



Delta Breez Ventilation Fans

Perfectly Quiet. Perfectly Green.



Perfectly Quiet. Perfectly Green.



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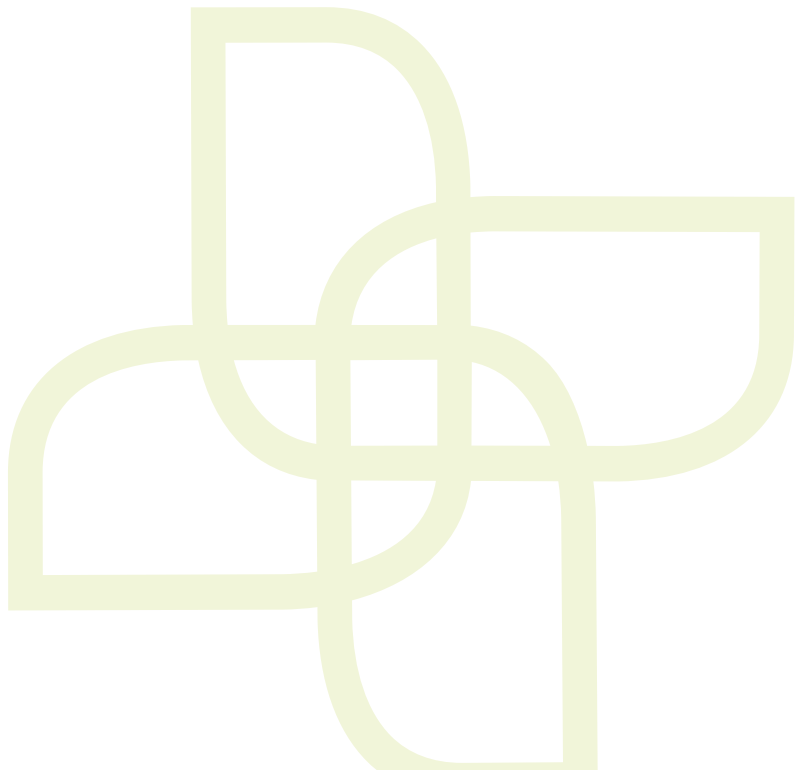
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## Why Delta

### Smarter. Greener. Together.

#### The World's Leading Provider of DC Brushless Fans

Delta Group is a \$7.1 billion global company with 31 Plant Sites, 54 R&D Centers and 106 Sales Offices worldwide. In the U.S., Delta has 13 offices and has headquarters in Fremont CA. Among its achievements, Delta has the distinction of being the world's largest manufacturer of DC brushless fan motors. As a global leader in power electronics, Delta's mission for nearly 43 years has been "To provide innovative, clean and energy-efficient solutions for a better tomorrow."

Delta Breez Ventilation Fans are backed by the Delta product portfolio that includes a wide range of energy efficient ventilation fans, solar inverters, industrial automation, and EV chargers.

Delta has long implemented green manufacturing, recycling and building practices and was recently listed by CNBC European Business magazine as a "Global Top

100 Low-Carbon Pioneer" the only Taiwan company on the list. Delta has received numerous other awards including the Forbes Asia "Fabulous 50" Award for consecutive years, Ernst & Young's "Entrepreneur of the Year" and "CSR Entrepreneur" awards, and CNBC's "2010 China Business Leader of the Year."

Delta's Corporate Social Responsibility extends to sound corporate governance, balancing stakeholder benefits and a rewarding work environment. Delta was named to the prestigious 2012–2013 DJSI World Index and the DJSI Asia/Pacific Index.

#### When Precision is Paramount

The DC brushless fans in Delta Breez products are also found in high performance consumer applications such as laptops, Ultrabooks™, desktops, tablets, gaming systems and set-top boxes. Delta's operations are ISO-9001, ISO-14001, ISO-14064, OHSAS-18001, TS-16949 and ISO-50001 certified.

Please visit our global website [www.deltaww.com](http://www.deltaww.com) for a more comprehensive look at Delta operations, products and company profile.

## Why is Ventilation Important?

Many of today's homes are airtight and highly insulated, which are good for cost and energy-effective temperature control, but terrible for indoor air quality. Without adequate exhausting and exchange of indoor air to the outdoors, the concentration of pollutants indoors is often many times higher than that of the outdoors.

### Air Pollution Inside the House

Sources of indoor air pollutants are found throughout a home, including combustion sources, building materials, cleaning products, and biological pollutants such as mold, mildew, bacteria, and pollen. These pollutants are likely to cause or exacerbate health problems. High humidity and uncontrolled moisture in the home can result in greater pollutant concentrations and increased growth of biological contaminants, as well as deterioration of furniture, paint, and more.

### Bringing Fresh Air Indoors

To improve indoor air quality, pollutants must be exhausted, indoor air must be replaced by fresh outside air, and moisture must be controlled. This is best accomplished using ventilation systems appropriate for the homeowner's exhaustion purposes. High humidity conditions are most commonly created through the use of bathroom fixtures, so proper bathroom ventilation is essential for improved indoor air quality.

## Why Choose Delta Breez?

Delta Breez offers high quality and top-performing bathroom ventilation fans of varying sizes, airflow levels, and features to fit any budget. Delta Breez fans are designed to control and reduce the moisture in your home to improve indoor air quality and decrease the risk of health problems. All Delta Breez fans are "quiet as a breeze" and ENERGY STAR® qualified, which means that they have passed rigorous energy efficiency standards set by the EPA, and reduce

greenhouse gas emissions. Low energy consumption lowers utilities bills and reduced emissions help to protect the environment, which in turn benefit you!

## What makes Delta Breez Ventilation Fans different?

1. All Delta Breez Ventilation Fans are manufactured with DC Brushless motor technology
2. All Delta Breez Ventilation Fans are ENERGY STAR qualified\*
3. All Delta Breez Ventilation Fans have soft start and lock protection functions
4. All Delta Breez Ventilation Fans are precision engineered to run continuously for 70,000 hours
5. All Delta Breez Ventilation Fans come with a 3-Year limited warranty

*\*Except for BreezRadiance RAD80L Fan/Light with Heater, which has a powerful 1300W heating element for warmth and comfort*

## What are the benefits of a DC brushless motor?

### Reliability

Delta's DC brushless motor fans are engineered to outlast popular AC models by as much as 70 percent, reducing the need for replacement.

### Less noise

Delta's DC brushless motor fans are precision engineered for low sound, down to less than 0.3 sones, the lowest sound rating of any exhaust fan.

### Less power consumption

Delta's DC brushless motor fans use 74% less power than popular AC motor exhaust fans.

### Efficiency

Delta DC brushless motor fans are among the most efficient ventilation fans available, exceeding ENERGY STAR requirements for efficiency by as much as 800%.

# Certification and Qualification

## About ENERGY STAR



ENERGY STAR is a joint program of the U.S. Department of Energy and the U.S. Environmental Protection Agency that identifies products in over 60 categories which meet rigorous energy efficiency standards. Started in 1992, ENERGY STAR is now an internationally recognized label for U.S.-originated products that reduce greenhouse gas emissions without sacrificing performance or quality. ENERGY STAR qualified products help to protect the environment by reducing energy consumption, which in turn reduces greenhouse gas emissions and saves consumers money on utility bills.

As an ENERGY STAR partner, Delta is committed to environmental protection and strives to create products meeting and surpassing current standards in energy efficiency. Delta Breez prides itself on delivering all ENERGY STAR qualified products, some of which exceed the ENERGY STAR efficiency requirement by over 800%. And of Delta Breez's 35 models available in 2013 for evaluation, 29 were awarded the ENERGY STAR Most Efficient 2014 recognition.

## ENERGY STAR Most Efficient 2014



ENERGY STAR Most Efficient is a designation recognizing and advancing the most efficient products among those that qualify for the ENERGY STAR label. ENERGY STAR Most Efficient products reduce greenhouse gas emissions by meeting rigorous energy efficiency performance levels set by the U.S. Environmental Protection Agency.

While less than three percent of all residential bathroom ventilation fans on the market were recognized as ENERGY STAR Most Efficient 2013, better than 80% of the Delta Breez product line was recognized as such. These Delta Breez ventilation fans have been awarded the ENERGY STAR Most Efficient designation in 2014.

## ASHRAE 62.2



ASHRAE 62.2-2010, Ventilation and Acceptable Indoor Air Quality in Low-rise Residential Buildings, is the national standard applied to single-family houses or multiple-family dwellings up to three stories that addresses requirements for ventilation to ensure acceptable indoor air quality. The standard considers the effects of chemical, physical, and biological contaminants on indoor air quality and does not include thermal comfort requirements. ASHRAE 62.2 sets minimum overall whole-building ventilation requirements and requirements for effectiveness and noise levels of continuous and intermittent mechanical exhaust systems.

### Ventilation Air Requirements, CFM

Floor Area (ft <sup>2</sup> )	Bedrooms				
	0-1	2-3	4-5	6-7	>7
<1500	30	45	60	75	90
1501-3000	45	60	75	90	105
3001-4500	60	75	90	105	120
4501-6000	75	90	105	120	135
5001-7500	90	105	120	135	150
>7500	105	120	135	150	165

Most Delta Breez fan models are ASHRAE 62.2 compliant for both intermittent and continuous run applications. This means that Breez fans are operable according to 62.2 guidelines and meet the maximum noise level requirement of 3 sones for intermittent operation and 1 sone for continuous operation.

## HVI



HVI, the Home Ventilating Institute, is a group that runs a standardized testing and certification program for a wide range of home ventilating products. Products are tested to qualify for various performance parameters and undergo random verification. All tests are conducted in third party facilities that are independent of any manufacturing company, and testing procedures are designed by HVI members according to internationally recognized guidelines. All Delta Breez Ventilation fans are HVI lab tested and certified.

# Comprehensive Testing Process Ensures Reliability

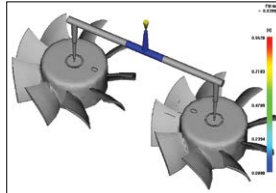
The Delta Breez testing procedures for ventilation fan reliability verification are conducted before, during and after production. Along with an industry-leading 3 year warranty, customers are assured of product durability and long life.

## Design & Analysis Technology

Delta's design and analysis technology utilizes 3D and 2D tools to conduct thorough examination during the design and production phases. Software simulations to enable the highest standards of performance include:

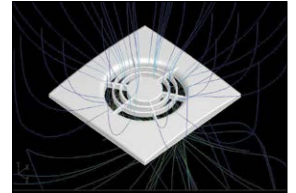
### Moldflow Analysis Software

Plastic mold



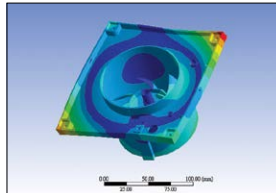
### Aerodynamic Simulation Software

Fan blade curve design & air flow analysis



### Structure Simulation Software

Structure analysis for stress and vibration



### Semi-Anechoic Chamber

Noise testing for sound pressure and sound quality

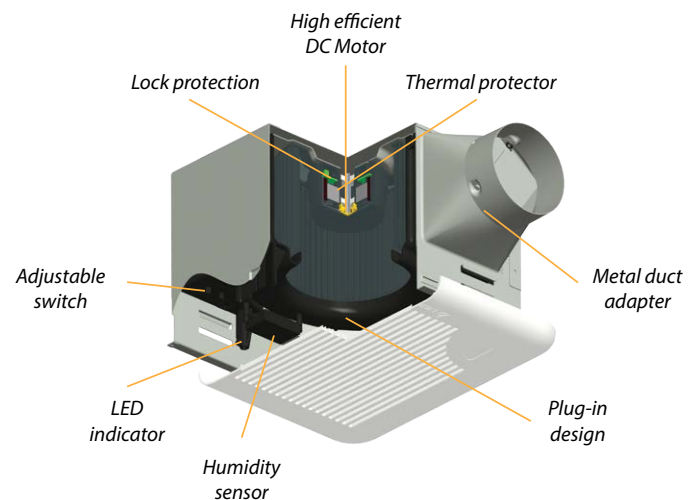


## Physical Testing for Ventilation Fan Reliability

Laboratory testing of Delta Breez products analyzes functionality, durability under harsh conditions, and construction for long life. The Basic Function Test checks current, speed and noise, while the Safety Test includes leakage current, Hipot (high potential), ground bond and insulation testing. Comprehensive reliability testing continues with:

- Low Temperature and High Temp/Rating Voltage on/off Test
- Temperature Cycling & Power Switching
- Impeller Locked Test
- Thermal Shock
- Humidity Exposure
- Water Spray
- Random Vibration and Drop (packing)
- Operational and Non-operation Vibration
- Mechanical Shock
- Life Test

### Fan components





**Delta Breez is powerful, durable and quietly efficient.**

Backed by over 25 years of innovation and consistent quality, the DC brushless motor technology inside every Delta Breez product is why Breez ventilation fans are setting a new industry standard for energy efficient performance. ENERGY STAR qualified, and with a limited 3-year warranty, all Delta Breez fans are:

- + Rigorously tested to achieve minimum noise
- + Equipped with soft start and lock protection functions
- + Engineered to run continuously for 70,000 hours

**The energy saving bathroom solution.**

The introduction of the Breez ventilation fan marks a new achievement in green construction for bathroom ventilation. The Breez ventilation fan delivers an aesthetically pleasing ventilation solution that consumes less power, with advanced functionality and operates more quietly than most AC motor products in the market.



**Features and Benefits**

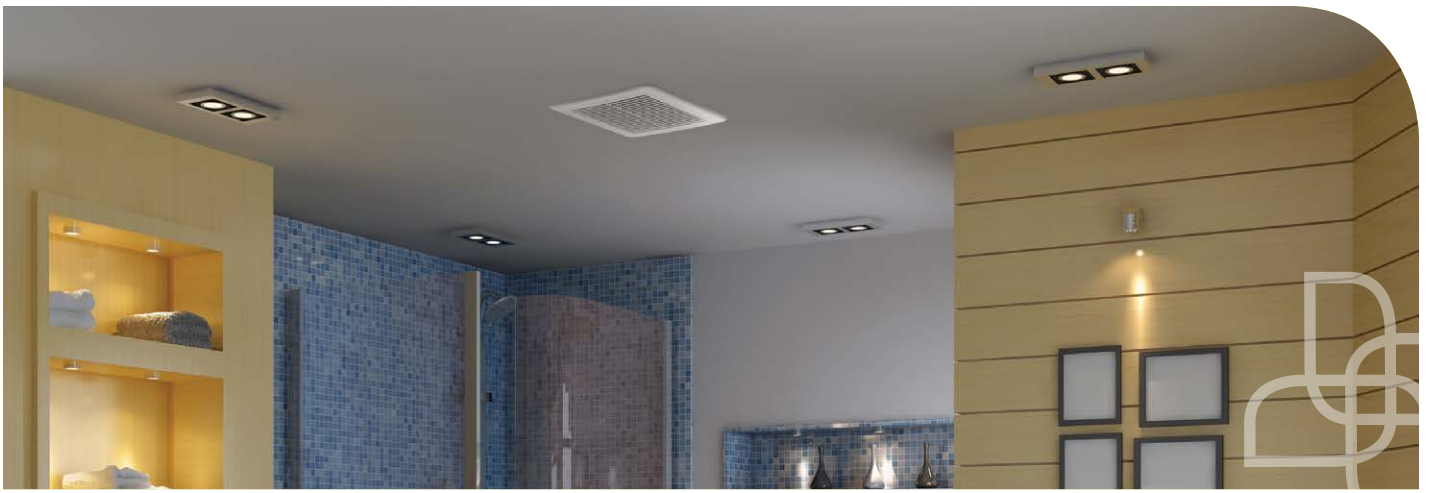
- + Quiet – measured at the lowest noise level (less than 0.3 sones) a bath fan has ever been HVI certified
- + Low Energy Costs – consumes up to 85% less energy than other leading fans, with as little as 4 watts versus 45 watts
- + Years of worry-free operation – features precision engineered Delta DC brushless fan motors for superior performance and reliability. Made to outlast AC fan motors by as much as 70%, reducing the frequency of motor replacement
- + Easier Installation – Breez retrofit models can fit into most existing bath ceiling cut outs
- + Certification – exceeds ENERGY STAR requirements by up to 835%<sup>1</sup>. UL and cUL listed for tub/shower enclosure when used with GFCI branch circuit wiring

	Delta Breez	Market AC Motor
Energy Use (Watts)	6.4	45.2
Noise Level (Sones)	1.0	4.0
Annual Energy Cost per Fan (24/7) <sup>2</sup>	\$6.73	\$47.56

<sup>1</sup> Based upon ENERGY STAR Criteria for residential ventilating fans

<sup>2</sup> Calculations based upon U.S. average retail electricity. Actual results may vary





## Delta Breez Series Ventilation Fans

Delta BreezSignature Series ventilation fans deliver advanced functionality and low power consumption in a modern design. Here you will find the right bathroom ventilation system for any need.

The Delta BreezSignature fans are available with adjustable humidity and speed controls, motion sensing capabilities, and a delay timer.

The Delta BreezSlim Series fans feature a compact design and can be mounted to a ceiling or wall.

The Delta BreezGreenBuilder Series fans come with lighting options (CFL lamp and LED light module) and offer the lowest power consumption on the market at 3.8 Watts. Fan only models can be mounted to a ceiling or wall.

The Delta BreezSmart Series fans feature humidity and motion sensing along with dual speed options and a delay timer.

The Delta BreezRadiance is low noise ceiling mount ventilating fan, light, and heater.

- Delta Breez Signature Series
- Delta BreezSlim Series
- Delta BreezGreenBuilder Series
- Delta BreezSmart Series
- Delta BreezRadiance Series

## Delta Breez and ENERGY STAR

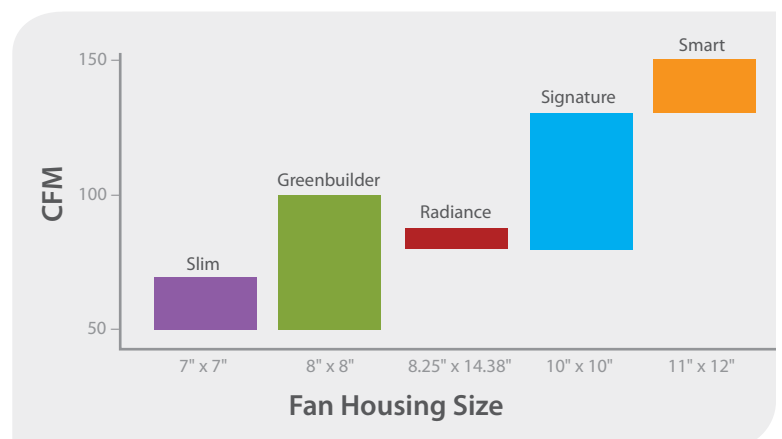
### A commitment to the environment.

ENERGY STAR is a trusted, government-backed symbol that reflects a commitment to help protect the environment through energy efficient products and practices. Delta is proud of its commitment to the ENERGY STAR program and label. All Delta BreezSignature, BreezSlim, BreezGreenBuilder, and BreezSmart fans are ENERGY STAR qualified.

Breez Ventilation Fans exceed ENERGY STAR requirements by up to 835% in energy efficiency, with lowest some levels rated by HVI at <0.3 sones. The Breez design for long life, low noise and low power consumption is all part of our promise to our customers and to the world in which we live.



For more information, visit [www.energystar.gov](http://www.energystar.gov)





## Delta BreezSignature G2 Series Fan and Fan/Light

**Innovative DC brushless motor design for long life, low noise, and low power consumption**

The Delta BreezSignature G2 boasts a <0.3 Sones level at 110 CFM and enhanced air flow at 0.25" static pressure. Add an LED indicator light so you know the fan is running, a fresh grille design, and the exceptional reliability and efficiency of Delta's DC brushless motor, and you have a winner. The BreezSignature G2 is available with adjustable humidity and speed controls, motion sensing capabilities, and a delay timer.

### Features:

- Energy savings up to 71%<sup>1</sup>
- <0.3 sones - lowest noise level among competing fans
- Exceeds ENERGY STAR requirement by 592% in energy efficiency<sup>2</sup>
- Motion-sensing and humidity-sensing options with dual-speed function

### Fan/Light Combo:

- (1) GU24 26-watt compact fluorescent lamp included
- (1) E12 4-watt night light included

### Fan/LED Light Combo:

- 13-Watt LED main light and 2-Watt LED night light
- Main light output 800 lumens, 2,700K

<sup>1</sup> Based upon SIG80 vs. market AC motor.

<sup>2</sup> Based upon ENERGY STAR criteria for residential ventilating fans



Fan only & Fan with Humidity Sensor/Dual Speed



Fan with Motion Sensor



Fan/Light/Night-Light Combo



Fan/LED Light Combo

### LED Indicator Light: SIG80M, SIG110D, SIG110DL

Continuous Low Speed Full Speed

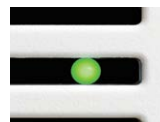


### LED Indicator Light: SIG110H, SIG110HL

Humidity Sensing Full Speed



### LED Indicator Light: SIG80, SIG80L, SIG110, SIG110L

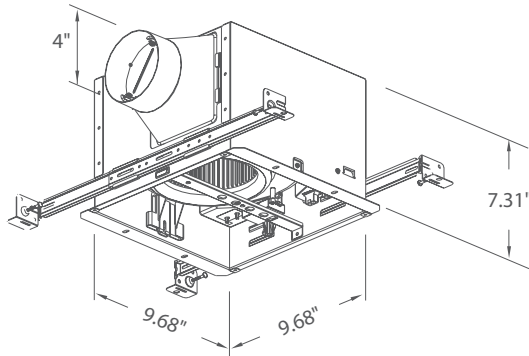


### LED Indicator Light: SIG110LED

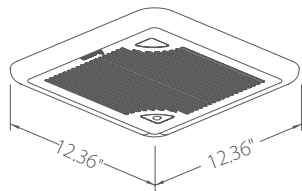




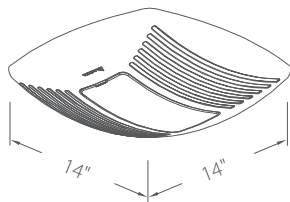
## BreezSignature G2 Series Dimensions



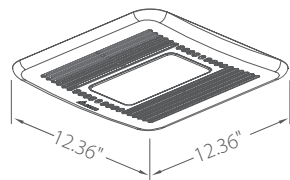
Fan Housing



Fan Grille

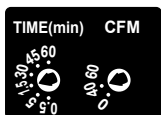


Fan/Light Grille

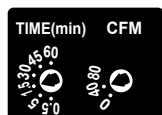


Fan/LED Light Grille

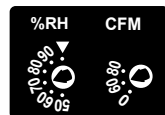
SIG80M  
Controls



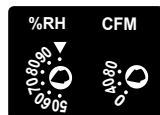
SIG110D  
& SIG110DL  
Controls



SIG110H  
Controls



SIG110HL  
Controls



	Delta Breez	Market AC Motor
Energy Use (Watts)	8.2	28.4
Noise Level (Sones)	<0.3	0.8
Annual Energy Cost per Fan (24/7) <sup>2</sup>	\$8.56	\$29.94

## Specifications

### SIG80 - 80 CFM Single Speed Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	80	65
Sones	<0.3	0.5
Power Consumption (Watts)	8.2	10.8
Energy Efficiency (CFM/Watts)	9.8	6.0
Current (Amps)	0.30 Max	
Power Rating (V/Hz)	120/60	

### SIG80L - 80 CFM Fan/Light Combo

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	80	59
Sones	<0.3	0.5
Power Consumption (Watts)	8.5	10.7
Energy Efficiency (CFM/Watts)	9.7	5.6
Current (Amps)	0.30 Max	
Power Rating (V/Hz)	120/60	
Lamp (Watts)	26	
Night Light (Watts)	4	



## Delta BreezSignature G2 Series Fan and Fan/Light (continued) Specifications

### SIG80M - 80 CFM Exhaust Fan with Motion Sensor

Fan Speed	Continuous Low Speed				High	
Static Pressure (Inches w.g.)	0.1	0.25	0.1	0.25	0.1	0.25
Air Flow (CFM)	40	34	60	56	80	65
Sones	<0.3	0.3	<0.3	0.4	<0.3	0.5
Power Consumption (Watts)	5.0	9.0	6.2	10.8	8.2	10.8
Energy Efficiency (CFM/Watts)	8.4	4.0	9.9	5.3	9.8	6.0
Current (Amps)	0.30 Max					
Power Rating (V/Hz)	120/60					

### SIG110 - 110 CFM Single Speed Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	110	96
Sones	<0.3	1.2
Power Consumption (Watts)	12.7	15.6
Energy Efficiency (CFM/Watts)	8.7	6.2
Current (Amps)	0.38 Max	
Power Rating (V/Hz)	120/60	

### SIG110D - Adjustable 0-80/110 CFM Dual Speed Exhaust Fan

Fan Speed	Continuous Low Speed				High	
Static Pressure (Inches w.g.)	0.1	0.25	0.1	0.25	0.1	0.25
Air Flow (CFM)	60	56	80	65	110	96
Sones	<0.3	0.4	<0.3	0.5	<0.3	1.2
Power Consumption (Watts)	6.2	10.8	8.2	10.8	12.7	15.6
Energy Efficiency (CFM/Watts)	9.9	5.3	9.8	6.0	8.7	6.2
Current (Amps)	0.38 Max					
Power Rating (V/Hz)	120/60					

### SIG110H - 110 CFM Exhaust Fan with Humidity Sensor

Fan Speed	Continuous Low Speed				High	
Static Pressure (Inches w.g.)	0.1	0.25	0.1	0.25	0.1	0.25
Air Flow (CFM)	60	56	80	65	110	96
Sones	<0.3	0.4	<0.3	0.5	<0.3	1.2
Power Consumption (Watts)	6.2	10.8	8.2	10.8	12.7	15.6
Energy Efficiency (CFM/Watts)	9.9	5.3	9.8	6.0	8.7	6.2
Current (Amps)	0.38 Max					
Power Rating (V/Hz)	120/60					

### SIG110L - 110 CFM Fan/Light Combo

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	110	92
Sones	0.4	0.8
Power Consumption (Watts)	12.7	15.2
Energy Efficiency (CFM/Watts)	8.8	6.2
Current (Amps)	0.38 Max	
Power Rating (V/Hz)	120/60	
Lamp (Watts)	26	
Night Light (Watts)	4	

### SIG110DL - 110 CFM Fan/Light Combo with Dual Speed

Fan Speed	Continuous Low Speed				Full Speed	
Static Pressure (Inches w.g.)	0.1	0.25	0.1	0.25	0.1	0.25
Air Flow (CFM)	40	42	80	59	110	92
Sones	<0.3	0.4	<0.3	0.5	0.4	0.8
Power Consumption (Watts)	5.1	9.0	8.5	10.7	12.7	15.2
Energy Efficiency (CFM/Watts)	7.9	4.7	9.7	5.6	8.8	6.2
Current (Amps)	0.38 Max					
Power Rating (V/Hz)	120/60					
Lamp (Watts)	26					
Night Light (Watts)	4					

### SIG110HL - 110 CFM Fan/Light Combo with Humidity Sensor

Fan Speed	Continuous Low Speed				High	
Static Pressure (Inches w.g.)	0.1	0.25	0.1	0.25	0.1	0.25
Air Flow (CFM)	40	42	80	59	110	92
Sones	<0.3	0.4	<0.3	0.5	0.4	0.8
Power Consumption (Watts)	5.1	9.0	8.5	10.7	12.7	15.2
Energy Efficiency (CFM/Watts)	7.9	4.7	9.7	5.6	8.8	6.2
Current (Amps)	0.38 Max					
Power Rating (V/Hz)	120/60					
Lamp (Watts)	26					
Night Light (Watts)	4					

### SIG110LED - 110 CFM Fan/LED Light Combo

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	110	94
Sones	0.5	0.8
Power Consumption (Watts)	13.1	15.3
Energy Efficiency (CFM/Watts)	8.6	6.3
Current (Amps)	0.38 Max	
Power Rating (V/Hz)	120/60	
LED Main Light (Watt)	13	
LED Night Light (Watt)	2	



## Delta BreezSignature G1 Series

The Delta BreezSignature G1 Series ventilation fans come in 3 different models. All of the BreezSignature fans feature quiet operation, low power consumption and Delta's durable DC brushless motor.

### Features:

Innovative design for long life, low noise, and low power consumption

- Energy savings up to 74%<sup>1</sup>
- Lowest sone level rated by HVI at 0.3 sones
- Exceeds ENERGY STAR requirements by 685% in energy efficiency<sup>2</sup>

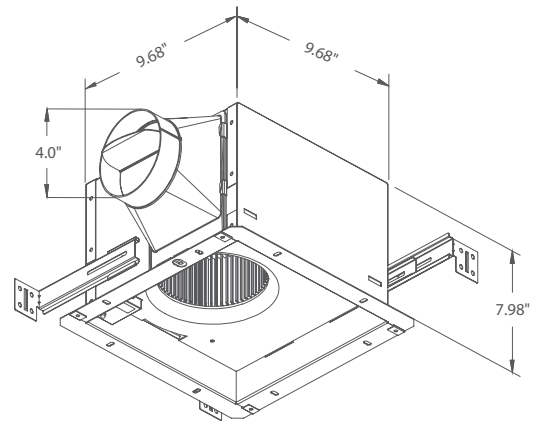
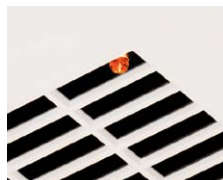
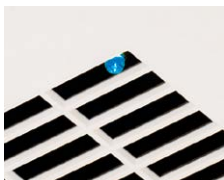
<sup>1</sup> Based upon VFB25ACH vs. market AC motor.

<sup>2</sup> Based upon ENERGY STAR criteria for residential ventilating fans.

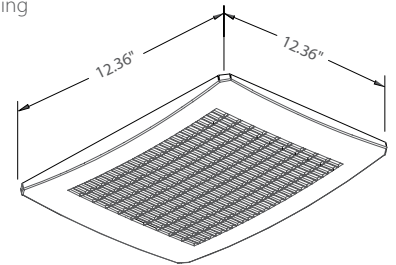


Fan with Humidity Sensor

LED light underneath grille indicates fan mode:  
Humidity Sensing      Full Speed Operation



Fan Housing



Fan Grille

## Specifications

### VFB25ACH - 80 CFM Humidity Sensor Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	80	56
Sones	<0.3	0.6
Power Consumption (Watts)	7.2	9.3
Energy Efficiency (CFM/Watts)	11.0	6.0
Current (Amps)	0.12 @ 110 Vac	
Power Rating (V/Hz)	110~220/50~60	

### VFB25ADH - 110 CFM Humidity Sensor Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	110	81
Sones	1.0	1.5
Power Consumption (Watts)	14.2	15.0
Energy Efficiency (CFM/Watts)	7.7	5.4
Current (Amps)	0.22 @ 110 Vac	
Power Rating (V/Hz)	110~220/50~60	

### VFB25AEH - 130 CFM Humidity Sensor Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	130	107
Sones	1.3	N/A
Power Consumption (Watts)	19.1	18.8
Energy Efficiency (CFM/Watts)	7.1	5.9
Current (Amps)	0.36 @ 110 Vac	
Power Rating (V/Hz)	110~220/50~60	





## Delta BreezSlim G2 Series

The second generation of BreezSlim adds 80 CFM and 100 CFM fans that are suitable for both ceiling and sidewall applications. All BreezSlim fans are ENERGY STAR qualified and fit in a 4" wall. BreezSlim G2 models include a 4" metal oval duct with a 3" plastic adapter. An enlarged grille on G2 models helps relieve cutting errors. As with all Delta Breez fans, G2 models also feature an LED indicator light underneath the grille to assure the user that this quiet fan is running.

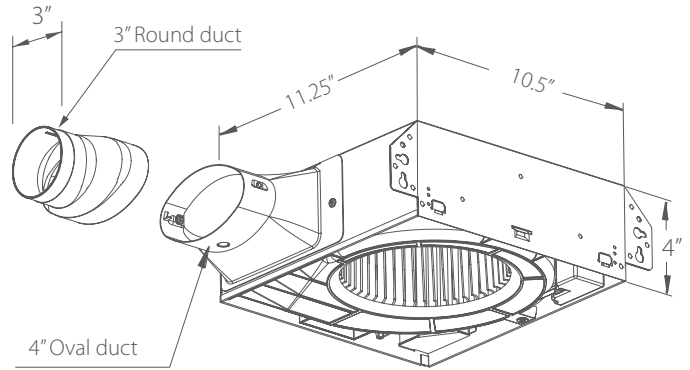
### Features:

Innovative DC brushless motor design for long life, low noise, and low power consumption

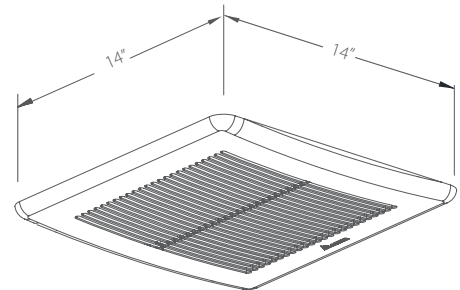
- 4" Oval Duct:
  - Noise level at 0.6 Sones
  - Annual energy cost for 24/7 operation is approximately \$8.94\*
  - Ultra low power consumption at 8.5 Watts
- 3" Round Duct:
  - Noise level at 0.9 Sones
  - Annual energy cost for 24/7 operation is approximately \$11.04\*
  - Ultra low power consumption at 10.5 Watts
- UL approved for ceiling and wall mount installation
- LED indicator will be green when power is on

	Delta Breez	Market AC Motor
Energy Use (Watts)	8.5	25.7
Noise Level (Sones)	0.6	1.1
Annual Energy Cost per Fan (24/7) <sup>1</sup>	\$8.94	\$27.02

LED Indicator Light:  
SLM80, SLM100



Fan Housing for SLM80 and SLM100



Fan Grille

## Specifications

### SLM80 - 80 CFM Single Speed Exhaust Fan

	4" Oval Duct		3" Round Duct	
	0.1	0.25	0.1	0.25
Static Pressure (Inches w.g.)	80	66	70	57
Air Flow (CFM)	0.6	1.1	0.9	1.5
Sones	8.5	10.9	10.5	12.0
Power Consumption (Watts)	9.4	6.0	6.6	4.7
Energy Efficiency (CFM/Watts)	0.26 Max			
Current (Amps)	120/60			
Power Rating (V/Hz)				

### SLM100 - 100 CFM Single Speed Exhaust Fan

	4" Oval Duct		3" Round Duct	
	0.1	0.25	0.1	0.25
Static Pressure (Inches w.g.)	100	87	90	73
Air Flow (CFM)	1.0	1.5	1.5	2.0
Sones	14.5	17.7	17.4	16.9
Power Consumption (Watts)	6.8	4.9	5.1	4.3
Energy Efficiency (CFM/Watts)	0.3 Max			
Current (Amps)	120/60			
Power Rating (V/Hz)				

<sup>1</sup> Calculations based upon U.S. average retail electricity. Actual results may vary



# Delta BreezSlim G1 Series

## Super Low Profile. Super Low Energy Consumption.

Weighing in at less than 5 lbs., the powerful yet compact Delta BreezSlim sets the bar for performance in the popular small fan size of 7 1/2" x 7 1/4" x 3 15/16". Operating at just 1.0 sone, this quiet fan features Delta's super reliable DC brushless motor, and an LED indicator light so you know it's running, and a modern grille design. Perfect for retrofit into an existing space or for ceiling mount or wall mount installation (UL listed for both) into your next multifamily or single-family project. BreezSlim breaks the mold of the everyday bathroom exhaust fan. Available in contractor packs.

### Features:

Innovative DC brushless motor design for long life, low noise, and low power consumption.

- Energy savings up to 85%<sup>1</sup>
- 1 sone – The quietest ever in a 7.5" x 7.25" bath fan
- Exceeds ENERGY STAR requirements by 458% in energy efficiency<sup>2</sup>
- UL listed for both ceiling-mount and wall-mount installation.

<sup>1</sup> Based upon SLM50 vs. market AC motor

<sup>2</sup> Based upon ENERGY STAR criteria for residential ventilating fans

<sup>3</sup> Calculations based upon U.S. average retail electricity. Actual results may vary

	Delta Breez	Market AC Motor
Energy Use (Watts)	6.4	45.2
Noise Level (Sones)	1.0	4.0
Annual Energy Cost per Fan (24/7) <sup>3</sup>	\$6.73	\$47.56

LED Indicator Light:  
SLM50, SLM70



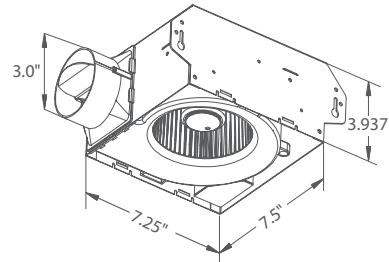
Fan Only



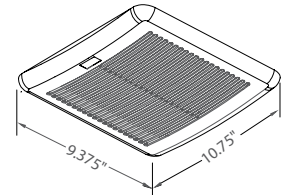
Available with metal duct adapter



Project Pack Components Available



Fan Housing for SLM50 and SLM70



Fan Grille

## Specifications

### SLM50 - 50 CFM Single Speed Exhaust Fan

	3" Duct (Standard)	
Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	50	36
Sones	1.0	1.2
Power Consumption (Watts)	6.4	6.3
Energy Efficiency (CFM/Watts)	8.9	6.5
Current (Amps)	0.18 Max	
Power Rating (V/Hz)	120/60	

Project Pack Components Available SLM-A (housing) and SLM50-B (motor grille)

### SLM70\* - 70 CFM Single Speed Exhaust Fan

	3" Duct (Standard)	
Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	70	54
Sones	2.0	1.5
Power Consumption (Watts)	13.1	11.5
Energy Efficiency (CFM/Watts)	5.8	5.0
Current (Amps)	0.29 Max	
Power Rating (V/Hz)	120/60	

Project Pack Components Available SLM-A (housing) and SLM70-B (motor grille)

\* Product is ENERGY STAR certified only, does not apply to ENERGY STAR Most Efficient distinction





## Delta BreezGreenBuilder G2 Series

### The Builder's Choice for Green Construction.

Delta BreezGreenBuilder G2 ventilation fans mark a new achievement in bathroom ventilation for green construction. Built upon market-leading energy efficiency, exceptionally low power consumption, and virtually silent operation the G2 adds an LED light option, an adjustable humidity sensing option with speed control and a 100 CFM option. In addition, the G2 models have enhanced performance at 0.25" static pressure.

BreezGreenBuilder G2 stays true to what has made the GreenBuilder series a winning value proposition for builders and contractors: a super reliable Delta DC brushless motor, a compact lightweight design for quick installation coupled with sound and flow ratings that far surpass building requirements...all at an affordable price. Currently the fan only models are UL approved for both ceiling and wall mount installation. All models are available in contractor packs.

### Features:

Innovative DC brushless motor design for long life, low noise, and low power consumption

- Energy savings up to 86%<sup>1</sup>
- Lowest sone level rated by HVI at <0.3 sones
- Exceeds ENERGY STAR requirements by 840% in energy efficiency<sup>2</sup>
- Fan and Fan/Light combination project pack available
- Fan only models are UL listed for both ceiling-mount and wall-mount installation

<sup>1</sup> Based on GreenBuilder GBR50 vs. market AC motor fan

<sup>2</sup> Based upon ENERGY STAR criteria for residential ventilating fans



Fan Only



Fan/Light



Fan/LED light



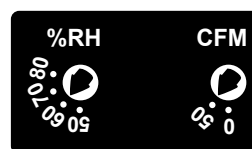
### LED Indicator Light



Project Pack Components Available

### LED Indicator Light: GBR80H

### GBR80H Controls



### HumiditySensing

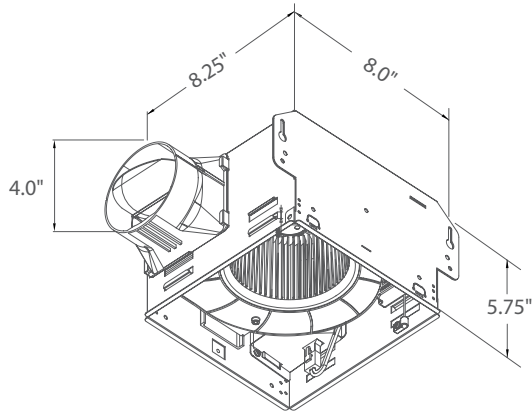


### Full Speed

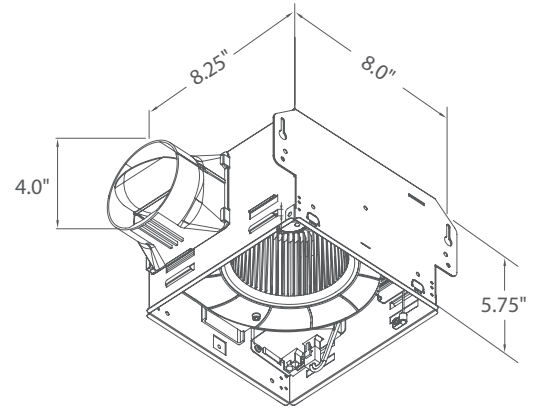




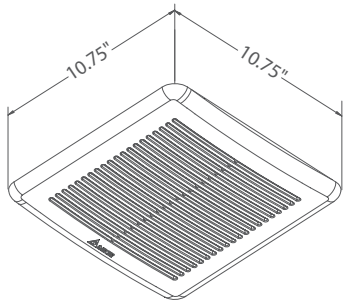
## BreezGreenBuilder G2 Series Dimensions



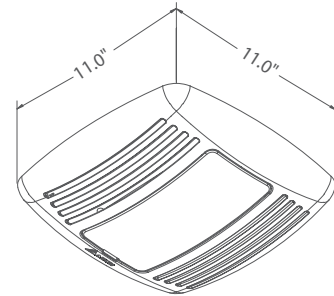
Fan Housing for  
GBR50, GBR80, GBR80H and GBR100



Fan/Light Housing for  
GBR50L, GBR80L, and GBR100L

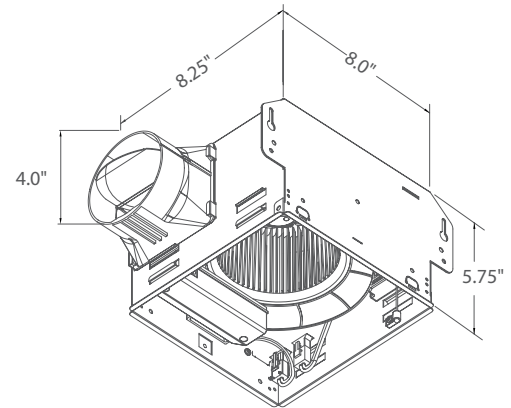


Grille for Fan Only

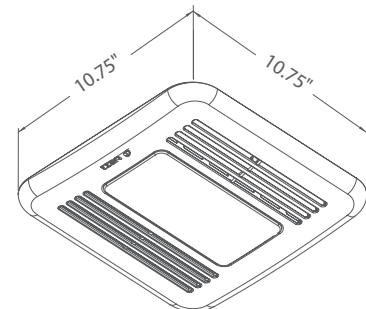


Grille for Fan/Light

	Delta Breez	Market AC Motor
Energy Use (Watts)	3.8	27.1
Noise Level (Sones)	<0.3	1.5
Annual Energy Cost per Fan (24/7) <sup>2</sup>	\$3.99	\$28.49



Fan/Light Housing for GBR80LED



Grille for Fan/LED Light

Hanger bars are not included with GreenBuilder Series due to its compact 8-1/4" x 8" size fan housing. Hanger bars are available for purchase separately.



## Delta BreezGreenBuilder G2 Series Specifications (continued)

### GBR50 - 50 CFM Single Speed Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	50	35
Sones	<0.3	0.6
Power Consumption (Watts)	3.8	5.2
Energy Efficiency (CFM/Watts)	13.1	6.7
Current (Amps)	0.12 Max	
Power Rating (V/Hz)	120/60	
Project Pack Components Available GBR-A (housing) and GBR50-B (motor grille)		

### GBR50L - 50 CFM Fan/Light Combo

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	50	38
Sones	<0.3	0.7
Power Consumption (Watts)	4.5	5.8
Energy Efficiency (CFM/Watts)	11.1	6.5
Current (Amps)	0.22 Max	
Power Rating (V/Hz)	120/60	
Lamp (Watts)	26	
Project Pack Components Available GBRL-A (housing) and GBR50L-B (motor grille)		

### GBR80 - 80 CFM Single Speed Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	80	69
Sones	0.6	1.1
Power Consumption (Watts)	10.5	12.5
Energy Efficiency (CFM/Watts)	7.6	5.5
Current (Amps)	0.22 Max	
Power Rating (V/Hz)	120/60	
Project Pack Components Available GBR-A (housing) and GBR80-B (motor grille)		

### GBR80H - 80 CFM Exhaust Fan with Humidity Sensor

Fan Speed	Continuous Low Speed		High	
Static Pressure (Inches w.g.)	0.1	0.25	0.1	0.25
Air Flow (CFM)	50	37	80	68
Sones	<0.3	1.0	0.8	1.2
Power Consumption (Watts)	4.0	6.0	9.7	11.8
Energy Efficiency (CFM/Watts)	12.5	6.1	8.2	5.7
Current (Amps)	0.16 Max		0.22 Max	
Power Rating (V/Hz)	120/60			

### GBR80L\* - 80 CFM Fan/Light Combo

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	80	69
Sones	0.8	1.3
Power Consumption (Watts)	11.0	13.6
Energy Efficiency (CFM/Watts)	7.2	5.0
Current (Amps)	0.23 Max	
Power Rating (V/Hz)	120/60	
Lamp (Watts)	26	
Project Pack Components Available GBRL-A (housing) and GBR80L-B (motor grille)		

### GBR80LED\* - 80 CFM Fan/LED Light Combo

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	80	63
Sones	0.8	1.1
Power Consumption (Watts)	11.6	11.1
Energy Efficiency (CFM/Watts)	6.8	5.6
Current (Amps)	0.30 Max	
Power Rating (V/Hz)	120/60	
LED Module (Watts)	11	

### GBR100 - 100 CFM Single Speed Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	100	81
Sones	1.4	1.3
Power Consumption (Watts)	12.6	11.6
Energy Efficiency (CFM/Watts)	7.9	6.9
Current (Amps)	0.22 Max	
Power Rating (V/Hz)	120/60	
Project Pack Components Available GBR-A (housing) and GBR100-B (motor grille)		

### GBR100L - 100 CFM Fan/Light Combo

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	100	76
Sones	1.4	1.3
Power Consumption (Watts)	13.9	11.9
Energy Efficiency (CFM/Watts)	7.1	6.3
Current (Amps)	0.23 Max	
Power Rating (V/Hz)	120/60	
Lamp (Watts)	26	
Project Pack Components Available GBRL-A (housing) and GBR100L-B (motor grille)		

\* Product is ENERGY STAR certified only, does not apply to ENERGY STAR Most Efficient distinction



## Delta BreezRadiance Series

The Delta BreezRadiance is low noise ceiling mount ventilating fan, light, and heater. Evaluated by Underwriter Laboratories and Home Ventilating Institute (HVI) certified.

### Features:

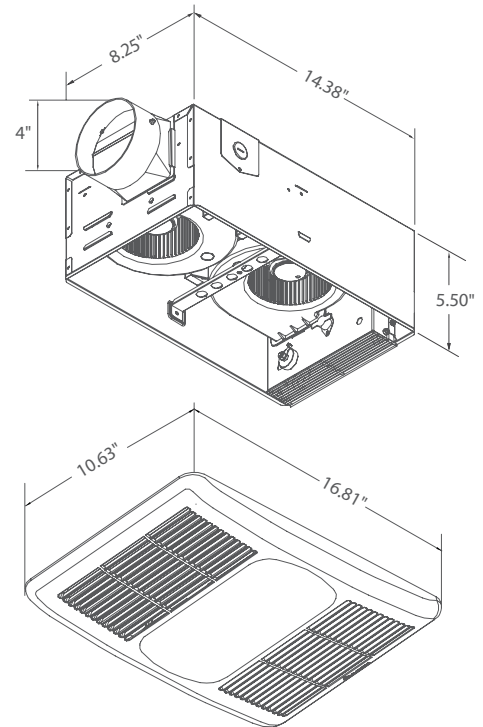
Innovative design for long life, low noise, and low power consumption

- Energy saving DC motor technology
- Built-in thermostat for consistent temperature
- Metal guard to prevent user contact with heating wire
- Heater module equipped with thermal cut off and thermostat
- Duct diameter of 4"
- (1) GU24 26-watt CFL lamp included
- 1300W heating element evaluated by UL for safety standards



Fan/Light/Heater Combo

### BreezRadiance Dimensions



Built-in thermostat



CFL bulb included



	Delta Breez	Market AC Motor
Energy Use (Watts)	10.5	58
Noise Level (Sones)	1.3	4.0
Annual Energy Cost per Fan (24/7) <sup>1</sup>	\$11.04	\$60.54

<sup>1</sup> Calculations based upon U.S. average retail electricity. Actual results may vary

## Specifications

### RAD80L - 80 CFM Fan/Light Combo with Heater



Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	80	54
Sones	1.3	NA
Power Consumption (Watts)	10.5	8.2
Energy Efficiency (CFM/Watts)	7.6	6.6
Power Rating (V/Hz)	120/60	
Heating element (Watts)	1300	
Lamp (Watts)	26	



## Delta BreezSmart Series

### The Smart Choice.

The BreezSmart Series incorporates Delta's super reliable DC brushless motor at higher CFMs with adjustable humidity, adjustable low speed, motion sensing, and a delay timer. The BreezSmart Series delivers 130 CFM and 150 CFM at incredibly low noise, <0.3 sones, while consuming less than 17 Watts of power. Delta BreezSmart is a remarkable feat for residential ventilation.

### Features:

Innovative DC brushless motor design for long life, low noise, and low power consumption

- Energy savings up to 67%<sup>1</sup>
- <0.3 sones - lowest noise level among competing fans
- Exceeds ENERGY STAR requirement by 300% in energy efficiency<sup>2</sup>
- Motion-sensing, humidity-sensing, and dual-speed options available with user-adjustable continuous low speed



Fan only and Fan with Humidity Sensor/Dual Speed



Fan with Motion Sensor

<sup>1</sup> Based upon BreezSmart SMT150 vs. market AC motor fan

<sup>2</sup> Based upon ENERGY STAR criteria for residential ventilating fans

<sup>3</sup> Calculations based upon U.S. average retail electricity. Actual results may vary

	Delta Breez	Market AC Motor
Energy Use (Watts)	16.9	51.3
Noise Level (Sones)	<0.3	1.4
Annual Energy Cost per Fan (24/7) <sup>3</sup>	\$17.17	\$53.94

LED Indicator Light:  
SMT130, SMT150



LED Indicator Light:  
SMT130M, SMT150D

Continuous Low Speed

Full Speed



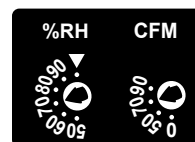
LED Indicator Light:  
SMT130H

Humidity Sensing

Full Speed



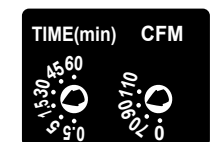
SMT130H Controls



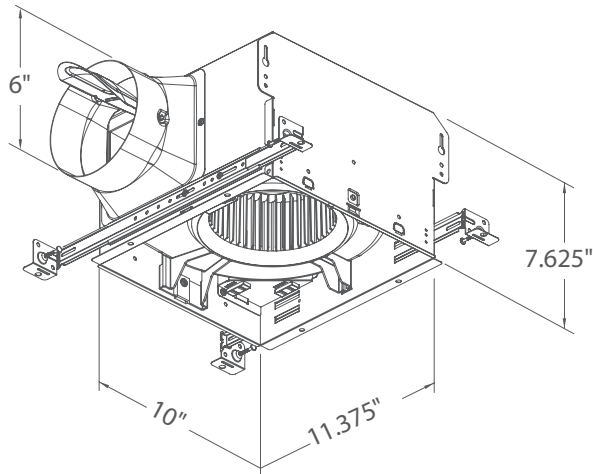
SMT130M Controls



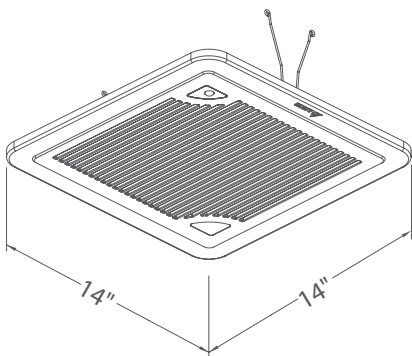
SMT150D Controls



## BreezSmart Series Dimensions



Fan Housing



Fan Grill

## Specifications

### SMT130 - 130 CFM Single Speed Exhaust Fan

Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	130	124
Sones	<0.3	0.7
Power Consumption (Watts)	11.6	20.0
Energy Efficiency (CFM/Watts)	11.2	6.2
Current (Amps)	0.44 Max	
Power Rating (V/Hz)	120/60	

### SMT130M - 130 CFM with Motion Sensor

Fan Speed	Continuous Low Speed						High	
	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25
Static Pressure (Inches w.g.)	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25
Air Flow (CFM)	50	49	70	68	90	88	130	124
Sones	<0.3	0.7	<0.3	0.7	<0.3	0.7	<0.3	0.7
Power Consumption (Watts)	5.6	10.7	6.9	12.0	8.0	14.0	11.6	20.0
Energy Efficiency (CFM/Watts)	8.9	4.5	10.1	5.6	11.2	6.2	11.2	6.2
Current (Amps)	0.44 Max							
Power Rating (V/Hz)	120/60							

### SMT130H - 130 CFM with Humidity Sensor

Fan Speed	Continuous Low Speed						High	
	0.1	0.25	0.1	.025	0.1	0.25	0.1	0.25
Static Pressure (Inches w.g.)	0.1	0.25	0.1	.025	0.1	0.25	0.1	0.25
Air Flow (CFM)	50	49	70	68	90	88	130	124
Sones	<0.3	0.7	<0.3	0.7	<0.3	0.7	<0.3	0.7
Power Consumption (Watts)	5.6	10.7	6.9	12.0	8.0	14.0	11.6	20.0
Energy Efficiency (CFM/Watts)	8.9	4.5	10.1	5.6	11.2	6.2	11.2	6.2
Current (Amps)	0.44 Max							
Power Rating (V/Hz)	120/60							

### SMT150 - 150 CFM Single Speed Exhaust Fan

Fan Speed	Continuous Low Speed	High
Static Pressure (Inches w.g.)	0.1	0.25
Air Flow (CFM)	150	145
Sones	<0.3	1.0
Power Consumption (Watts)	16.9	23.7
Energy Efficiency (CFM/Watts)	8.8	6.2
Current (Amps)	0.47 Max	
Power Rating (V/Hz)	120/60	

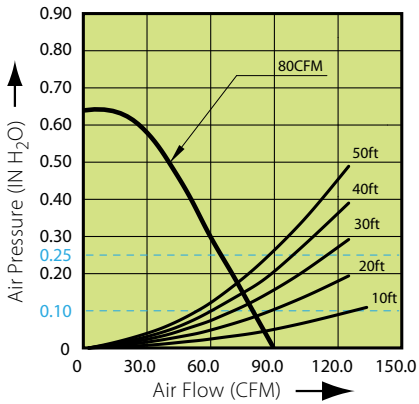
### SMT150D - Adjustable 0-110/150 CFM Dual Speed Fan

Fan Speed	Continuous Low Speed						High	
	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25
Static Pressure (Inches w.g.)	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25
Air Flow (CFM)	70	68	90	88	110	109	150	149
Sones	<0.3	0.7	<0.3	0.7	<0.3	0.7	<0.3	1.0
Power Consumption (Watts)	6.9	12.0	8.0	14.0	9.8	16.9	16.9	23.7
Energy Efficiency (CFM/Watts)	10.1	5.6	11.2	6.2	11.2	6.5	8.8	6.2
Current (Amps)	0.47 Max							
Power Rating (V/Hz)	120/60							

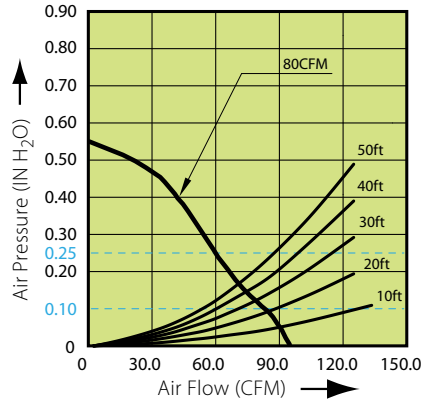
# Delta Breez Fan Curves

## BreezSignature Fan Curves

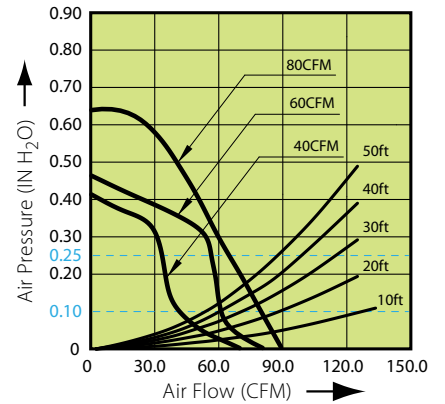
**SIG80 Fan Curve**



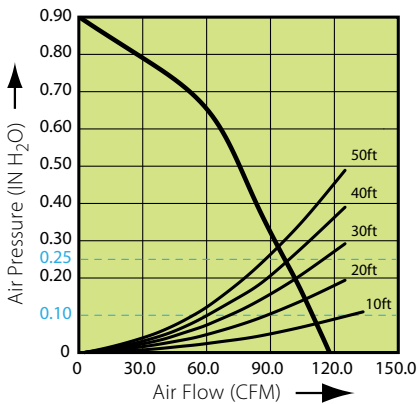
**SIG80L Fan Curve**



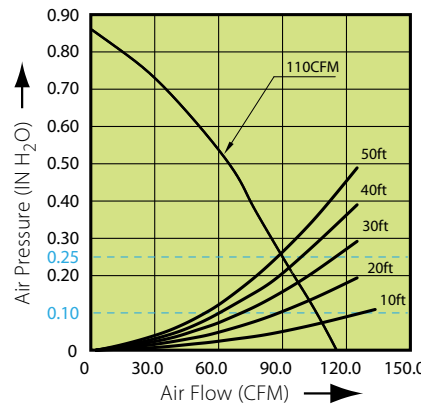
**SIG80M Fan Curve**



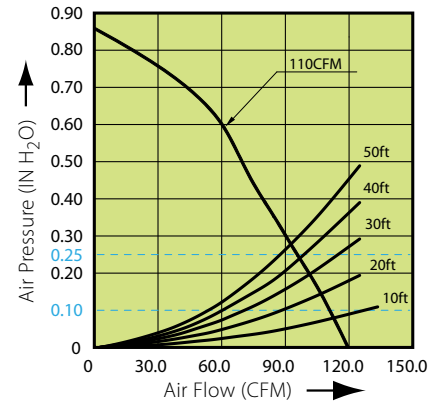
**SIG110 Fan Curve**



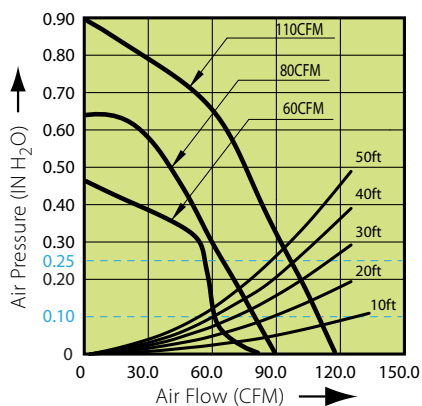
**SIG110L Fan Curve**



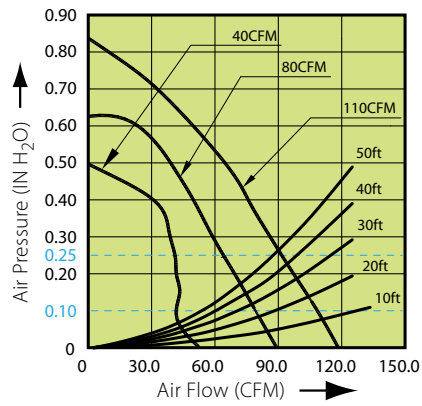
**SIG110LED Fan Curve**

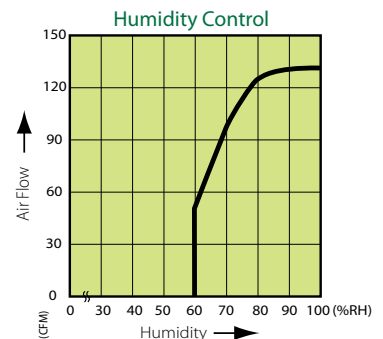
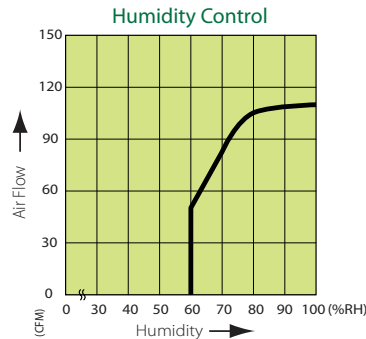
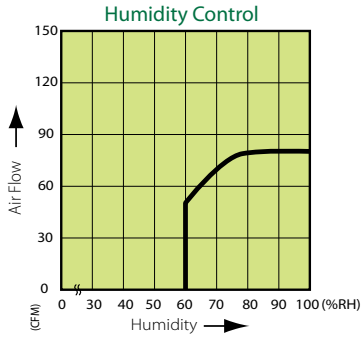
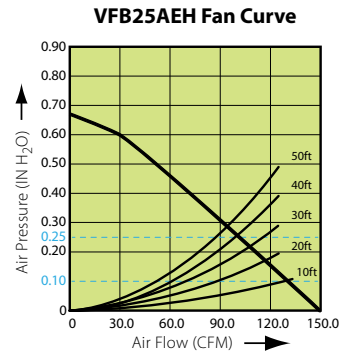
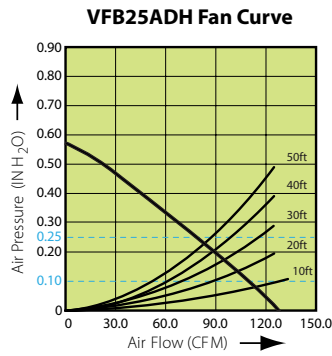
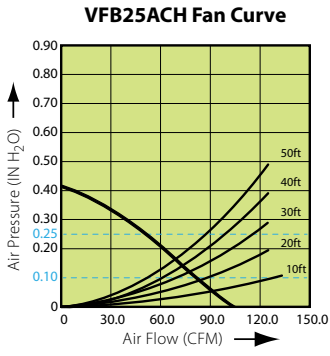


**SIG110H & 110D Fan Curve**

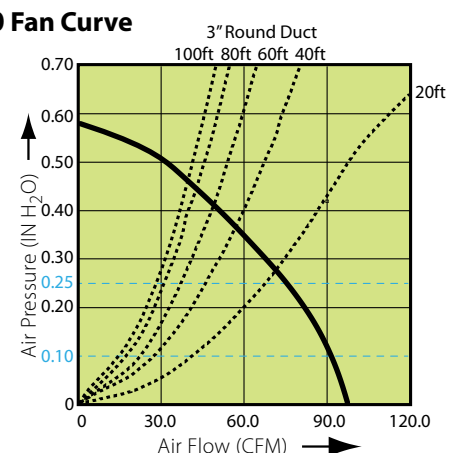
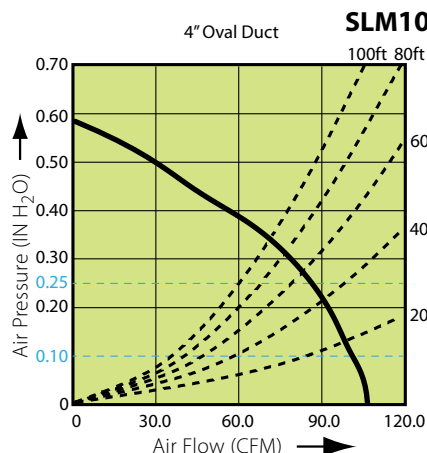
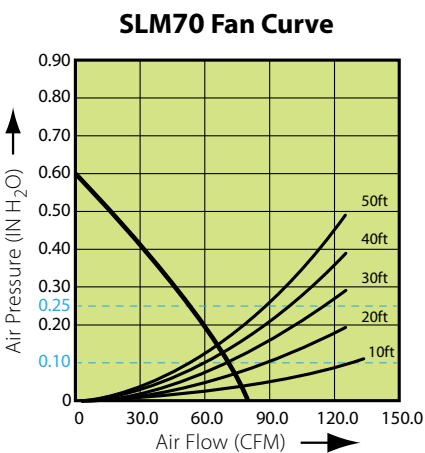
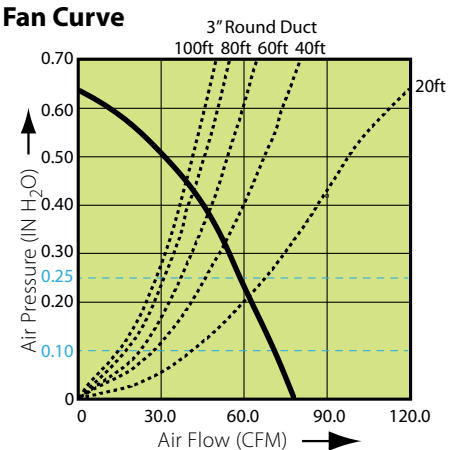
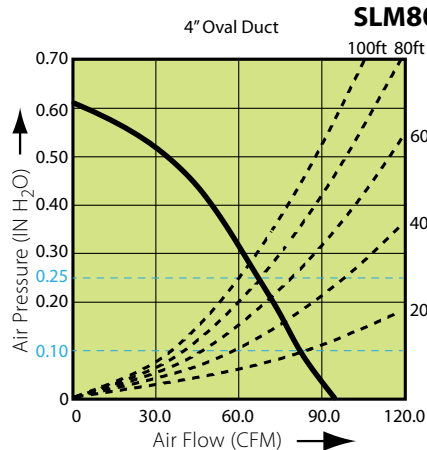
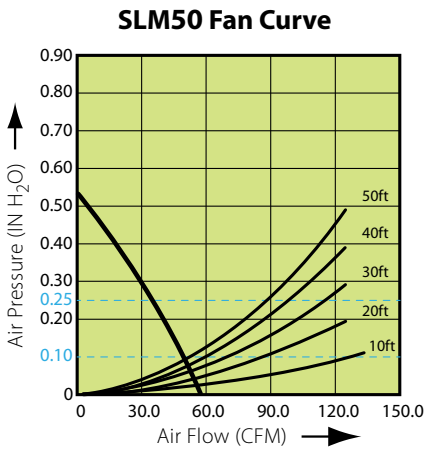


**SIG110HL & 110DL Fan Curve**



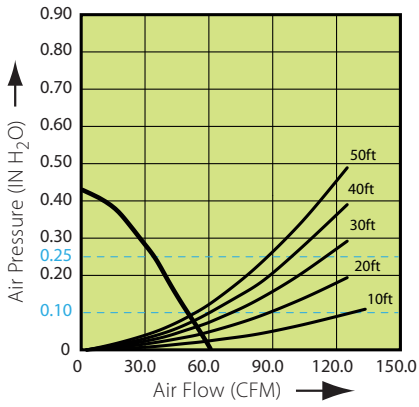


## BreezSlim Fan Curves

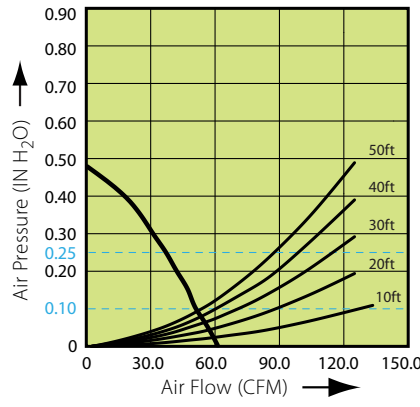


# BreezGreenBuilder Fan Curves

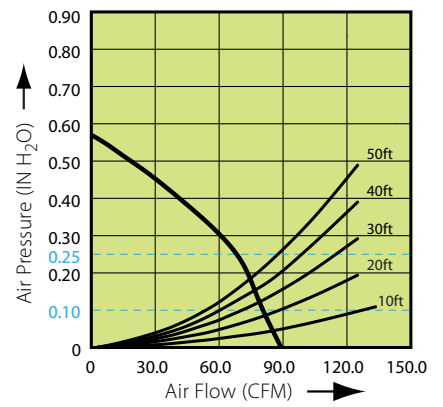
**GBR50 Fan Curve**



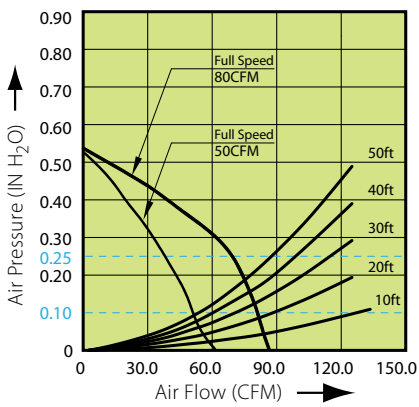
**GBR50L Fan Curve**



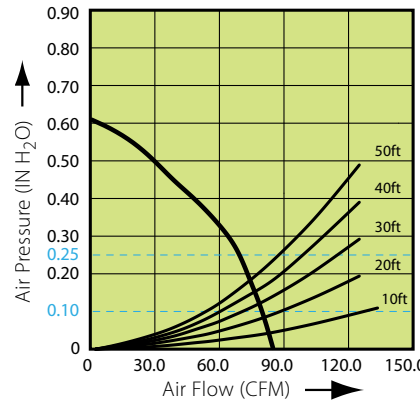
**GBR80 Fan Curve**



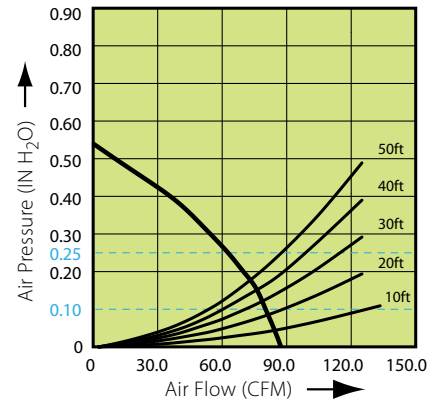
**GBR80H Fan Curve**



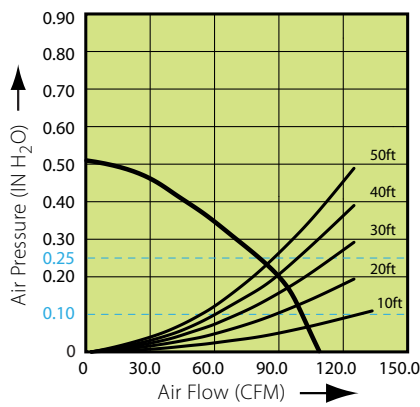
**GBR80L Fan Curve**



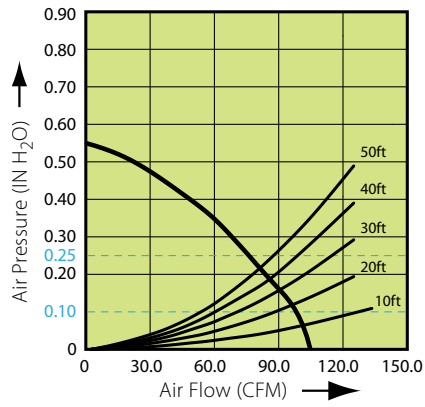
**GBR80LED Fan Curve**



**GBR100 Fan Curve**



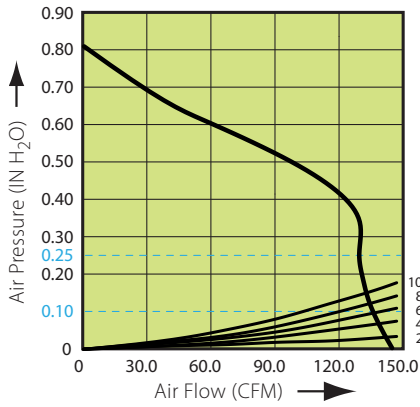
**GBR100L Fan Curve**



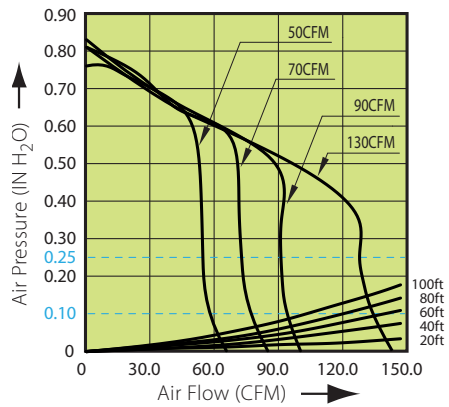


## BreezSmart Fan Curves

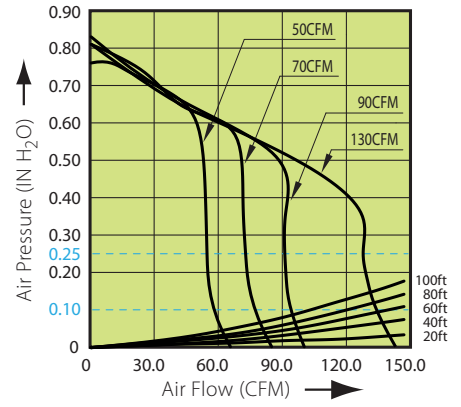
### SMT130 Fan Curve



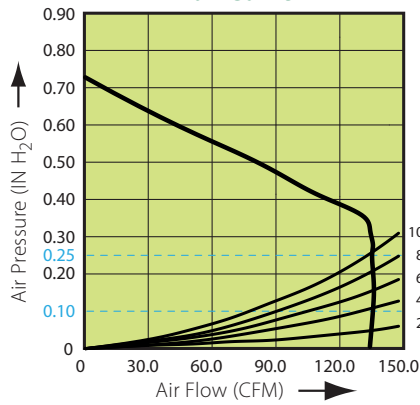
### SMT130M Fan Curve



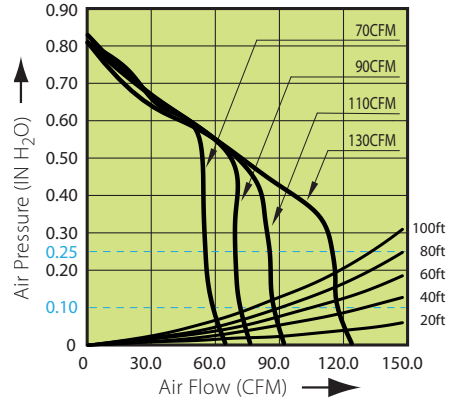
### SMT130H Fan Curve



### SMT 150 Fan Curve

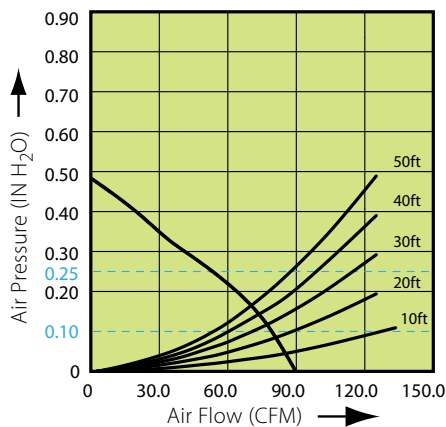


### SMT 150D Fan Curve























## BreezRadiance Fan Curves





### RAD80L Fan Curve



# Which Fan is Right for You?

The proof of Delta's commitment to green is in the energy-saving, cost efficient operation of the entire Breez product line. Compare our complete product line to find out which fan is most suitable to your needs.

	Model #	Air Flow (CFM)	Duct Size	Description	Motor	Noise (Sones)
BreezSignature	SIG80	80	4"	Fan Only	DC	<0.3
	SIG80L	80	4"	Fan/Light	 DC	<0.3
	SIG80M	80	4"	Fan with Motion Sensor	 DC	<0.3
	SIG110	110	4"	Fan Only	DC	<0.3
	SIG110L	110	4"	Fan/Light	 DC	0.4
	SIG110LED	110	4"	Fan/LED Light Combo	 DC	0.5
	SIG110D	110	4"	Fan Dual Speed	 DC	<0.3
	SIG110DL	110	4"	Fan/Light Combo Dual Speed	 DC	0.4
	SIG110H	110	4"	Fan with Humidity Sensor	 DC	<0.3
	SIG110HL	110	4"	Fan/Light Combo with Humidity Sensor	 DC	0.4
	VFB25ACH	80	4"	Fan with Humidity Sensor	 DC	<0.3
	VFB25ADH	110	4"	Fan with Humidity Sensor	 DC	1.0
	VFB25AEH	130	4"	Fan with Humidity Sensor	 DC	1.3
BreezSlim	SLM50	50	3"	Fan Only	DC	1.0
	SLM70	70	3"	Fan Only	DC	2.0
	SLM80	80	4" Oval/3" Round	Fan Only	DC	0.6
	SLM100	100	4" Oval/3" Round	Fan Only	DC	1.0
BreezGreenBuilder	GBR50	50	4"	Fan Only	DC	<0.3
	GBR50L	50	4"	Fan/Light	 DC	<0.3
	GBR80	80	4"	Fan Only	DC	0.6
	GBR80H	80	4"	Fan with Humidity Sensor	 DC	0.8
	GBR80L	80	4"	Fan/Light	 DC	0.8
	GBR80LED	80	4"	Fan/LED Light	 DC	0.8
	GBR100	100	4"	Fan Only	DC	1.4
	GBR100L	100	4"	Fan/Light	 DC	1.4
BreezSmart	SMT130	130	6"	Fan Only	DC	<0.3
	SMT130M	130	6"	Fan with Motion Sensor	 DC	<0.3
	SMT130H	130	6"	Fan with Humidity Sensor	 DC	<0.3
	SMT150	150	6"	Fan Only	DC	<0.3
	SMT150D	150	6"	Fan Dual Speed	 DC	<0.3
BreezRadiance	RAD80L	80	4"	Fan/Light Combo with heater	 DC	1.3

Energy Use (Watts)	Energy Efficiency (CFM/Watt)	Electric Bill <sup>1</sup>		 Most Efficient <b>2014</b> <a href="http://www.energystar.gov">www.energystar.gov</a>	 Intermittent	 Continuous
8.2	9.8	\$8.56	Y	Y	Y	Y
8.5 (Fan Only)	9.7	\$8.94	Y	Y	Y	Y
8.2	9.8	\$8.56	Y	Y	Y	Y
12.7	8.7	\$13.25	Y	Y	Y	Y
12.7 (Fan Only)	8.8	\$13.36	Y	Y	Y	Y
13.1 (Fan Only)	8.6	\$12.20	Y	Y	Y	Y
12.7	8.7	\$13.25	Y	Y	Y	Y
12.7 (Fan Only)	8.8	\$13.36	Y	Y	Y	Y
12.7	8.7	\$13.25	Y	Y	Y	Y
12.7 (Fan Only)	8.8	\$13.36	Y	Y	Y	Y
7.2	11.0	\$7.57	Y	Y	Y	Y
14.2	7.7	\$14.93	Y	Y	Y	Y
19.1	7.1	\$20.08	Y	Y	Y	
6.4	8.9	\$6.73	Y	Y		Y
13.1	5.8	\$13.78	Y		Y	
8.5	9.4	\$8.94	Y		Y	Y
14.5	6.8	\$15.25	Y		Y	Y
3.8	13.1	\$3.96	Y	Y		Y
4.5 (Fan only)	11.1	\$4.69	Y	Y		Y
10.5	7.6	\$10.95	Y	Y	Y	Y
9.7	8.2	\$10.20	Y	Y	Y	Y
11.0 (Fan only)	7.2	\$11.48	Y		Y	Y
11.6 (Fan only)	6.8	\$12.10	Y		Y	Y
12.6	7.9	\$13.15	Y	Y	Y	
13.9 (Fan only)	7.1	\$14.50	Y	Y	Y	
11.6	11.2	\$12.10	Y	Y	Y	Y
11.6	11.2	\$12.10	Y	Y	Y	Y
11.6	11.2	\$12.10	Y	Y	Y	Y
16.9	8.8	\$17.63	Y	Y	Y	Y
16.9	8.8	\$17.63	Y	Y	Y	Y
10.5 (Fan Only)	7.6	\$11.04			Y	

<sup>1</sup> Annual Energy Cost per Fan (24/7). Calculations based upon U.S. average retail electricity and HVI testing labs. Actual results may vary



## The Right Fan for Any Ventilation Need

This quick guideline chart will help you match the correct bath fan size for your room size and type. HVI recommends the following intermittent ventilation rates for bathrooms:

Bathroom Size	Calculation Formula	Ventilation Rate Required
Less than 100 sqft	1 CFM per sqft of floor area	A minimum of 50 CFM
More than 100 sqft	Add the CFM requirement for each fixture	Toilet 50 CFM Shower 50 CFM Bathtub 50 CFM Jetted Tub 100 CFM

Reference: [www.hvi.org/publications/HowMuchVent.cfm](http://www.hvi.org/publications/HowMuchVent.cfm)



# Equivalent Duct Lengths

This chart shows Equivalent Duct Lengths (EDL) for BreezSignature, BreezSlim, BreezGreenBuilder, BreezSmart, and BreezRadiance models by CFM (airflow) output for duct lengths from 40ft to 100ft.

	Breez Models	Mode(s)	Duct Size	40ft	60ft	80ft	100ft
BreezSignature	<b>SIG80</b> (80 CFM)	Single Speed	4"	70 CFM	70 CFM	60 CFM	60 CFM
	<b>SIG80L</b> (80 CFM)	Fan/Light Combo	4"	70 CFM	70 CFM	60 CFM	60 CFM
	<b>SIG80M</b> (80 CFM)	Multi-Speed with Motion Sensor	4"	70 CFM	70 CFM	60 CFM	60 CFM
	<b>SIG110</b> (110 CFM)	Single Speed	4"	90 CFM	90 CFM	80 CFM	80 CFM
	<b>SIG110L</b> (110 CFM)	Fan/Light Combo	4"	90 CFM	90 CFM	80 CFM	80 CFM
	<b>SIG110LED</b> (110 CFM)	Fan/LED Light Combo	4"	90 CFM	90 CFM	80 CFM	80 CFM
	<b>SIG110D</b> (110 CFM)	Dual Speed	4"	90 CFM	90 CFM	80 CFM	80 CFM
	<b>SIG110DL</b> (110 CFM)	Dual Speed Fan/Light Combo	4"	90 CFM	90 CFM	80 CFM	80 CFM
	<b>SIG110H</b> (110 CFM)	Multi-Speed with Humidity Sensor	4"	90 CFM	90 CFM	80 CFM	80 CFM
	<b>SIG110HL</b> (110 CFM)	Fan/Light Combo Multi-Speed with Humidity Sensor	4"	90 CFM	90 CFM	80 CFM	80 CFM
	<b>VFB25ACH</b> (80 CFM)	Humidity/Full Speed	4"	70 CFM	60 CFM	60 CFM	50 CFM
	<b>VFB25ADH</b> (110 CFM)	Humidity/Full Speed	4"	90 CFM	80 CFM	70 CFM	70 CFM
	<b>VFB25AEH</b> (130 CFM)	Humidity/Full Speed	4"	100 CFM	90 CFM	90 CFM	80 CFM
BreezSlim	<b>SLM50</b> (50 CFM)	Single Speed	3"	40 CFM	30 CFM	30 CFM	30 CFM
	<b>SLM70</b> (70 CFM)	Single Speed	3"	50 CFM	40 CFM	30 CFM	30 CFM
	<b>SLM80</b> (80 CFM)	Single Speed	3"	50 CFM	40 CFM	40 CFM	30 CFM
			4"	70 CFM	70 CFM	60 CFM	60 CFM
	<b>SLM100</b> (100 CFM)	Single Speed	3"	50 CFM	40 CFM	40 CFM	30 CFM
4"			90 CFM	80 CFM	70 CFM	70 CFM	
BreezGreenBuilder	<b>GBR50</b> (50 CFM)	Single Speed	4"	50 CFM	40 CFM	40 CFM	40 CFM
	<b>GBR50L</b> (50 CFM)	Fan/Light Combo	4"	50 CFM	40 CFM	40 CFM	40 CFM
	<b>GBR80</b> (80 CFM)	Single Speed	4"	70 CFM	70 CFM	60 CFM	60 CFM
	<b>GBR80H</b> (80 CFM)	Multi-Speed with Humidity Sensor	4"	70 CFM	70 CFM	60 CFM	60 CFM
	<b>GBR80L</b> (100 CFM)	Fan/Light Combo	4"	70 CFM	70 CFM	60 CFM	60 CFM
	<b>GBR80LED</b> (80 CFM)	Fan/LED Light Combo	4"	70 CFM	60 CFM	60 CFM	60 CFM
	<b>GBR100</b> (100 CFM)	Single Speed	4"	80 CFM	70 CFM	70 CFM	60 CFM
	<b>GBR100L</b> (100 CFM)	Fan/Light Combo	4"	80 CFM	70 CFM	70 CFM	60 CFM
BreezSmart	<b>SMT130</b> (130 CFM)	Single Speed	6"	130 CFM	130 CFM	120 CFM	120 CFM
	<b>SMT130M</b> (130 CFM)	Multi-Speed with Motion Sensor	6"	130 CFM	130 CFM	120 CFM	120 CFM
	<b>SMT130H</b> (130 CFM)	Multi-Speed with Humidity Sensor	6"	130 CFM	130 CFM	120 CFM	120 CFM
	<b>SMT150</b> (150 CFM)	Single Speed	6"	150 CFM	150 CFM	140 CFM	140 CFM
	<b>SMT150D</b> (150 CFM)	Dual Speed	6"	150 CFM	150 CFM	140 CFM	140 CFM
BreezRadiance	<b>RAD80L</b> (80 CFM)	Fan/Light/Heater Combo	4"	70 CFM	60 CFM	60 CFM	50 CFM

# Frequently Asked Questions

## Who is Delta Group?

Delta Group is the world's largest manufacturer of DC brushless fans and a leading provider of switching power supplies – a \$7.1 billion global company with 31 Plant Sites, 54 R&D Centers and 106 Sales Offices worldwide and U.S. headquarters in Fremont, CA. Our company mission is "To provide innovative, clean and energy-efficient solutions for a better tomorrow" supported by a product portfolio that features a range of energy efficiency solutions including ventilation fans, small wind energy systems, solar panels, LED lighting, EV chargers, Industrial Automation products and Display Solution products. Delta's operations are ISO-9001, ISO-14001, ISO-14064, OHSAS-18001 and TS-16949 certified. Delta DC brushless fans are used in applications where precision is paramount. This includes most popular consumer products such as laptops, Ultrabooks™, desktops, tablets, gaming systems and set-top boxes.

Please visit our global website [www.deltaww.com](http://www.deltaww.com) for a more comprehensive look at Delta operations, products and capabilities.

## Why is a DC brushless motor better than an AC motor? Does it require any special installation or wiring?

Delta's DC brushless motors are much quieter and have longer lasting bearings thanks to its soft start function; no mechanical brushing means longer motor life. DC brushless motor exhaust fans use 74% less power than other leading AC motor exhaust fans which allows the Breez fans to achieve extremely low noise levels, low electrical and RF noise and pleasing low energy costs. They are smaller, have lighter weight, use less material with is smartly eco-friendly. Linear torque speed characteristics allow easy control. Electronic circuit control allows easy adjustable motor output. The Delta Breez fans have been tested to run continuously for 70,000 hours.

No special wiring is needed; there is a transformer built into the fan that automatically switches the power supply from AC to DC.

Delta's DC brushless motor fans are installed just like any AC motor fans.

## What is Soft Start Function?

In the first 10 seconds the fan is powered on, the motor will softly and quickly control the fan speed from low to full speed. This is unlike an AC Motor. which simply jumpstarts the fan. This quiet 'soft start' process helps reduce the wear on motor bearings to prolong the motor bearing's life.

## What is Lock Protection Function?

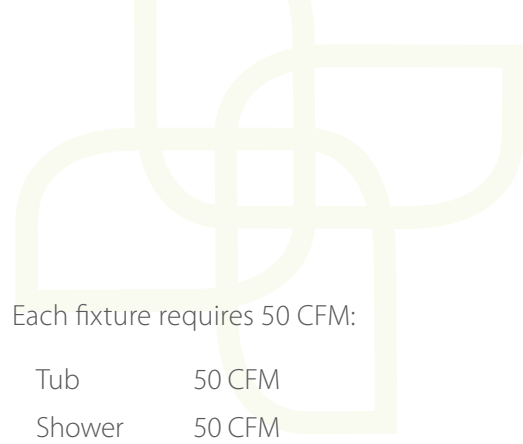
This unique function allows all Delta Breez Ventilation fans to automatically power off when the impeller is locked abnormally (e.g. when a buildup of dirt and dust accumulates on the fan). The function works by repeatedly turning the fan on and off every 12 seconds to test itself. The fan will turn itself completely back on after the impedance is removed. This helps avoid the issue of an over-heated motor, and to prevent potential fire risks.

## What are CFM and Sones?

CFM and Sones are how bath fans are generally compared.

CFM (Cubic Feet per Minute) is speed of 'air flow' – the amount of air extracted per minute when the fan is running. The amount of CFM needed is generally related to the size of the area ventilated. Please see the sizing guidelines.

Sone level is how loud the fan is to the human ear. Doubling the sone value means doubling the noise. The average 80 CFM bath fan runs at 0.8~2.5 sones. Delta Breez 80 CFM fans run as low as <0.3 sones. At less than 0.3 sones, the fan is virtually silent. This is the



lowest noise rating of any exhaust fan available in the market. For reference, 1.0 sone is about as loud as a new computer or refrigerator.

### How do I determine which bath fan I need – features and size?

#### Bathroom Ventilation

The following are Home Ventilating Institute (HVI) guidelines for ventilating both large and smaller bathrooms using intermittent or continuous ventilation.

#### Small rooms:

For bathrooms up to 100 square feet in area, HVI recommends that an exhaust fan provide 1 CFM per square foot (approximately eight air changes per hour) to properly ventilate the bathroom.

#### Example:

- Bathroom is 8'x5' (with 8' ceilings)  
Multiply 8 x 5 = 40 ft.
- Bathroom area is 40 ft.
- At 1 CFM per square foot the minimum recommendation is a fan rated at 40 CFM

#### Larger rooms:

For bathrooms above 100 square feet in area, HVI recommends a ventilation rate based on the number and type of fixtures present, according to the following table:

Toilet	50 CFM
Shower	50 CFM
Bath Tub	50 CFM
Jetted Tub	100 CFM

*Note: Enclosed toilet rooms must have an operable window or a fan for ventilation*

#### Example:

The bathroom is 20'x12'. There is a tub (without jets), a shower enclosure and an enclosed toilet.

Each fixture requires 50 CFM:

Tub	50 CFM
Shower	50 CFM
Toilet	50 CFM
Total	150 CFM

Data source: [http://www.hvi.org/publications/bathroom\\_ventilation.cfm](http://www.hvi.org/publications/bathroom_ventilation.cfm)

### How does the Humidity Sensor function operate?

#### For VFB25ACH, VFB25ADH, VFB25AEH Models

Delta's Humidity Sensing exhaust fans have two modes: Humidity Sensing Mode and Always On Mode. Flipping the wall switch off and on toggles the fan between modes. An integrated LED light indicator underneath the fan grille shows the user which mode the fan is in. Blue light means the fan is in Humidity Sensing Mode. Amber light means the fan is in Always On Mode.

In Always On Mode, the fan runs continuously at full speed. In Humidity Sensing Mode, the fan will only come on when the fan senses a humidity level of 60% RH (Relative Humidity) or above. The fan speed automatically adjusts according to the humidity level. The VFB25ACH humidity control fan curve is as follows.

### How does the Humidity Sensor function operate?

Humidity tolerance is about ±10%. Long-time operation will influence the detecting precision as dust accumulates. The humidity switch may need to be adjusted.

Factory setting: low speed airflow 60 CFM, humidity 60% RH.

On very rare occasions (about 1% of the time), our fan may still run even though the homeowner feels or detects the house humidity level is lower than 60% RH.

Manufacturer recommended actions:

1. Let the fan run since it is good to keep venting the house and the electric bill is minimal (approximately less than \$10 per year)
2. Turn the fan off when not in use

The possible reasons are:

1. Our sensor tolerance is +/-5% RH
2. Outdoor humidity back draft to the fan
3. Indoor temperature level

Manufacturer recommended actions:

1. Let the fan run since it is good to keep venting the house and the electric bill is minimal (approximately less than \$10 per year)
2. Turn the fan off when not in use

### **Why does my humidity-sensing fan keep running even though the humidity level in my home is less than 60% RH?**

*Applies to VFB25ACH, VFB25ADH, and VFB25AEH models only.*

In cold weather conditions (winter months) when temperatures are between 35°-60°F, the humidity sensor may become more sensitive. Because of this, some customers experience their fans automatically running continuously even when the surrounding humidity level is lower than 60% RH.

### **Can the Breez fan motor be replaced?**

All Delta Breez fans feature a precision-engineered DC brushless motor for extended reliability, thus replacing the fan motor is a rare occurrence. All Delta BreezSignature G2, BreezGreenBuilder, BreezSlim, BreezSmart and BreezRadiance series fans have a replaceable motor.

### **Can I keep the housing of my old fan (non Delta fan) and just replace the fan motor with Breez?**

No. For proper performance, it is recommended that Delta Breez fan motors be used only with Delta Breez fan housing.

### **What type of light bulb(s) are used in the Fan / Light Combos? Does the packaging contain the bulb(s)?**

**BreezSignature:**

The main light bulb is a 26W CFL with GU24 base (2-pin style). The night-light is a 4W incandescent light bulb with E12 screw base. Both lights are included in the box with the fan. Replacement light bulbs can also be purchased at most major home improvement retailers or through your local contractor or supplier.

SIG100LED has a 13W (equivalent to 60W incandescent), 2700K LED module with 2W LED night light. It is included in the box.

**BreezGreenBuilder:**

The main light bulb in the entire BreezGreenBuilder fan and light unit is a 26W CFL with GU24 base (pin style). The light bulb is included in the box with the fan. Replacement light bulbs can also be purchased at most major home improvement retailers or through your local contractor or supplier. The GBR80LED has an 11W (equivalent to 60W incandescent), 2700K LED module and is included in the box.

**BreezRadiance:**

The main light bulb is a 26W CFL with GU24 base (2-pin style).

### **Can I use a timer with the Delta Breez fan?**

Timers may be used on certain Breez Ventilation System Fans.



A timer can be used on the following models

- BreezSignature: SIG80, SIG80L, SIG110, SIG110L, SIG110LED
- BreezSlim: SLM50, SLM70, SLM80, SLM100
- BreezGreenBuilder: GBR50, GBR50L, GBR80, GBR80L, GBR80LED, GBR100, GBR100L
- BreezSmart: SMT130, SMT150
- BreezRadiance: RAD80L

Timers cannot be used on the following models:

- BreezSignature: SIG80M, SIG110D, SIG110DL, SIG110H, SIG110HL, VFB25ACH, VFB25ADH, VFB25AEH
- BreezGreenBuilder: GBR80H
- BreezSmart: SMT130M, SMT130H, SMT150D

### **Do you sell switches or timers?**

No. Delta does not manufacture switches or timers but these components are readily available in most major home improvement retailers or through your local contractor or supplier.

### **Can the Delta Breez Fan/ Fan Light be installed with insulation around it?**

Yes. All Delta Breez fans are UL approved. Here is UL's testing protocol:

For Fan/lights, UL requires 8.5 inches of insulation on all sides (including top) of the product. Insulation shall be of the loose fill type and should have a thermal resistance per inch between 3.75-3.85 R (declared by the manufacturer) when conditioned to a density of 32.04 - 40.05 kg/m<sup>3</sup>. This scenario is equivalent to an approximate R value of R32. R40 is the max for Canadian installations.

For a fan only, there is no insulation limitation for fan without lighting except in Canada where the max value is R40.

### **For models that have built-in control dials, how do these work?**

The Delta BreezSignature G2 and BreezSmart smart functions are:

- Motion Sensing
- Delay Timer
- Humidity Sensing
- Adjustable Humidity % RH
- Continuous Running
- Adjustable low speed

#### **Motion Sensing**

Green and amber LED indicator lights will show continuous low speed and full speed modes. The fan will run continuously at a user-preset lower level of CFM. When motion is detected, fan will automatically change to full speed. When user leaves the room, the fan will remain running at full speed until user-preset delay time has passed; delay timer has adjustable preset positions of 0, 0.5, 5, 15, 30, 45 and 60 minutes. Fan will automatically drop down to low speed after the pre-set time has elapsed.

#### **Humidity Sensing**

Blue and amber LED indicator lights to show humidity control and full speed modes. The fan will operate in full speed mode or humidity control mode by manual on and off switch. The adjustable humidity set points are between 50% to 90%. When in humidity control mode, and the humidity is above the user-adjustable set-point, fan will run at full speed. When the humidity is below the set-point, the fan runs continuously at a user-preset lower level of CFM.



**Is it OK to exhaust into the attic?**

No. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recommends exhausting only to the exterior of the home.

**Can Delta fans be installed in a side wall?**

Yes. All Delta BreezSlim models and BreezGreenBuilder fan only models are UL listed for both ceiling and wall-mount installation.

**Can Delta fans be installed in a slanted ceiling?**

No. Installation of any Delta fans in a slanted ceiling is not recommended.

**Can Delta fans be controlled by a voltage switch (RPM control)?**

No.

**Can I install the Exhaust Fan / Light Combo in the shower or tub enclosure?**

Yes. All of the Delta Breez Ventilation Fans are UL listed for use over a bathtub or shower when installed in a GFCI protected branch circuit.

**Are Delta Breez fans ENERGY STAR qualified?**

Yes. In fact, most of the Delta Breez Fan models are ENERGY STAR qualified. Except for BreezRadiance RAD80L Fan/Light with Heater, which has a powerful 1300W heating element for warmth and comfort.

**Are Delta Breez fans ASHRAE 62.2-2010 compliant?**

Yes. All Delta Breez fans are 62.2-2010 compliant for intermittent running. Most of the Delta Breez fan models are compliant for continuous running. Please see [www.deltabreez.com](http://www.deltabreez.com), Learning Center for a complete listing.

**Are Delta Breez fans UL listed and HVI certified?**

Yes. All Delta Breez fans are UL listed and are HVI certified.

**Do Delta Breez fans meet Title 24 requirements?**

Yes. All Delta Breez fans meet current Title 24 requirements.

**What is the Delta Breez Ventilation Fan Warranty?**

All Delta Breez Ventilation Fans have a 3-Year limited warranty.

**How do I reach technical and customer service?**

Customer Service: (888) 979-9889  
Customer Service Fax: (510) 226-5097  
Email: [breezsales@delta-corp.com](mailto:breezsales@delta-corp.com)





Dealer Address:



Learn more about the Breez Ventilation Fans, the ideal bathroom solution for green construction at:

[www.deltabreez.com](http://www.deltabreez.com)

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