Introduction to Delta Breez Ventilation Fans for Multifamily & Hospitality

Agenda

- Who is Delta Group?
- Intro to Delta Breez (ENERGY STAR, ASHRAE 62.2, DC motor, quiet vent fans)
  - DC brushless motor benefits
  - Product Series
  - Performance Comparisons
- Trends in bathroom ventilation fans for multifamily and hotel - new construction and retrofit
  - Popular models for specification (sidewall, continuous low speed, motion & humidity sensing)
  - Project Sampling
  - Why Delta Breez

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Delta Group Overview

Founded: 1971

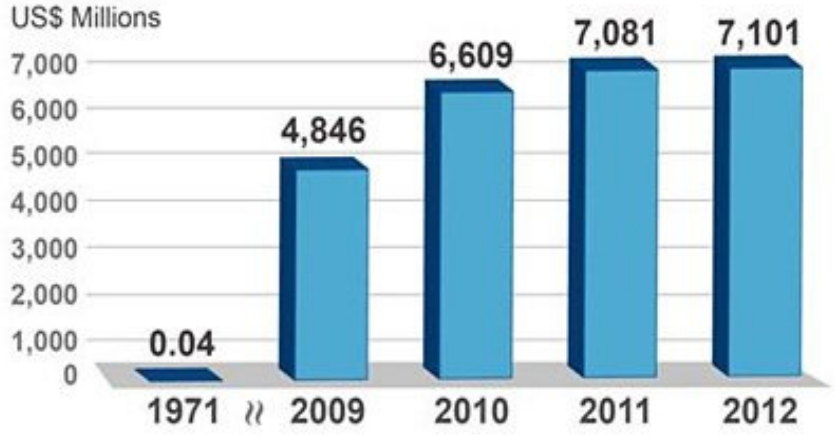
World's No. 1 in:

- Switching Power Supplies since 2002
- DC Brushless Fans since 2006

Leading in:

- Telecom Power Systems
- Industrial Automation
- Passive and Magnetic Components
- Networking Products
- Visual Displays
- Datacenter Infrastructure
- Renewable Energy Solutions

CAGR : 34.3%



Worldwide Revenues

Delta continues to achieve significant business growth and deliver strong and stable financial performance with a compound annual growth rate of 34.3% since 1971. Delta's consolidated audited sales revenues in 2012 were US$7.1 billion.

Mission

To provide innovative, clean, and energy-efficient solutions for a better tomorrow.

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Delta Group Operations

31 manufacturing facilities, 54 R&D Labs
13.7 million square feet of manufacturing space

	Asia-Pacific (China)	Americas	EMEA	Total
Sales Offices	73 (42)	14	19	106
Plant Sites	28 (19)	2	1	31
R&D Centers	40 (23)	6	8	54

Delta Group
New U.S. Headquarters

- Location: Fremont, CA (Silicon Valley)
- **Platinum LEED facility**
- 200,000 sq ft.
- Incorporates Delta energy solution products: Industrial Automation, Ventilation, Data Center, EV charging stations, Solar, Wind, LED
- Completion Q3 2015

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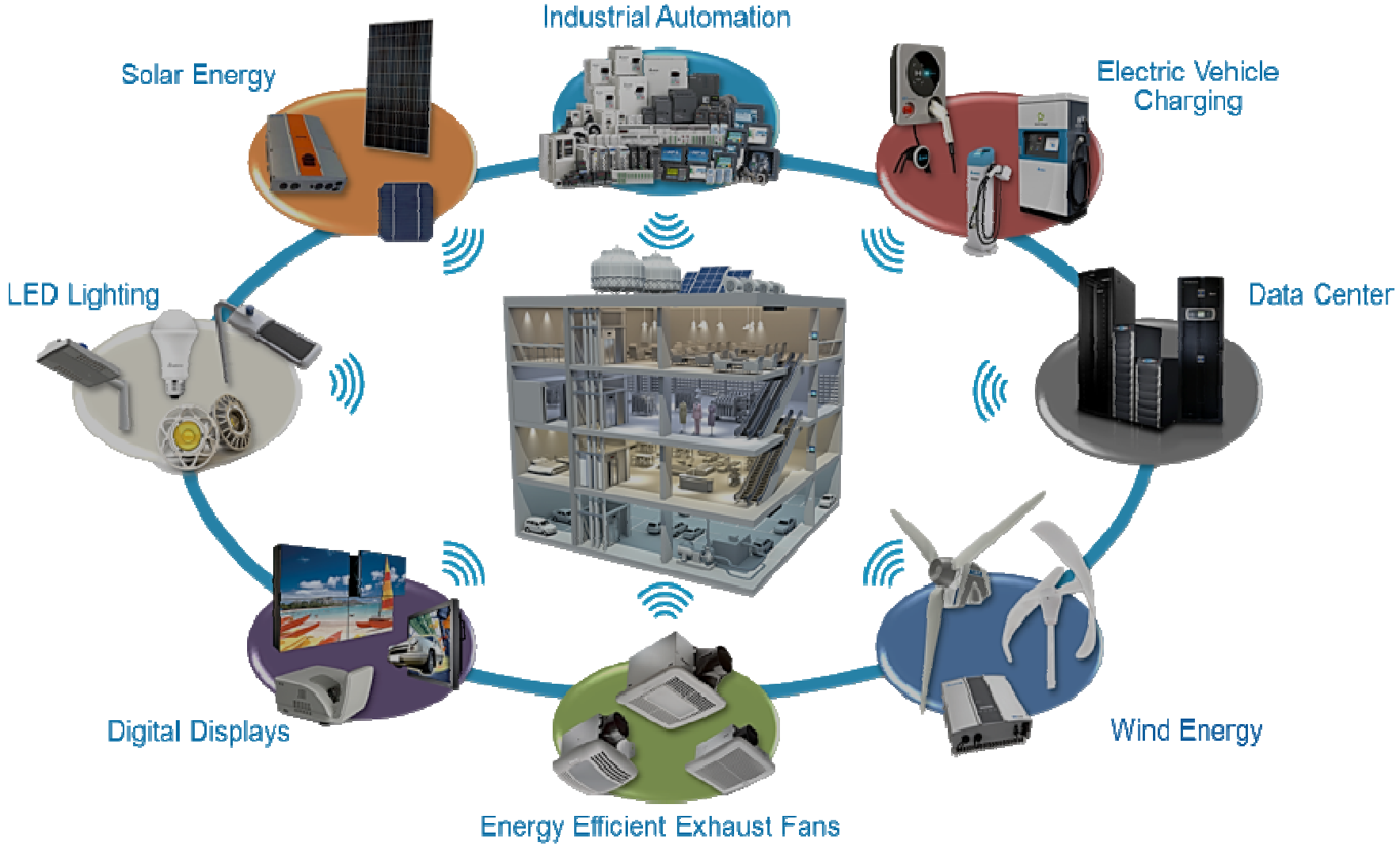
Delta Americas Product Portfolio



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Delta Group
Fans & Thermal Management Solutions

DC Brushless Fans and Blowers

High Efficiency AC Fans

Fan Trays

Ventilation Fans with Heater

Ventilation Fans

Cabinet Air-to-Air Heat Exchangers

Thermal Management Products

Portable Device Fans

DC Brushless Motors and Stepping Motors

DELTA

breez

Ventilation System

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DC Motor Technology in Every Fan

What are the benefits of a DC brushless motor?

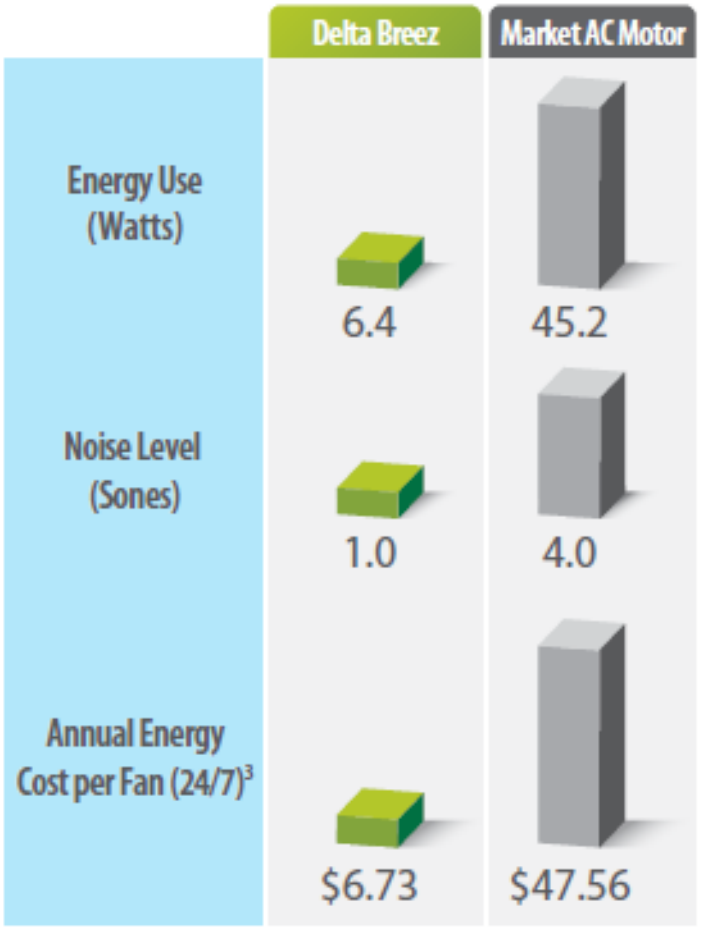
Reliability Delta DC brushless motor fans are engineered to outlast popular AC models by as much as 70%, reducing the frequency of motor replacement. All Delta Breez ventilation fans are precision engineered to run continuously for a minimum 70,000 hours

Less Noise Delta DC brushless motor fans are precision engineered for low sound, down to less than 0.3 sones, the lowest tested sound rating for an exhaust fan.

Self Compensation for static pressure Delta DC brushless motor automatically ramps up when static pressure is encountered, to keep intended airflow.

Less Power Consumption / Less Energy Cost Delta DC brushless motor fans use up to 74% less power than popular AC motor exhaust fans. Delta Breez fans run on as little as 4 Watts.

Efficiency Delta DC brushless motor fans exceed ENERGY STAR requirements by as much as 800%.



Delta BreezSlim

Perfectly quiet. Perfectly green.

Breez Slim Series

- DC brushless motor
- 50 CFM, 70 CFM: 7.5”L x 7.25”W x 3.93”D
- 80 CFM, 100 CFM: 10.5”L x 11.25”W x 4”D
- UL listed for both ceiling and wall installation
- All models fit in a 4” wall.
- Down to 0.6 sones
- Down to 6.4 watts of power consumption
- SLM50 and SLM70 are available in project packs
- Assembled units feature indicator light
- SLM50 and SLM70 have 3” round plastic duct adapter
  SLM80 and SLM100 have 4” oval metal duct adapter with 3” round plastic duct adapter included.

SLM50, SLM70

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SLM80, SLM100

SLM50 and SLM70 project pack components shown.
The housing and motor/grille can be ordered separately.

SLM80 & SLM100 feature a 4” oval metal duct adapter, with a 4x3” round plastic duct adapter included in the box.

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Delta BreezGreenBuilder

Perfectly quiet. Perfectly green.

Breez GreenBuilder Series

- DC brushless motor
- 8.0” length x 8.25” width x 5.75” depth
- 50 CFM, 80 CFM, 100 CFM
- Fan or Fan Light, CFL or LED
- Humidity sensing option on 80 CFM model
- Fan/light available with humidity and motion sensing
- Down to <0.3 sones
- Down to 3.8 watts of power consumption
- Available already assembled or in project packs
- Assembled units feature indicator light
- Competitively priced performance ENERGY STAR fa
- Removable motor
- 4” plastic duct adapter

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GBR80, GBR80H

GBR project pack components shown.
The housing and motor/grille can be ordered separately.

Control dials underneath the grille of GBR80H allow for adjustment of relative humidity percentage and continuous low speed (CFM)

GBR80LED

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Delta BreezGreenBuilder

Perfectly quiet. Perfectly green.

Ceiling Radiation Damper (CRD) available for GreenBuilder Series fans and fan/lights

Designer Grille option for GreenBuilder Series

Low profile aesthetic

CRD Listings:

- CSFM listing: 3226-0368:104
- UL 555C listing: R27832
- Warnock Hersey listing #: 101232214SAT-003,-004
- Meets NFPA Standards: 90A and 101
- Meets Building Code Standards: IBC, NBC, NFPA, SBC, and UBC

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Delta BreezSignature

Perfectly quiet. Perfectly green.

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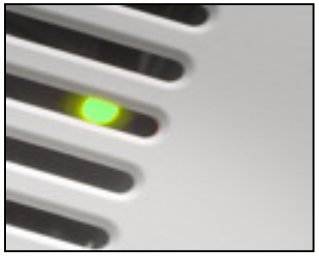
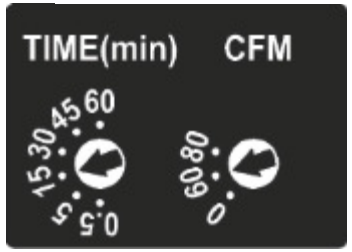
Breez Signature Series

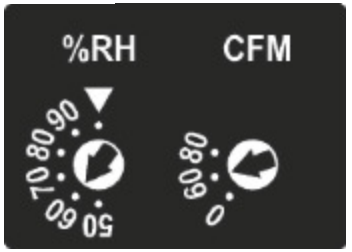
- DC brushless motor
- 9.68” length x 9.68” width x 7.31” depth
- 80 CFM, 110 CFM
- Down to <0.3 sones
- Down to 8.2 watts of power consumption
- 4” metal duct adapter
- Indicator light underneath grille
- Adjustable continuous low speed operation
- Motion and dual speed option with delay timer
- Adjustable humidity sensor option
- Fan/light models available
- Adjustable continuous low speed option



An LED Indicator light visible underneath the grille of all Delta Breez models (with exception of project packs) shows that the quiet fan is running, and also what mode the fan is in by its color



Control dials underneath the grille on SIG80M allow for adjustment of delay timer and continuous low speed (CFM)



Control dials underneath the grille of SIG110H allow for adjustment of relative humidity percentage and continuous low speed (CFM)

Delta BreezSmart

Perfectly quiet. Perfectly green.

Breez Smart Series

- DC brushless motor
- 11.375” length x 10.5” width x 7.67” depth
- 130 CFM, 150 CFM
- Less than 0.3 sones
- Down to 11.6 watts of power consumption
- Adjustable for continuous low speed operation
- Motion and dual speed option with delay timer
- Adjustable humidity sensor option
- Indicator light underneath grille
- 6” metal duct adapter
- Removable motor

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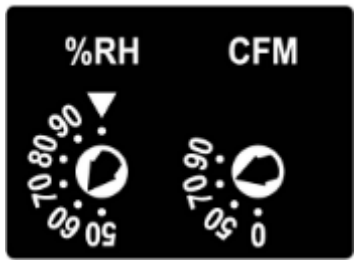
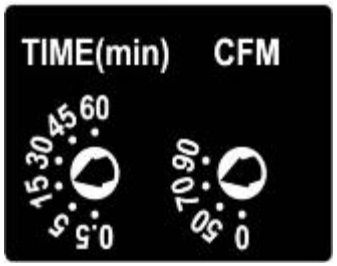
Breez Smart series fans feature a 6” metal duct adapter



Control dials underneath grille on SMT150H allow adjustment of delay timer and continuous low speed (CFM)

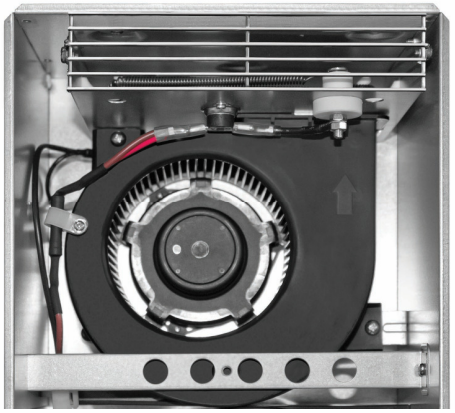


Controls for motion sensor model with adjustable continuous low speed and adjustable delay timer

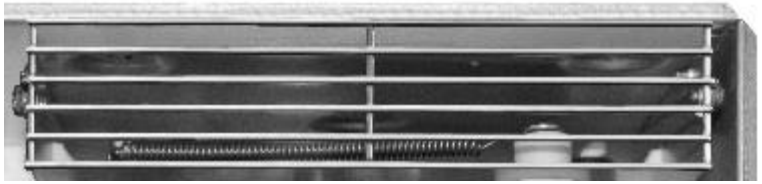
Delta BreezRadiance Ventilation Fan/Light Combo with Heater Specifications

Breez Radiance Series

- DC brushless motor
- 14.38” length x 8.25” width x 5.50” depth
- 80 CFM
- 1.3 sones
- 1300 Watt heating element
- Built in thermostat regulates temperature
- Indicator light underneath grille
- Removable motor
- 26 Watt CFL bulb included
- 4” duct adapter



Built-in thermostat to help regulate temperature



Metal guard to help prevent user contact with heating wire.

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Product Comparison

Delta Breez SLM50

Broan 688

Brand	Delta Breez	Broan
Description	Exhaust Fan	Exhaust Fan
Model #	**SLM50**	**688**
Airflow (CFM)	50	50
Duct Size	3”	3”
UL & cUL Listed	Yes	UL only
ENERGY STAR Qualified	Yes	No
Warranty	3 Years	1 Year
Noise (Sones)	1.0	4.0
Motor	DC	AC
Energy Use (Watts)	6	45
Energy Efficiency (CFM/Watt)	7.8	1.1
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Fastened Grille Springs	Yes	No
Modern Grille Design	Yes	No
LED Indicator Running Light	Yes	No

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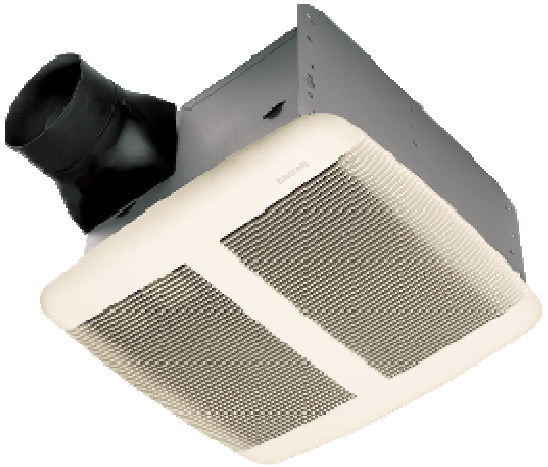
Product Comparison

Delta Breez GBR80



Broan QTRE080

Brand	**Delta Breez**	**Broan**
Description	Exhaust Fan	Exhaust Fan
Model #	**GBR80**	**QTRE080**
Airflow (CFM)	80	80
Duct Size	4"	4"
ENERGY STAR Qualified	Yes	Yes
Warranty	3 Years	3 Years
Motor	DC	AC
Noise (Sones)	0.6	0.8
Energy Use (Watts)	10.5	28.4
Energy Efficiency (CFM/Watt)	7.6	2.8
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Fastened Grille Springs	Yes	No
Modern Grille Design	Yes	No
LED Indicator Running Light	Yes	No

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Product Comparison

Delta Breez GBR80

Broan 784

Brand	**Delta Breez**	**Broan**
Description	Exhaust Fan	Exhaust Fan
Model #	**GBR80**	**784**
Airflow (CFM)	80	80
Duct Size	4"	4"
ENERGY STAR Qualified	Yes	Yes
Warranty	3 Years	1 Year
Motor	DC	AC
Noise (Sones)	0.6	2.0
Energy Use (Watts)	10.5	26.1
Energy Efficiency (CFM/Watt)	7.6	3.1
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Fastened Grille Springs	Yes	No
Modern Grille Design	Yes	No
LED Indicator Running Light	Yes	No

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Product Comparison

Delta Breez GBR80

Panasonic FV-08VF2

Brand	Delta Breez	Panasonic
Description	Exhaust Fan	Exhaust Fan
Model #	**GBR80**	**FV-08VF2**
Airflow (CFM)	80	80
Duct Size	4"	4"
ENERGY STAR Qualified	Yes	Yes
UL & cUL Listed	Yes	Yes
Warranty	3 Years	3 Years
Motor	DC	AC
Noise (Sones)	0.6	0.8
Energy Use (Watts)	11	24
Energy Efficiency (CFM/Watt)	7.3	3.3
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Fastened Grille Springs	Yes	No
Modern Grille Design	Yes	No
LED Indicator Running Light	Yes	No

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Product Comparison

Delta Breez SLM80

Broan LP80

Brand	Delta Breez	Broan
Description	Exhaust Fan	Exhaust Fan
Model #	**SLM80**	**LP80**
Airflow (CFM)	80	80
Duct Size	4“ Oval	4“ Oval
UL & cUL Listed	Yes	Yes
ENERGY STAR Qualified	Yes	Yes
Modern Grille Design	Yes	Yes
Warranty	3 Years	1 Year
Motor	DC	AC
Noise (Sones)	0.6	1.1
Energy Use (Watts)	9	26
Energy Efficiency (CFM/Watt)	9.4	3.1
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Fastened Grille Springs	Yes	No
LED Indicator Running Light	Yes	No

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Product Comparison

Delta Breez SLM80

Panasonic FV-08VS3

Brand	Delta Breez	Panasonic
Description	Exhaust Fan	Exhaust Fan
Model #	**SLM80**	**FV-08VS3**
Airflow (CFM)	80	80
Duct Size	4“ Oval	4“ Oval
UL & cUL Listed	Yes	Yes
ENERGY STAR Qualified	Yes	Yes
Warranty	3 Years	3 Years
Modern Grille Design	Yes	Yes
Motor	DC	AC
Noise (Sones)	0.6	1.0
Energy Use (Watts)	9	21
Energy Efficiency (CFM/Watt)	9.4	3.8
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Fastened Grille Springs	Yes	No
LED Indicator Running Light	Yes	No

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Product Comparison

Delta Breez SIG110H

Broan QTXE110S

Brand	**Delta Breez**	**Broan**
Description	Exhaust Fan	Exhaust Fan
Model #	**SIG110H**	**QTXE110S**
Airflow (CFM)	110	110
Duct Size	4"	6"
ENERGY STAR Qualified	Yes	Yes
Warranty	3 Years	3 Years
Motor	DC	AC
Noise (Sones)	<0.3	0.7
Energy Use (Watts)	12.7	33.5
Energy Efficiency (CFM/Watt)	8.7	3.3
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Fastened Grille Springs	Yes	No
Modern Grille Design	Yes	No
LED Indicator Running Light	Yes	No

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Product Comparison

Delta Breez GBR80LED

Broan HD80L

Brand	Delta Breez	Broan
Description	Exhaust Fan/Light	Exhaust Fan/Light
Model #	**GBR80LED**	**HD80L**
Airflow (CFM)	80	80
Duct Size	4“	4”
UL & cUL Listed	Yes	UL only
ENERGY STAR Qualified	Yes	No
Warranty	3 Years	1 Year
Noise (Sones)	0.8	2.5
Motor	DC	AC
Energy Use (Watts)	12	49
Energy Efficiency (CFM/Watt)	6.7	0.6
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Modern Grille Design	Yes	No
Fastened Grille Springs	Yes	No
Lamp Type	LED	Incandescent

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Product Comparison

Delta Breez GBR80LED

Panasonic FV-08VFL4

Brand	Delta Breez	Panasonic
Description	Exhaust Fan/Light	Exhaust Fan/Light
Model #	**GBR80LED**	**FV-08VFL4**
Airflow (CFM)	80	80
Duct Size	4“	4”
UL & cUL Listed	Yes	Yes
ENERGY STAR Qualified	Yes	Yes
Warranty	3 Years	3 Years
Modern Grille Design	Yes	Yes
Noise (Sones)	0.8	0.5
Motor	DC	AC
Energy Use (Watts)	12	15
Energy Efficiency (CFM/Watt)	6.7	5.3
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Fastened Grille Springs	Yes	No
Lamp Type	LED	CFL

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Product Comparison

Delta Breez RAD80L

Broan 655

Brand	Delta Breez	Broan
Description	Fan/Light/Heater	Fan/Light/Heater
Model #	**RAD80L**	**655**
Duct Size	4”	4”
Duct Adapter	Plastic	Plastic
Heating Element	1300W	1300W
Airflow (CFM)	80	70
Noise (Sones)	1.3	4.0
Motor	DC	AC
Energy Use (Fan Watts)	10.5	59.2
Energy Efficiency (CFM per Watt)	7.6	1.2
Built-in Thermostat	Yes	No
Warranty	3 Year	1 Year
Motor Lock Protection	Yes	No
Motor Soft Start	Yes	No
Lamp Type	26W CFL	100W Incad.

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Trends

Fans that fit in a 4” sidewall to avoid need / cost of a Ceiling Radiation Damper

Breez Slim Series

- DC brushless motor
- 50 CFM, 70 CFM: 7.5”L x 7.25”W x 3.93”D
- 80 CFM, 100 CFM: 10.5”L x 11.25”W x 4”D
- UL listed for both ceiling and wall installation
- All models fit in a 4” wall.
- Down to 0.6 sones
- Down to 6.4 watts of power consumption
- SLM50 and SLM70 are available in project packs
- Assembled units feature indicator light
- SLM50 and SLM70 have 3” round plastic duct adapter
  SLM80 and SLM100 have 4” oval metal duct adapter with 3” round plastic duct adapter included.

SLM50, SLM70

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SLM80, SLM100

SLM50 and SLM70 project pack components shown.
The housing and motor/grille can be ordered separately.

SLM80 & SLM100 feature a 4” oval metal duct adapter, with a 4x3” round plastic duct adapter included in the box.

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Trends

Automatic operation as needed via humidity sensor or motion sensor

Continuous low speed control

Breez Signature Series

- DC brushless motor
- 9.68” length x 9.68” width x 7.31” depth
- 80 CFM, 110 CFM
- Down to <0.3 sones
- Down to 8.2 watts of power consumption
- 4” metal duct adapter
- Indicator light underneath grille
- Adjustable continuous low speed operation
- Motion and dual speed option with delay timer
- Adjustable humidity sensor option
- Fan/light models available
- Adjustable continuous low speed option

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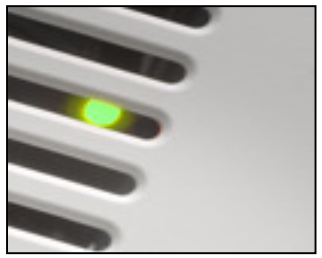
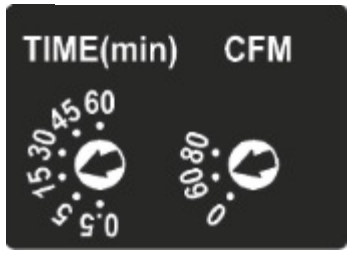
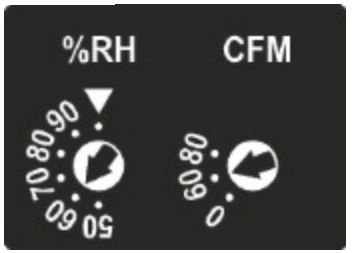


An LED Indicator light visible underneath the grille of all Delta Breez models (with exception of project packs) shows that the quiet fan is running, and also what mode the fan is in by its color



Control dials underneath the grille on SIG80M allow for adjustment of delay timer and continuous low speed (CFM)



Control dials underneath the grille of SIG110H allow for adjustment of relative humidity percentage and continuous low speed (CFM)

Project Sampling

Project: Dublin Station
Location: Dublin, CA
Description: Apartments new construction
Product used: Qty 359 Delta Breez GBR80 bathroom ventilation fans

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Project Sampling

Project: Esterra Park
Location: Redmond, WA
Description: Apartments new construction
Product used: Qty 467 Delta Breez SIG80 and 563 GBR80 bathroom ventilation fans

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Project Sampling

Project: Post Oak
Location: Houston, TX
Description: Condos new construction
Product used: Qty 498 Delta Breez GBR50 bathroom ventilation fans

Project Sampling

Project: Mansions on the Park
Location: Houston, TX
Description: Apartments new construction
Product used: Qty 420 Delta Breez SIG110H bathroom ventilation fans

Project Sampling

Project: JW Marriott
Location: 806 Main St., Houston, TX
Description: Conversion of 24-story downtown bank building into a JW Marriott hotel
Product used: Qty 340 Delta Breez GBR50 bathroom ventilation fans

Project Sampling

Project: Gables Park Plaza II
Location: Austin, TX
Description: Apartments new construction
Product used: Qty 312 Delta Breez SLM70 bathroom ventilation fans

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Project Sampling

Project: Seaholm Tower
Location: Austin, TX
Description: Condos
Product specified: Qty 280 Delta Breez SIG110D bathroom ventilation fans

Project Sampling

Project: Hampton Inn
Location: El Paso, TX
Description: Hotel new construction
Product used: Qty 101 Delta Breez GBR80 bathroom ventilation fans

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Project Sampling

Project: West Center
Location: Fayetteville, AR
Description: Condos new construction
Product used: Qty 470 Delta Breez SLM70 bathroom ventilation fans

Project Sampling

Project: Bal Harbour
Location: Miami, FL
Description: Condos new construction
Product used: Qty 1,100 Delta Breez SLM80 bathroom ventilation fans

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Project Sampling

Project: Terrapin Row
Location: University of Maryland, College Park
Description: Student Housing
Product specified: Qty 1736 Delta Breez SLM50 bathroom ventilation fans

Project Sampling

Project: Hyatt Place
Location: Holladay, UT
Description: Hotel new construction
Product used: Qty 115 Delta Breez GBR80 bathroom ventilation fans

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Project Sampling

Project: Residence Vue St. Romuald
Location: Quebec
Description: Retirement living new construction
Product used: Qty 900 Delta Breez SIG110 bathroom ventilation fans

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Why Delta Breez

Bathroom ventilation fans that are especially suited for Multifamily & Hospitality
A variety of quiet energy-efficient fans are available for installation in the ceiling or 4" sidewall.
Models are available with built-in motion sensors, adjustable humidity sensors and adjustable continuous low speed.
All fans feature a DC brushless motor for extremely low power consumption for reduced utility bills and extended run time for less frequency of motor replacement. Fan/light models have an LED option to further reduce energy costs.

DC brushless fan motors in all products

All Delta Breez bathroom ventilation fans feature a DC brushless fan motor that is precision engineered for high performance and an extended run-time of a minimum 70,000 hours continuously. Delta is the world's largest manufacturer of DC brushless fan motors. Delta's DC brushless fan motors are used in applications where high performance, low noise and low power consumption are paramount. This includes consumer electronics such as tablets, laptops, desktop PC's and game consoles by leading brands.

Lower power consumption / Reduced energy costs

Delta Breez fans run on as little as 4 Watts, compared to traditional bath fans at 45 Watts, saving energy costs in every apartment and hotel bathroom.

Lower noise

Delta Breez fans have the lowest noise ratings of any ventilation fan on the market.

Consistent air flow

All Delta Breez fan motors ramp up automatically when static pressure is encountered, to keep intended air flow.

ENERGY STAR / ASHRAE / CALGreen

Delta Breez fans meet and exceed ENERGY STAR, ASHRAE 62.2 and CALGreen requirements. All Delta Breez fans, with exception of the heater fan, are ENERGY STAR qualified. Many models have been recognized as ENERGY STAR Most Efficient 2015.

Excellent availability

Thousands of Delta Breez fans in inventory to help meet project schedules.

Smarter. Greener. Together.

To learn more about Delta, please visit www.deltaww.com.