



SUNON®



## Energy Saving EC Fan

\*All products are RoHS compliant.

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# EC Energy-Saving

High-Efficient Heat Convection & Dissipation  
with Eco-Friendly Control Technology

SUNON's EC fan series applies brushless DC motors to electronic PCB board that include AC to DC power conversion as well as controls. This feature allows the fans to run on an AC supply while also ensuring full-speed control and enhanced power efficiency.

SUNON's effective energy-saving EC fans can be used in a variety of environments. We pride ourselves on offering appropriate protection designs according to every client's individual needs, such as our series of waterproof EC fans with IP21, IP55, and IP68 ratings or our ATEX-certified EC fan solutions. These high-quality protection designs ensure maximum EC fan longevity in most operating conditions.



Energy Saving



High Airflow



Long Life



# ESG Sustainability Development

## Energy Efficiency X High Effectiveness

Many governments around the world have begun promoting energy efficiency and taking action to meet the goal of zero emissions produced by 2050. Thus, discovering feasible strategies to reduce or eliminate carbon emissions and power waste in the worldwide green economy is crucial for corporations looking to follow market trends.

At SUNON, we are focused on creating technology that can increase heat dissipation effectiveness and reduce overall power consumption, providing comprehensive energy-saving EC fans and optimal thermal solutions to help satisfy the global green markets' needs.



# Applications

SUNON offers EC fan solutions that are mainly utilized in systems that require high power-conversion efficiency, such as green equipment, industrial applications, HVACR.

Ensure optimal airflow output by precisely adjusting the speed/rate of the fan;

Allow the systems to achieve better performance while using less energy;

Maintain the applications' operating effectiveness and stability.

This serves to meet the global need for eco-friendly and power-saving.



## Energy Storage & EV Charging Systems

Energy storage systems and EV charging equipment are both categorized as high-power consumption applications. When a large amount of heat is consistently generated and transferred due to the high-performance storing and charging processes (over 2.5kW), poor heat dissipation within these systems can cause system malfunctions and decreased charging ineffectiveness.

The heat can be effectively dissipated inside of the system by utilizing SUNON's eco-friendly & high-performance EC solutions with optimal air field design, and then the application's long-lasting energy storing and charging efficiency will be sustained, providing a stable and reliable green power supply.



## Industrials & Machinery Equipment

Electric control equipment and switchboards within enclosure cabinets are embedded with built-in control circuits and precision components to sustain larger machinery operations. But, when the system temperature rises without proper thermal management, the circuits and components begin to degrade and aged quickly resulting in energy waste and potentially even machine failure.

SUNON's power-saving EC fans are meticulously managed via a built-in electronic control system in the motor structure, providing consistent airflow to the very dense electricity distribution structures. Therefore, there is no unnecessary energy waste and all machinery equipment can operate effectively without about the risk of breakdowns.



## Heating, Ventilating and Air Conditioning (HVAC) systems

HVAC applications operate day and night, meaning their heat load fluctuates wildly. This fluctuation has a significant impact on system performance, and it is also accompanied by unnecessary energy consumption if a lack of an effective heat dissipation design.

SUNON's EC fan solutions, direct-driven components that attach to circuit elements, not only rectify current input and output but also control speed via the motors' PWM function. The EC fans' thermal performance is similar to that of conventional fans' but features a lower power consumption.



## Commercial Freezers & Refrigerators

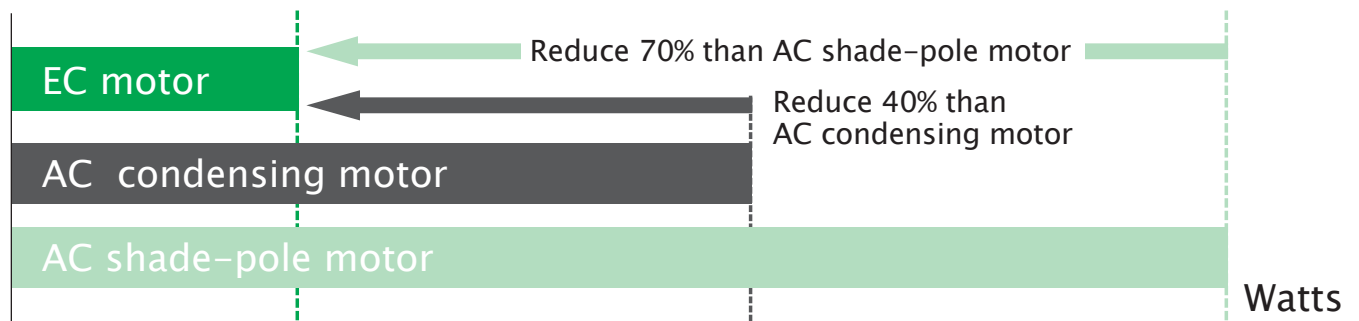
Refrigeration operates in 24-hour thermostatic conditions that come with considerable operational cost and energy consumption. SUNON's EC fans are just as high-performing as DC fans but they can also run on an AC supply, saving over 80% more energy compared with traditional thermal fans. Also, the fan speed can be controlled based on the operating needs at different times of day to reduce energy waste.

High humidity and exposure to dangerous substances in the air, such as refrigerants, are common complications in the operating environments of commercial freezer and refrigerator applications. SUNON's EC fans come equipped with high IP55 and IP68 waterproof protection ratings as well as ATEX-certified solutions to not only ensure optimal application lifespan and safety.

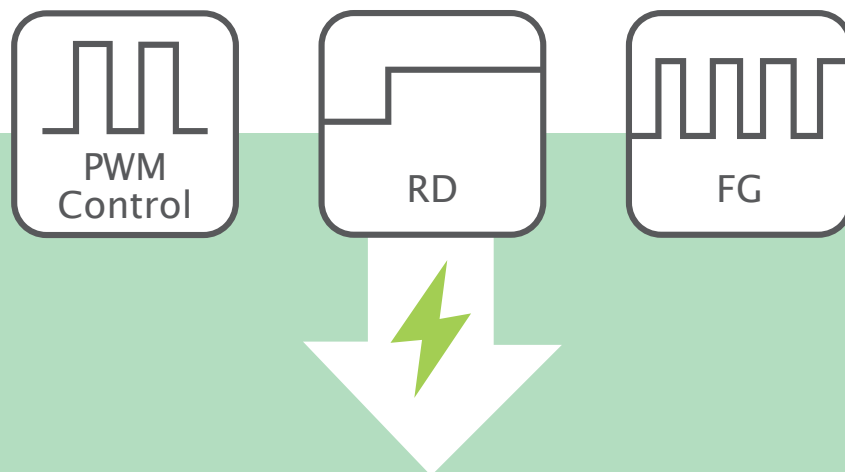
# Motor Technology

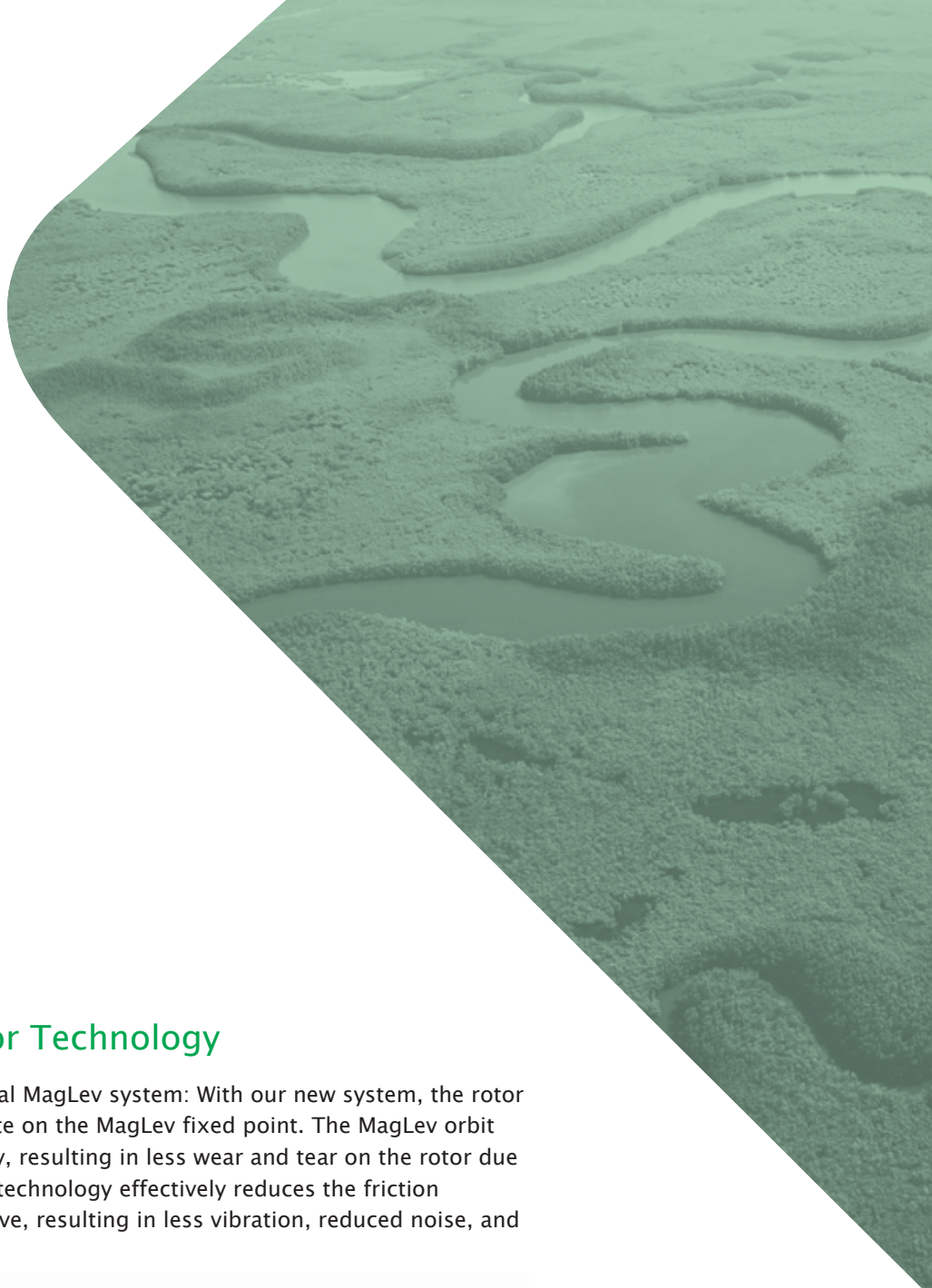
## Energy Saving

SUNON EC fans are able to run on an AC supply by adopting DC motor and rectification technology, delivering a blend of excellent energy conversion effectiveness, low power consumption, and thermal efficiency. In addition, our fan solutions include speed control circuits that manage power use at both peak and off-peak operating times, resulting in dual energy-saving capabilities.



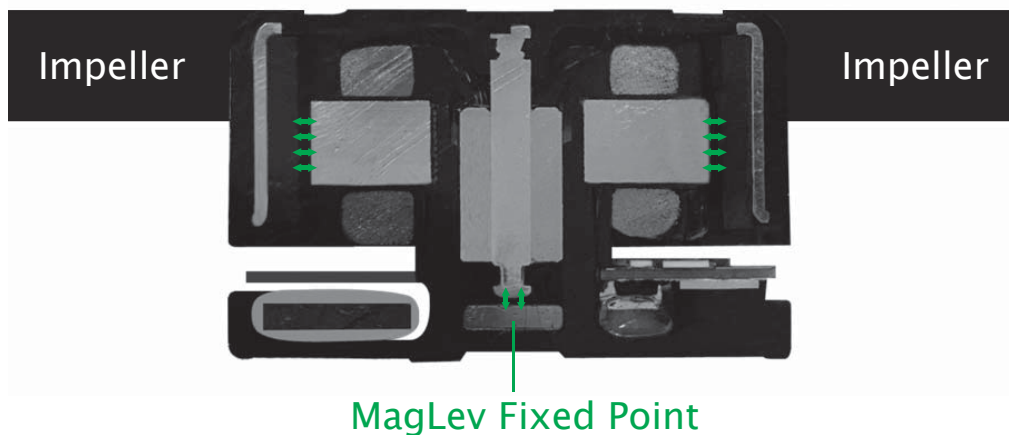
## Full-Speed Controls to Save More Energy



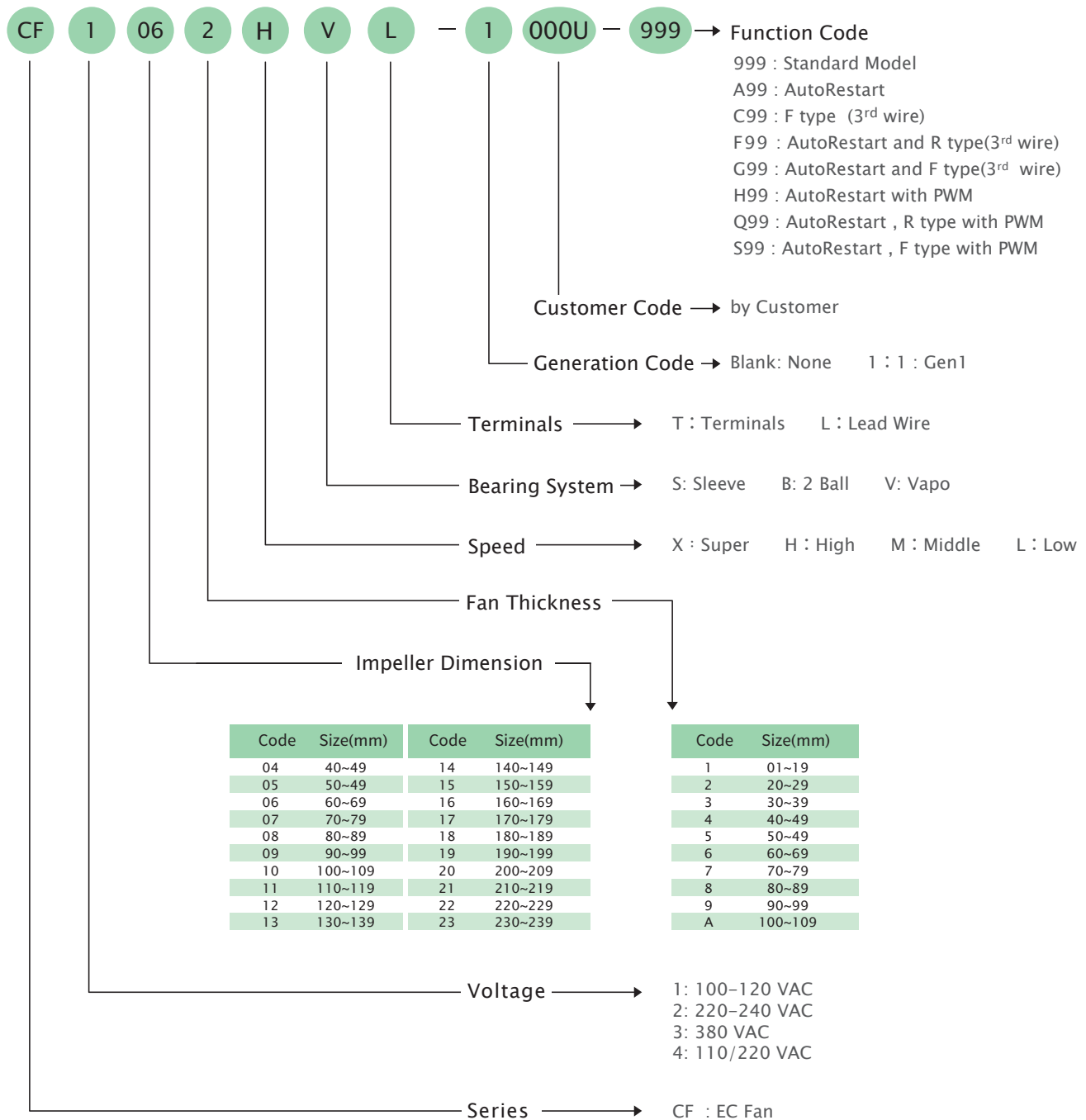


## Innovative MagLev Motor Technology

Introducing SUNON's patented vertical MagLev system: With our new system, the rotor of the MagLev EC fan can stably rotate on the MagLev fixed point. The MagLev orbit stabilizes the rotor's center of gravity, resulting in less wear and tear on the rotor due to rotor wobbling and shaking. This technology effectively reduces the friction between the shaft and the VAPO sleeve, resulting in less vibration, reduced noise, and even lower power consumption.



## ■ EC Fan New Model Numbering System



## Certification



※ Note : For critical or extreme environments, including non stop operation, please contact SUNON and we will gladly provide assistance with your product selection to ensure an appropriate cooling product for your application.

※ Note : The "Life Expectancy" of the fan has not been evaluated for use in combination with any end application. Therefore, the Life Expectancy Test Reports(L10 and MTTF Report) that relate to the fan are only for reference.

# 60x60x25 mm

## 17.5~18.0 CFM



### Specifications

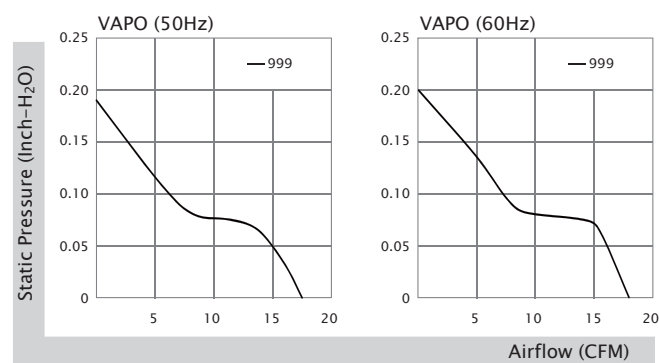
|  | Bearing                      | Rating Voltage | Freq. | Power Current | Power Consumption | Speed     | Air Flow  | Static Pressure         | Noise     | Weight |
|-----------------------------------------------------------------------------------|------------------------------|----------------|-------|---------------|-------------------|-----------|-----------|-------------------------|-----------|--------|
|                                                                                   | ● VAPO<br>○ BALL<br>◎ Sleeve | (VAC)          | (Hz)  | (AMP)         | (WATTS)           | (RPM)     | (CFM)     | (Inch-H <sub>2</sub> O) | (dB(A))   | (g)    |
| CF1062HVL-1000U-999                                                               | ●                            | 100-120        | 50/60 | 0.224/0.220   | 2.7/2.8           | 4100/4200 | 17.5/18.0 | 0.19/0.20               | 30.0/31.0 | 76.6   |
| CF2062HVL-1000U-999                                                               | ●                            | 200-240        | 50/60 | 0.276/0.292   | 3.3/3.6           | 4100/4200 | 17.5/18.0 | 0.19/0.20               | 30.0/31.0 | 76.6   |

Frame : PBT Plastic

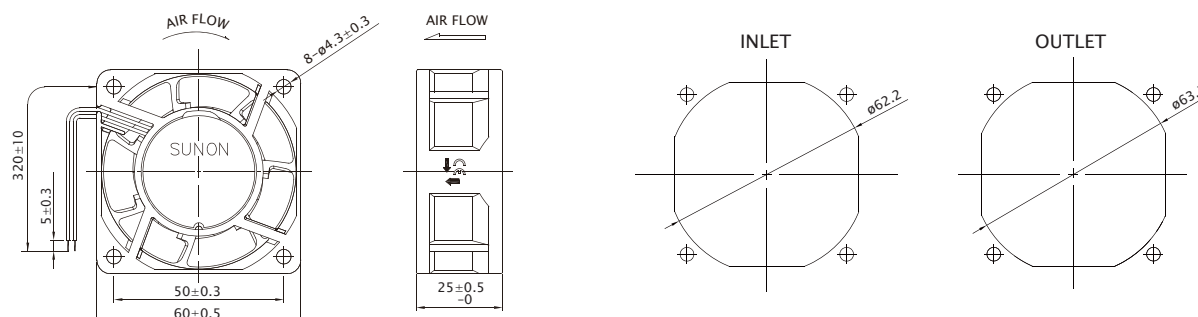
Operation Temperature(°C) : -20°C ~+70°C

Safety : CE/TUV/UL/CUL/UKCA

### Air Flow-Static Pressure Characteristics



### External Dimensions(mm)



\*All model can be customized. Please contact Sunon Sales.

\*Specifications are subject to change without notice. Please visit SUNON website at [www.sunon.com](http://www.sunon.com) for update information.



70x70x25 mm

28.0~29.0 CFM



#### Specifications

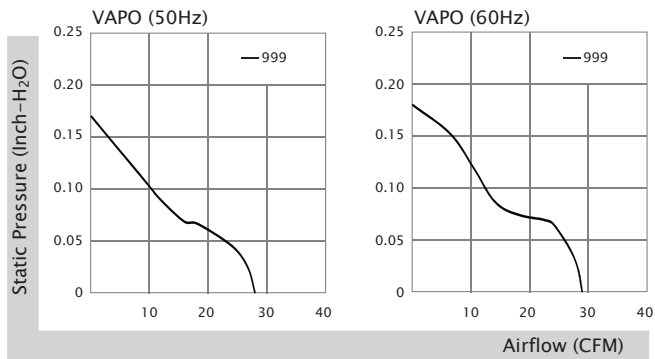
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|-----------------------------------------------------------------------------------|------------------------------|----------------|-------|---------------|-------------------|-----------|-----------|-------------------------|-----------|--------|
|                                                                                   | ● VAPO<br>○ BALL<br>⊙ Sleeve | (VAC)          | (Hz)  | (AMP)         | (WATTS)           | (RPM)     | (CFM)     | (Inch-H <sub>2</sub> O) | (dB(A))   | (g)    |
| CF1072HVL-1000U-999                                                               | ●                            | 100~120        | 50/60 | 0.241/0.235   | 3.0/3.1           | 3500/3600 | 28.0/29.0 | 0.17/0.18               | 30.0/31.0 | 85.4   |
| CF2072HVL-1000U-999                                                               | ●                            | 200~240        | 50/60 | 0.293/0.304   | 3.6/3.9           | 3500/3600 | 28.0/29.0 | 0.17/0.18               | 30.0/31.0 | 85.4   |

Frame : PBT Plastic

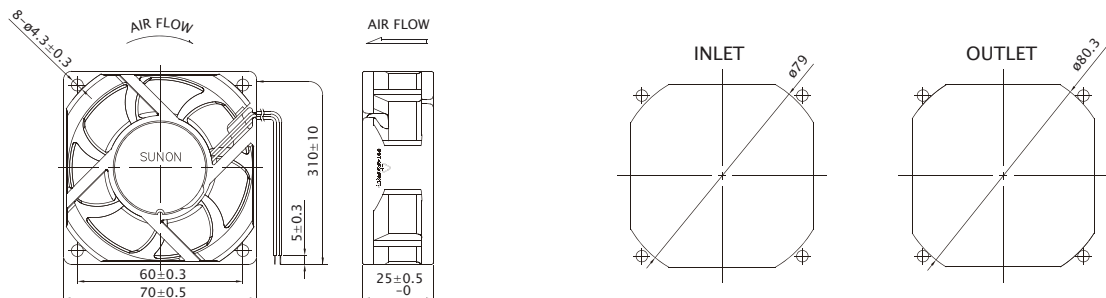
Operation Temperature(°C) : -20°C ~+70°C

Safety : CE/TUV/UL/CUL/UKCA

#### Air Flow-Static Pressure Characteristics



#### External Dimensions(mm)



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80x80x25 mm

40.0~41.0 CFM



# Specifications

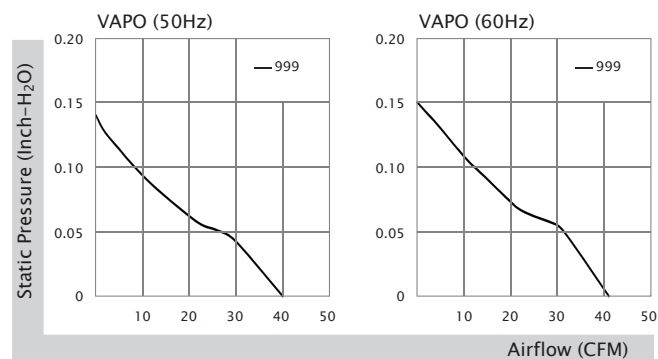
|  | Bearing                      | Rating Voltage | Freq. | Power Current | Power Consumption | Speed     | Air Flow  | Static Pressure         | Noise     | Weight |
|-----------------------------------------------------------------------------------|------------------------------|----------------|-------|---------------|-------------------|-----------|-----------|-------------------------|-----------|--------|
|                                                                                   | ● VAPO<br>○ BALL<br>◎ Sleeve | (VAC)          | (Hz)  | (AMP)         | (WATTS)           | (RPM)     | (CFM)     | (Inch-H <sub>2</sub> O) | (dB(A))   | (g)    |
| CF1082HVL-1000U-999                                                               | ●                            | 100-120        | 50/60 | 0.221/0.211   | 3.2/3.3           | 3100/3200 | 40.0/41.0 | 0.14/0.15               | 32.0/33.0 | 99.3   |
| CF2082HVL-1000U-999                                                               | ●                            | 200-240        | 50/60 | 0.242/0.255   | 3.6/3.9           | 3100/3200 | 40.0/41.0 | 0.14/0.15               | 32.0/33.0 | 99.3   |

Frame : PBT Plastic

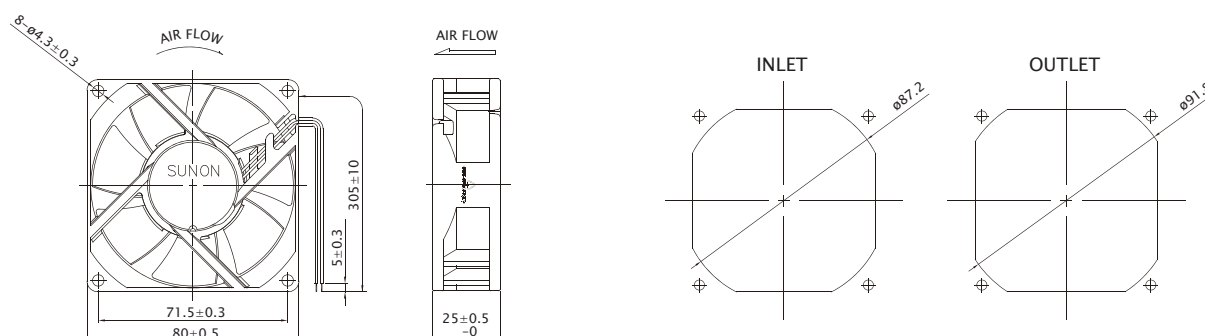
Operation Temperature(°C) : -20°C ~+70°C

Safety : CE/TUV/UL/CUL/UKCA

# Air Flow-Static Pressure Characteristics



# External Dimensions(mm)



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92x92x25 mm

52.0~54.0 CFM



■ Specifications

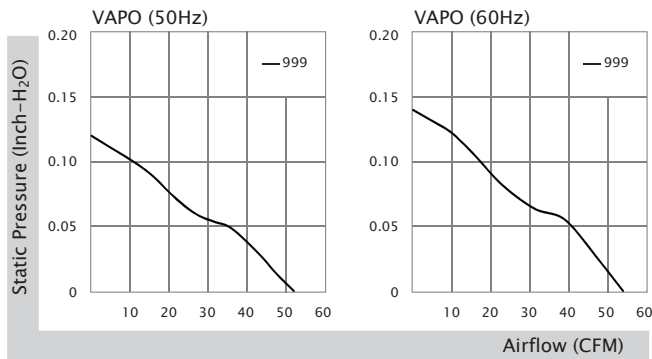
|  | Bearing                      | Rating Voltage | Freq. | Power Current | Power Consumption | Speed     | Air Flow  | Static Pressure         | Noise     | Weight |
|-----------------------------------------------------------------------------------|------------------------------|----------------|-------|---------------|-------------------|-----------|-----------|-------------------------|-----------|--------|
|                                                                                   | ● VAPO<br>○ BALL<br>⊙ Sleeve | (VAC)          | (Hz)  | (AMP)         | (WATTS)           | (RPM)     | (CFM)     | (Inch-H <sub>2</sub> O) | (dB(A))   | (g)    |
| CF1092HVL-1000U-999                                                               | ●                            | 100-120        | 50/60 | 0.240/0.230   | 3.3/3.4           | 2800/2900 | 52.0/54.0 | 0.12/0.14               | 31.0/32.0 | 110.4  |
| CF2092HVL-1000U-999                                                               | ●                            | 200-240        | 50/60 | 0.249/0.264   | 3.8/4.2           | 2800/2900 | 52.0/54.0 | 0.12/0.14               | 31.0/32.0 | 110.4  |

Frame : PBT Plastic

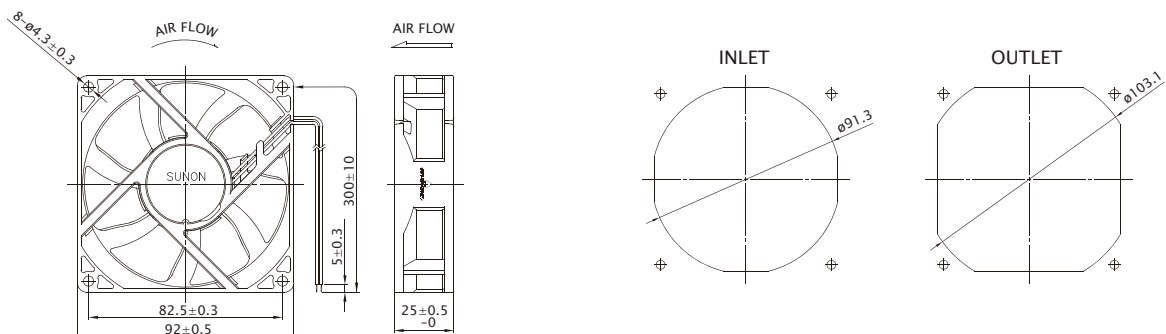
Operation Temperature(°C) : -20°C ~+70°C

Safety : CE/TUV/UL/CUL/UKCA

■ Air Flow-Static Pressure Characteristics



■ External Dimensions(mm)



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# 120x120x38 mm (IP21 / IP55)

## 64.3~109.0 CFM



### Specifications

| Model               | Bearing                      | Rating Voltage | Freq.   | Power Current | Power Consumption | Speed | Air Flow | Static Pressure         | Noise   | Weight |
|---------------------|------------------------------|----------------|---------|---------------|-------------------|-------|----------|-------------------------|---------|--------|
|                     | ● VAPO<br>○ BALL<br>● Sleeve | (VAC)          | (Hz)    | (AMP)         | (WATTS)           | (RPM) | (CFM)    | (Inch-H <sub>2</sub> O) | (dB(A)) | (g)    |
| CF4113HBL-1000U-A99 | ○                            | 100-240        | 50 / 60 | 0.107 / 0.058 | 5.10              | 3600  | 109.0    | 0.37                    | 44.9    | 265    |
| CF4113HBT-1000U-A99 | ○                            | 100-240        | 50 / 60 | 0.107 / 0.058 | 5.10              | 3600  | 109.0    | 0.37                    | 44.9    | 265    |
| CF4113MBL-1000U-A99 | ○                            | 100-240        | 50 / 60 | 0.08 / 0.045  | 3.60              | 3100  | 90.1     | 0.31                    | 40.2    | 265    |
| CF4113MBT-1000U-A99 | ○                            | 100-240        | 50 / 60 | 0.08 / 0.045  | 3.60              | 3100  | 90.1     | 0.31                    | 40.2    | 265    |
| CF4113LBL-1000U-A99 | ○                            | 100-240        | 50 / 60 | 0.038 / 0.025 | 1.80              | 2100  | 64.3     | 0.17                    | 31.4    | 265    |
| CF4113LBT-1000U-A99 | ○                            | 100-240        | 50 / 60 | 0.038 / 0.025 | 1.80              | 2100  | 64.3     | 0.17                    | 31.4    | 265    |

Frame : PBT Plastic

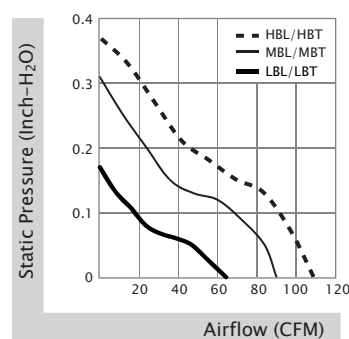
Operation Temperature(°C) : -25°C ~+70°C

Safety : CE/TUV/UL/CUL/UKCA

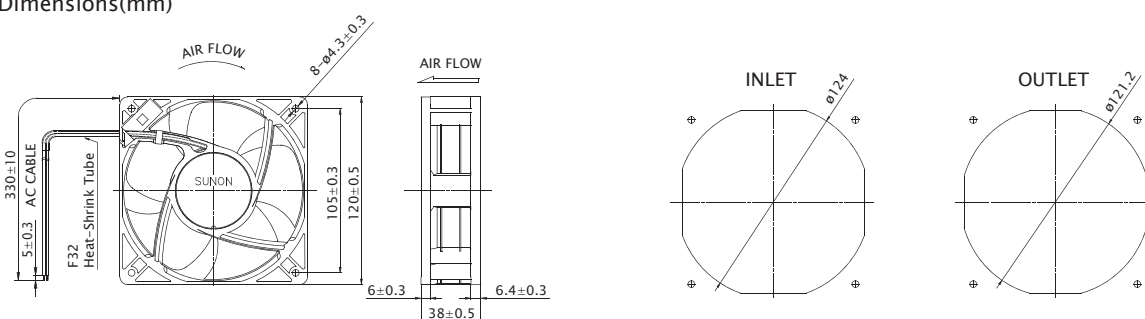
Function PWM : S99

Protection IP21 : AA9, SA9 IP55 : AB9, SB9

### Air Flow-Static Pressure Characteristics



### External Dimensions(mm)



\*All model can be customized. Please contact Sunon Sales.

\*Specifications are subject to change without notice. Please visit SUNON website at [www.sunon.com](http://www.sunon.com) for update information.

# 120x120x38 mm (IP68/ATEX)

64.3~109.0 CFM



## Specifications

| Model              | Bearing                      | Rating Voltage | Freq.   | Power Current | Power Consumption | Speed | Air Flow | Static Pressure         | Noise   | Weight |
|--------------------|------------------------------|----------------|---------|---------------|-------------------|-------|----------|-------------------------|---------|--------|
|                    | ● VAPO<br>○ BALL<br>○ Sleeve | (VAC)          | (Hz)    | (AMP)         | (WATTS)           | (RPM) | (CFM)    | (Inch-H <sub>2</sub> O) | (dB(A)) | (g)    |
| CF4113HBL-000U-AE9 | ○                            | 100-240        | 50 / 60 | 0.081 / 0.056 | 5.10              | 3500  | 109.0    | 0.37                    | 44.9    | 317    |
| CF4113MBL-000U-AE9 | ○                            | 100-240        | 50 / 60 | 0.061 / 0.037 | 3.40              | 3000  | 90.1     | 0.31                    | 40.2    | 317    |
| CF4113LBL-000U-AE9 | ○                            | 100-240        | 50 / 60 | 0.037 / 0.022 | 1.80              | 2000  | 64.3     | 0.17                    | 31.4    | 317    |

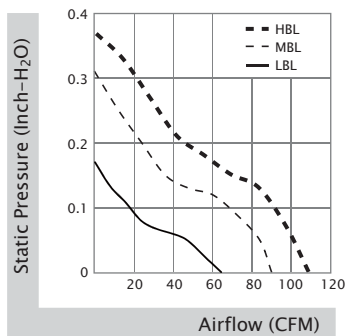
Frame : PBT Plastic

Operation Temperature(°C) : -25°C ~+70°C

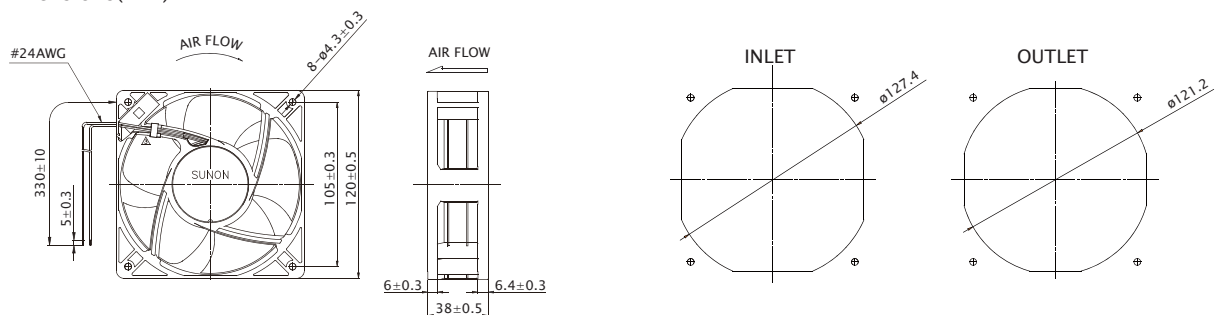
Safety : CE/TUV/UL/CUL/UKCA

Protection IP55+ATEX : ABD IP68 +ATEX: AED

## Air Flow-Static Pressure Characteristics



## External Dimensions(mm)



\*All model can be customized. Please contact Sunon Sales.

\*Specifications are subject to change without notice. Please visit SUNON website at [www.sunon.com](http://www.sunon.com) for update information.

ø250x77 mm (IP68)

186.0~278.8 CFM



# Specifications

| Model              | Bearing                      | Rating Voltage | Freq.   | Power Current          | Power Consumption    | Speed               | Air Flow               | Static Pressure         | Noise                | Weight |
|--------------------|------------------------------|----------------|---------|------------------------|----------------------|---------------------|------------------------|-------------------------|----------------------|--------|
|                    | ● VAPO<br>○ BALL<br>◎ Sleeve | (VAC)          | (Hz)    | (AMP)                  | (WATTS)              | (RPM)               | (CFM)                  | (Inch-H <sub>2</sub> O) | (dB(A))              | (g)    |
| CF2207LBL-000U-HE9 | ○                            | 220-240        | 50 / 60 | (H) 0.070<br>(L) 0.038 | (H) 6.60<br>(L) 3.20 | (H) 1400<br>(L) 950 | (H) 278.8<br>(L) 186.0 | (H) 0.30<br>(L) 0.16    | (H) 41.2<br>(L) 29.9 | 1100   |

Frame : PBT Plastic

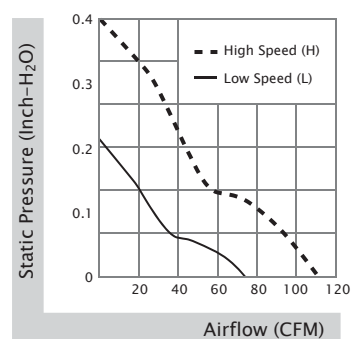
Operation Temperature(°C) : -40°C ~+50°C

Safety : CE/TUV/UL/CUL/UKCA

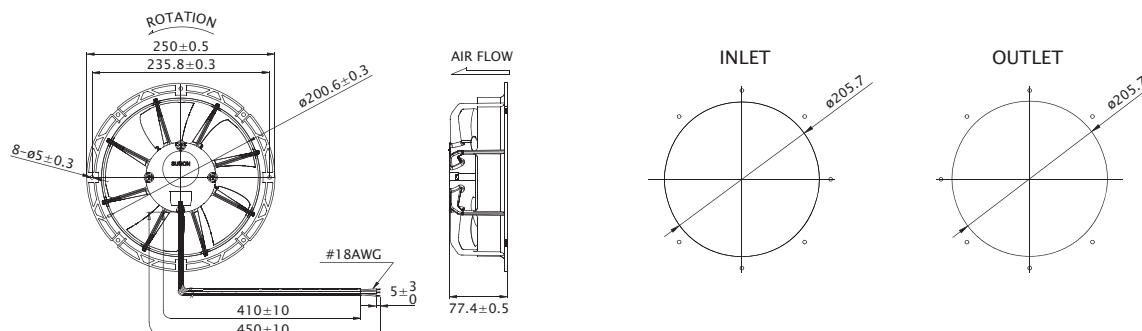
Function Two speed control : HE9

Protection IP68 : HE9

# Air Flow-Static Pressure Characteristics



# External Dimensions(mm)



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ø250x77 mm (IP21 / IP55)

280.0~438.0 CFM



■ Specifications

| Model               | Bearing                      | Rating Voltage | Freq.   | Power Current | Power Consumption | Speed | Air Flow | Static Pressure         | Noise   | Weight |
|---------------------|------------------------------|----------------|---------|---------------|-------------------|-------|----------|-------------------------|---------|--------|
|                     | ● VAPO<br>○ BALL<br>◎ Sleeve | (VAC)          | (Hz)    | (AMP)         | (WATTS)           | (RPM) | (CFM)    | (Inch-H <sub>2</sub> O) | (dB(A)) | (g)    |
| CF4207HBL-1000U-A99 | ○                            | 100~240        | 50 / 60 | 0.36 / 0.20   | 16.5 / 17.5       | 2100  | 438.0    | 0.57                    | 53.4    | 950    |
| CF4207LBL-1000U-A99 | ○                            | 100~240        | 50 / 60 | 0.10 / 0.07   | 5.0 / 6.0         | 1350  | 280.0    | 0.27                    | 41.2    | 900    |

Frame : PBT Plastic

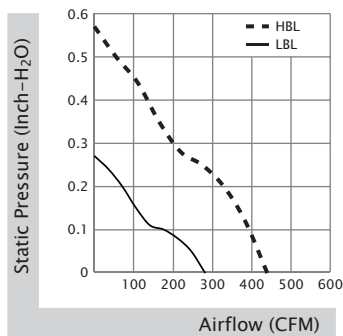
Operation Temperature(°C) : -40°C ~+50°C

Safety : CE/TUV/UL/CUL/UKCA

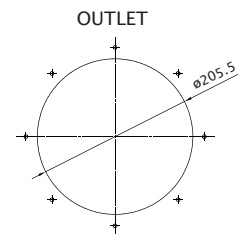
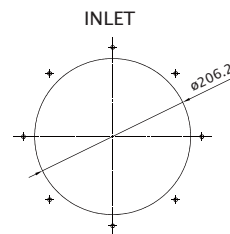
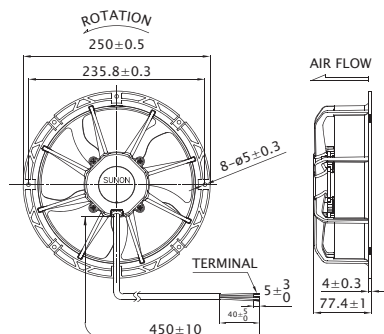
■ Function Two speed control : H99, HA9, HB9

■ Protection IP21 : AA9, HA9 IP55 : AB9, HB9

■ Air Flow-Static Pressure Characteristics



■ External Dimensions(mm)



\*All model can be customized. Please contact Sunon Sales.

\*Specifications are subject to change without notice. Please visit SUNON website at [www.sunon.com](http://www.sunon.com) for update information.



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

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2026/07/29 (270-E)

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