	9.2	9.1	9.1
<b>095</b>													
VARI GREEN	E-1/30	1050	CFM	717	606	570	534	468	389	290			
			BHP	0.03	0.03	0.04	0.04	0.04	0.04	0.03			
			Sones	5.4	4.5	4.5	4.5	4.4	4.5	4.6			
	G-1/12	1300	CFM	888	802	780	754	695	640	586	493	184	
			BHP	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.05	
			Sones	7.6	6.8	6.7	6.6	6.5	6.4	6.4	6.4	6.8	
	D-1/8	1550	CFM	1059	987	969	950	912	863	814	745	623	474
			BHP	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.11
			Sones	9.6	9.4	9.3	9.2	9	8.8	8.7	8.7	8.7	8.7
		1725	CFM	1179	1114	1098	1081	1048	1013	969	903	800	688
			BHP	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.16	0.16
			Sones	11.4	11.4	11.4	11.5	11.4	11.2	11	10.9	11.3	11.3

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

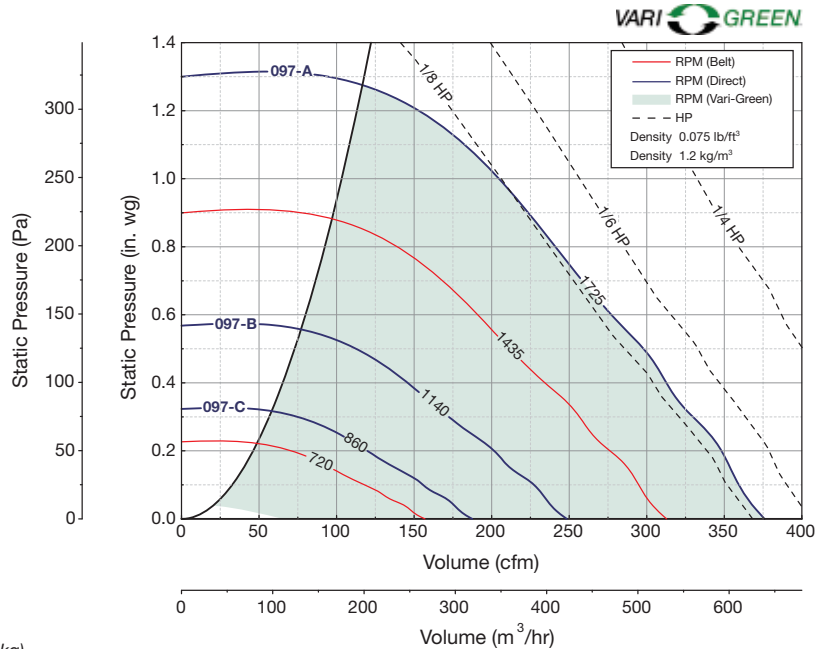


# Roof Downblast Exhaust Belt & Direct Drive GB-071 • G-097



Damper Size = 12 x 12 (305 x 305)  
 Roof Opening = 14 1/2 x 14 1/2 (368 x 368)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 54/60 lbs. (24/27 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.



Direct Drive RPM  
 C-860 RPM    B-1140 RPM    A-1725 RPM    VG-1725 RPM

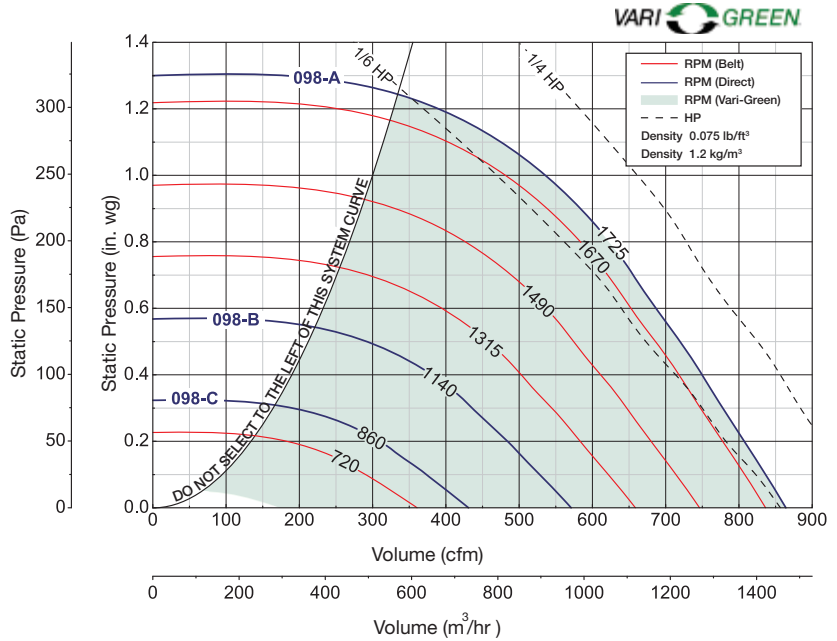
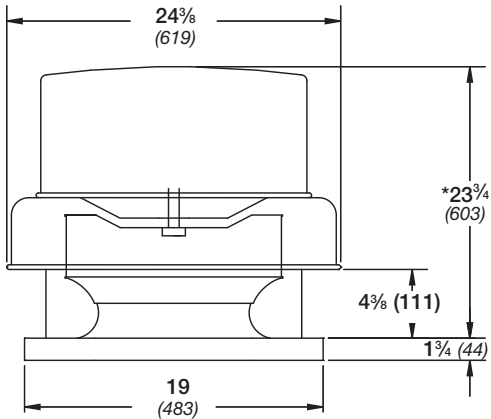
Motor HP	Fan RPM	Static Pressure in Inches wg																				
		0	0.125	0.25	0.375	0.5	0.625	0.75	0.875	1	1.125											
Belt 071	Direct 097	CFM	157	107																		
1/6 or 1/8	VARI GREEN	720	BHP	0.01	0.01																	
			Sones	1.8	2.0																	
			CFM	172	128	70																
		790	BHP	0.01	0.01	0.01																
			Sones	2.3	2.3	2.2																
			CFM	187	148	101																
		C-1/8 860	BHP	0.02	0.02	0.02																
			Sones	2.8	2.7	2.7																
			CFM	203	166	124																
		930	BHP	0.02	0.02	0.02																
			Sones	3.3	3.4	3.2																
			CFM	218	184	146	100															
		1000	BHP	0.03	0.03	0.03	0.02															
			Sones	3.9	4.0	3.9	3.6															
			CFM	233	202	167	130															
		1070	BHP	0.03	0.03	0.03	0.03															
			Sones	4.6	4.7	4.5	4.2															
			CFM	248	220	187	152	109														
		B-1/6 1140	BHP	0.04	0.04	0.04	0.04	0.03														
			Sones	5.3	5.4	5.1	4.9	4.7														
CFM	280		255	228	197	166	127															
1285	BHP	0.06	0.06	0.06	0.05	0.05	0.05															
	Sones	6.8	6.7	6.6	6.3	6.0	5.9															
	CFM	313	292	265	240	212	185	151														
1435	BHP	0.08	0.08	0.08	0.08	0.08	0.07	0.07														
	Sones	8.0	8.0	7.9	7.6	7.3	7.1	6.9														
	CFM	344	324	302	281	255	230	205	177	140												
1580	BHP	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.09												
	Sones	9.5	9.5	9.4	9.1	8.8	8.5	8.3	8.1	7.9												
	CFM	376	356	339	316	297	273	250	227	205	171											
A-1/4 1725	BHP	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.12											
	Sones	11.3	11.2	11.2	10.8	10.5	10.2	9.9	9.7	9.5	9.3											

MAXIMUM BHP AT A GIVEN RPM = (RPM/3371)<sup>3</sup>  
 MAXIMUM RPM - GB-071=1710, G-097=1725  
 TIP SPEED (ft/min) = RPM x 2.929  
 MAXIMUM MOTOR FRAME SIZE = 56

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast Exhaust Belt & Direct Drive

## GB-081 • G-098



Damper Size = 12 x 12 (305 x 305)  
 Roof Opening = 14 1/2 x 14 1/2 (368 x 368)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 54/60 lbs. (24/27 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

### Direct Drive RPM

C-860 RPM    B-1140 RPM    A-1725 RPM    VG-1725 RPM

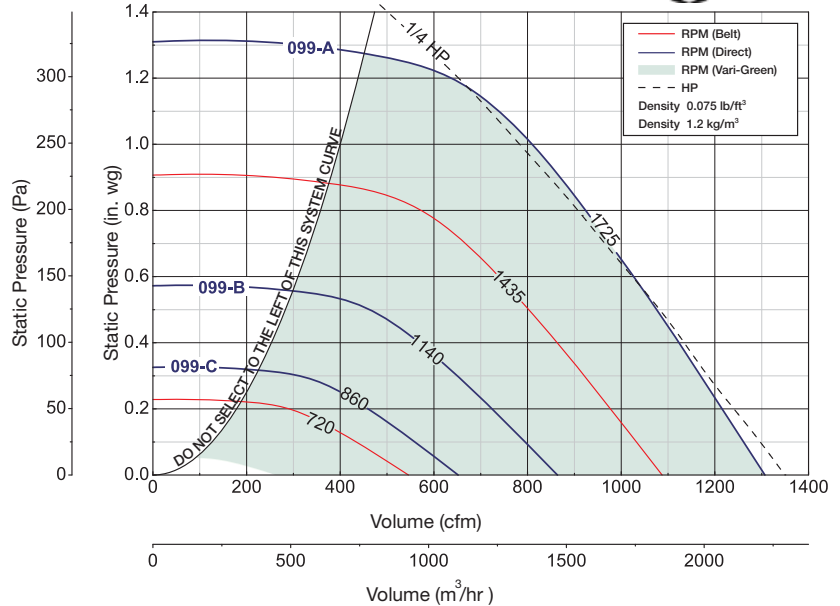
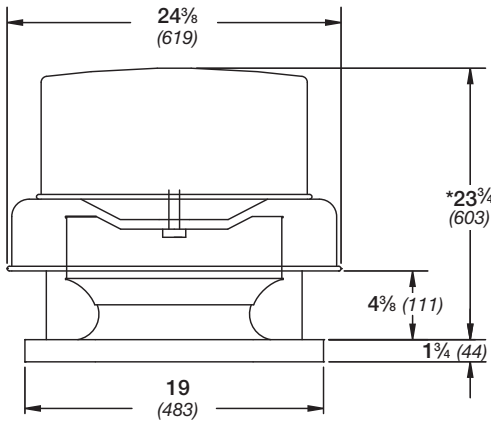
Motor HP	Belt	Direct	Fan RPM	Static Pressure in Inches wg																	
				0	0.125	0.25	0.375	0.5	0.625	0.75	0.875	1	1.125								
081		098	VG-1/4	720	CFM	361	272														
					BHP	0.01	0.01														
				Sones	3.0	2.7															
				790	CFM	396	315	181													
					BHP	0.02	0.02	0.02													
				Sones	3.5	3.2	3														
			C-1/8	860	CFM	431	358	261													
					BHP	0.02	0.02	0.02													
			Sones	4.0	3.7	3.4															
			1/6	930	CFM	466	399	323													
					BHP	0.03	0.03	0.03													
			Sones	4.6	4.4	4.0															
			1000	CFM	501	439	372	259													
				BHP	0.03	0.04	0.04	0.04													
			Sones	5.3	5.1	4.7	4.4														
			1070	CFM	536	478	416	338													
				BHP	0.04	0.04	0.05	0.05													
			Sones	5.9	5.8	5.4	5.0														
B-1/6	1140	CFM	571	517	460	396	283														
		BHP	0.05	0.05	0.06	0.06	0.05														
Sones	6.6	6.5	6.1	5.7	5.5																
1315	CFM	659	612	564	513	456	362														
	BHP	0.08	0.08	0.08	0.09	0.09	0.08														
Sones	8.3	8.1	7.8	7.4	7.0	6.9															
1490	CFM	746	706	663	621	574	525	452	353												
	BHP	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.11												
Sones	10.1	9.9	9.8	9.3	8.9	8.6	8.5	8.4													
1670	CFM	836	800	763	725	686	645	603	550	466	377										
	BHP	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.18	0.17	0.16										
Sones	12.0	11.9	11.7	11.4	11.0	10.7	10.4	10.1	10.0	9.9											
1/4	A-1/4	1725	CFM	864	829	793	756	719	679	640	592	527	441								
			BHP	0.17	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.19	0.18								
Sones	12.7	12.5	12.3	12.1	11.7	11.4	11.1	10.8	10.6	10.5											

MAXIMUM BHP AT A GIVEN RPM = (RPM/2985)<sup>3</sup>  
 MAXIMUM RPM - GB-081=1710, G-098=1725  
 TIP SPEED (ft/min) = RPM x 2.929  
 MAXIMUM MOTOR FRAME SIZE = 56

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast Exhaust Belt & Direct Drive

## GB-091 • G-099



Damper Size = 12 x 12 (305 x 305)  
 Roof Opening = 14 1/2 x 14 1/2 (368 x 368)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 54/61 lbs. (24/28 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Direct Drive RPM  
 C-860 RPM    B-1140 RPM    A-1725 RPM    VG-1725 RPM

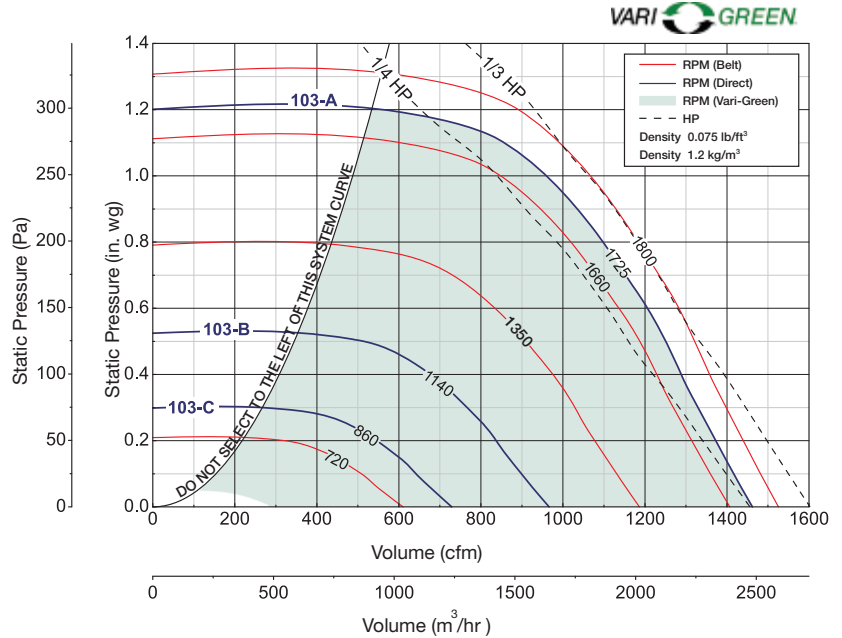
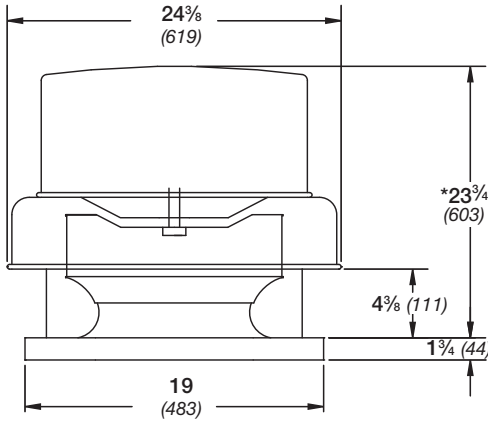
Motor HP	Fan RPM		Static Pressure in Inches wg										
	Belt	Direct	0	0.125	0.25	0.375	0.5	0.625	0.75	0.875	1	1.125	
091	099	720	CFM	546	403								
			BHP	0.02	0.02								
1/4	VG-1/4	790	CFM	599	471	291							
			BHP	0.02	0.02	0.02							
1/4	C-1/8	860	CFM	652	536	400							
			BHP	0.03	0.03	0.03							
1/4	VG-1/4	930	CFM	705	598	481							
			BHP	0.04	0.04	0.04							
1/4	VG-1/4	1000	CFM	758	659	552	414						
			BHP	0.04	0.05	0.05	0.05						
1/4	VG-1/4	1070	CFM	811	718	621	512						
			BHP	0.05	0.06	0.06	0.06						
1/4	B-1/6	1140	CFM	864	777	687	590	457					
			BHP	0.07	0.07	0.07	0.07	0.07					
1/4	VG-1/4	1285	CFM	974	897	819	736	647	526				
			BHP	0.09	0.10	0.10	0.10	0.11	0.10				
1/4	VG-1/4	1435	CFM	1087	1018	949	877	801	721	615	404		
			BHP	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.12	
1/4	VG-1/4	1580	CFM	1197	1135	1072	1009	941	872	799	707	583	
			BHP	0.17	0.18	0.19	0.19	0.19	0.20	0.20	0.20	0.19	
1/4	A-1/4	1725	CFM	1307	1250	1192	1135	1076	1013	949	883	806	707
			BHP	0.23	0.23	0.24	0.24	0.25	0.25	0.26	0.26	0.26	0.25
1/4	A-1/4	1725	CFM	1307	1250	1192	1135	1076	1013	949	883	806	707
			Sones	13.6	13.5	13.4	13.2	12.9	12.6	12.3	12.0	11.8	11.5

MAXIMUM BHP AT A GIVEN RPM = (RPM/2703)<sup>3</sup>  
 MAXIMUM RPM - GB-091=1710, G-099=1725  
 TIP SPEED (ft/min) = RPM x 2.929  
 MAXIMUM MOTOR FRAME SIZE = 56

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.



# Roof Downblast Exhaust Belt & Direct Drive GB-101 • G-103



Damper Size = 12 x 12 (305 x 305)  
 Roof Opening = 14½ x 14½ (368 x 368)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)

^Approximate Unit Weight G/GB = 54/61 lbs. (24/28 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

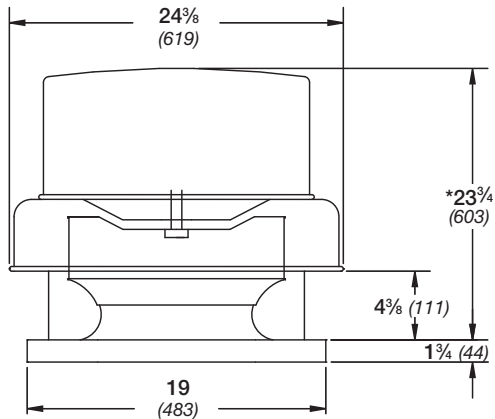
Direct Drive RPM  
 C-860 RPM    B-1140 RPM    A-1725 RPM    VG-1725 RPM

Belt	Motor HP		Fan RPM	Static Pressure in Inches wg																				
	101	103		0	0.125	0.25	0.375	0.5	0.625	0.75	0.875	1	1.25											
1/4	VARI GREEN	VG-1/4	C-1/8	720	CFM	610	477																	
				BHP	0.02	0.02																		
				Sones	3.8	2.7																		
			860	CFM	729	623	473																	
			BHP	0.03	0.04	0.04																		
			Sones	4.6	3.7	2.9																		
		B-1/6	1000	CFM	848	753	654	481																
			BHP	0.05	0.05	0.06	0.05																	
			Sones	5.5	4.8	4.4	3.4																	
			1140	CFM	966	883	805	702	507															
			BHP	0.07	0.08	0.09	0.09	0.08																
			Sones	6.6	6.0	5.7	5.2	4.1																
		A-1/4	1245	CFM	1055	978	908	824	715															
			BHP	0.10	0.10	0.11	0.11	0.11																
			Sones	7.5	7.0	6.7	6.3	5.7																
			1350	CFM	1144	1073	1006	938	851	731														
			BHP	0.12	0.13	0.13	0.14	0.14	0.14															
			Sones	8.5	8.1	7.8	7.7	7.2	6.7															
1/3	VARI GREEN	A-1/4	1450	CFM	1229	1162	1099	1041	965	878	750													
			BHP	0.15	0.16	0.16	0.17	0.17	0.17	0.17	0.17													
			Sones	9.3	9.0	8.7	8.4	8.0	7.5	6.9														
			1555	CFM	1318	1255	1196	1140	1079	1005	917	791												
			BHP	0.19	0.19	0.20	0.21	0.22	0.22	0.22	0.22	0.21												
			Sones	10.2	10.0	9.7	9.4	8.9	8.4	8.0	7.5													
1/3	VARI GREEN	A-1/4	1660	CFM	1407	1348	1292	1238	1187	1122	1050	963	841											
			BHP	0.23	0.23	0.24	0.25	0.26	0.26	0.26	0.26	0.26	0.25											
			Sones	11.4	11.1	10.7	10.4	10.1	9.6	9.1	8.7	8.1												
			1725	CFM	1462	1405	1351	1298	1250	1193	1126	1052	955											
			BHP	0.25	0.26	0.27	0.28	0.29	0.29	0.29	0.29	0.29	0.29											
			Sones	12.2	11.9	11.5	11.2	10.9	10.3	10.0	9.5	9.0												
1/3	VARI GREEN	A-1/4	1800	CFM	1525	1471	1419	1368	1321	1270	1209	1142	1065	793										
			BHP	0.29	0.30	0.30	0.31	0.33	0.33	0.33	0.33	0.33	0.33	0.30										
			Sones	13.3	12.8	12.5	12.4	12.2	11.4	10.9	10.6	10.2	9.3											

MAXIMUM BHP AT A GIVEN RPM = (RPM/2593)<sup>3</sup>  
 MAXIMUM RPM = 1800  
 TIP SPEED (ft/min) = RPM x 2.913  
 MAXIMUM MOTOR FRAME SIZE = 56

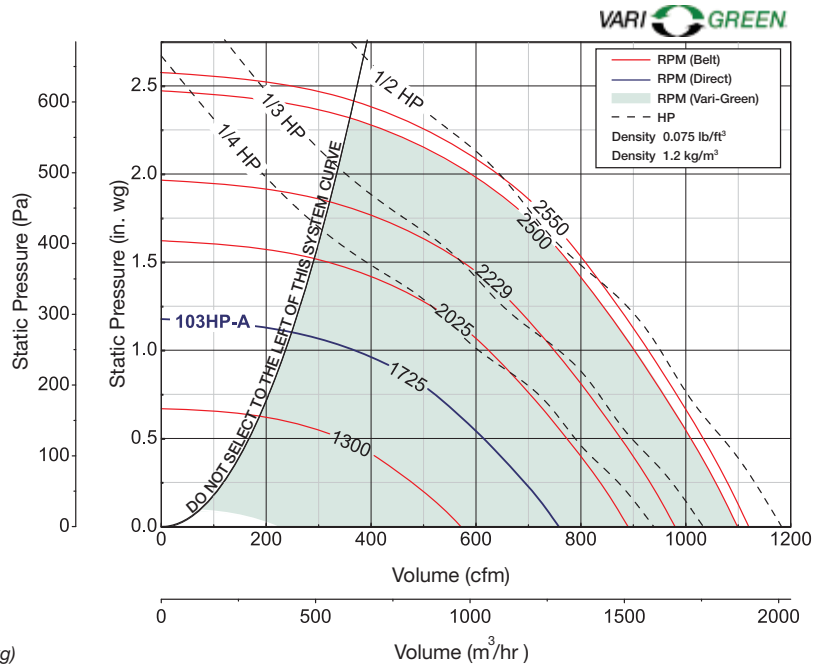
Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast Exhaust Belt & Direct Drive GB-101HP • G-103HP



Damper Size = 12 x 12 (305 x 305)  
 Roof Opening = 14 1/2 x 14 1/2 (368 x 368)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 58/63 lbs. (26/29 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.



Direct Drive RPM  
 A-1725 RPM      VG-2550 RPM

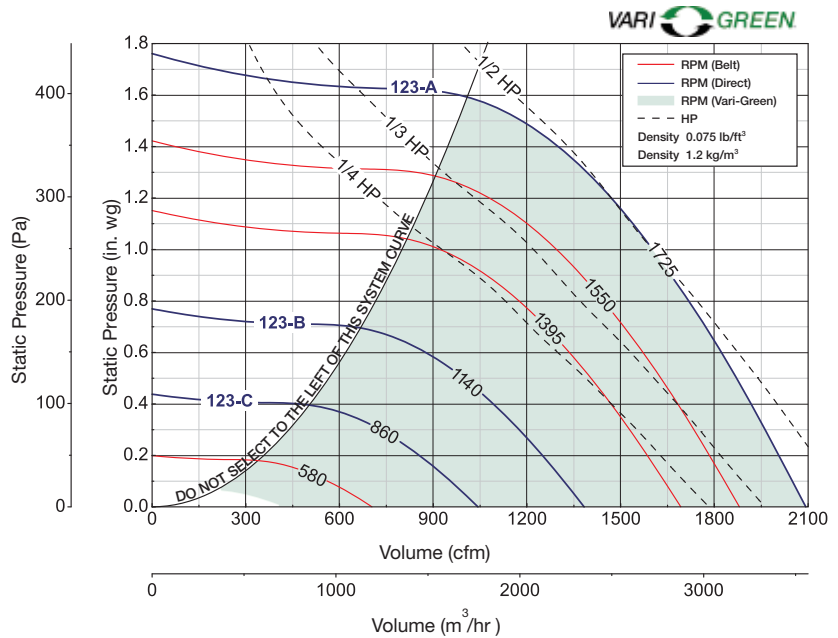
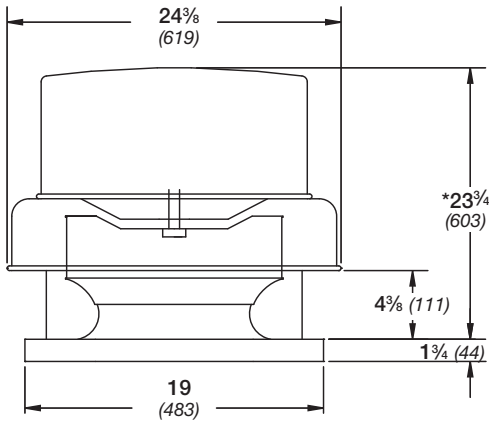
Motor HP		Fan RPM	Static Pressure in Inches wg													
Belt	Direct		0	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25				
101HP	103HP	1300	CFM	571	477	342										
			BHP	0.06	0.06	0.07										
1/4	VG-1/2	1445	Sones	6.6	5.7	5.3										
			CFM	635	553	449	243									
			BHP	0.08	0.09	0.09	0.08									
		1590	Sones	8.4	7.5	7	6.3									
			CFM	699	626	537	417									
			BHP	0.10	0.11	0.12	0.12									
	A-1/4	1725	Sones	10.4	9.5	9.1	8.3									
			CFM	758	692	613	521	364								
			BHP	0.13	0.14	0.15	0.16	0.15								
		1880	Sones	11.4	10.7	10.6	10.1	10								
			CFM	826	767	697	618	518	337							
			BHP	0.17	0.18	0.19	0.20	0.20	0.18							
1/3	2025	Sones	12.7	12.2	11.9	12	11.4	11.9								
		CFM	890	836	772	702	622	515	313							
		BHP	0.21	0.23	0.24	0.24	0.26	0.25	0.22							
	2137	Sones	14.2	13.6	13.3	13.2	12.6	12	11.4							
		CFM	939	889	830	765	693	607	474							
		BHP	0.25	0.26	0.28	0.28	0.29	0.30	0.28							
1/2	2229	Sones	15.4	14.8	14.4	14.2	13.4	13.1	12.1							
		CFM	979	931	875	814	748	674	574	406						
		BHP	0.28	0.30	0.31	0.32	0.33	0.35	0.33	0.31						
	2336	Sones	15.8	15.4	14.8	14.5	14.1	13.7	13.2	12.0						
		CFM	1026	981	928	871	809	742	661	543	358					
		BHP	0.33	0.34	0.36	0.36	0.37	0.39	0.40	0.37	0.34					
2500	Sones	16.4	16	15.4	14.9	14.7	14	14.1	13.5	13.6						
	CFM	1098	1056	1008	956	901	840	775	695	583	416					
	BHP	0.40	0.42	0.43	0.45	0.45	0.46	0.48	0.48	0.46	0.42					
2550	Sones	17.8	17.4	16.9	16.7	15.8	15.5	14.8	15.2	15.7	16.6					
	CFM	1120	1078	1032	982	928	869	807	735	639	497					
	BHP	0.43	0.44	0.46	0.47	0.47	0.49	0.51	0.52	0.50	0.47					
			Sones	18.2	17.9	17.4	17.2	16.3	16.1	15.1	15.6	16.2	17.2			

MAXIMUM BHP AT A GIVEN RPM = (RPM/3165)<sup>3</sup>  
 MAXIMUM RPM = 2550  
 TIP SPEED (ft/min) = RPM x 2.978  
 MAXIMUM MOTOR FRAME SIZE = 56

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast Exhaust Belt & Direct Drive

## GB-121 • G-123



Damper Size = 12 x 12 (305 x 305)  
 Roof Opening = 14 1/2 x 14 1/2 (368 x 368)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 58/66 lbs. (26/30 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Direct Drive RPM  
 C-860 RPM    B-1140 RPM    A-1725 RPM    VG-1725 RPM

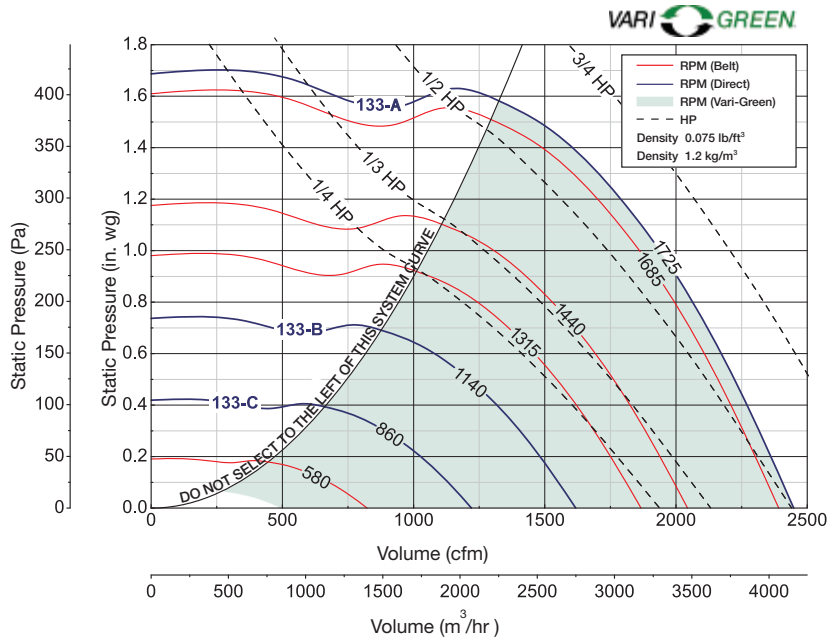
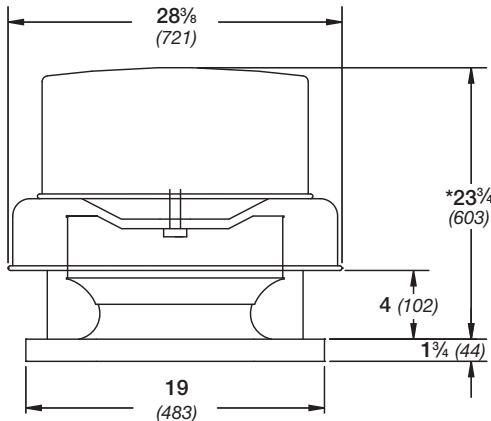
Motor HP	Fan RPM		Static Pressure in Inches wg											
	Belt	Direct	0	0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5		
121	123													
1/4	VG-1/2	580	CFM	704	515									
			BHP	0.02	0.02									
		Sones	3.2	3.3										
		720	CFM	873	735	523								
			BHP	0.03	0.04	0.04								
		Sones	4.2	4.3	4.1									
	C-1/8	860	CFM	1043	932	796	580							
			BHP	0.05	0.06	0.06	0.06							
	Sones	5.4	5.5	5.2	5.2									
	1000	B-1/6	CFM	1213	1119	1013	883	694						
			BHP	0.08	0.09	0.09	0.10	0.09						
			Sones	6.7	6.8	6.7	6.4	6.4						
CFM			1383	1300	1213	1112	993	831						
BHP			0.12	0.13	0.14	0.14	0.14	0.14						
Sones			8.4	8.4	8.4	8.1	7.9	7.8						
1265	B-1/6	CFM	1535	1460	1384	1299	1204	1093	950					
		BHP	0.16	0.17	0.18	0.19	0.19	0.20	0.19					
		Sones	10.2	10.1	10.1	9.9	9.7	9.6	9.4					
		CFM	1692	1625	1557	1484	1404	1315	1214	907				
		BHP	0.21	0.23	0.24	0.25	0.26	0.26	0.26	0.24				
		Sones	12.5	12.4	12.3	12.2	12.0	11.7	11.5	11.3				
1475	B-1/6	CFM	1789	1726	1661	1594	1521	1441	1356	1132				
		BHP	0.25	0.27	0.28	0.29	0.30	0.31	0.31	0.31				
		Sones	13.5	13.4	13.3	13.2	13.0	12.7	12.4	12.0				
		CFM	1880	1820	1759	1696	1629	1555	1475	1289	974			
		BHP	0.29	0.31	0.32	0.33	0.34	0.35	0.36	0.36	0.33			
		Sones	14.6	14.5	14.3	14.2	14.0	13.8	13.5	12.9	12.4			
1635	B-1/6	CFM	1983	1926	1868	1810	1747	1680	1608	1446	1231			
		BHP	0.34	0.36	0.37	0.39	0.40	0.41	0.42	0.43	0.41			
		Sones	15.9	15.8	15.6	15.4	15.3	15.0	14.8	13.9	13.4			
		CFM	2093	2038	1984	1928	1871	1810	1743	1600	1426	1180		
		BHP	0.40	0.42	0.44	0.45	0.46	0.47	0.48	0.50	0.50	0.47		
		Sones	17.4	17.2	17.0	16.8	16.7	16.4	16.2	15.5	14.9	14.0		
1/2	A-1/2	1725	CFM	2093	2038	1984	1928	1871	1810	1743	1600	1426	1180	
			BHP	0.40	0.42	0.44	0.45	0.46	0.47	0.48	0.50	0.50	0.47	
Sones	17.4	17.2	17.0	16.8	16.7	16.4	16.2	15.5	14.9	14.0				

MAXIMUM BHP AT A GIVEN RPM = (RPM/2170)<sup>3</sup>  
 MAXIMUM RPM = 1725  
 TIP SPEED (ft/min) = RPM x 3.420  
 MAXIMUM MOTOR FRAME SIZE = 56

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt & Direct Drive

## GB-131 • G-133



Damper Size = 12 x 12 (305 x 305)  
 Roof Opening = 14 1/2 x 14 1/2 (368 x 368)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 62/67 lbs. (28/30 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Direct Drive RPM			
C-860 RPM	B-1140 RPM	A-1725 RPM	VG-1725 RPM

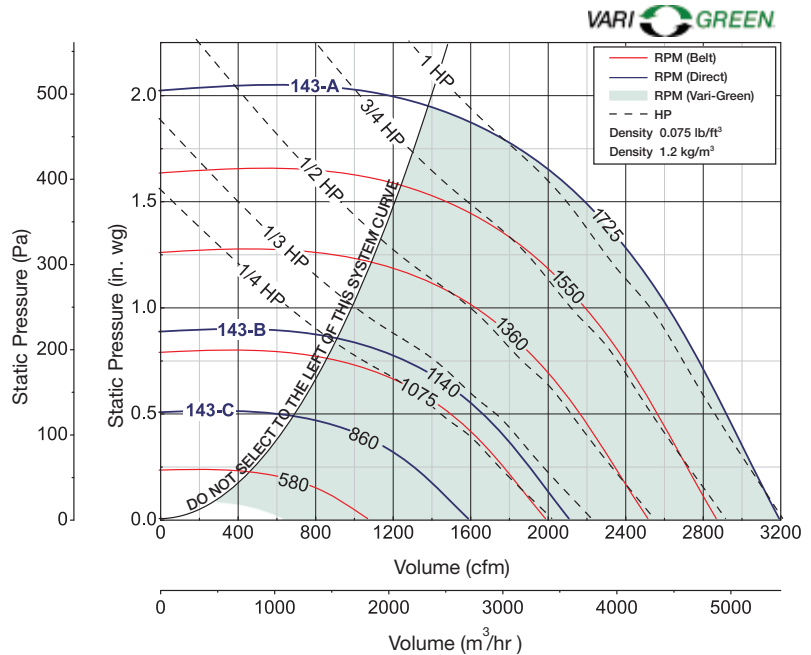
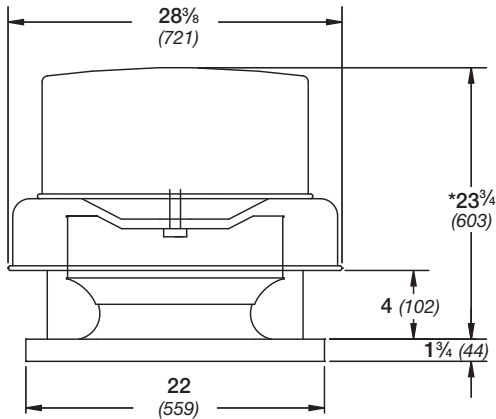
Motor HP	Fan RPM	Static Pressure in Inches wg														
		0	0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5					
131	133															
1/4	VG-3/4	580	CFM	823	626											
			BHP	0.02	0.02											
			Sones	4.5	4.5											
		720	CFM	1022	879	650										
			BHP	0.04	0.04	0.04										
			Sones	5.4	5.4	5.2										
	C-1/8	860	CFM	1221	1106	962	727									
			BHP	0.06	0.07	0.07	0.07									
			Sones	6.6	6.5	6.3	6.0									
		1000	CFM	1419	1323	1213	1075	867								
			BHP	0.10	0.11	0.11	0.12	0.11								
			Sones	8.1	8.0	7.7	7.4	7.0								
	B-1/6	1140	CFM	1618	1535	1444	1340	1211	1031							
			BHP	0.15	0.16	0.16	0.17	0.17	0.17							
			Sones	10.0	9.8	9.6	9.2	8.8	8.5							
		1250	CFM	1774	1698	1617	1528	1426	1133							
			BHP	0.19	0.2	0.21	0.22	0.23	0.22							
			Sones	12.0	11.7	11.3	11.0	10.5	9.7							
1315	CFM	1866	1794	1718	1637	1545	1435	1305								
	BHP	0.22	0.23	0.24	0.25	0.26	0.26	0.26								
	Sones	13.2	12.8	12.5	12.1	11.7	11.2	10.9								
1/3	1440	CFM	2044	1978	1911	1838	1759	1674	1571	1299						
		BHP	0.29	0.31	0.32	0.33	0.34	0.34	0.35	0.34						
		Sones	15.0	15.0	15.1	15.1	14.5	13.9	13.4	12.5						
1/2	1600	CFM	2271	2212	2152	2088	2023	1873	1783	1686	1425					
		BHP	0.40	0.42	0.43	0.44	0.45	0.47	0.47	0.48	0.47					
		Sones	16.2	16.0	15.8	15.6	15.3	14.6	14.2	13.9	13.2					
	1685	CFM	2391	2335	2279	2219	2158	2093	2020	1857	1654	1312				
		BHP	0.47	0.48	0.50	0.51	0.52	0.54	0.55	0.56	0.56	0.52				
		Sones	16.9	16.6	16.3	16.0	15.7	15.1	14.8	14.5	13.9	13.5				
3/4	A-1/2	1725	CFM	2448	2393	2338	2281	2220	2159	2089	1935	1746	1474			
			BHP	0.50	0.52	0.53	0.55	0.56	0.57	0.58	0.59	0.60	0.58			
			Sones	17.4	17.0	16.7	16.3	15.9	15.6	15.4	14.9	14.3	13.8			

MAXIMUM BHP AT A GIVEN RPM = (RPM/2047)<sup>3</sup>  
 MAXIMUM RPM - GB-131=1725, G-133=1725  
 TIP SPEED (ft/min) = RPM x 3.436  
 MAXIMUM MOTOR FRAME SIZE = 56

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.



# Roof Downblast - Exhaust Belt & Direct Drive GB-141 • G-143



Damper Size = 16 x 16 (406 x 406)  
 Roof Opening = 18½ x 18½ (470 x 470)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 77/86 lbs. (35/39 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

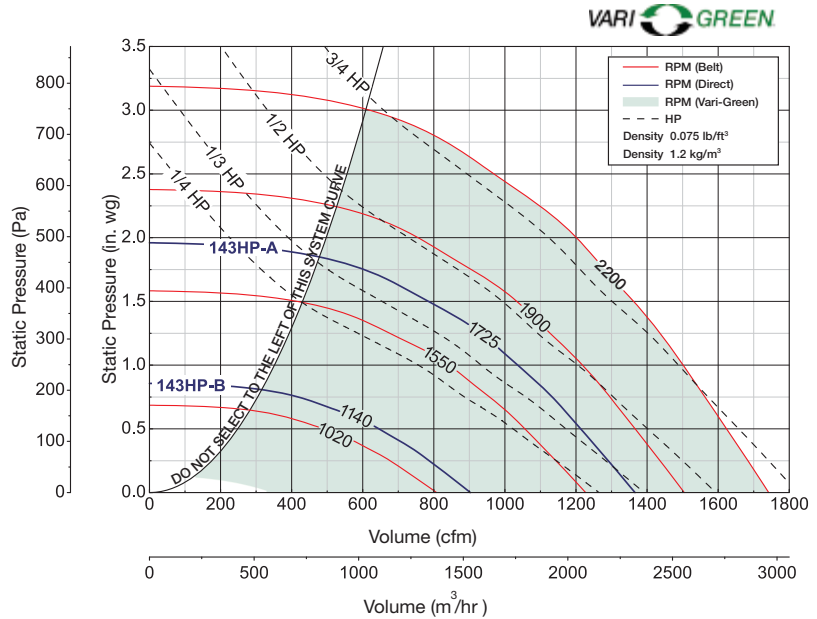
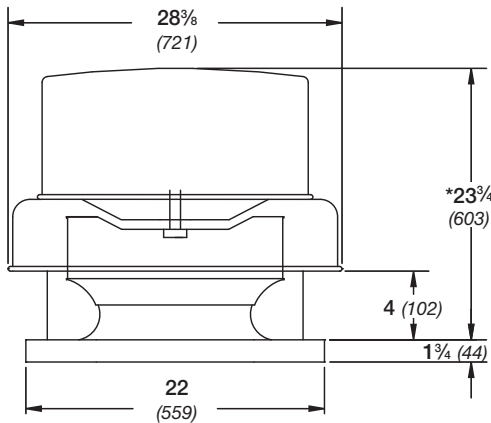
Direct Drive RPM  
 C-860 RPM    B-1140 RPM    A-1725 RPM    VG-1725 RPM

Belt	Motor HP		Fan RPM	Static Pressure in Inches wg															
	Direct	143		0	0.125	0.25	0.375	0.5	0.75	1	1.25	1.5	1.75						
1/4	VG-3/4	580	CFM	1076	855														
			BHP	0.04	0.04														
			Sones	4.7	4.7														
		720	CFM	1336	1169	938													
			BHP	0.07	0.08	0.08													
			Sones	5.8	5.9	5.2													
	C-1/8	860	CFM	1595	1457	1304	1085												
			BHP	0.12	0.13	0.13	0.13												
			Sones	7.1	7.0	6.6	6.1												
		950	CFM	1762	1636	1506	1344	1085											
			BHP	0.16	0.17	0.18	0.18	0.17											
			Sones	8.1	8.0	7.6	7.1	6.5											
1075	CFM	1994	1882	1771	1647	1490													
	BHP	0.24	0.25	0.26	0.26	0.26													
	Sones	10.0	9.9	9.4	8.9	8.4													
1/3	B-1/3	1140	CFM	2115	2008	1905	1792	1660	1233										
			BHP	0.28	0.30	0.31	0.31	0.31	0.29										
			Sones	11.0	10.9	10.4	9.9	9.4	8.2										
		1265	CFM	2347	2250	2158	2062	1955	1677	1048									
			BHP	0.39	0.40	0.41	0.42	0.42	0.42	0.35									
			Sones	12.9	12.7	12.3	11.9	11.4	10.4	8.8									
1360	CFM	2523	2433	2347	2259	2166	1943	1602											
	BHP	0.48	0.50	0.51	0.52	0.52	0.53	0.51											
	Sones	14.6	14.3	13.9	13.5	13.1	12.2	11.0											
3/4	VG-1	1450	CFM	2690	2606	2524	2443	2358	2165	1905	1501								
			BHP	0.58	0.60	0.61	0.63	0.63	0.64	0.63	0.59								
			Sones	16.2	15.9	15.6	15.2	14.7	13.8	12.9	11.7								
		1550	CFM	2875	2797	2719	2644	2566	2396	2191	1910	1297							
			BHP	0.71	0.73	0.74	0.76	0.77	0.78	0.79	0.76	0.65							
			Sones	17.7	18.0	17.4	17.2	16.8	15.0	14.8	14.8	14.9							
1	A-1	1725	CFM	3200	3129	3059	2991	2923	2782	2619	2427	2184	1815						
			BHP	0.98	1.00	1.02	1.03	1.05	1.07	1.07	1.09	1.06	1.00						
			Sones	20.0	21.0	20.0	19.9	19.6	18.5	17.2	17.0	16.8	16.8	16.7					

MAXIMUM BHP AT A GIVEN RPM = (RPM/1676)<sup>3</sup>  
 MAXIMUM RPM - GB-141=1725, G-143=1725  
 TIP SPEED (ft/min) = RPM x 3.829  
 MAXIMUM MOTOR FRAME SIZE = 145T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt & Direct Drive GB-141HP • G-143HP



Damper Size = 16 x 16  
 Roof Opening = 18½ x 18½ (470 x 470)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 75/83 lbs. (34/38 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Direct Drive RPM	A-1725 RPM	VG-2200 RPM
B-1140 RPM		

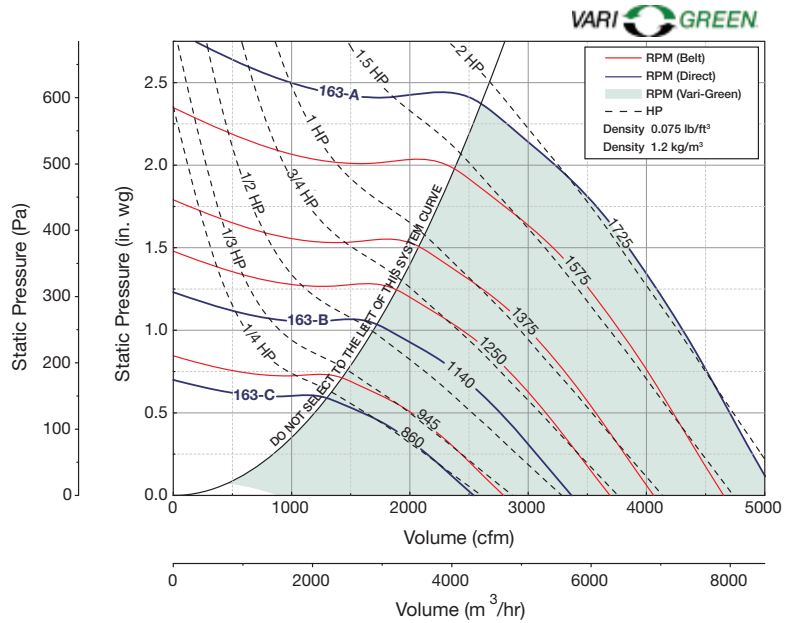
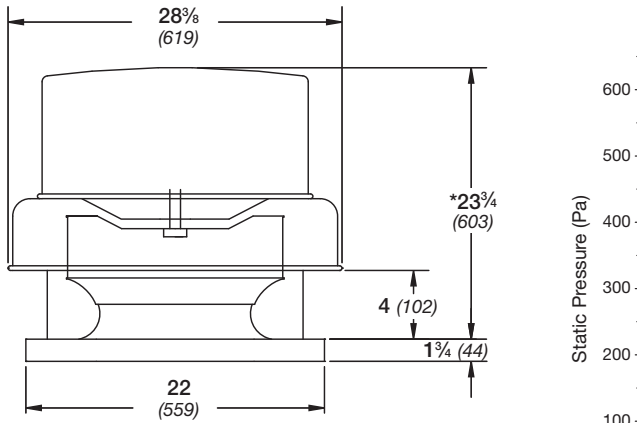
Motor HP	Fan RPM		Static Pressure in Inches wg																							
	Belt	Direct	.5	.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75														
141HP	Direct	143HP	1020	CFM	488																					
				BHP	0.08																					
				Sones	6.3																					
				1140	CFM	645	413																			
					BHP	0.11	0.11																			
					Sones	7.7	7.6																			
			1320	CFM	837	700	486																			
				BHP	0.17	0.18	0.17																			
				Sones	10.3	9.8	9.9																			
			1500	CFM	1009	903	774	592																		
				BHP	0.24	0.26	0.26	0.25																		
				Sones	13.1	12.3	12.2	12.4																		
1/3	1655	CFM	1151	1064	959	833	668																			
		BHP	0.32	0.34	0.35	0.35	0.34																			
		Sones	15.0	14.1	13.3	13.1	13.6																			
1/2	Direct	1725	CFM	1213	1132	1035	932	784	588																	
			BHP	0.36	0.38	0.39	0.39	0.39	0.37																	
			Sones	16.2	15.4	14.7	14.2	14.3	14.9																	
			1812	CFM	1289	1213	1127	1030	911	763	545															
				BHP	0.41	0.43	0.45	0.46	0.45	0.45	0.41															
				Sones	17.8	17.2	16.6	15.8	15.6	15.9	16.6															
		1900	CFM	1366	1294	1218	1127	1033	901	753																
			BHP	0.47	0.49	0.51	0.53	0.53	0.52	0.51																
			Sones	19.0	18.4	18.0	17.4	16.8	16.7	17.0																
		3/4	2050	CFM	1495	1430	1361	1285	1200	1113	991	857	672													
				BHP	0.58	0.61	0.63	0.65	0.66	0.66	0.66	0.66	0.65	0.61												
				Sones	21.0	20.0	19.8	19.3	18.8	18.6	18.3	18.3	18.3	18.6												
2170	CFM			1598	1536	1472	1407	1328	1248	1163	1045	919	757													
	BHP			0.68	0.71	0.73	0.76	0.77	0.78	0.79	0.78	0.77	0.74													
	Sones			22.0	22.0	21.0	21.0	21.0	21.0	21.0	21.0	20.0	19.7	19.8												
2200	CFM	1623	1562	1500	1436	1360	1281	1200	1088	968	834															
	BHP	0.71	0.74	0.76	0.78	0.80	0.82	0.82	0.81	0.80	0.79															
	Sones	23.0	22.0	22.0	22.0	21.0	21.0	21.0	21.0	21.0	20.0	20.0														

MAXIMUM BHP AT A GIVEN RPM = (RPM/2351)<sup>3</sup>  
 MAXIMUM RPM - GB-141HP=2200, G-143HP=2200  
 TIP SPEED (ft/min) = RPM x 3.829  
 MAXIMUM MOTOR FRAME SIZE = 145T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt & Direct Drive

## GB-161 • G-163



Damper Size = 16 x 16  
 Roof Opening = 18½ x 18½ (470 x 470)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 101/88 lbs. (46/40 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

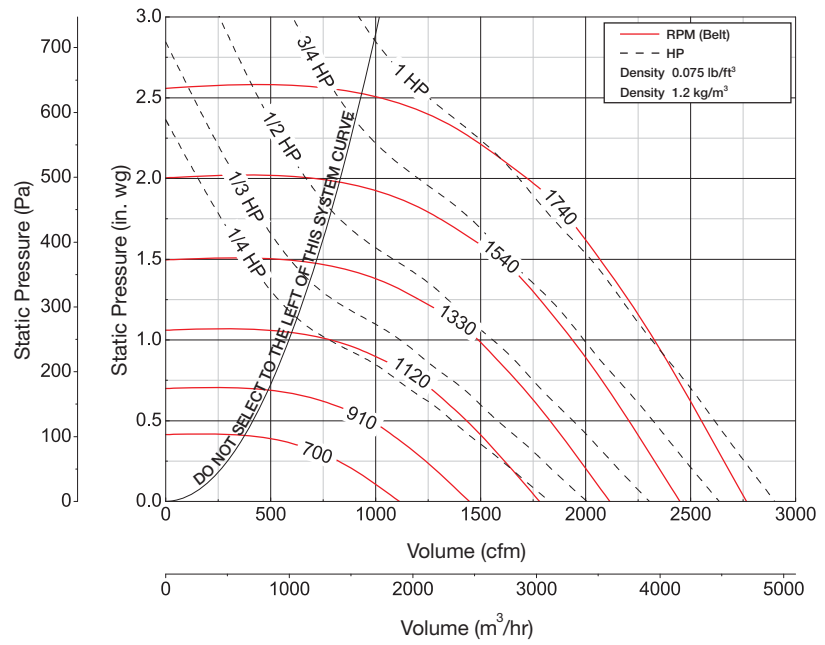
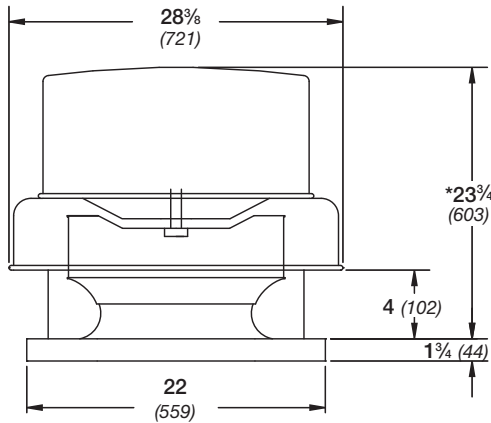
Direct Drive RPM		
C-860 RPM	B-1140 RPM	A-1725 RPM

Belt	Motor HP	Fan RPM	Static Pressure in Inches wg																		
			0	0.125	0.25	0.375	0.5	0.75	0.875	1	1.25	1.5									
161	163																				
1/4	VG-1	580	CFM	1713	1417	970															
			BHP	0.07	0.08	0.07															
			Sones	5.8	5.6	5.3															
		720	CFM	2127	1893	1632	1243														
			BHP	0.14	0.15	0.15	0.14														
			Sones	7.8	7.5	7.2	6.8														
	C-1/4	860	CFM	2540	2344	2145	1913	1596													
			BHP	0.23	0.24	0.25	0.26	0.24													
			Sones	10.5	10.0	9.6	9.3	8.7													
		945	CFM	2791	2612	2434	2236	2010													
			BHP	0.31	0.32	0.33	0.34	0.34													
			Sones	12.6	12.0	11.5	11.2	10.7													
1/2	1100	CFM	3249	3095	2943	2787	2615	2198	1900												
		BHP	0.48	0.50	0.52	0.53	0.53	0.52	0.50												
		Sones	15.3	14.7	14.1	13.8	13.5	12.5	12.0												
	B-1/2	1140	CFM	3367	3219	3072	2922	2761	2382	2125	1808										
			BHP	0.54	0.56	0.57	0.58	0.59	0.59	0.57	0.54										
			Sones	15.9	15.4	14.9	14.5	14.2	13.3	12.9	12.1										
3/4	1200	CFM	3545	3403	3263	3123	2977	2641	2429	2167											
		BHP	0.63	0.65	0.66	0.68	0.69	0.69	0.68	0.66											
		Sones	17.0	16.5	16.0	15.6	15.3	14.6	14.1	13.7											
VG-2	1250	CFM	3692	3557	3422	3289	3149	2838	2658	2444											
		BHP	0.71	0.73	0.75	0.76	0.77	0.79	0.78	0.76											
		Sones	17.9	17.4	17.0	16.6	16.3	15.6	15.2	14.9											
1	1375	CFM	4062	3938	3815	3694	3571	3304	3161	3007	2609	2073									
		BHP	0.95	0.97	0.99	1.01	1.02	1.04	1.05	1.04	1.01	0.93									
		Sones	21	20	19.6	19.2	18.9	18.4	18.0	17.6	17.2	15.4									
1½	1575	CFM	4652	4545	4437	4330	4225	4007	3894	3769	3512	3198									
		BHP	1.42	1.45	1.47	1.49	1.51	1.54	1.56	1.56	1.57	1.54									
		Sones	26	25	25	24	24	24	23	23	22	22	22								
A-2	1725	CFM	5095	4997	4899	4800	4704	4510	4409	4308	4082	3845									
		BHP	1.87	1.89	1.92	1.94	1.97	2.01	2.03	2.04	2.06	2.06									
		Sones	30	30	30	29	29	28	28	28	28	27	26								

MAXIMUM BHP AT A GIVEN RPM = (RPM/1355)<sup>3</sup>  
 MAXIMUM RPM - GB-161=1575, G-163=1725  
 TIP SPEED (ft/min) = RPM x 4.352  
 MAXIMUM MOTOR FRAME SIZE = 145T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-161HP



Damper Size = 16 x 16 (406 x 406)  
 Roof Opening = 18 1/2 x 18 1/2 (470 x 470)  
 Shroud Thickness = 0.051 (1.3)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 88 lbs. (40 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor.  
 ^Weight shown is largest cataloged Open Drip-Proof motor.

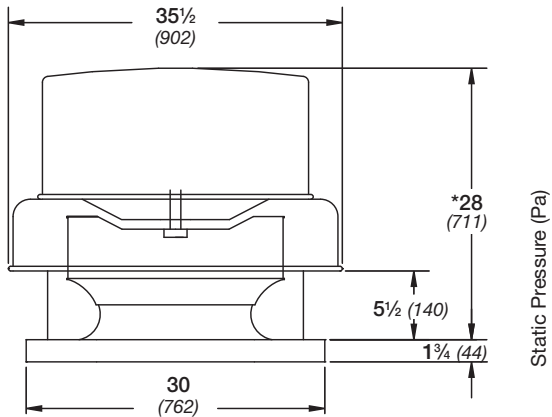
Motor HP	Fan RPM	Static Pressure in Inches wg										
		0.5	0.625	0.75	1	1.25	1.5	1.75	2	2.25	2.5	
<b>161HP</b>												
1/4	825	CFM	702									
		BHP	0.11									
		Sones	6.5									
	960	CFM	1093	919	585							
		BHP	0.18	0.17	0.15							
		Sones	7.7	7.6	8.0							
	1095	CFM	1380	1271	1139	589						
		BHP	0.26	0.26	0.26	0.21						
		Sones	9.0	9.0	8.9	9.5						
1/3	1210	CFM	1606	1514	1416	1149						
		BHP	0.34	0.35	0.35	0.34						
		Sones	10.6	10.3	10.4	10.3						
1/2	1270	CFM	1718	1636	1545	1333	949					
		BHP	0.39	0.40	0.40	0.41	0.37					
		Sones	11.4	11.2	11.1	11.1	11.4					
	1330	CFM	1829	1753	1668	1483	1204					
		BHP	0.44	0.45	0.46	0.47	0.45					
		Sones	12.3	12.1	11.9	12.1	12.0					
	1390	CFM	1938	1865	1789	1619	1399	1032				
		BHP	0.50	0.51	0.52	0.53	0.53	0.48				
		Sones	13.3	13.0	12.8	12.7	12.7	13.1				
3/4	1485	CFM	2109	2041	1973	1822	1654	1416	1012			
		BHP	0.60	0.61	0.63	0.64	0.65	0.63	0.57			
		Sones	14.9	14.7	14.4	13.8	13.7	14.0	14.7			
	1580	CFM	2275	2214	2150	2016	1868	1704	1447	1034		
		BHP	0.72	0.73	0.75	0.77	0.77	0.791	0.75	0.67		
		Sones	16.7	16.7	16.4	15.5	14.7	14.8	15.4	16.6		
1	1660	CFM	2414	2357	2297	2175	2037	1887	1702	1441	996	
		BHP	0.82	0.84	0.85	0.89	0.89	0.91	0.90	0.86	0.75	
		Sones	18.3	18.8	18.3	16.7	16.2	15.8	15.8	17.1	20	
	1740	CFM	2551	2497	2442	2325	2200	2066	1917	1714	1452	987
		BHP	0.94	0.96	0.97	1.01	1.03	1.03	1.05	1.03	0.98	0.85
		Sones	20	21	21	18.4	17.5	17.2	16.8	17.2	19.2	28

MAXIMUM BHP AT A GIVEN RPM = (RPM/1708)<sup>3</sup>  
 MAXIMUM RPM = 1740  
 TIP SPEED (ft/min) = RPM x 4.352  
 MAXIMUM MOTOR FRAME SIZE = 145T

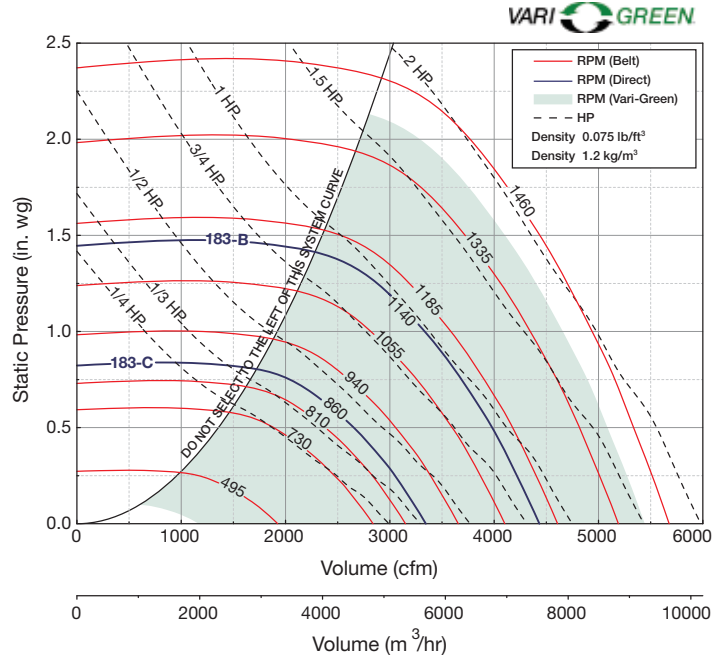
Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.



# Roof Downblast - Exhaust Belt & Direct Drive GB-180 • G-183



Static Pressure (Pa)



Damper Size = 18 x 18 (457 x 457)  
 Roof Opening = 20 1/2 x 20 1/2 (521 x 521)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 108/142 lbs. (49/64 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

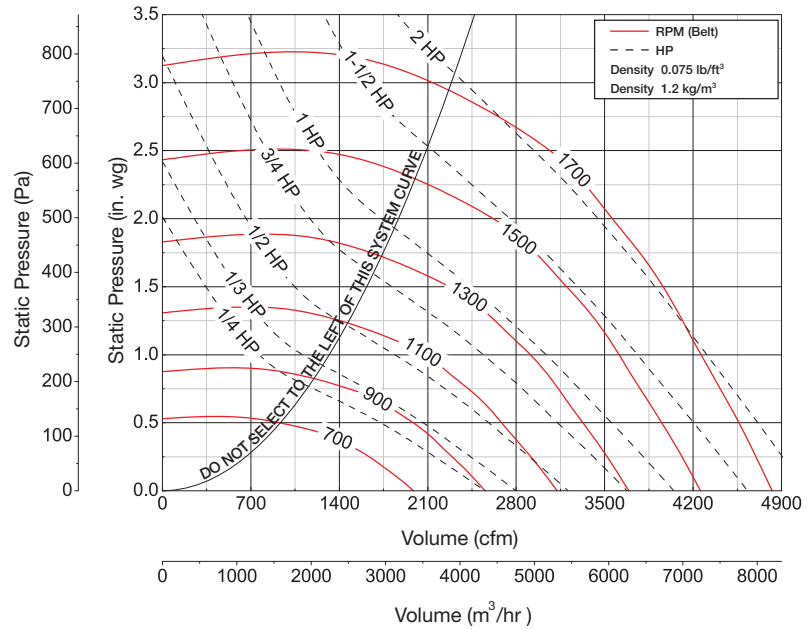
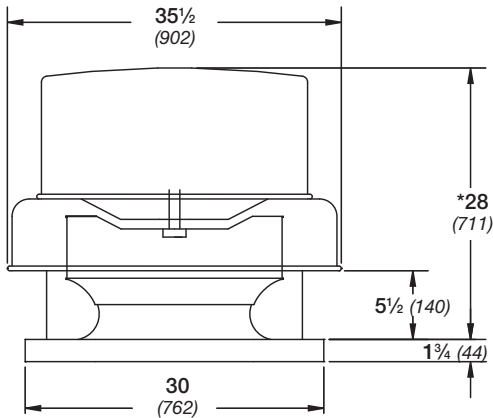
Direct Drive RPM  
 C-860 RPM      B-1140 RPM

Belt	Motor HP		Fan RPM	Static Pressure in Inches wg									
	Direct	183		0	0.125	0.25	0.5	0.75	1	1.25	1.5	1.75	2
180	183												
1/4	VG-1	730	CFM	2839	2668	2469	1882						
			BHP	0.21	0.23	0.25	0.25						
Sones		7.4	8.7	7.2	6.7								
1/3		810	CFM	3150	2997	2832	2375						
	BHP		0.29	0.31	0.33	0.35							
1/2	C-1/2	860	CFM	3344	3202	3049	2647	2015					
			BHP	0.35	0.36	0.39	0.42	0.4					
Sones		10.1	10.8	9.8	9.1	8.1							
3/4		940	CFM	3655	3527	3388	3052	2601					
	BHP		0.46	0.47	0.49	0.54	0.54						
1	VG-2	1000	CFM	3888	3769	3638	3339	2953	2387				
			BHP	0.55	0.57	0.58	0.64	0.66	0.63				
Sones		15.2	14.7	13.7	13.0	11.9	11.1						
1 1/2		1055	CFM	4102	3990	3867	3596	3252	2811				
	BHP		0.65	0.67	0.68	0.74	0.77	0.77					
2	B-1	1140	CFM	4433	4329	4216	3980	3684	3328	2856			
			BHP	0.81	0.84	0.85	0.93	0.96	0.98	0.95			
2	1185	CFM	4608	4508	4401	4179	3900	3575	3178	2499			
		BHP	0.91	0.94	0.96	1.03	1.07	1.1	1.09	0.99			
2	1335	CFM	5191	5102	5010	4814	4599	4344	4052	3713	3262		
		BHP	1.31	1.33	1.36	1.41	1.49	1.54	1.57	1.56	1.51		
2	1400	CFM	5444	5359	5273	5086	4892	4655	4401	4097	3747	3253	
		BHP	1.51	1.54	1.56	1.61	1.71	1.75	1.81	1.81	1.79	1.71	
2	1460	CFM	5677	5596	5514	5336	5155	4938	4699	4426	4123	3765	
		BHP	1.71	1.74	1.77	1.81	1.93	1.97	2.03	2.05	2.05	2.02	
2	1460	Sones	24	23	23	22	22	21	21	20	19.7	19.2	
		Sones	26	25	24	24	23	23	22	22	22	21	

MAXIMUM BHP AT A GIVEN RPM = (RPM/1149)<sup>3</sup>  
 MAXIMUM RPM = 1460  
 TIP SPEED (ft/min) = RPM x 4.843  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-180HP



Damper Size = 18 x 18 (457 x 457)  
 Roof Opening = 20½ x 20½ (521 x 521)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 142 lbs. (64 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

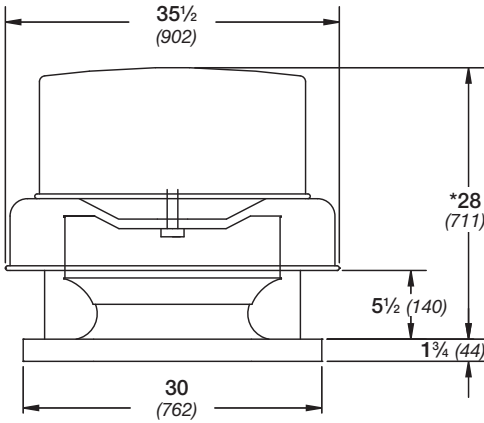
Motor HP	Fan RPM	Static Pressure in Inches wg										
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	
<b>180HP</b>												
1/4	795	CFM	1547									
		BHP	0.22									
		Sones	8.6									
	845	CFM	1759									
		BHP	0.26									
		Sones	9.1									
1/3	935	CFM	2114	1686								
		BHP	0.35	0.35								
		Sones	10.3	9.6								
1/2	1075	CFM	2601	2316	1920							
		BHP	0.51	0.53	0.52							
		Sones	12.9	12.1	11.6							
3/4	1150	CFM	2847	2607	2298	1811						
		BHP	0.61	0.64	0.65	0.62						
		Sones	14.6	13.1	12.6	12.3						
	1225	CFM	3088	2880	2610	2277	1711					
		BHP	0.73	0.77	0.78	0.78	0.72					
		Sones	16.3	14.7	13.9	13.3	13.2					
1	1350	CFM	3485	3296	3095	2840	2540	2059				
		BHP	0.96	1.00	1.04	1.05	1.05	0.99				
		Sones	19.5	17.6	16.4	15.8	15.0	15.1				
1½	1445	CFM	3782	3604	3428	3213	2969	2670	2216			
		BHP	1.16	1.21	1.25	1.28	1.29	1.28	1.21			
		Sones	22	20	18.8	17.8	17.3	16.4	16.6			
	1540	CFM	4076	3909	3744	3576	3353	3119	2827	2407		
		BHP	1.39	1.44	1.49	1.53	1.55	1.56	1.55	1.48		
		Sones	25	22	21	20	19.6	18.9	18.1	18.3		
2	1620	CFM	4319	4163	4005	3848	3663	3450	3223	2923	2512	
		BHP	1.60	1.66	1.71	1.76	1.79	1.81	1.82	1.80	1.72	
		Sones	27	25	24	23	22	21	20	19.7	19.8	
	1700	CFM	4560	4414	4263	4114	3964	3764	3560	3340	3037	2642
		BHP	1.84	1.90	1.96	2.01	2.06	2.08	2.10	2.11	2.07	1.99
		Sones	30	27	26	25	24	23	22	22	21	21

MAXIMUM BHP AT A GIVEN RPM = (RPM/1325)<sup>3</sup>  
 MAXIMUM RPM = 1700  
 TIP SPEED (ft/min) = RPM x 4.843  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

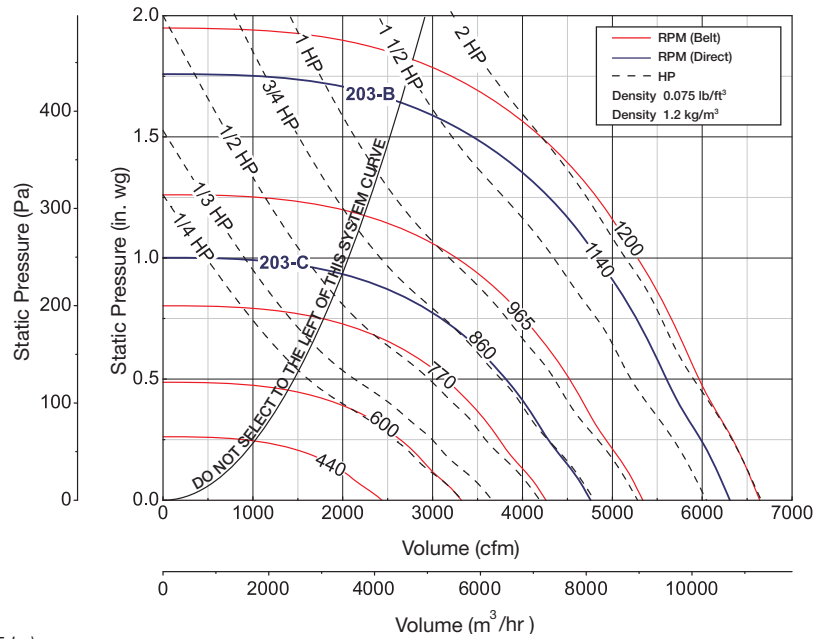
# Roof Downblast - Exhaust Belt & Direct Drive

## GB-200 • G-203



Damper Size = 18 x 18 (457 x 457)  
 Roof Opening = 20½ x 20½ (521 x 521)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight G/GB = 119/144 lbs. (54/65 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.



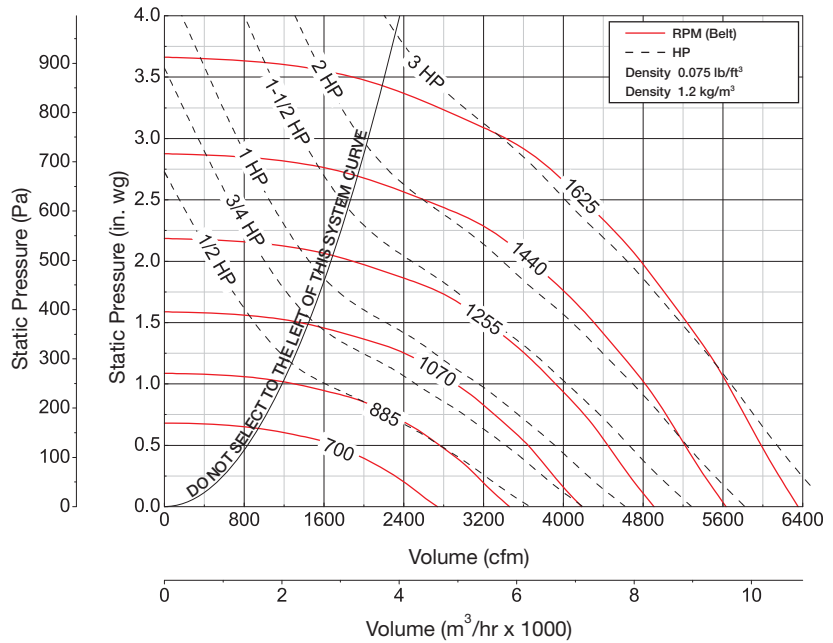
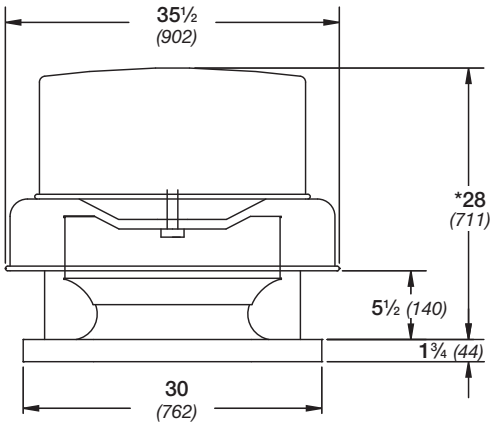
Direct Drive RPM	C-860 RPM	B-1140 RPM
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Motor HP	Fan RPM	Static Pressure in Inches wg																		
		0	0.125	0.25	0.375	0.5	0.75	1.0	1.25	1.5	1.75									
<b>200</b>	<b>203</b>																			
1/4	440	CFM	2435	1976																
		BHP	0.1	0.1																
		Sones	6.5	5.8																
	600	CFM	3320	2984	2637	2089														
		BHP	0.25	0.26	0.26	0.25														
		Sones	8.5	7.9	7.3	6.1														
1/3	665	CFM	3680	3378	3085	2706	2087													
		BHP	0.34	0.34	0.35	0.35	0.33													
		Sones	9.6	9	8.5	7.7	6.7													
1/2	718	CFM	3973	3700	3422	3109	2684													
		BHP	0.43	0.43	0.45	0.45	0.44													
		Sones	10.8	10	9.6	9	8.3													
	770	CFM	4261	4013	3744	3477	3141													
		BHP	0.52	0.53	0.55	0.55	0.55													
		Sones	12.1	11	10.7	10.2	9.8													
3/4	C-3/4 860	CFM	4759	4548	4289	4068	3811	3085												
		BHP	0.73	0.74	0.75	0.77	0.77	0.74												
		Sones	14.1	13.3	12.9	12.4	11.8	11.1												
1	965	CFM	5340	5158	4927	4720	4520	4015	3240											
		BHP	1.03	1.04	1.05	1.08	1.09	1.08	1.02											
		Sones	16.7	16	15.4	15	14.5	13.7	13											
1 1/2	1028	CFM	5689	5517	5309	5101	4918	4488	3911	2941										
		BHP	1.25	1.26	1.27	1.29	1.31	1.32	1.28	1.14										
		Sones	18.5	17.8	17.2	16.8	16.4	15.6	14.7	14.6										
	1090	CFM	6032	5870	5682	5473	5301	4925	4450	3751										
		BHP	1.49	1.5	1.51	1.52	1.56	1.56	1.56	1.48										
		Sones	20	19.6	18.9	18.4	18.1	17.5	16.8	15.8										
2	B-2 1140	CFM	6308	6154	5980	5779	5606	5267	4832	4287	3439									
		BHP	1.7	1.71	1.72	1.74	1.77	1.79	1.79	1.75	1.61									
		Sones	22	21	21	20	19.7	19.1	18.5	17.5	16.5									
	1200	CFM	6640	6494	6336	6145	5969	5651	5274	4829	4177	3077								
		BHP	1.99	2	2.01	2.02	2.04	2.09	2.09	2.08	1.99	1.69								
		Sones	24	23	23	22	22	21	21	19.9	18.6	16.7								

MAXIMUM BHP AT A GIVEN RPM = (RPM/938)<sup>3</sup>  
 MAXIMUM RPM = 1200  
 TIP SPEED (ft/min) = RPM x 5.596  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-200HP



- Damper Size = 18 x 18 (457 x 457)
- Roof Opening = 20 1/2 x 20 1/2 (521 x 521)
- Shroud Thickness = 0.064 (1.6)
- Motor Cover Thickness = 0.040 (1.0)
- Curb Cap Thickness = 0.064 (1.6)
- ^Approximate Unit Weight = 166 lbs. (75 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

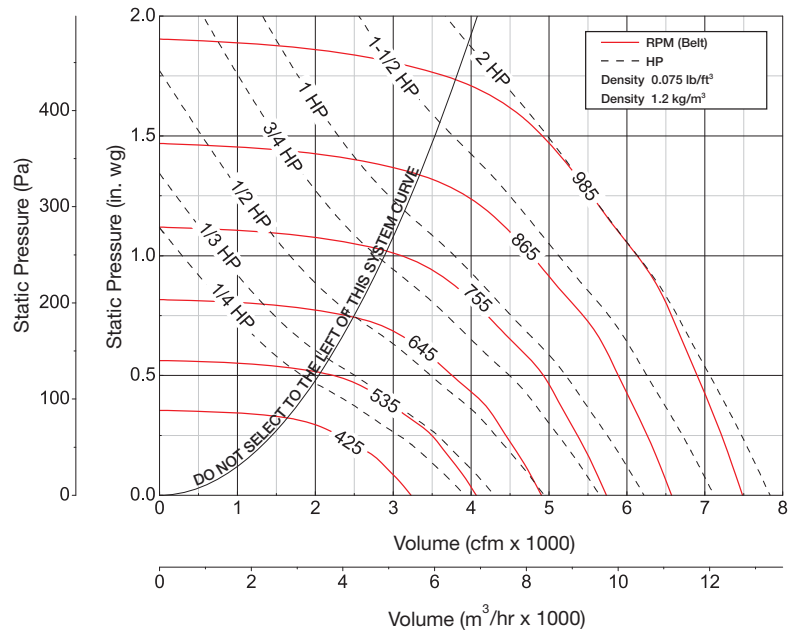
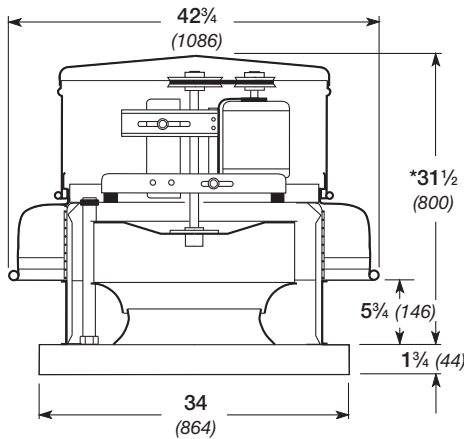
Motor HP	Fan RPM	Static Pressure in Inches wg										
		0.5	0.75	1	1.25	1.5	2	2.5	2.75	3	3.25	
<b>200HP</b>												
1/2	740	CFM	1961									
		BHP	0.30									
		Sones	8.7									
	895	CFM	2809	2331	1424							
		BHP	0.52	0.53	0.45							
		Sones	11.4	10.9	10.3							
3/4	958	CFM	3116	2715	2153							
		BHP	0.63	0.65	0.63							
		Sones	12.8	12.1	11.6							
	1020	CFM	3409	3050	2602	1857						
		BHP	0.75	0.77	0.78	0.71						
		Sones	14.1	13.6	13.1	12.6						
1	1125	CFM	3885	3584	3243	2804	2136					
		BHP	0.99	1.02	1.04	1.04	0.97					
		Sones	16.9	16.4	15.5	15.3	15.2					
1 1/2	1205	CFM	4229	3967	3663	3314	2884					
		BHP	1.19	1.24	1.27	1.29	1.27					
		Sones	18.8	17.9	17.2	16.5	16.4					
	1285	CFM	4569	4343	4070	3770	3416	2278				
		BHP	1.43	1.49	1.52	1.55	1.57	1.40				
		Sones	21	20	19.1	18.1	17.8	18.9				
2	1350	CFM	4843	4638	4384	4109	3811	2996				
		BHP	1.65	1.71	1.75	1.78	1.81	1.76				
		Sones	23	22	21	19.8	19.3	19.1				
	1415	CFM	5114	4919	4692	4442	4169	3492	2250			
		BHP	1.88	1.95	2.00	2.04	2.07	2.07	1.78			
		Sones	24	24	23	22	21	19.7	23			
3	1520	CFM	5550	5368	5182	4952	4713	4166	3458	2850	2046	
		BHP	2.31	2.38	2.45	2.50	2.53	2.58	2.53	2.38	2.06	
		Sones	27	27	27	26	24	23	22	22	22	
	1625	CFM	5982	5812	5642	5448	5233	4767	4196	3859	3377	2725
		BHP	2.80	2.88	2.95	3.02	3.06	3.13	3.16	3.12	3.01	2.76
		Sones	32	31	31	29	28	27	25	24	23	22

MAXIMUM BHP AT A GIVEN RPM = (RPM/1106)<sup>3</sup>  
 MAXIMUM RPM = 1625  
 TIP SPEED (ft/min) = RPM x 5.596  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.



# Roof Downblast - Exhaust Belt Drive GB-220



Damper Size = 24 x 24 (610 x 610)  
 Roof Opening = 26½ x 26½ (673 x 673)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 164 lbs. (74 kg)

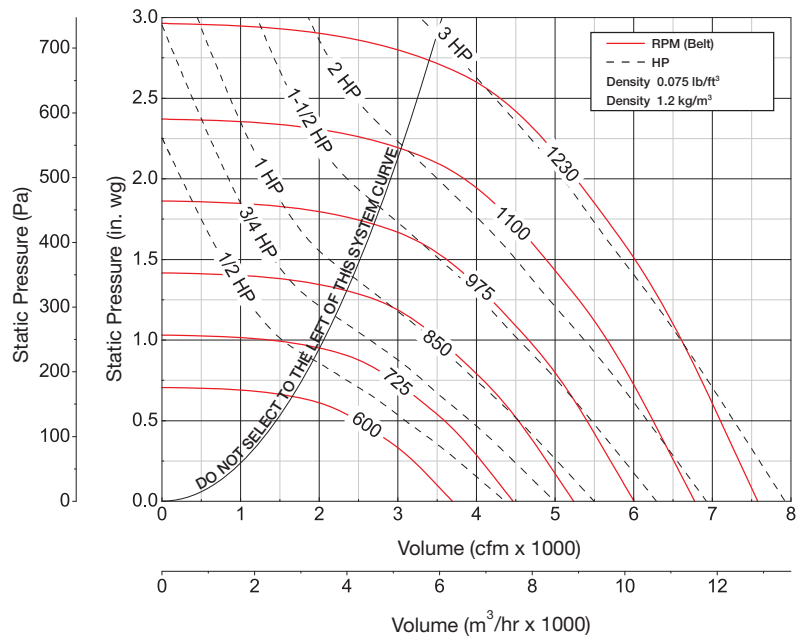
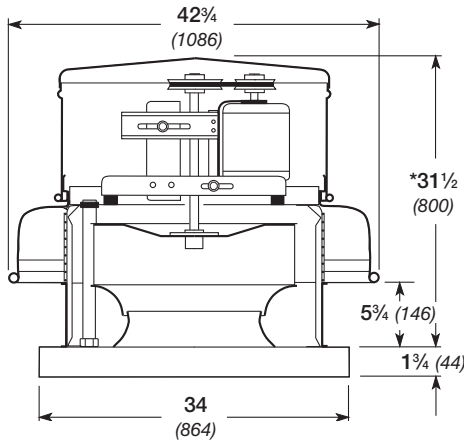
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM		Static Pressure in Inches wg									
			0	0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5
<b>220</b>												
1/4	425	CFM	3230	2879	2296							
		BHP	0.14	0.16	0.16							
		Sones	7.4	7.2	6.9							
	465	CFM	3533	3219	2758	1951						
		BHP	0.18	0.20	0.21	0.19						
		Sones	8.1	7.8	7.4	7.0						
500	CFM	3799	3512	3132	2542							
	BHP	0.23	0.25	0.26	0.26							
	Sones	8.8	8.4	7.9	7.5							
1/3	550	CFM	4179	3924	3629	3158	2526					
		BHP	0.30	0.32	0.34	0.35	0.33					
		Sones	10.0	9.6	8.9	8.4	8.0					
1/2	640	CFM	4863	4654	4403	4120	3702	3208				
		BHP	0.48	0.50	0.53	0.54	0.55	0.54				
		Sones	13.0	12.8	12.1	11.2	10.5	9.7				
3/4	710	CFM	5395	5206	4990	4762	4459	4077	3633			
		BHP	0.65	0.68	0.71	0.73	0.74	0.75	0.74			
		Sones	15.0	14.9	14.4	13.6	12.8	12.1	11.2			
1	755	CFM	5737	5559	5362	5148	4920	4579	4206	3095		
		BHP	0.79	0.82	0.84	0.87	0.89	0.90	0.90	0.82		
		Sones	15.7	15.6	15.2	14.6	14.0	13.4	12.7	11.2		
	800	CFM	6079	5911	5732	5530	5326	5049	4716	3929		
		BHP	0.93	0.97	1.00	1.02	1.05	1.06	1.07	1.05		
		Sones	16.6	16.4	16.1	15.6	15.2	14.6	14.2	12.5		
1½	848	CFM	6444	6286	6122	5932	5741	5540	5236	4566	3542	
		BHP	1.11	1.15	1.18	1.21	1.23	1.26	1.27	1.27	1.17	
		Sones	17.8	17.5	17.2	16.9	16.5	16.2	15.7	14.5	13.4	
	895	CFM	6801	6651	6501	6323	6142	5960	5723	5122	4401	
		BHP	1.31	1.34	1.38	1.41	1.44	1.47	1.49	1.50	1.47	
		Sones	19.4	19.1	18.8	18.5	18.2	18.0	17.6	16.9	15.5	
2	985	CFM	7485	7349	7212	7062	6898	6734	6568	6107	5548	4883
		BHP	1.74	1.78	1.82	1.86	1.89	1.92	1.95	1.99	2.00	1.96
		Sones	23	23	23	22	22	22	22	21	20	19.0

MAXIMUM BHP AT A GIVEN RPM = (RPM/782)<sup>3</sup>  
 MAXIMUM RPM = 985  
 TIP SPEED (ft/min) = RPM x 6.283  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-220HP



Damper Size = 24 x 24 (610 x 610)  
 Roof Opening = 26½ x 26½ (673 x 673)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 186 lbs. (84 kg)

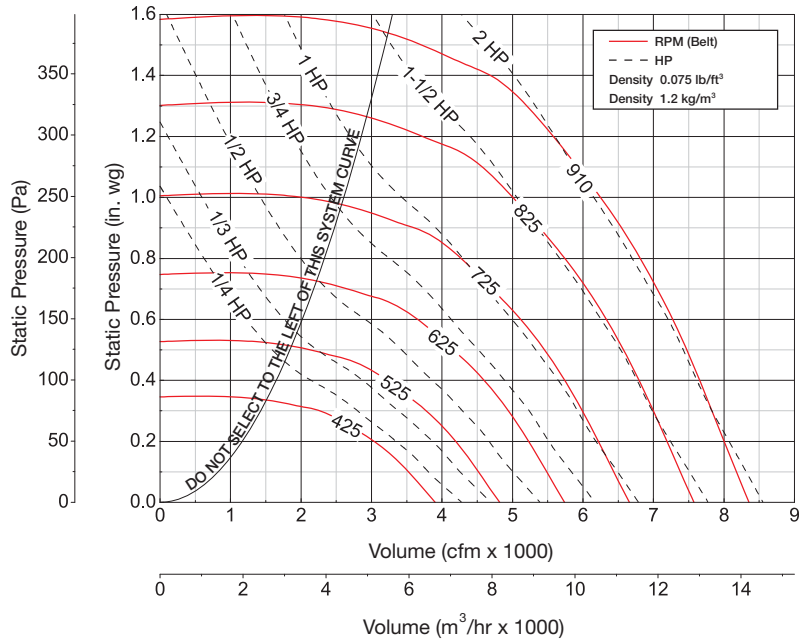
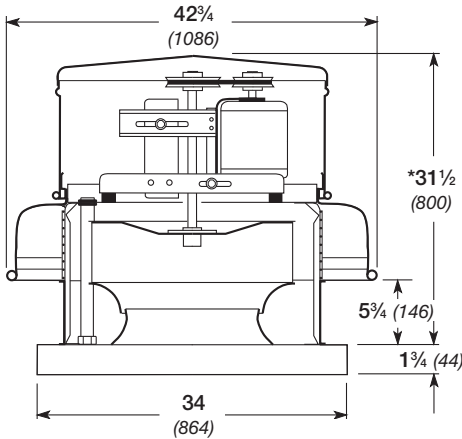
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM	Static Pressure in Inches wg										
		0.5	0.625	0.75	1	1.25	1.5	1.75	2	2.25	2.5	
<b>220HP</b>												
1/2	650	CFM	2952	2555	1892							
		BHP	0.47	0.46	0.42							
		Sones	8.9	8.5	8.3							
	680	CFM	3215	2871	2440							
		BHP	0.53	0.53	0.52							
		Sones	9.4	9.2	8.9							
3/4	728	CFM	3614	3312	2974							
		BHP	0.65	0.65	0.65							
		Sones	10.6	10.3	9.9							
	775	CFM	3973	3719	3424	2643						
		BHP	0.77	0.79	0.79	0.75						
		Sones	12.0	11.5	11.1	10.5						
1	850	CFM	4532	4317	4083	3536	2648					
		BHP	1.00	1.02	1.04	1.03	0.95					
		Sones	15.0	13.8	13.5	12.7	12.0					
1½	913	CFM	4975	4791	4590	4119	3545	2557				
		BHP	1.22	1.25	1.27	1.29	1.27	1.13				
		Sones	16.7	16.0	15.3	14.4	13.5	13.0				
	975	CFM	5400	5245	5060	4660	4185	3602				
		BHP	1.46	1.50	1.53	1.57	1.56	1.53				
		Sones	18.7	18.2	17.5	16.3	15.4	14.8				
2	1025	CFM	5740	5591	5432	5075	4643	4157	3492			
		BHP	1.68	1.72	1.76	1.81	1.82	1.804	1.74			
		Sones	21	20	19.4	18.2	17.1	16.4	15.6			
	1075	CFM	6076	5935	5794	5459	5082	4649	4136	3346		
		BHP	1.93	1.97	2.01	2.06	2.10	2.10	2.07	1.93		
		Sones	23	22	21	20	18.7	18.3	17.7	16.4		
3	1127	CFM	6422	6289	6154	5852	5520	5124	4703	4173	3299	
		BHP	2.20	2.24	2.29	2.36	2.41	2.42	2.41	2.37	2.17	
		Sones	24	24	23	22	21	20	19.3	18.6	17.7	
	1230	CFM	7100	6981	6858	6611	6316	6009	5649	5263	4812	4265
		BHP	2.82	2.87	2.92	3.01	3.08	3.14	3.15	3.14	3.10	3.02
		Sones	28	27	27	27	25	25	23	22	22	22

MAXIMUM BHP AT A GIVEN RPM = (RPM/838)<sup>3</sup>  
 MAXIMUM RPM = 1230  
 TIP SPEED (ft/min) = RPM x 6.414  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-240



Damper Size = 24 x 24 (610 x 610)  
 Roof Opening = 26½ x 26½ (673 x 673)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 165 lbs. (75 kg)

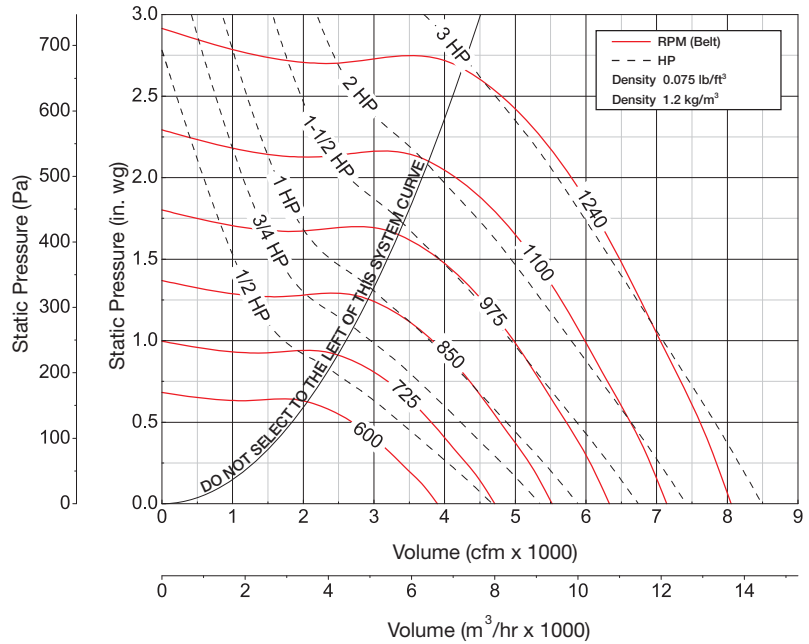
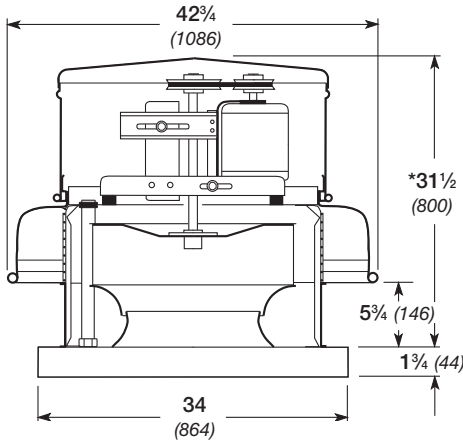
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM	Static Pressure in Inches wg											
		0	0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5		
<b>240</b>													
1/4	425	CFM	3902	3422	2691								
		BHP	0.19	0.21	0.20								
		Sones	5.9	5.9	4.7								
	460	CFM	4223	3785	3188	2036							
		BHP	0.24	0.26	0.27	0.22							
		Sones	6.7	6.6	5.7	4.2							
1/3	505	CFM	4637	4242	3761	3060							
		BHP	0.32	0.35	0.35	0.34							
		Sones	7.8	7.5	6.9	6.1							
1/2	585	CFM	5371	5031	4666	4195	3562	2112					
		BHP	0.50	0.53	0.54	0.55	0.53	0.41					
		Sones	10.3	9.7	9.1	8.8	8.2	7.2					
3/4	623	CFM	5720	5400	5069	4660	4131	3428					
		BHP	0.60	0.64	0.65	0.66	0.65	0.61					
		Sones	11.7	11.0	10.4	10.0	9.6	9.1					
	660	CFM	6060	5757	5449	5094	4636	4073	3217				
		BHP	0.71	0.75	0.78	0.79	0.78	0.76	0.69				
		Sones	13.1	12.4	11.8	11.3	11.0	10.6	10.4				
1	730	CFM	6702	6428	6158	5861	5507	5077	4568				
		BHP	0.96	1.01	1.05	1.05	1.06	1.06	1.03				
		Sones	15.8	15.0	14.3	13.8	13.4	13.1	12.9				
1½	778	CFM	7143	6886	6632	6363	6058	5700	5266	4145			
		BHP	1.16	1.21	1.26	1.27	1.28	1.29	1.28	1.18			
		Sones	17.7	16.6	15.9	15.4	15.0	14.7	14.4	13.2			
	825	CFM	7575	7332	7092	6844	6574	6261	5901	5002			
		BHP	1.39	1.44	1.49	1.51	1.52	1.54	1.53	1.48			
		Sones	19.7	18.6	17.7	17.2	16.8	16.4	16.2	14.8			
2	870	CFM	7988	7757	7529	7300	7055	6775	6457	5680	7757		
		BHP	1.63	1.68	1.73	1.77	1.78	1.80	1.80	1.77	1.68		
		Sones	22	21	19.6	19.1	18.7	18.3	17.9	16.9	21		
	910	CFM	8355	8135	7916	7700	7467	7215	6933	6240	5388	3707	
		BHP	1.86	1.92	1.97	2.02	2.03	2.05	2.06	2.05	1.97	1.66	
		Sones	24	23	21	21	21	20	19.6	19.2	16.7	13.6	

MAXIMUM BHP AT A GIVEN RPM = (RPM/715)<sup>3</sup>  
 MAXIMUM RPM = 910  
 TIP SPEED (ft/min) = RPM x 6.414  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-240HP



Damper Size = 24 x 24 (610 x 610)  
 Roof Opening = 26½ x 26½ (673 x 673)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.040 (1.0)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 187 lbs. (85 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

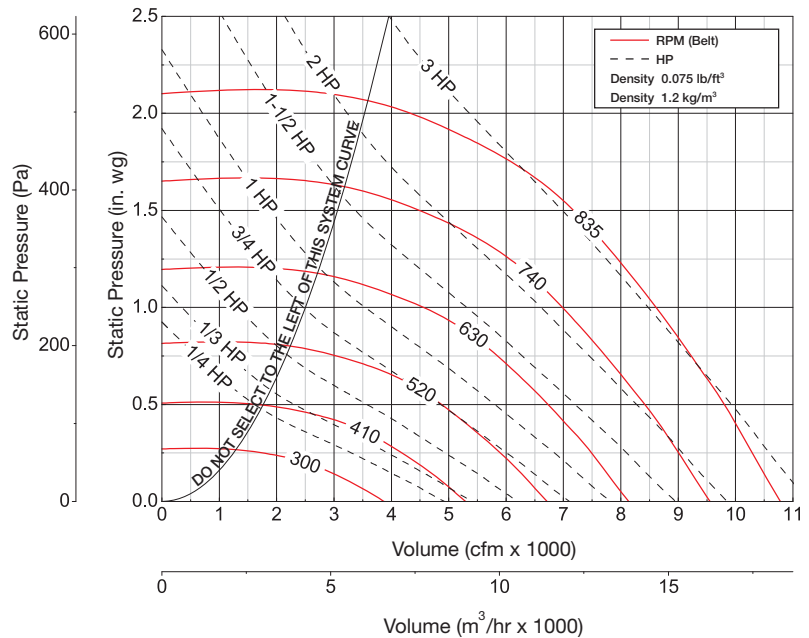
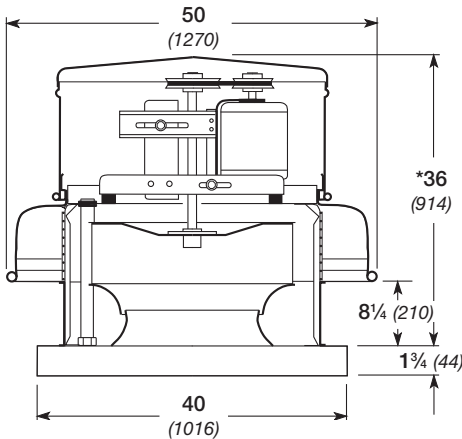
Motor HP	Fan RPM	Static Pressure in Inches wg										
		0.5	0.625	0.75	1	1.25	1.5	1.75	2	2.25	2.5	
<b>240HP</b>												
1/2	635	CFM	3035	2586								
		BHP	0.42	0.41								
		Sones	8.0	7.6								
	685	CFM	3475	3147	2693							
		BHP	0.53	0.53	0.51							
		Sones	9.4	8.8	8.4							
3/4	733	CFM	3877	3603	3272							
		BHP	0.64	0.65	0.65							
		Sones	11.0	10.3	9.7							
	780	CFM	4247	4005	3740	2964						
		BHP	0.76	0.77	0.78	0.75						
		Sones	12.7	11.9	11.3	10.3						
1	860	CFM	4860	4654	4434	3915	3105					
		BHP	0.99	1.02	1.04	1.05	0.99					
		Sones	15.9	15.2	14.3	13.2	12.2					
1½	920	CFM	5310	5118	4925	4496	3944					
		BHP	1.20	1.23	1.25	1.29	1.27					
		Sones	18.5	17.4	16.6	15.0	13.8					
	980	CFM	5751	5574	5392	5010	4562	3958				
		BHP	1.43	1.47	1.49	1.54	1.55	1.52				
		Sones	22	19.9	19.1	17.2	15.6	14.8				
2	1030	CFM	6114	5948	5776	5428	5039	4560	3896			
		BHP	1.65	1.69	1.72	1.77	1.80	1.80	1.73			
		Sones	24	23	21	19.6	17.6	16.3	15.7			
	1080	CFM	6474	6315	6154	5826	5468	5062	4555	3763		
		BHP	1.89	1.92	1.96	2.02	2.06	2.08	2.05	1.93		
		Sones	27	26	24	23	20	18.2	17.3	16.7		
3	1133	CFM	6853	6702	6550	6237	5914	5560	5133	4588		
		BHP	2.16	2.20	2.24	2.31	2.36	2.40	2.39	2.35		
		Sones	29	27	26	24	22	21	19.3	18.7		
	1240	CFM	7610	7471	7333	7053	6767	6469	6146	5775	5364	4776
		BHP	2.80	2.84	2.89	2.97	3.04	3.10	3.14	3.14	3.13	3.04
		Sones	31	30	29	28	27	25	24	23	23	22

MAXIMUM BHP AT A GIVEN RPM = (RPM/845)<sup>3</sup>  
 MAXIMUM RPM = 1240  
 TIP SPEED (ft/min) = RPM x 6.414  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.



# Roof Downblast - Exhaust Belt Drive GB-260



Damper Size = 30 x 30 (762 x 762)  
 Roof Opening = 32½ x 32½ (826 x 826)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.051 (1.3)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 305 lbs. (138 kg)

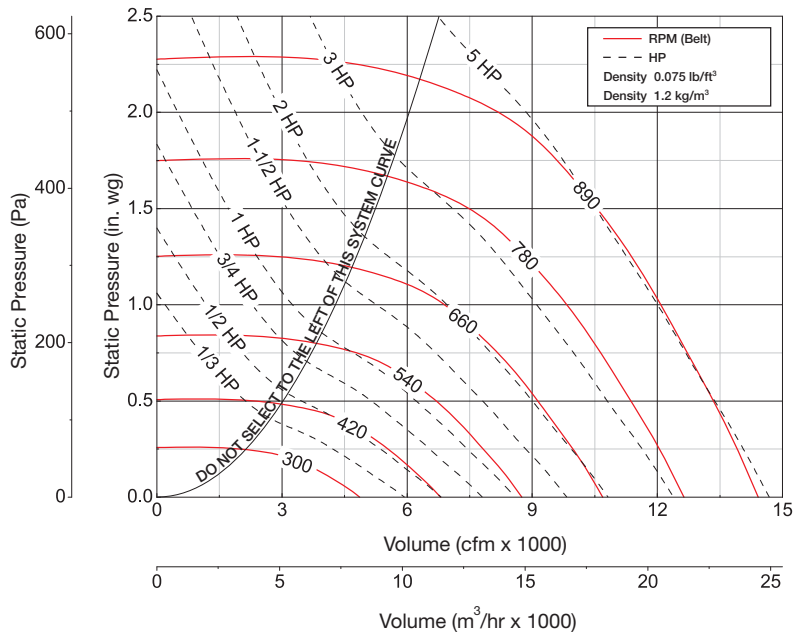
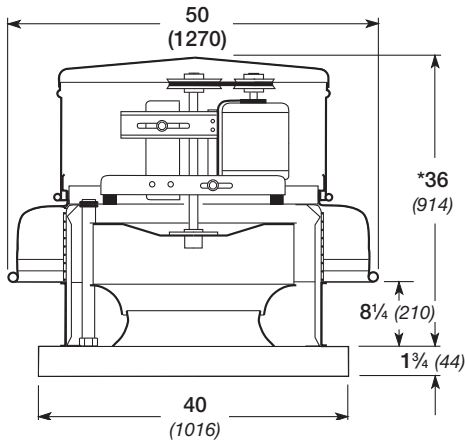
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM	Static Pressure in Inches wg										
		0	0.125	0.25	0.5	0.75	1	1.25	1.5	1.75	2	
<b>260</b>												
1/4	300	CFM	3875	3121	1727							
		BHP	0.12	0.14	0.12							
		Sones	8.0	7.1	7.4							
	365	CFM	4714	4130	3393							
		BHP	0.22	0.25	0.26							
		Sones	9.2	8.8	8.6							
1/3	405	CFM	5231	4716	4095							
		BHP	0.30	0.33	0.35							
		Sones	10.4	10.3	10.3							
1/2	465	CFM	6005	5570	5063	3745						
		BHP	0.45	0.50	0.52	0.53						
		Sones	11.4	10.9	10.4	9.6						
3/4	520	CFM	6716	6324	5898	4869	3008					
		BHP	0.63	0.68	0.72	0.75	0.64					
		Sones	12.9	12.1	11.3	10.3	9.4					
1	580	CFM	7491	7137	6775	5912	4826					
		BHP	0.88	0.93	0.98	1.04	1.03					
		Sones	14.4	13.7	13.0	12.2	11.0					
1½	665	CFM	8588	8278	7979	7274	6474	5465	3608			
		BHP	1.33	1.39	1.44	1.53	1.57	1.55	1.29			
		Sones	16.7	16.2	15.8	15.0	14.2	13.3	12.8			
	2	700	CFM	9041	8746	8460	7811	7068	6227	4912		
			BHP	1.55	1.61	1.67	1.77	1.82	1.83	1.71		
			Sones	17.8	17.4	17.0	16.2	15.5	14.8	13.8		
3	785	CFM	9493	9212	8938	8335	7649	6878	5916	4236		
		BHP	1.79	1.86	1.92	2.03	2.10	2.13	2.09	1.80		
		Sones	18.9	18.6	18.3	17.6	16.8	16.2	15.6	14.9		
835	835	CFM	10138	9875	9617	9069	8452	7769	7006	5949	4189	
		BHP	2.18	2.26	2.33	2.44	2.53	2.58	2.59	2.49	2.11	
		Sones	21	20	20	19.7	18.9	18.2	17.9	17.1	16.7	
835	835	CFM	10784	10537	10292	9794	9225	8606	7932	7157	6024	4294
		BHP	2.62	2.70	2.78	2.91	3.02	3.08	3.12	3.10	2.93	2.49
		Sones	23	23	22	22	21	20	19.9	19.7	18.7	18.6

MAXIMUM BHP AT A GIVEN RPM = (RPM/572)<sup>3</sup>  
 MAXIMUM RPM = 835  
 TIP SPEED (ft/min) = RPM x 7.985  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-300



Damper Size = 30 x 30 (762 x 762)  
 Roof Opening = 32½ x 32½ (826 x 826)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.051 (1.3)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 320 lbs. (145 kg)

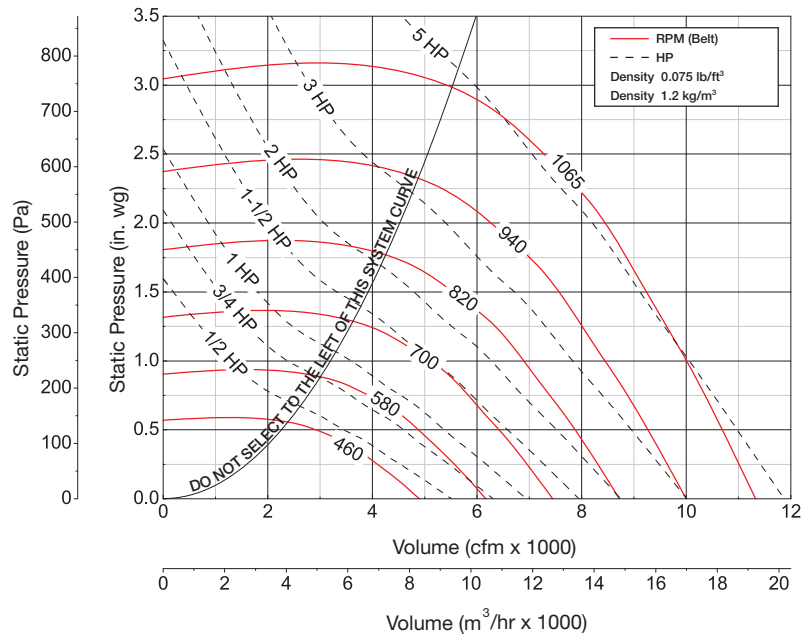
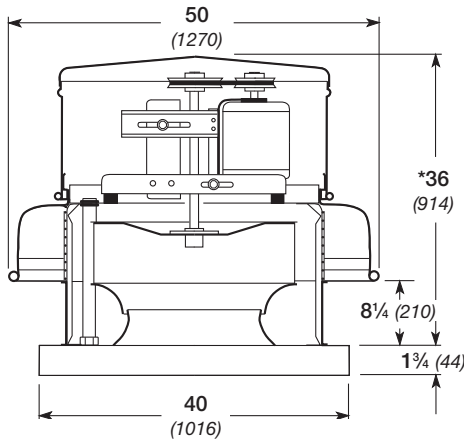
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM		Static Pressure in Inches wg									
			0	0.125	0.25	0.5	0.75	1	1.25	1.5	1.75	2
<b>300</b>												
1/3	300	CFM	4859	3976								
		BHP	0.18	0.19								
		Sones	9.3	5.3								
	365	CFM	5912	5222	4340							
		BHP	0.33	0.35	0.35							
		Sones	9.2	6.2	5.7							
1/2	420	CFM	6803	6222	5537							
		BHP	0.50	0.52	0.53							
		Sones	9.6	8.0	7.0							
3/4	475	CFM	7694	7197	6616	5095						
		BHP	0.72	0.75	0.77	0.74						
		Sones	11.4	10.6	9.6	8.1						
1	530	CFM	8585	8150	7640	6456	4195					
		BHP	1.00	1.04	1.06	1.07	0.91					
		Sones	13.4	12.9	12.2	10.7	9.4					
1½	600	CFM	9719	9334	8907	7952	6721					
		BHP	1.45	1.49	1.53	1.55	1.52					
		Sones	15.9	15.4	14.9	13.8	12.2					
2	665	CFM	10772	10425	10060	9228	8269	7025				
		BHP	1.97	2.02	2.06	2.11	2.11	2.03				
		Sones	18.8	18.2	17.7	16.8	15.7	13.7				
3	713	CFM	11549	11226	10901	10129	9297	8283	6691			
		BHP	2.43	2.48	2.53	2.59	2.61	2.57	2.38			
		Sones	21	20	19.6	18.9	18.0	16.4	13.7			
	760	CFM	12311	12007	11704	10997	10242	9369	8293	6437		
		BHP	2.94	3.00	3.05	3.13	3.16	3.15	3.06	2.76		
		Sones	23	22	21	21	19.8	18.6	16.8	14.0		
5	825	CFM	13363	13084	12804	12175	11501	10770	9909	8885	7128	
		BHP	3.76	3.82	3.88	3.97	4.02	4.05	4.01	3.90	3.56	
		Sones	25	25	24	24	23	22	20	18.7	16.1	
	890	CFM	14416	14157	13898	13335	12716	12073	11379	10536	9568	7963
		BHP	4.73	4.79	4.85	4.96	5.03	5.06	5.09	5.02	4.89	4.54
		Sones	28	28	28	27	26	25	24	22	21	18.7

MAXIMUM BHP AT A GIVEN RPM = (RPM/517)<sup>3</sup>  
 MAXIMUM RPM = 890  
 TIP SPEED (ft/min) = RPM x 7.985  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-300HP



Damper Size = 30 x 30 (762 x 762)  
 Roof Opening = 32½ x 32½ (826 x 826)  
 Shroud Thickness = 0.064 (1.6)  
 Motor Cover Thickness = 0.051 (1.3)  
 Curb Cap Thickness = 0.064 (1.6)  
 ^Approximate Unit Weight = 320 lbs. (145 kg)

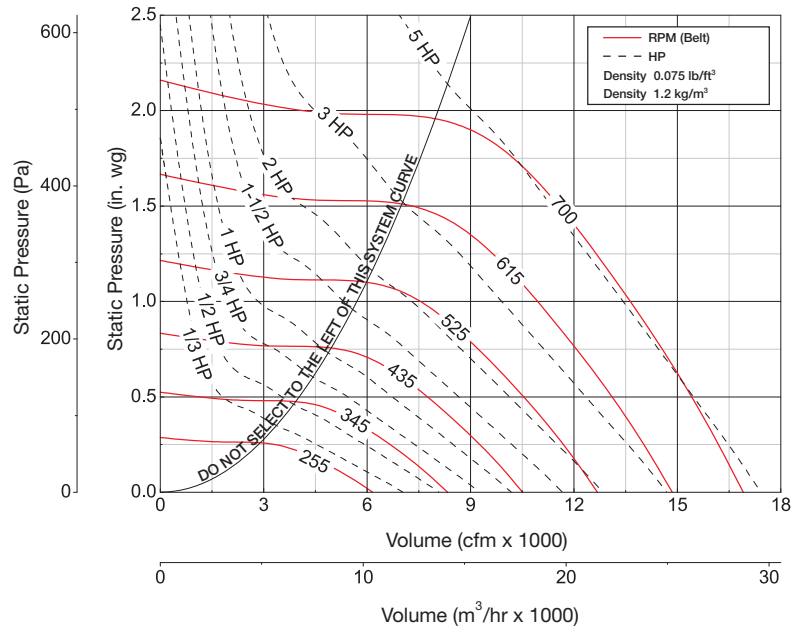
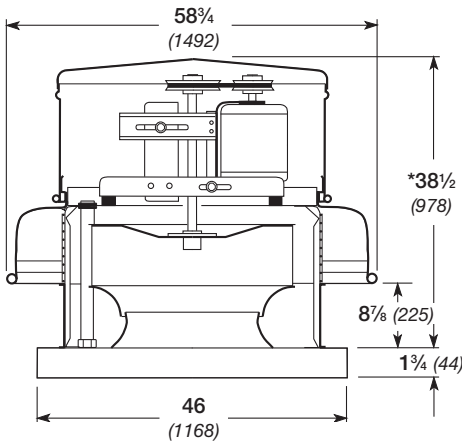
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM	Static Pressure in Inches wg										
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	
<b>300HP</b>												
1/2	460	CFM	2912									
		BHP	0.41									
		Sones	9.7									
	495	CFM	3602									
		BHP	0.53									
		Sones	10.3									
3/4	565	CFM	4662	3600								
		BHP	0.77	0.76								
		Sones	11.8	10.4								
1	620	CFM	5398	4652	3309							
		BHP	1.01	1.04	0.94							
		Sones	13.4	12.3	10.6							
1½	710	CFM	6542	5954	5269	4221						
		BHP	1.48	1.53	1.55	1.47						
		Sones	17.2	16.0	15.3	13.4						
2	748	CFM	7013	6462	5889	5027						
		BHP	1.71	1.78	1.81	1.78						
		Sones	18.8	17.5	17.0	15.7						
	785	CFM	7460	6943	6402	5737	4800					
		BHP	1.96	2.04	2.08	2.10	2.00					
		Sones	20	19.1	18.5	17.9	16.2					
3	840	CFM	8107	7642	7146	6636	5922	4992				
		BHP	2.37	2.46	2.52	2.57	2.56	2.43				
		Sones	23	22	21	21	19.7	18.0				
	895	CFM	8746	8328	7870	7394	6892	6150	5245			
		BHP	2.84	2.95	3.03	3.07	3.11	3.08	2.92			
		Sones	25	24	23	23	23	22	19.8			
5	980	CFM	9722	9356	8951	8531	8094	7657	7029	6264	5222	
		BHP	3.68	3.81	3.90	3.99	4.03	4.08	4.09	3.95	3.69	
		Sones	32	31	29	28	27	26	25	24	23	
	1065	CFM	10688	10351	10006	9621	9233	8831	8429	7903	7255	6543
		BHP	4.67	4.81	4.94	5.04	5.12	5.17	5.23	5.24	5.17	5.01
		Sones	44	42	37	37	36	35	33	31	30	29

MAXIMUM BHP AT A GIVEN RPM = (RPM/613)<sup>3</sup>  
 MAXIMUM RPM = 1065  
 TIP SPEED (ft/min) = RPM x 7.985  
 MAXIMUM MOTOR FRAME SIZE = 184T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-330



Damper Size = 36 x 36 (914 x 914)  
 Roof Opening = 38½ x 38½ (978 x 978)  
 Shroud Thickness = 0.080 (2.0)  
 Motor Cover Thickness = 0.064 (1.6)  
 Curb Cap Thickness = 0.080 (2.0)  
 ^Approximate Unit Weight = 385 lbs. (175 kg)

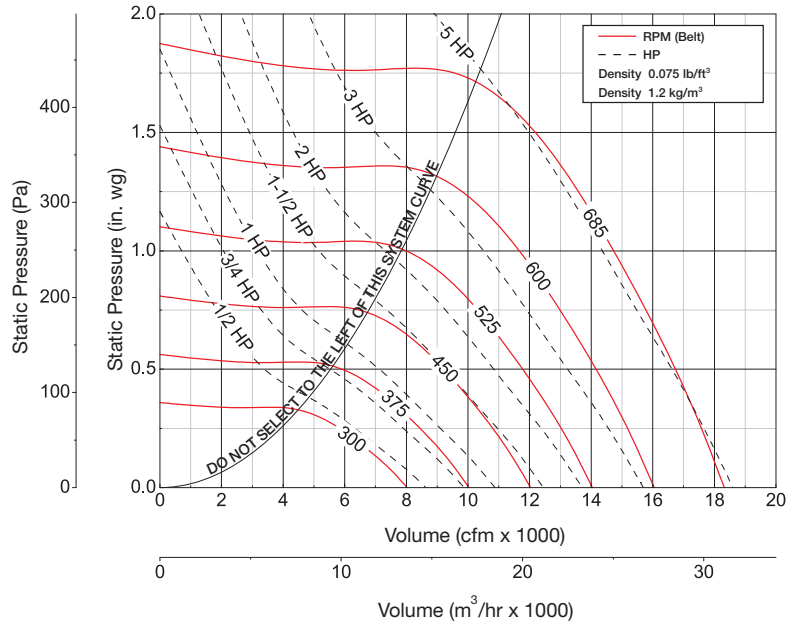
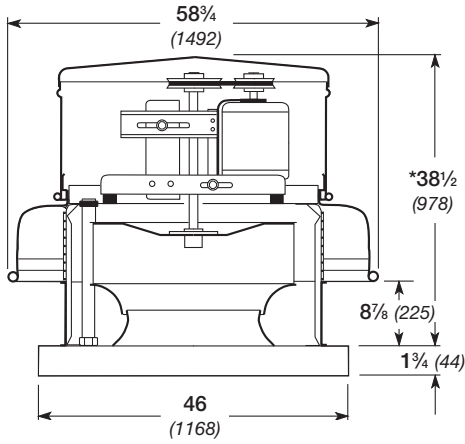
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM		Static Pressure in Inches wg									
			0	0.125	0.25	0.375	0.5	0.75	1	1.25	1.5	1.75
<b>330</b>												
1/3	255	CFM	6159	5043	3236							
		BHP	0.22	0.25	0.22							
		Sones	5.2	4.9	4.8							
	275	CFM	6643	5633	4308							
		BHP	0.28	0.31	0.31							
		Sones	5.9	5.5	5.2							
1/2	325	CFM	7850	7029	6036	4757						
		BHP	0.46	0.50	0.52	0.50						
		Sones	8.5	8.3	7.4	7.1						
3/4	370	CFM	8937	8232	7410	6480	5257					
		BHP	0.68	0.73	0.76	0.76	0.72					
		Sones	10.2	9.8	9.2	8.4	8.3					
1	415	CFM	10024	9401	8713	7927	7050					
		BHP	0.95	1.01	1.06	1.07	1.07					
		Sones	12.6	11.9	11.3	10.6	10.0					
1½	465	CFM	11232	10683	10087	9425	8706	6966				
		BHP	1.34	1.40	1.46	1.50	1.51	1.46				
		Sones	15.1	14.6	14.0	13.4	12.8	11.7				
2	510	CFM	12319	11824	11294	10719	10085	8696	6472			
		BHP	1.77	1.84	1.91	1.96	1.98	1.99	1.79			
		Sones	17.7	17.2	16.6	16.1	15.6	14.4	13.9			
3	550	CFM	13285	12828	12340	11822	11266	10041	8616			
		BHP	2.22	2.29	2.37	2.43	2.47	2.51	2.46			
		Sones	19.6	19.2	18.7	18.2	17.7	16.7	15.7			
	590	CFM	14251	13825	13376	12908	12408	11307	10081	8536		
		BHP	2.74	2.82	2.90	2.98	3.03	3.09	3.08	2.95		
		Sones	22	21	21	20	19.8	18.8	17.7	17.1		
5	645	CFM	15580	15190	14786	14366	13922	12958	11912	10749	9292	
		BHP	3.57	3.66	3.75	3.84	3.91	4.00	4.04	4.01	3.85	
		Sones	24	24	24	23	23	22	21	20	19.4	
	700	CFM	16908	16549	16185	15798	15408	14564	13624	12640	11538	10184
		BHP	4.57	4.66	4.761	4.86	4.95	5.08	5.14	5.17	5.12	4.94
		Sones	28	27	27	27	27	26	25	24	23	22

MAXIMUM BHP AT A GIVEN RPM = (RPM/405)<sup>3</sup>  
 MAXIMUM RPM = 700  
 TIP SPEED (ft/min) = RPM x 9.425  
 MAXIMUM MOTOR FRAME SIZE = 215T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-360



Damper Size = 36 x 36 (914 x 914)  
 Roof Opening = 38½ x 38½ (978 x 978)  
 Shroud Thickness = 0.080 (2.0)  
 Motor Cover Thickness = 0.064 (1.6)  
 Curb Cap Thickness = 0.080 (2.0)  
 ^Approximate Unit Weight = 415 lbs. (188 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

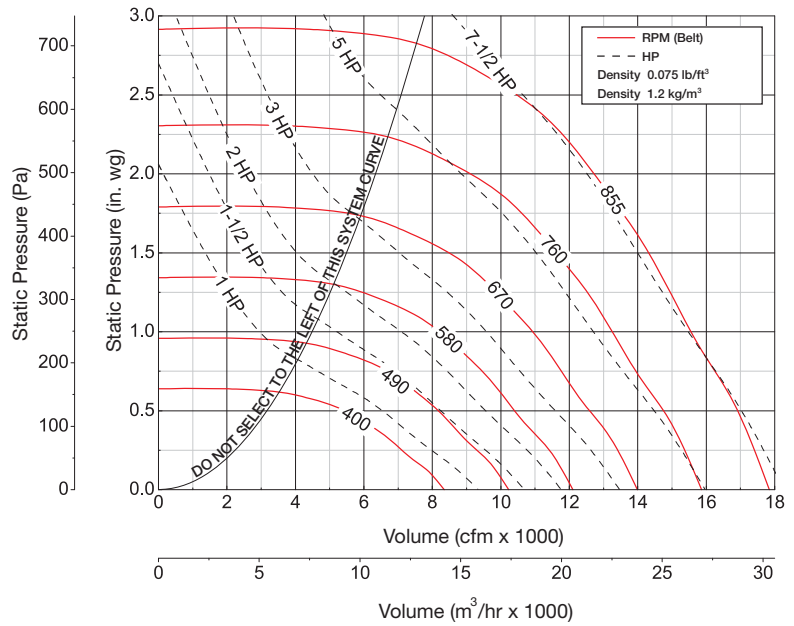
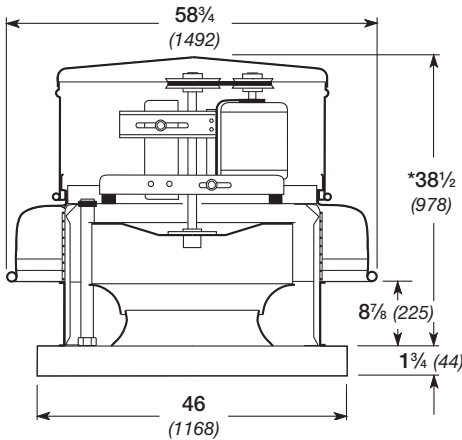
Motor HP	Fan RPM	Static Pressure in Inches wg										
		0	0.125	0.25	0.375	0.5	0.625	0.75	1	1.25	1.5	
<b>360</b>												
1/2	300	CFM	8024	7070	5804							
		BHP	0.40	0.43	0.44							
		Sones	7.6	6.6	5.6							
	325	CFM	8693	7830	6756	5001						
		BHP	0.51	0.54	0.56	0.51						
		Sones	8.7	7.7	6.8	5.6						
3/4	365	CFM	9763	9024	8109	7013						
		BHP	0.72	0.76	0.79	0.78						
		Sones	10.8	10.0	8.9	7.9						
1	410	CFM	10966	10330	9558	8686	7641					
		BHP	1.02	1.07	1.11	1.12	1.11					
		Sones	13.7	13.3	11.9	10.9	9.6					
1½	460	CFM	12304	11737	11085	10360	9568	8607	7096			
		BHP	1.45	1.50	1.55	1.58	1.59	1.56	1.46			
		Sones	15.9	15.6	14.8	14.1	13.1	12.1	10.9			
2	483	CFM	12919	12379	11776	11109	10355	9517	8488			
		BHP	1.67	1.73	1.78	1.82	1.83	1.83	1.78			
		Sones	17.0	16.7	16.1	15.5	14.8	13.7	12.9			
	505	CFM	13507	12991	12431	11795	11096	10368	9473			
		BHP	1.91	1.97	2.02	2.07	2.09	2.10	2.07			
		Sones	18.1	17.8	17.3	16.8	16.5	15.5	14.7			
3	543	CFM	14524	14043	13551	12959	12350	11679	10965	8917		
		BHP	2.38	2.44	2.5	2.55	2.59	2.60	2.60	2.46		
		Sones	20	19.8	19.4	18.9	18.6	17.8	16.9	15.6		
	580	CFM	15513	15064	14614	14077	13523	12917	12289	10813		
		BHP	2.90	2.96	3.03	3.09	3.14	3.17	3.18	3.13		
		Sones	22	22	22	21	21	20	19.1	17.6		
5	633	CFM	16931	16519	16107	15654	15146	14639	14072	12892	11465	
		BHP	3.77	3.84	3.91	3.98	4.04	4.10	4.12	4.13	4.05	
		Sones	26	25	25	24	24	23	23	21	19.7	
	685	CFM	18322	17941	17560	17179	16711	16243	15774	14710	13535	12119
		BHP	4.77	4.85	4.93	5.01	5.07	5.14	5.20	5.23	5.21	5.10
		Sones	30	30	29	29	28	28	26	24	23	22

MAXIMUM BHP AT A GIVEN RPM = (RPM/394)<sup>3</sup>  
 MAXIMUM RPM = 685  
 TIP SPEED (ft/min) = RPM x 9.425  
 MAXIMUM MOTOR FRAME SIZE = 215T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.



# Roof Downblast - Exhaust Belt Drive GB-360HP



Damper Size = 36 x 36 (914 x 914)  
 Roof Opening = 38½ x 38½ (978 x 978)  
 Shroud Thickness = 0.080 (2.0)  
 Motor Cover Thickness = 0.064 (1.6)  
 Curb Cap Thickness = 0.080 (2.0)  
 ^Approximate Unit Weight = 460 lbs. (209 kg)

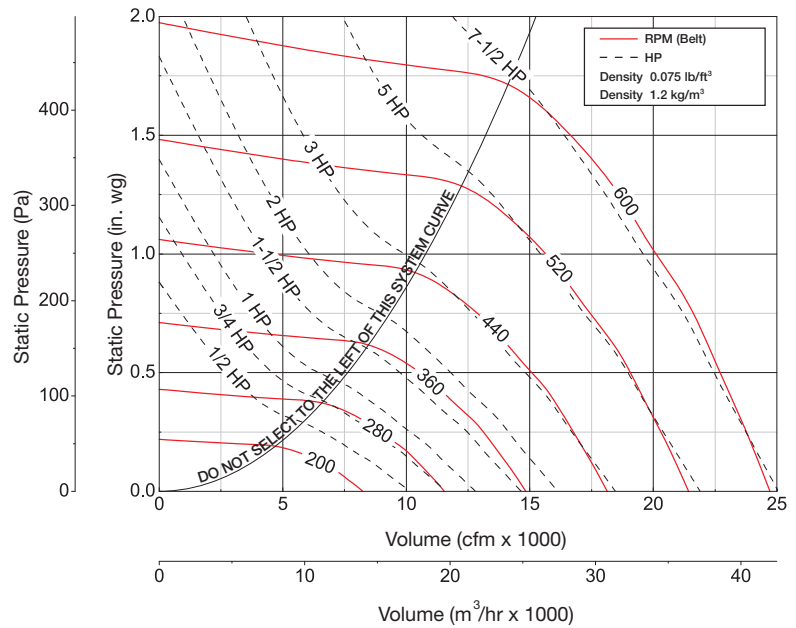
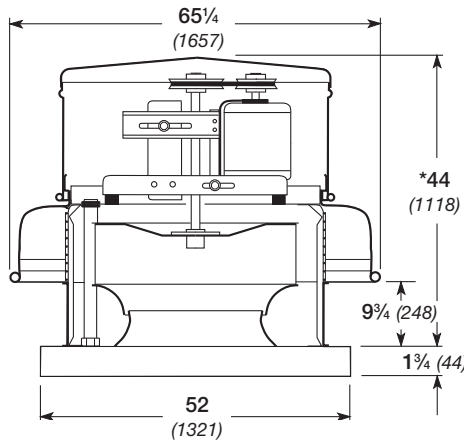
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM	Static Pressure in Inches wg										
		0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	
<b>360HP</b>												
1	420	CFM	6097									
		BHP	0.91									
		Sones	10.4									
	435	CFM	6576									
		BHP	1.02									
		Sones	10.8									
1½	500	CFM	8432	7000								
		BHP	1.56	1.53								
		Sones	13.4	12.5								
2	525	CFM	9061	7808	5650							
		BHP	1.79	1.78	1.61							
		Sones	14.7	13.6	12.7							
	550	CFM	9681	8589	6998							
		BHP	2.05	2.06	1.98							
		Sones	16.0	14.8	14.2							
3	590	CFM	10657	9719	8495	6528						
		BHP	2.50	2.57	2.52	2.32						
		Sones	18.0	16.3	15.7	14.9						
	630	CFM	11616	10772	9767	8525	6006					
		BHP	3.01	3.11	3.10	3.04	2.63					
		Sones	20	18.6	17.6	16.9	15.7					
5	690	CFM	13062	12259	11464	10468	9335	7159				
		BHP	3.93	4.02	4.11	4.05	3.99	3.60				
		Sones	24	22	21	20	19.2	18.1				
	750	CFM	14487	13711	13002	12220	11282	10239	8513			
		BHP	5.02	5.10	5.22	5.26	5.20	5.13	4.83			
		Sones	27	25	24	24	23	22	21			
7½	803	CFM	15728	14985	14309	13647	12863	11960	10986	9445		
		BHP	6.13	6.22	6.33	6.46	6.44	6.37	6.30	6.01		
		Sones	31	30	28	27	26	25	24	23		
	855	CFM	16918	16236	15568	14946	14315	13544	12676	11761	10368	8273
		BHP	7.37	7.47	7.58	7.71	7.82	7.76	7.69	7.61	7.32	6.63
		Sones	35	33	33	31	29	29	27	27	26	25

MAXIMUM BHP AT A GIVEN RPM = (RPM/431)<sup>3</sup>  
 MAXIMUM RPM = 855  
 TIP SPEED (ft/min) = RPM x 9.425  
 MAXIMUM MOTOR FRAME SIZE = 215T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-420



Damper Size = 42 x 42 (1067 x 1067)  
 Roof Opening = 44½ x 44½ (1130 x 1130)  
 Shroud Thickness = 0.080 (2.0)  
 Motor Cover Thickness = 0.064 (1.6)  
 Curb Cap Thickness = 0.100 (2.5)  
 ^Approximate Unit Weight = 495 lbs. (225 kg)

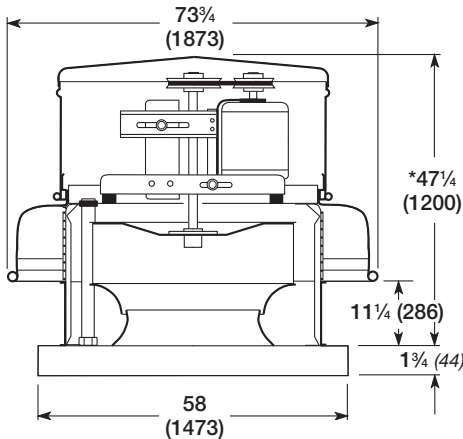
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM		Static Pressure in Inches wg									
			0	0.125	0.25	0.375	0.50	0.625	0.75	1.00	1.25	1.5
<b>420</b>												
1/2	200	CFM	8242	6454								
		BHP	0.27	0.29								
		Sones	3.1	2.9								
	240	CFM	9890	8573	6365							
		BHP	0.46	0.50	0.48							
		Sones	4.6	5.0	4.9							
3/4	275	CFM	11332	10219	8698							
		BHP	0.69	0.75	0.76							
		Sones	6.2	6.8	5.6							
1	305	CFM	12568	11579	10320	8672						
		BHP	0.95	1.01	1.03	1.01						
		Sones	8.0	8.4	7.5	7.2						
1 1/2	345	CFM	14217	13357	12411	11102	9463					
		BHP	1.37	1.45	1.49	1.50	1.45					
		Sones	11.7	11.3	10.8	10.1	9.6					
2	380	CFM	15659	14892	14043	12983	11787	10108				
		BHP	1.83	1.92	1.97	2.00	2.00	1.91				
		Sones	14.4	13.8	13.3	12.7	12.3	12.0				
3	435	CFM	17925	17264	16540	15792	14790	13764	12502			
		BHP	2.74	2.86	2.93	2.97	2.99	3.00	2.95			
		Sones	19.0	18.4	17.8	17.3	16.6	16.4	16.5			
5	475	CFM	19574	18968	18320	17640	16887	15929	14994	12315		
		BHP	3.57	3.69	3.78	3.84	3.88	3.90	3.91	3.69		
		Sones	22	21	20	19.8	19.3	18.6	18.3	18.3		
	515	CFM	21222	20663	20081	19459	18826	18046	17162	15254	12312	
		BHP	4.55	4.68	4.80	4.87	4.92	4.95	4.98	4.92	4.56	
		Sones	24	24	23	22	21	21	20	19.4	19.1	
7 1/2	558	CFM	22994	22478	21957	21383	20805	20219	19446	17835	15908	
		BHP	5.79	5.93	6.07	6.15	6.22	6.28	6.31	6.34	6.21	
		Sones	27	27	26	25	24	24	23	23	22	
	600	CFM	24725	24245	23765	23243	22709	22166	21621	20104	18585	16590
		BHP	7.20	7.35	7.51	7.61	7.70	7.76	7.81	7.87	7.86	7.64
		Sones	30	30	30	29	27	27	26	26	26	26

MAXIMUM BHP AT A GIVEN RPM = (RPM/302)<sup>3</sup>  
 MAXIMUM RPM = 600  
 TIP SPEED (ft/min) = RPM x 11.061  
 MAXIMUM MOTOR FRAME SIZE = 215T

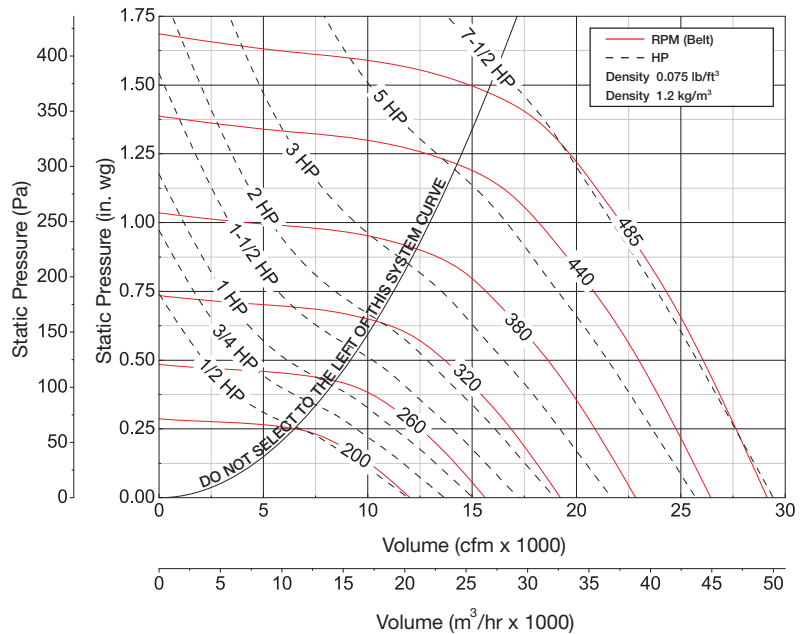
Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-480



Damper Size = 48 x 48 (1219 x 1219)  
 Roof Opening = 50 1/2 x 50 1/2 (1283 x 1283)  
 Shroud Thickness = 0.080 (2.0)  
 Motor Cover Thickness = 0.064 (1.6)  
 Curb Cap Thickness = 0.100 (2.5)  
 ^Approximate Unit Weight = 623 lbs. (283 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

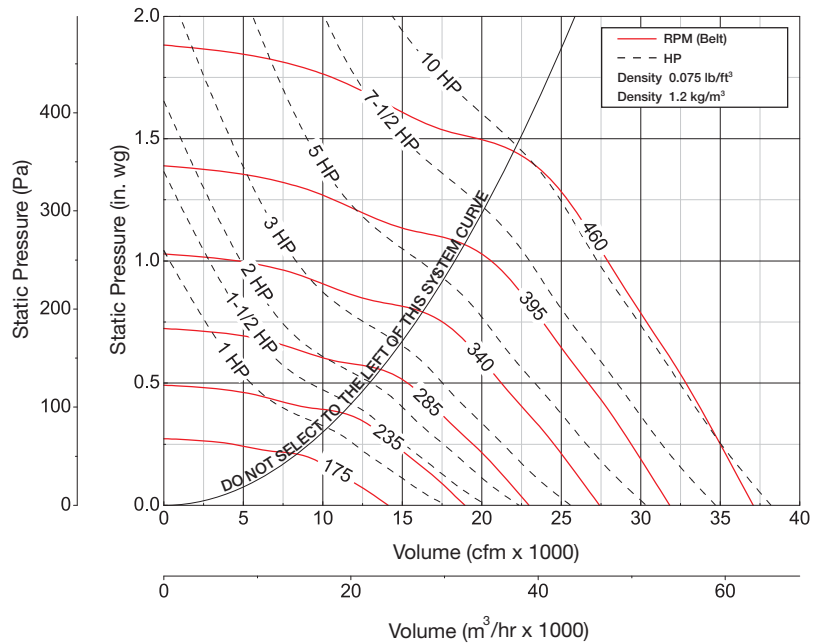
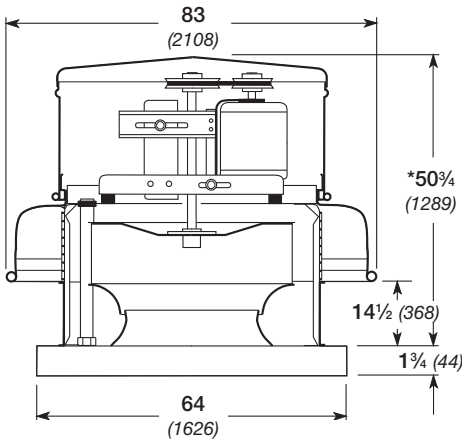


Motor HP	Fan RPM		Static Pressure in Inches wg									
			0	0.125	0.25	0.375	0.5	0.625	0.75	0.875	1	1.25
<b>480</b>												
1/2	200	CFM	12020	10059	6529							
		BHP	0.51	0.55	0.48							
		Sones	7.3	6.6	7.3							
3/4	225	CFM	13522	11811	9500							
		BHP	0.73	0.77	0.76							
		Sones	8.3	8.0	7.6							
1	250	CFM	15025	13516	11662	8820						
		BHP	1.00	1.05	1.06	0.98						
		Sones	9.5	9.5	8.6	8.1						
1 1/2	285	CFM	17129	15830	14379	12517	9587					
		BHP	1.48	1.54	1.58	1.56	1.42					
		Sones	11.8	11.2	10.7	10.0	9.1					
2	310	CFM	18631	17437	16135	14589	12656					
		BHP	1.90	1.97	2.02	2.02	1.97					
		Sones	14.0	13.0	12.2	12.0	11.5					
3	360	CFM	21636	20608	19548	18385	17010	15420	13507			
		BHP	2.98	3.06	3.13	3.17	3.17	3.21	3.00			
		Sones	17.6	17.0	16.4	15.9	15.5	15.0	14.2			
5	393	CFM	23619	22678	21736	20683	19605	18254	16764	15086		
		BHP	3.87	3.66	4.05	4.10	4.14	4.12	4.06	3.94		
		Sones	20	19.9	19.5	18.8	18.3	18.0	17.5	16.7		
	415	CFM	24942	24050	23158	22189	21181	20012	18733	17211	15486	
		BHP	4.56	4.65	4.75	4.81	4.85	4.86	4.84	4.74	4.58	
		Sones	22	22	22	21	21	20	20	19.1	18.1	
425	CFM	25542	24672	23801	22868	21883	20799	19550	18156	16604		
	BHP	4.90	4.99	5.09	5.16	5.20	5.22	5.20	5.13	5.00		
	Sones	23	23	23	22	22	21	21	20	19.3		
7 1/2	455	CFM	27345	26532	25719	24886	23966	23046	21953	20786	19471	15870
		BHP	6.01	6.11	6.22	6.31	6.36	6.41	6.41	6.38	6.30	5.85
		Sones	27	27	27	26	26	25	25	24	24	21
	485	CFM	29149	28386	27623	26860	26016	25153	24290	23201	22106	19517
		BHP	7.28	7.39	7.50	7.61	7.67	7.72	7.78	7.75	7.73	7.49
		Sones	31	31	31	31	30	29	29	28	28	26

MAXIMUM BHP AT A GIVEN RPM = (RPM/245)<sup>3</sup>  
 MAXIMUM RPM = 485  
 TIP SPEED (ft/min) = RPM x 12.632  
 MAXIMUM MOTOR FRAME SIZE = 215T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-500



Damper Size = 54 x 54 (1371 x 1371)  
 Roof Opening = 56½ x 56½ (1435 x 1435)  
 Shroud Thickness = 0.100 (2.5)  
 Motor Cover Thickness = 0.064 (1.6)  
 Curb Cap Thickness = 0.100 (2.5)  
 ^Approximate Unit Weight = 687 lbs. (312 kg)

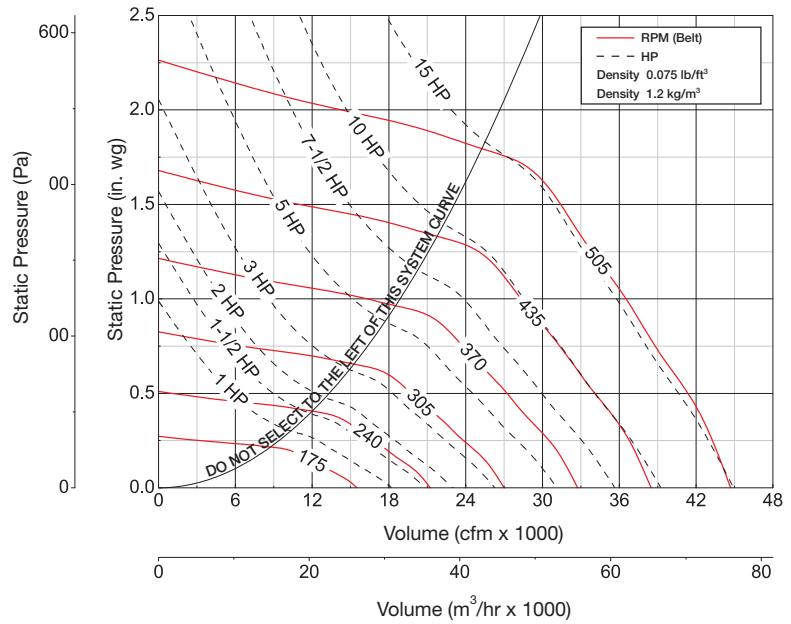
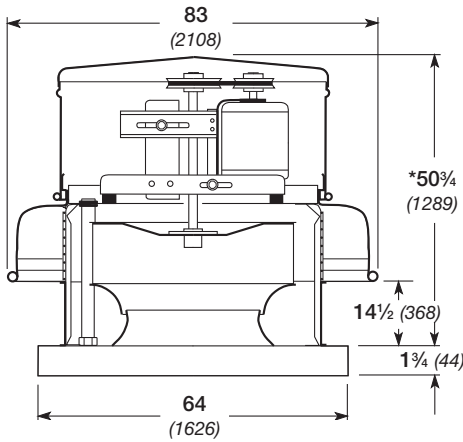
All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM		Static Pressure in Inches wg									
			0	0.125	0.25	0.375	0.5	0.625	0.75	0.875	1	1.25
<b>500</b>												
1	175	CFM	14102	11123								
		BHP	0.50	0.57								
		Sones	6.7	6.5								
	200	CFM	16117	13588	10593							
		BHP	0.75	0.85	0.83							
		Sones	8.4	8.0	7.7							
214	CFM	17245	14939	12242								
	BHP	0.92	1.04	1.04								
	Sones	9.5	9.1	8.7								
1½	245	CFM	19743	17749	15481	12983						
		BHP	1.38	1.54	1.57	1.53						
		Sones	11.9	11.5	11.0	10.7						
2	269	CFM	21677	19873	17857	15752						
		BHP	1.83	2.02	2.06	2.08						
		Sones	14.0	13.8	13.2	12.7						
3	308	CFM	24820	23263	21627	19752	17903	15284				
		BHP	2.74	3.00	3.09	3.11	3.11	2.96				
		Sones	17.7	17.4	16.9	16.2	15.8	15.6				
5	337	CFM	27157	25739	24253	22614	20937	19206	16671			
		BHP	3.59	3.89	4.01	4.06	4.08	4.06	3.88			
		Sones	19.9	19.5	19.1	18.5	17.9	17.6	17.4			
	366	CFM	29494	28188	26834	25429	23831	22310	20688	18366		
		BHP	4.60	4.92	5.10	5.20	5.20	5.24	5.19	4.99		
		Sones	22	22	21	21	20	19.8	19.5	19.4		
7½	419	CFM	33764	32624	31467	30265	29015	27607	26276	24940	23486	
		BHP	6.90	7.27	7.57	7.70	7.80	7.80	7.84	7.88	7.78	
		Sones	27	27	27	26	26	25	24	24	23	
10	440	CFM	35457	34371	33279	32134	30989	29679	28373	27107	25801	22407
		BHP	8.00	8.38	8.74	8.87	9.01	9.03	9.05	9.10	9.09	8.73
		Sones	30	29	29	29	29	28	27	26	26	25
	460	CFM	37068	36030	34991	33900	32805	31625	30342	29127	27917	25310
		BHP	9.14	9.54	9.94	10.10	10.24	10.32	10.32	10.36	10.41	10.26
		Sones	32	32	32	32	32	31	30	29	28	27

MAXIMUM BHP AT A GIVEN RPM = (RPM/210)<sup>3</sup>  
 MAXIMUM RPM = 460  
 TIP SPEED (ft/min) = RPM x 14.137  
 MAXIMUM MOTOR FRAME SIZE = 256T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

# Roof Downblast - Exhaust Belt Drive GB-540



Damper Size = 54 x 54 (1371 x 1371)  
 Roof Opening = 56½ x 56½ (1435 x 1435)  
 Shroud Thickness = 0.100 (2.5)  
 Motor Cover Thickness = 0.064 (1.6)  
 Curb Cap Thickness = 0.100 (2.5)  
 ^Approximate Unit Weight = 748 lbs. (339 kg)

All dimensions in inches (millimeters). \*May be greater depending on motor. ^Weight shown is largest cataloged Open Drip-Proof motor.

Motor HP	Fan RPM		Static Pressure in Inches wg									
			0	0.125	0.25	0.375	0.5	0.75	1	1.25	1.5	1.75
<b>540</b>												
1	175	CFM	15488	1250								
		BHP	0.61	0.65								
		Sones	6.9	6.3								
	195	CFM	17258	14674	11068							
		BHP	0.85	0.90	0.87							
		Sones	7.8	7.5	7.2							
205	CFM	18143	15724	12632								
	BHP	0.99	1.04	1.03								
	Sones	8.3	8.2	8.1								
1½	235	CFM	20798	18814	16229	12673						
		BHP	1.49	1.57	1.56	1.50						
		Sones	10.1	10.4	10.5	10.6						
2	259	CFM	22922	21228	18963	16439						
		BHP	1.99	2.09	2.11	2.08						
		Sones	12.3	12.1	11.9	11.6						
3	296	CFM	26197	24874	22870	20831	18610					
		BHP	2.97	3.11	3.14	3.13	3.10					
		Sones	16.2	15.6	15.3	15.0	14.3					
5	351	CFM	31064	30005	28492	26810	25115	21376				
		BHP	4.96	5.13	5.21	5.24	5.23	5.15				
		Sones	21	21	19.9	19.3	18.7	17.4				
7½	402	CFM	35578	34653	33552	32075	30612	27519	24274			
		BHP	7.45	7.65	7.80	7.84	7.87	7.82	7.73			
		Sones	27	26	26	25	24	23	21			
10	442	CFM	39118	38277	37435	36109	34766	32131	29134	26111		
		BHP	9.90	10.12	10.34	10.39	10.44	10.46	10.36	10.24		
		Sones	32	32	32	32	32	28	27	26		
15	474	CFM	41950	41165	40381	39287	38034	35558	32927	30151	26271	
		BHP	12.21	12.45	12.68	12.80	12.85	12.90	12.84	12.73	12.42	
		Sones	36	36	37	36	35	33	31	30	28	
	505	CFM	44694	43957	43221	42332	41157	38813	36503	33869	31293	26758
		BHP	14.77	15.02	15.27	15.45	15.51	15.60	15.60	15.48	15.36	14.84
		Sones	40	40	40	40	39	38	36	35	32	30

MAXIMUM BHP AT A GIVEN RPM = (RPM/202)<sup>3</sup>  
 MAXIMUM RPM = 505  
 TIP SPEED (ft/min) = RPM x 14.137  
 MAXIMUM MOTOR FRAME SIZE = 256T

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.





### Vari-Green® Motor

Motor to be an electronic commutation (EC) motor specifically designed for fan applications. AC induction type motors are not acceptable. Examples of unacceptable motors are: Shaded Pole, Permanent Split Capacitor (PSC), Split Phase, Capacitor Start and 3 phase induction type motors. Motors shall be permanently lubricated with heavy-duty ball bearings to match the fan load and prewired to the specific voltage and phase. Internal motor circuitry shall convert AC power supplied to the fan to DC power to operate the motor. Motor shall be speed controllable down to 20% of full speed (80% turndown). Speed shall be controlled by either a potentiometer dial mounted on the motor or by a 0-10 VDC signal. Motor shall be a minimum of 85% efficient at all speeds.

### Vari-Green® Control - Remote Dial

Remote Dial shall be a Vari-Green Control specifically designed to provide 0-10 volt DC signal to Greenheck's Vari-Green Motor.

### Vari-Green Control - Two Speed

Two speed control shall be a Vari-Green Control specifically designed to allow the Vari-Green Motor to operate at two discrete speeds. Two speed control shall include two dials that may be set at any point between 0 and 10 volts DC and an integral transformer capable of reducing 115/208-240 volt AC power to 24 volt AC power.

### Vari-Green Control – Indoor Air Quality – Temperature / Humidity

Control to be a packaged indoor air quality control designed to regulate fan speed based on level of temperature and/or relative humidity in a space. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have labeled terminal strips for easy wiring. Fan shall be direct drive including an electronic commutation (EC) Vari-Green Motor. Control package shall be Vari-Green Indoor Air Quality – Temperature / Humidity Control.

### Vari-Green Control – Indoor Air Quality – VOC (Volatile Organic Compound)

Control to be a packaged indoor air quality control designed to regulate fan speed based on level of VOC concentration in a space. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have labeled terminal strips for easy wiring. Fan shall be direct drive including an electronic commutation (EC) Vari-Green Motor. Control package shall be Vari-Green Indoor Air Quality – VOC Control.

### Vari-Green Control – Constant Pressure

Control to be a packaged constant pressure control designed to regulate fan speed based on demand. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have all components prewired to labeled terminal strips for easy wiring. System shall include the appropriate pressure tap and preset pressure transducer. Fan shall be direct drive including an electronic commutation (EC) Vari-Green Motor. Control package shall be Vari-Green Constant Pressure Control.

Indoor installations shall include pressure tap (duct or room) and control box with integral pressure transducer.

Outdoor installations shall include duct pressure tap, pressure transducer, and control box. Control box shall be prewired and in a NEMA-3R weather tight enclosure for mounting outdoors near the fan location.

### LEED information

Greenheck became one of the first manufacturers in the Air Movement and Control industry to join the LEED/green movement when they joined the United States Green Building Council (USGBC) in 2005. Greenheck has been actively researching qualification requirements for our products to meet LEED credits and prerequisites.



The Vari-Green® motor significantly helps qualification efforts for the Energy and Atmosphere credits and prerequisites; specifically credit one, Optimize Energy Performance and prerequisite two, Minimum Energy Performance.

# Direct Drive Specifications Model G



Spun aluminum downblast exhaust fans shall be direct drive type. These fans are specifically designed for roof mounted applications exhausting relatively clean air. Performance capabilities range up to 6,308 cfm (11,281 m<sup>3</sup>/hr) and 1.75 in. wg (249 Pa) of static pressure. The maximum continuous operating temperature shall be 180°F (82°C). Model G fans are available in 20 sizes with nominal wheel diameters ranging from 7 to 20 inches (178 to 457 mm) (060-203 unit sizes).

Each fan shall bear a permanently affixed manufacturer's engraved metal nameplate containing the model number and individual serial number.

All fans shall bear the AMCA Sound and Air Performance seal.

The fan wheel shall be centrifugal non-overloading backward-inclined, constructed of aluminum and shall include a wheel cone carefully matched to the inlet cone for precise running tolerances. Wheels shall be statically and dynamically balanced in accordance to AMCA Standard 204-05.

For models G-060 through G-095, the fan shall have sleeve bearing motors, carefully matched to the fan load, and furnished at specified voltage, phase and enclosure. For models G-097 through G-203, motors shall be heavy-duty ball bearing type, carefully matched to the fan load, and furnished at the specified voltage, phase and enclosure. Models G-060 through G-095 have three-speed motors as standard. Motors shall be mounted on true vibration isolators, out of the airstream. Fresh air for motor cooling shall be drawn into the motor compartment from an area free of discharge contaminants. Motors shall be readily accessible for maintenance. True vibration isolators shall be double-studded with no metal-to-metal contact. Each vibration isolator shall be sized to match the weight of each fan.

The fan housing shall consist of the motor cover, shroud, curb cap and lower windband, and shall be constructed of heavy-gauge aluminum. The housing shall have a rigid internal support structure and leakproof design. The fan shroud shall be one piece with a rolled bead for extra strength which directs exhaust air downward. The lower windband shall be one piece with formed edges for added strength and the curb cap shall include prepunched mounting holes to ensure correct attachment.

A disconnect switch is a positive electrical shutoff and shall be wired from the fan motor to a junction box installed within the motor compartment. Factory standard shall be a NEMA-1 disconnect switch with other NEMA rated options also available. Disconnect switches shall be factory mounted and/or shipped loose for field mounting.

Options and accessories shall include: curb extension, curb seal, dampers, finishes, hinge kit, hinge base, pressure probe, roof curbs, and tie-down points.

Fans shall be model G as manufactured by Greenheck Fan Corporation of Schofield, Wisconsin, USA.

# Direct Drive, Severe Duty Specifications

## Model G



### High Wind Specifications

Fans shall meet all Greenheck wind-load standards and shall contain the following third-party certifications:

- Miami-Dade NOA# 12-0120.13
- Licensed P.E. calculations shall be available for fan per ASCE 7-05 Minimum Design Loads for Buildings and Other Structures for exposure Class C, 60 foot building height, and a type II building.
- Fan shall be tested in accordance with ASTM E-330-02 Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference and Florida Building Code Test Protocol TAS-201, 202 and 203 at the ASCE 7-05 calculated design load.
- Licensed P.E. calculations for attachment of fan to curb shall be available for ASCE 7-05 determined design pressure.
- All calculations and testing shall be done by a state licensed P.E., and a certified test lab.

Fans shall be Greenheck model G, as specified on page 48, with high wind-resistant construction option and manufactured by Greenheck Fan Corporation in Schofield, Wisconsin, USA.

### Seismic Specifications

Fans shall meet International Building Code (IBC) 2009, 2012 and the California Office of Statewide Health Planning and Development (OSHPD) requirements for seismic certifications as listed.

- All Greenheck seismically certified models shall be tested to the most severe seismic event on the Spectral Response Map per IBC Figures 1613.5 (1-2). Testing shall be 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.
- Fans shall be shake table tested in accordance with ICC ES AC-156, in which the fans are physically subjected to the same or greater forces as experienced during a seismic event.
- For applications which are not covered by California OSHPD standards, Greenheck seismic models G shall be certified by a third party engineering firm to IBC 2009, 2012 and ASCE 7-05 standards.
- Greenheck seismic model G has been certified to IBC 2009, 2012, ASCE 7-05 and California OSHPD standards through engineering calculations and shake table testing of all models by independent third party engineering firms.

Fans shall be Greenheck model G, as specified on page 48, with seismic rated construction option and manufactured by Greenheck Fan Corporation in Schofield, Wisconsin, USA.

# Belt Drive Specifications

## Model GB



Spun aluminum downblast exhaust fans shall be belt drive type. These fans are specifically designed for roof mounted applications exhausting relatively clean air. Performance capabilities range up to 44,700 cfm (75,946 m<sup>3</sup>/hr) and 3.25 in. wg (809 Pa) of static pressure. The maximum continuous operating temperature shall be 180°F (82°C). Model GB fans are available in twenty sizes with nominal wheel diameters ranging from 11 to 54 inches (279 to 1372 mm) (071-540 unit sizes).

Each fan shall bear a permanently affixed manufacturer's engraved metal nameplate containing the model number and individual serial number.

All fans shall bear the AMCA Sound and Air Performance seal.

The fan wheel shall be centrifugal non-overloading backward-inclined, constructed of aluminum and shall include a wheel cone carefully matched to the inlet cone for precise running tolerances. Wheels shall be statically and dynamically balanced in accordance to AMCA Standard 204-05.

Motors shall be heavy-duty ball bearing type, carefully matched to the fan load and furnished at the specified voltage, phase and enclosure. Drives shall be sized for a minimum of 150% of driven horsepower. Motors and drives shall be mounted on true vibration isolators, out of the airstream. Fresh air for motor cooling shall be drawn into the motor compartment from an area free of discharge contaminants. Motors shall be readily accessible for maintenance. True vibration isolators shall be double-studded or pedestal mount with no metal-to-metal contact. Each vibration isolator shall be sized to match the weight of each fan.

Fan shafts shall be precision ground and polished solid steel with an anti-corrosive coating. Fan shafts shall be mounted in permanently sealed, lubricated pillow block ball bearings. The first critical speed on a fan shaft shall be at least 25 percent over maximum operating speed. Bearings shall be selected for a minimum L<sub>10</sub> life in excess of 100,000 hours (L<sub>50</sub> life of 500,000 hours) at maximum cataloged operating speed. All bearings are 100 percent factory tested.

The fan housing shall consist of the motor cover, shroud, curb cap and lower windband, and shall be constructed of heavy-gauge aluminum. Housing shall have a rigid internal support structure and leakproof design. The fan shroud shall be one piece with a rolled bead for extra strength which directs exhaust air downward. The lower windband shall be one piece with formed edges for added strength and the curb cap shall include prepunched mounting holes to ensure correct attachment.

Drive frame assemblies shall be constructed of heavy-gauge steel and mounted on true vibration isolators. Pulleys shall be of the fully machined cast iron-type, keyed and securely attached to the wheel and motor shafts. Motor pulleys shall be adjustable for final system balancing.

A disconnect switch is a positive electrical shutoff and shall be wired from the fan motor to a junction box installed within the motor compartment. Factory standard shall be a NEMA-1 disconnect switch with other NEMA rated options also available. Disconnect switches shall be factory mounted and/or shipped loose for field mounting.

Options and accessories shall include: auto belt tensioner, curb extension, curb seal, dampers, coatings, hinge kit, hinge base, pressure probe, roof curbs, and tie-down points.

Fans shall be model GB as manufactured by Greenheck Fan Corporation of Schofield, Wisconsin, USA.



# Belt Drive, Severe Duty Specifications

## Model GB



### High Wind Specifications

Fans shall meet all Greenheck wind load standards and shall contain the following third-party certifications:

- Miami-Dade NOA# 12-0120.13
- Licensed P.E. calculations shall be available for fan per ASCE 7-05 Minimum Design Loads for Buildings and Other Structures for exposure Class C, 60 foot building height, and a type II building.
- Fan shall be tested in accordance with ASTM E-330-02 Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference and Florida Building Code Test Protocol TAS-201, 202 and 203 at the ASCE 7-05 calculated design pressure.
- Licensed P.E. calculations for attachment of fan to curb shall be available for ASCE 7-05 determined design pressure.
- All calculations and testing shall be done by a state licensed P.E., and a certified test lab.

Fans shall be Greenheck model GB, as specified on page 50, with high wind-resistant construction option and manufactured by Greenheck Fan Corporation in Schofield, Wisconsin, USA.

### Seismic Specifications

Fans shall meet International Building Code (IBC) 2009, 2012 and the California Office of Statewide Health Planning and Development (OSHPD) requirements for seismic certifications as listed.

- All Greenheck seismically certified models shall be tested to the most severe seismic event on the Spectral Response Map per IBC Figures 1613.5 (1-2). Testing shall be 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.
- Fans shall be shake table tested in accordance with ICC ES AC-156, in which the fans are physically subjected to the same or greater forces as experienced during a seismic event.
- For applications which are not covered by California OSHPD standards, Greenheck seismic model GB shall be certified by a third party engineering firm to IBC 2009, 2012 and ASCE 7-05 standards.
- Greenheck seismic model GB has been certified to IBC 2009, 2012, ASCE 7-05 and California OSHPD standards through engineering calculations and shake table testing of all models by independent third party engineering firms.

Fans shall be Greenheck model GB, as specified on page 50, with seismic rated construction option and manufactured by Greenheck Fan Corporation in Schofield, Wisconsin, USA.

### Smoke Control Specifications

- Fans wheel shall be centrifugal backward-inclined, constructed of steel and shall include a wheel cone carefully matched to the inlet cone for precise running tolerances.
- Dual drives shall be sized for a minimum of 150% of driven horsepower.
- A NEMA-3R disconnect switch shall be factory installed and wired from the fan motor to a junction box installed outside the motor compartment.
- Fans shall be Listed by Underwriters Laboratory for UL/cUL 705 for electrical components and UL/cUL Listed for Emergency Smoke Control Systems [500°F (260°C) for 4 hours and 1,000°F (538°C) for 15 minutes].

Fans shall be Greenheck model GB, as specified on page 50, with smoke control rated construction option and manufactured by Greenheck Fan Corporation in Schofield, Wisconsin, USA.



# Quick Delivery and Quick Build Programs



Greenheck's Quick Delivery Program provides many options to help you meet your project's schedule. Stocking warehouses and distribution centers around the world ensure same-day pickup and same-day shipment for orders in by 2 p.m. (CST). Hundreds of custom products can be manufactured through our Quick Build program in just days.

Please refer to chart shown for model size and availability for QD and QB programs. The Greenheck Stock & Quick Build Catalog is a great resource for specific options and accessories available with QD and QB fans.

## Anywhere. Anytime.

Regional warehouses are nearby and fully stocked.

### U.S.

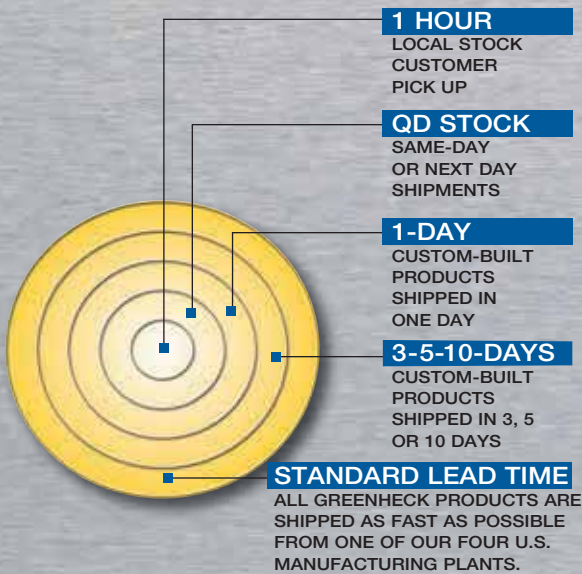
California  
Florida  
North Carolina  
Texas  
Wisconsin

### MANUFACTURING LOCATIONS

California  
Kentucky  
North Carolina  
Wisconsin  
China  
Mexico

### WORLDWIDE

Mexico



## Quick Delivery & Quick Build Model Size Availability

Model G		Model GB	
Size	Number	Size	Number
060-095	QD-1-3-5-10	071-091	QD-1-3-5-10
097-098	1-3-5-10	101	QD-1-3-5-10
099-103	QD-1-3-5-10	101HP	1-3-5-10
103HP	1-3-5-10	121	QD-1-3-5-10
123	QD-1-3-5-10	131	QD-1-3-5-10
133	QD-1-3-5-10	141	QD-1-3-5-10
143	QD-1-3-5-10	141HP	1-3-5-10
143HP	1-3-5-10	161	QD-1-3-5-10
163	QD-1-3-5-10	161HP	1-3-5-10
183	1-3-5-10	180	QD-1-3-5-10
203	1-3-5-10	180HP	1-3-5-10
		200	QD-1-3-5-10
		200HP	1-3-5-10
		220	1-3-5-10
		220HP	1-3-5-10
		240	QD-1-3-5-10
		240HP	1-3-5-10
		260	1-3-5-10
		300	QD-1-3-5-10
		300HP	1-3-5-10
		330	1-3-5-10
		360	1-3-5-10
		360HP	1-3-5-10
		420	1-3-5-10
		480	1-3-5-10
		500	1-3-5-10
		540	1-3-5-10



## 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.



Prepared to Support Green Building Efforts

