

# ACDC Fan

This fan works while internally converting AC power into DC power, providing the superior performance of a DC fan with the flexibility of AC input.

Low power consumption

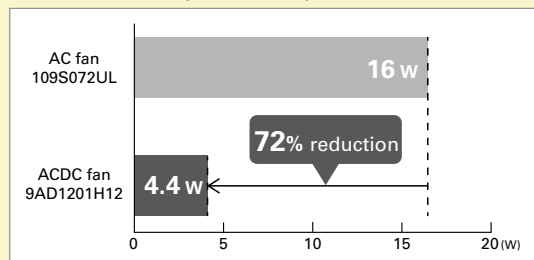
Long life

Wide voltage range

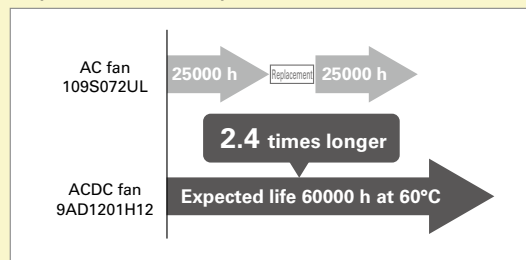
(Compared with our existing AC fan with equal size.)

With AC input, the same level of energy saving and long life as a DC fan can be achieved. The maintenance effort can be reduced too.

Power consumption comparison



Expected life comparison



**Model Numbering System** Not every combination of the following codes or characters is available. Contact us for an available combination.

9AD	09	01	H	1	2	
Type name	Frame size	Voltage	Speed code	Frame thickness	Sensor specifications	Frame form

Type name	9AD					
Frame size (mm)	09	12	92×92 120×120			
Voltage (V)	01 100 to 240					
Speed code	H M etc.					
Frame thickness (mm)	1 38					
Sensor specifications	2		H			
	Without a sensor		With a low-speed sensor			
Frame form	Nil			1		
	Plastic frame: Ribbed frame			Plastic frame: Ribless frame		

## How to Read Specifications (ACDC fan)

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9AD0901H12	100 to 240	90 to 264	50/60	0.08	4.5	3850	1.5 53.0	90 0.36	40	-20 to +75	60000/60°C
9AD0901M12				0.06	3.0	3100	1.18 41.7	56 0.22	33		

- Rated voltage ..... This is the necessary voltage to drive the fan. Single-phase 100 to 240 VAC are also available.
- Operating voltage range ..... The voltage range over which fan operation is guaranteed.
- Frequency ..... This is a frequency of alternating current (AC). The frequencies of 50 Hz and 60 Hz are existing in Japan.
- Rated current ..... The current when the fan is operating at rated voltage (at free air).
- Rated input ..... The power value when the fan is operating at rated voltage (at free air).
- Rated speed ..... The speed when the fan is operating at rated voltage (at free air).
- Max. airflow ..... The maximum airflow that the fan can generate during rated operation (measured with our double chamber measuring device).  
Airflow is the volume of air generated by the fan per unit of time.
- Max. static pressure ..... The maximum static pressure value that the fan can produce during rated operation (measured with our double chamber measuring device).  
Static pressure indicates a fan's ability to move air against resistance due to the internal structure of the device to which the fan is installed.
- SPL ..... SPL stands for Sound Pressure Level. The noise level during the fan's rated operation.  
Please refer to the technical material section for the measurement method.
- Operating temperature ..... The temperature range over which fan operation is guaranteed (Non- condensing).
- Expected life ..... Service life hours that 90% of bearings will survive without failing when continuously operated at the rated voltage and 60°C temperature. For more information, please refer to the technical material section.



# 92×92×38 mm

San Ace 92AD 9AD type

## General Specifications

- Material ..... Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Brushless DC motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame, and between sensor output and frame)
- Insulation resistance..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +75°C (Non-condensing)
- Mass ..... 250 g

Do not solder wires directly to AC input terminals.

## Specifications

The models listed below **have ribs and no sensors**. For models without ribs, append "1" to the end of model numbers.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9AD0901H12	100 to 240	90 to 264	50/60	0.08	4.5	3850	1.5 53.0	90 0.36	40	-20 to +75	60000/60°C
9AD0901M12				0.06	3.0	3100	1.18 41.7	56 0.22	33		

The models listed below **have ribs and low-speed sensors**. For models without ribs, append "1" to the end of model numbers.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9AD0901H1H	100 to 240	90 to 264	50/60	0.08	4.5	3850	1.5 53.0	90 0.36	40	-20 to +75	60000/60°C
9AD0901M1H				0.06	3.0	3100	1.18 41.7	56 0.22	33		

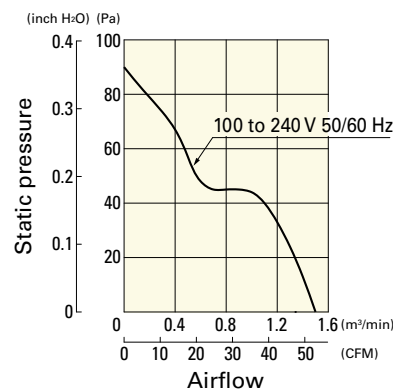
## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

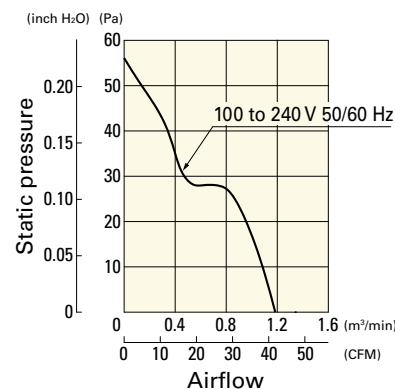
Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-9AD0901H12	9AD0901H12	100 to 240 V		489-1635-L10	109-099E	M4×55 mm (4 screws)
ST1-9AD0901M12	9AD0901M12			489-1635-L10	109-099E	
ST1-9AD0901H1H	9AD0901H1H		○	489-1635-L10	109-099E	
ST1-9AD0901M1H	9AD0901M1H		○	489-1635-L10	109-099E	

## Airflow - Static Pressure Characteristics

9AD0901H12, 9AD0901H1H

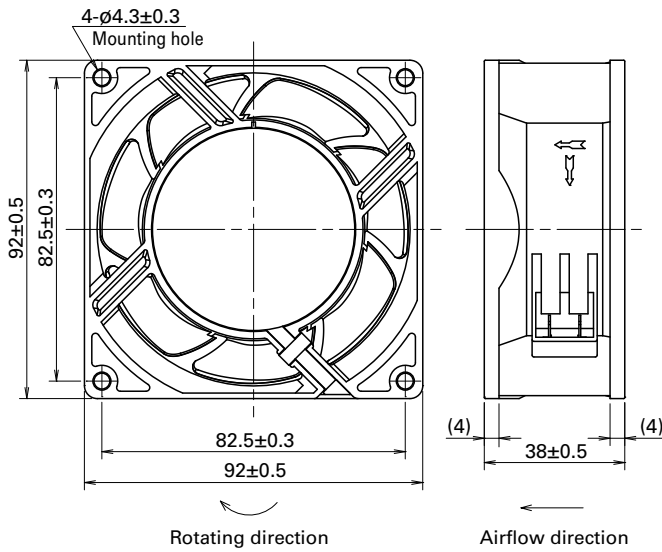


9AD0901M12, 9AD0901M1H

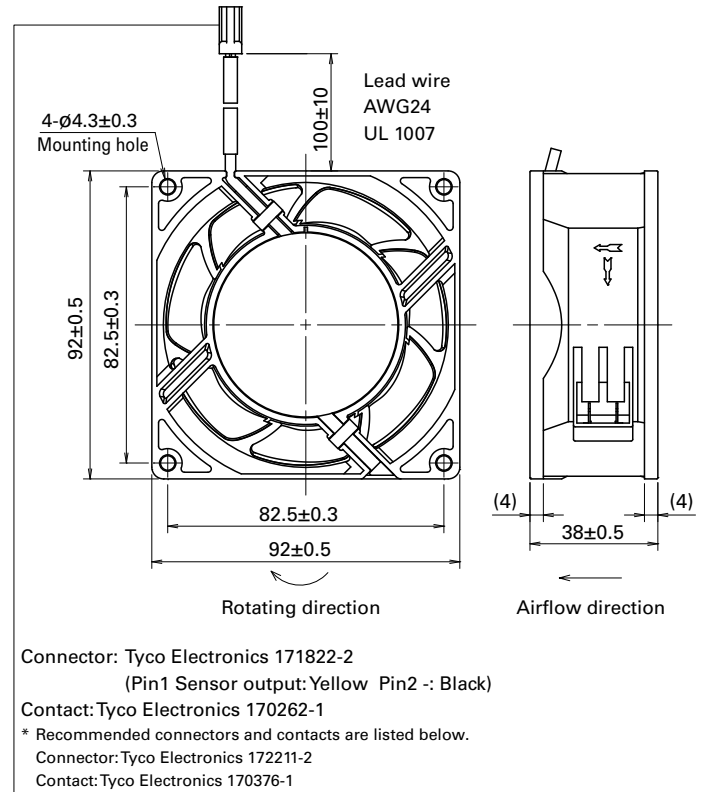


**Dimensions (unit: mm)** (With ribs)

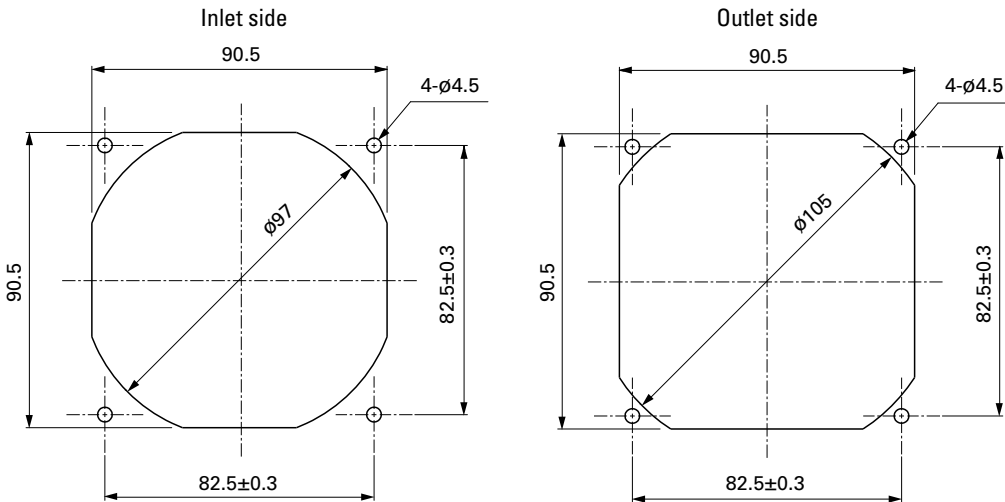
**without Sensor**



**with Low-speed sensor**

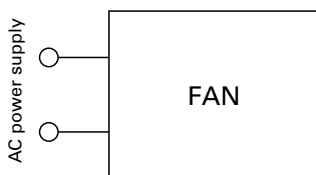


**Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)**

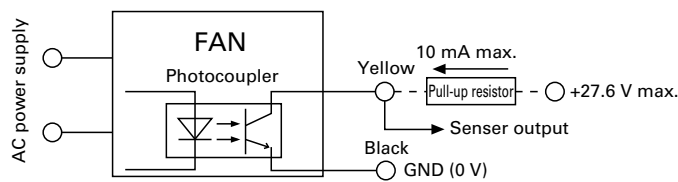


**Wiring Diagram**

**without Sensor**



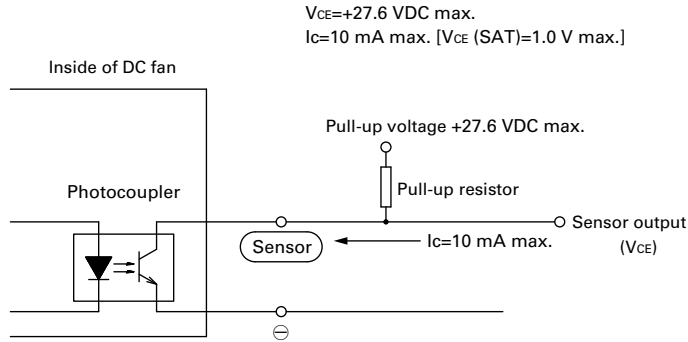
**with Low-speed sensor**



## Specifications for Low-speed Sensors

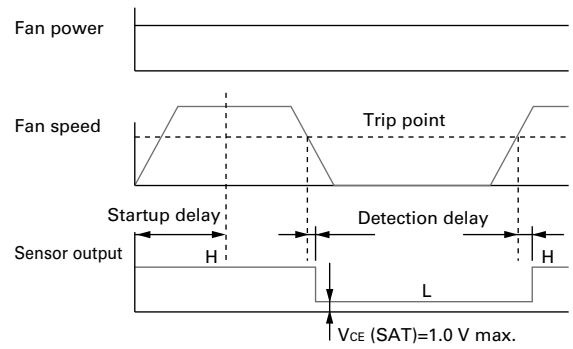
Typical standard model: 9AD0901H1H

Output circuit: Open collector

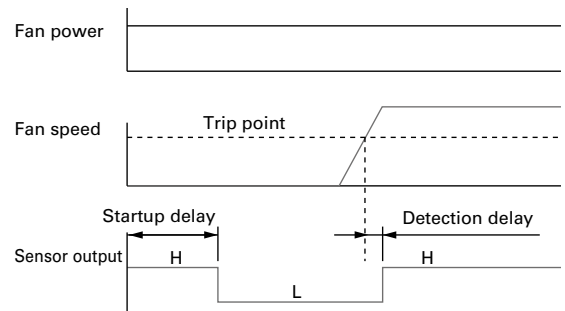


Sensor scheme

Example 1: when steady running



Example 2: when the rotor is locked when the fan motor is turned on and released after the start-up delay time.



**9AD0901H1H**

Startup delay: 18±3 s

Detection delay: 3 s max.

Trip point: 1700 min<sup>-1</sup>

**9AD0901M1H**

Startup delay: 36±3 s

Detection delay: 3 s max.

Trip point: 850 min<sup>-1</sup>

## Options

Finger guards

page: p. 513

Model no.: 109-099C, 109-099E, 109-099H

Resin filter kits

page: p. 521

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),  
109-1001F30 (30PPI), 109-1001F40 (40PPI)

Wiring harness for sensor

page: p. 524

Model no.: 489-1636

Resin finger guards

page: p. 520

Model no.: 109-1001G

Plug cord

page: p. 524

Model no.: 489-1635-L10, 489-1635-L21



# 120×120×38 mm

San Ace 120AD 9AD type

## General Specifications

- Material ..... Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Brushless DC motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame, and between sensor output and frame)
- Insulation resistance..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +75°C (Non-condensing)
- Mass ..... 290 g

Do not solder wires directly to AC input terminals.

## Specifications

The models listed below **have ribs and no sensors**. For models without ribs, append "1" to the end of model numbers.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>9AD1201H12</b>	100 to 240	90 to 264	50/60	0.08	4.4	3250	3.0 106	84 0.34	42	-20 to +75	60000/60°C

The models listed below **have ribs and low-speed sensors**. For models without ribs, append "1" to the end of model numbers.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>9AD1201H1H</b>	100 to 240	90 to 264	50/60	0.08	4.4	3250	3.0 106	84 0.34	42	-20 to +75	60000/60°C

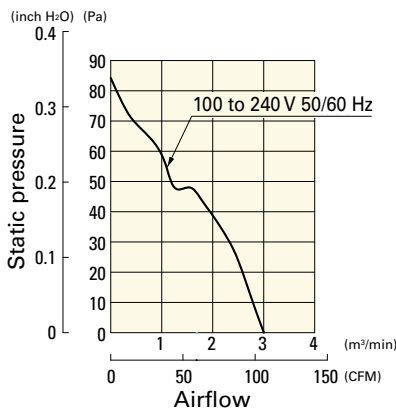
## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
<b>ST1-9AD1201H12</b>	9AD1201H12	100 to	○	489-1635-L10	109-019E	M4×55 mm (4 screws)
<b>ST1-9AD1201H1H</b>	9AD1201H1H	240 V		489-1635-L10	109-019E	

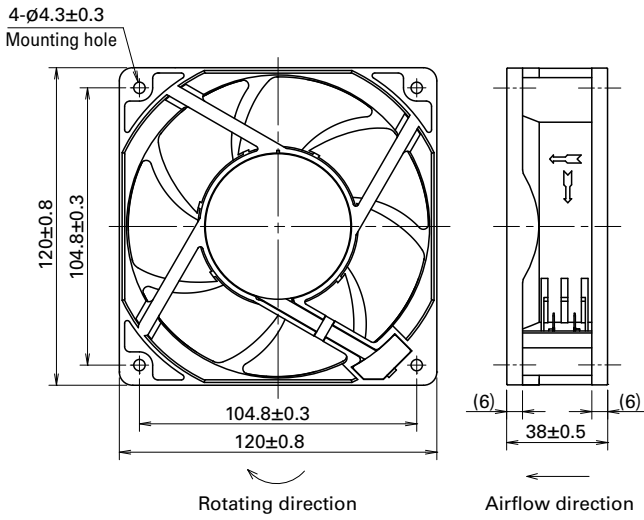
## Airflow - Static Pressure Characteristics

### 9AD1201H12, 9AD1201H1H

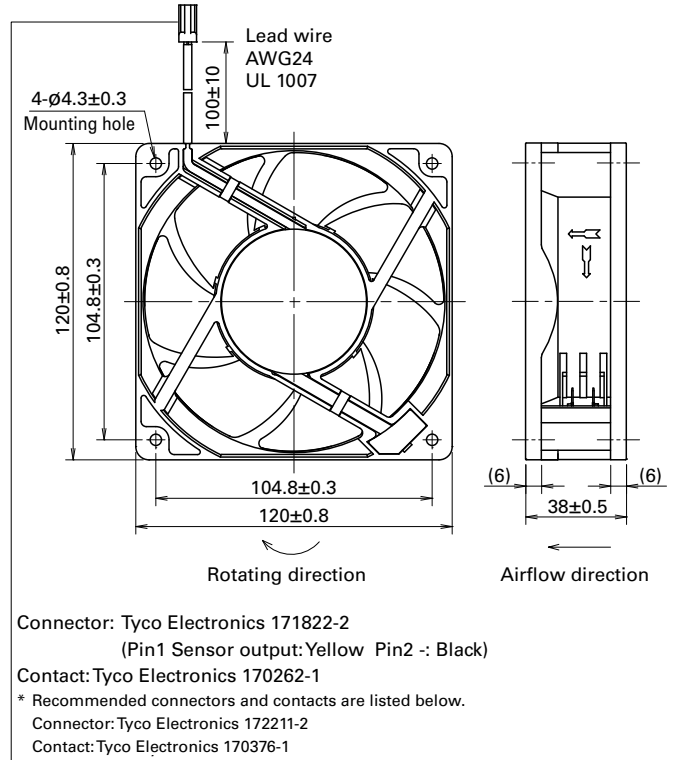


**Dimensions (unit: mm)** (With ribs)

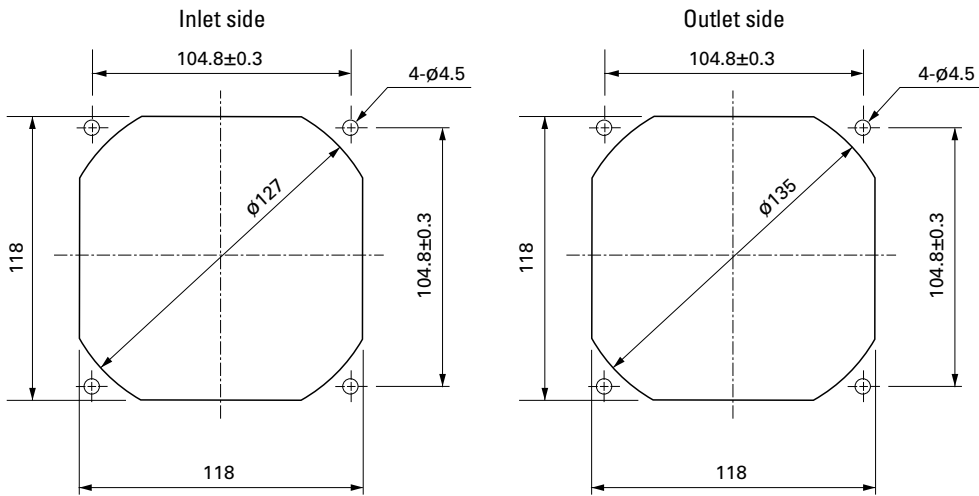
**without Sensor**



**with Low-speed sensor**

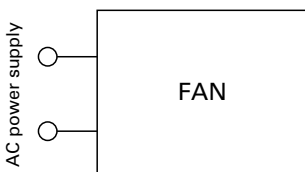


**Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)**

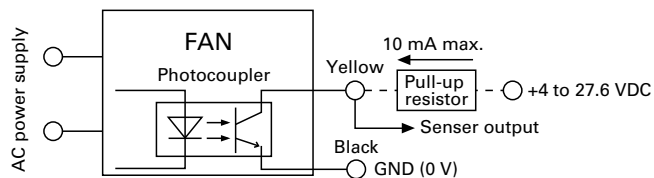


**Wiring Diagram**

**without Sensor**



**with Low-speed sensor**

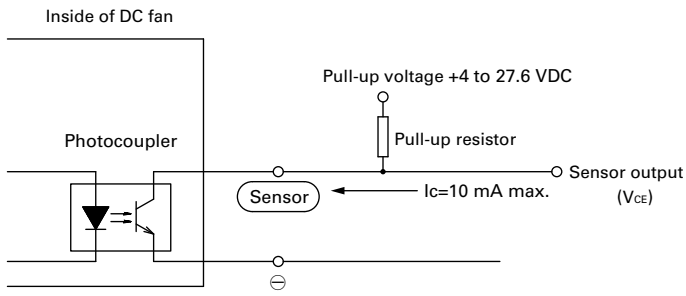


## Specifications for Low-speed Sensors

Model No.: 9AD1201H1H

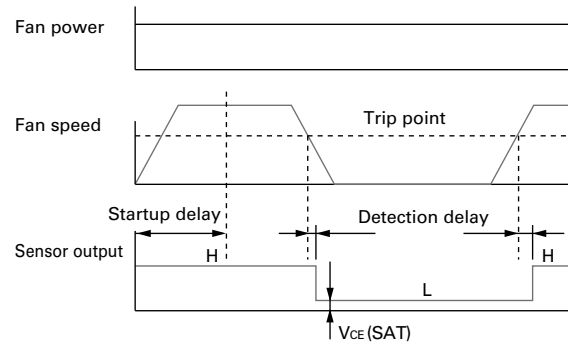
Output circuit: Open collector

$V_{CE} = +27.6$  VDC max.  
 $I_C = 10$  mA max. [ $V_{CE(SAT)} = 1.0$  V max.]

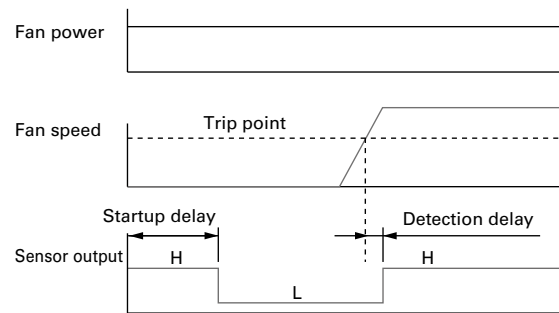


Sensor scheme

Example 1: when steady running



Example 2: when the rotor is locked when the fan motor is turned on and released after the start-up delay time.



Startup delay:  $18 \pm 3$  s  
 Detection delay: 3 s max.  
 Trip point:  $1700 \text{ min}^{-1}$

## Options

Finger guards page: p. 514

Model no.: 109-019C, 109-019H, 109-019E, 109-019K

Resin filter kits page: p. 521

Model no.: 109-1000F13 (13PPI), 109-1000F20 (20PPI),  
 109-1000F30 (30PPI), 109-1000F40 (40PPI)

Wiring harness for sensor page: p. 524

Model no.: 489-1636

Resin finger guards page: p. 520

Model no.: 109-1000G

Plug cord page: p. 524

Model no.: 489-1635-L10, 489-1635-L21





# AC Fan

The cooling fan operates at 100 to 230 VAC.

## ■ How to Read Specifications (AC fan)

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109-180</b>	100	50/60	5/4	0.06/0.05	0.07/0.06	2250/2700	0.27/0.33 9.5/11.7	11.8/18.6 0.047/0.075	24/26	-30 to +70	25000/60°C
<b>109-183</b>	115				0.06/0.05						

- Rated voltage ..... This is the necessary voltage to drive the fan. Single-phase 100, 115, 200 and 230 VAC are also available.
- Frequency ..... This is a frequency of alternating current (AC). The frequencies of 50 Hz and 60 Hz are existing in Japan.  
Performance of AC fan varies depending on the frequency. Example: Rated speed 2250/2700 = 50 Hz → 2250, 60 Hz → 2700
- Input ..... The power value when the fan is operating at rated voltage (at free air).
- Current ..... The current when the fan is operating at rated voltage (at free air).
- Locked rotor current ..... This is a current when rotor of motor that applies rated voltage is locked.
- Rated speed ..... The speed when the fan is operating at rated voltage (at free air).
- Max. airflow ..... The maximum airflow that the fan can generate during rated operation (measured with our double chamber measuring device).  
Airflow is the volume of air generated by the fan per unit of time.
- Max. static pressure ..... The maximum static pressure value that the fan can produce during rated operation (measured with our double chamber measuring device).  
Static pressure indicates a fan's ability to move air against resistance due to the internal structure of the device to which the fan is installed.
- SPL ..... SPL stands for Sound Pressure Level. The noise level during the fan's rated operation.  
Please refer to the technical material section for the measurement method.
- Operating temperature ..... The temperature range over which fan operation is guaranteed (Non- condensing).
- Expected life ..... Service life hours that 90% of bearings will survive without failing when continuously operated at the rated voltage and 60°C temperature. For more information, please refer to the technical material section.



# 60×60×28 mm

San Ace 60

## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... Black, 2 pcs
- Mass ..... 120 g

## Specifications

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109-180	100	50/60	5/4	0.06/0.05	0.07/0.06	2250/2700	0.27/0.33 9.5/11.7	11.8/18.6 0.047/0.075	24/26	-30 to +70	25000/60°C
109-183	115				0.06/0.05						

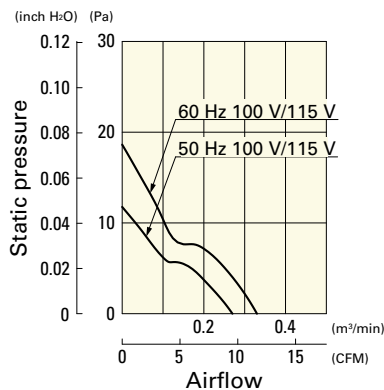
## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

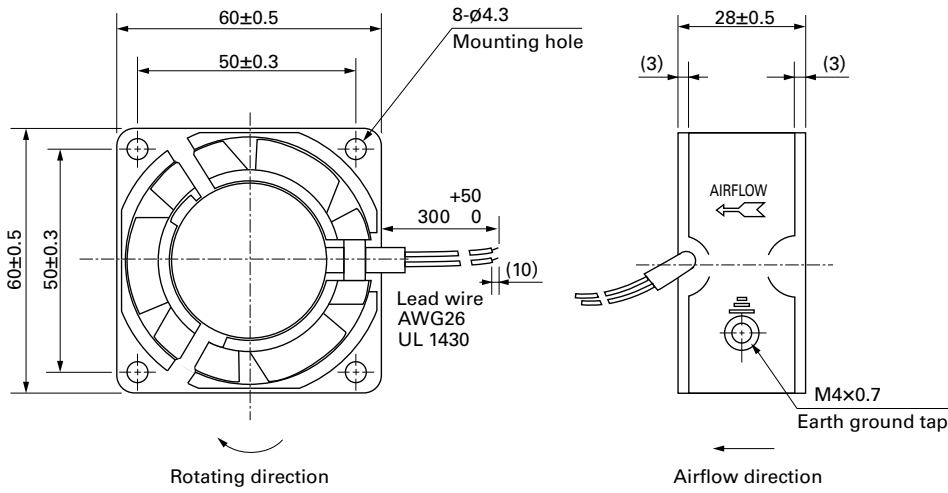
Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109-180	109-180	100 V		Plug cord is not included because of the exposed-lead structure.	109-139E	M4×40 mm (4 screws)
ST1-109-183	109-183	115 V			109-139E	

## Airflow - Static Pressure Characteristics

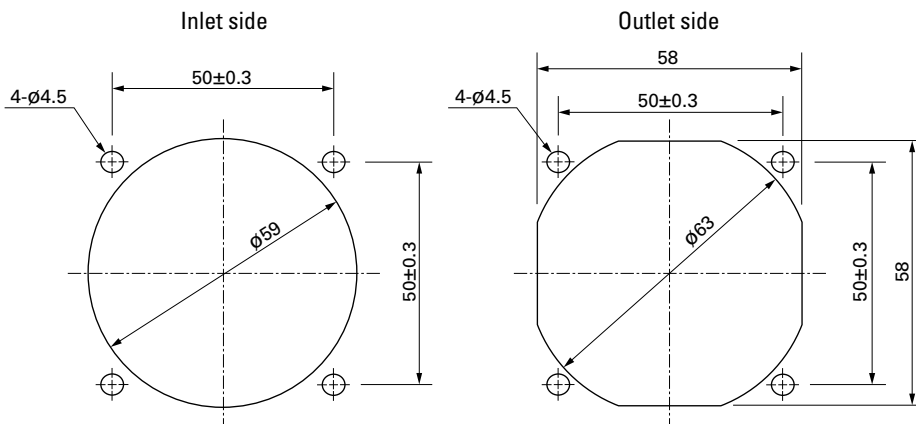
### 109-180, 109-183



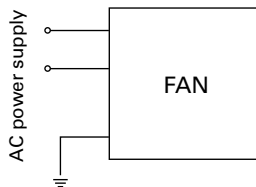
## Dimensions (unit: mm)



## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



## Wiring Diagram



## Options

### Finger guards

page: p. 513

Model no.: 109-139E, 109-139H

### Resin finger guards

page: p. 520

Model no.: 109-1003G

### Resin filter kits

page: p. 521

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),  
109-1003F30 (30PPI), 109-1003F40 (40PPI)



# 60×60×38 mm

San Ace 60

## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... Black, 2 pcs
- Mass ..... 170 g

## Specifications

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109-130</b>	100	50/60	6/5	0.08/0.07	0.08/0.07	2600/3150	0.33/0.4 11.7/14.1	16.3/23.3 0.065/0.094	28/30	-30 to +60	25000/60°C
<b>109-133</b>	115			0.07/0.06	0.07/0.06						

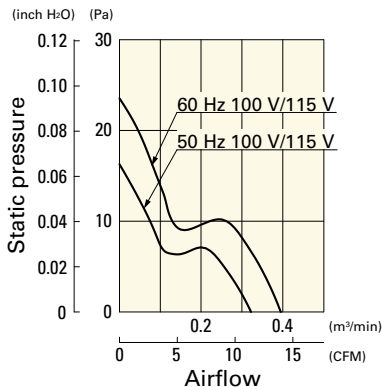
## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

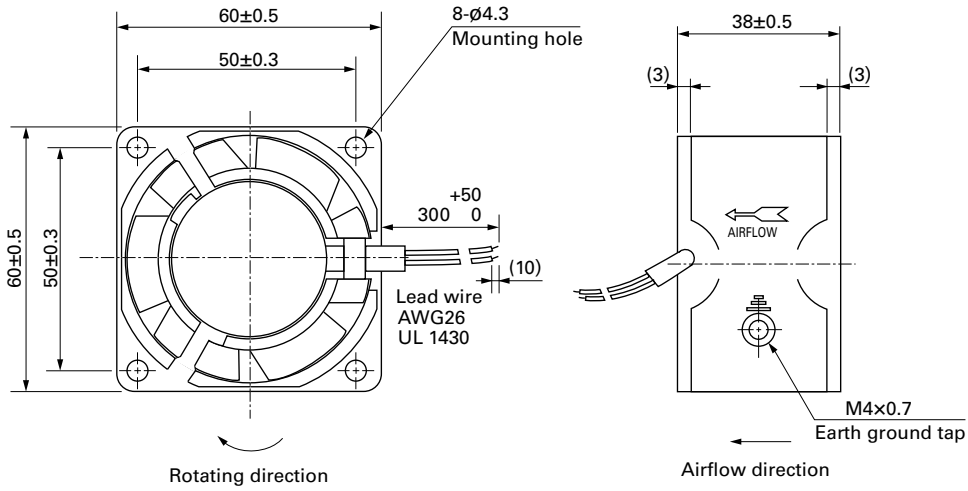
Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
<b>ST1-109-130</b>	109-130	100 V		Plug cord is not included because of the exposed-lead structure.	109-139E	M4×55 mm (4 screws)
<b>ST1-109-133</b>	109-133	115 V			109-139E	

## Airflow - Static Pressure Characteristics

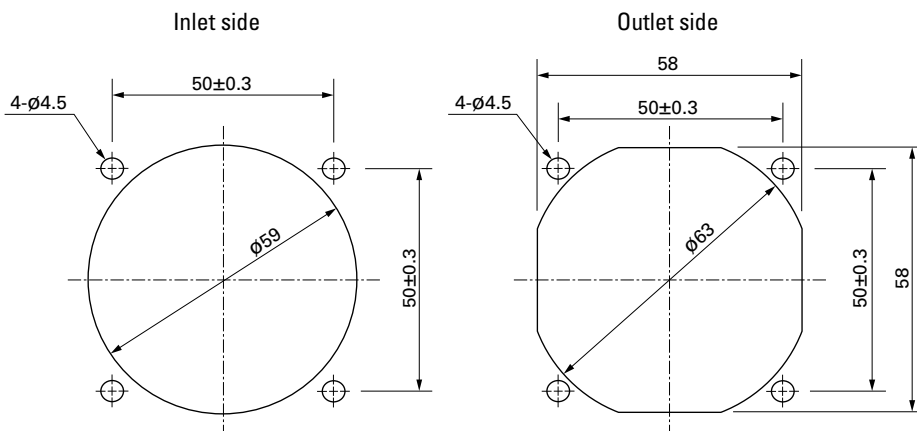
### 109-130, 109-133



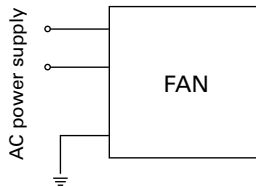
## Dimensions (unit: mm)



## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



## Wiring Diagram



## Options

### Finger guards

page: p. 513

Model no.: 109-139E, 109-139H

### Resin finger guards

page: p. 520

Model no.: 109-1003G

### Resin filter kits

page: p. 521

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),  
109-1003F30 (30PPI), 109-1003F40 (40PPI)



# 80×80×20 mm

San Ace 80

## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... Black, 2 pcs
- Mass ..... 180 g

## Specifications

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109-210	100	50/60	6/5	0.07/0.06	0.07/0.06	2500/3000	0.44/0.53 15.5/18.7	23.5/31.4 0.094/0.126	26/31	-30 to +60	25000/60°C
109-213	115			0.06/0.05	0.06/0.05						

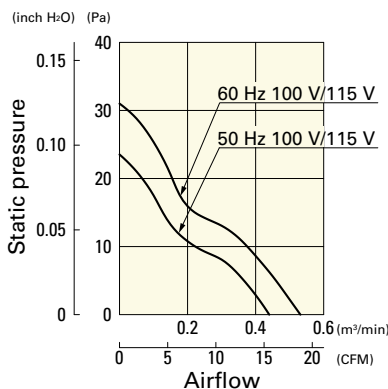
## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

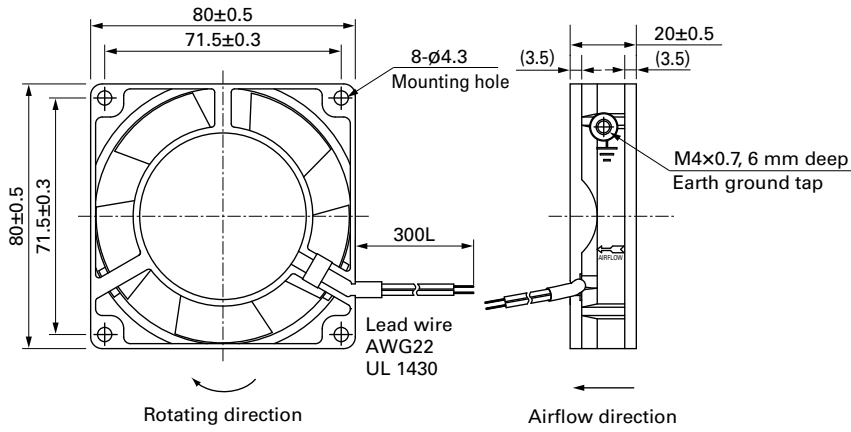
Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109-210	109-210	100 V		Plug cord is not included because of the exposed-lead structure.	109-049E	M4×40 mm (4 screws)
ST1-109-213	109-213	115 V			109-049E	

## Airflow - Static Pressure Characteristics

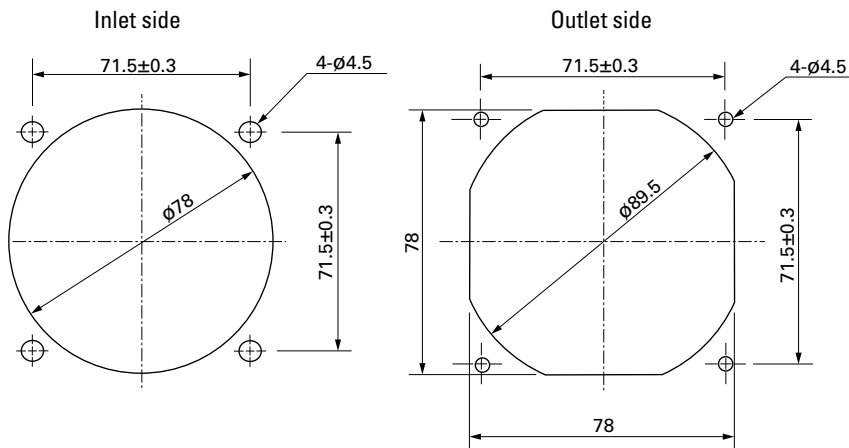
### 109-210, 109-213



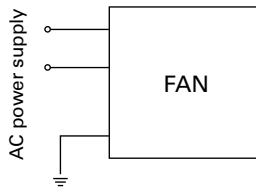
## Dimensions (unit: mm)



## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



## Wiring Diagram



## Options

### Finger guards

page: p. 513

Model no.: 109-049C, 109-049E, 109-049H

### Resin finger guards

page: p. 520

Model no.: 109-1002G

### Resin filter kits

page: p. 521

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),  
109-1002F30 (30PPI), 109-1002F40 (40PPI)



# 80×80×25 mm

San Ace 80

## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Mass ..... 270 g

## Specifications

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109S050	100	50/60	9/7	0.12/0.1	0.13/0.11	2650/3100	0.63/0.76 22.3/26.9	27.5/38.3 0.11 /0.154	30/33	-30 to +60	25000/60°C
109S053	115			0.1 /0.08	0.11/0.09						
109S051	200			0.06/0.05	0.06/0.05						
109S054	230			0.05/0.04	0.05/0.04						
109S030	100			0.12/0.1	0.13/0.11	2350/2700	0.55/0.63 19.4/22.3	21.6/28.4 0.087/0.114	28/30		
109S033	115			0.1 /0.08	0.11/0.09						
109S031	200			0.06/0.05	0.06/0.05						
109S034	230			0.05/0.04	0.05/0.04						

## Set Models

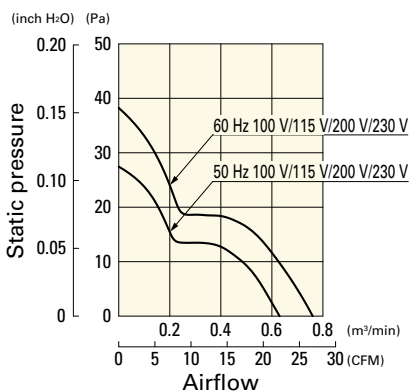
Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109S050	109S050	100 V		489-016-L10	109-049E	M4×40 mm (4 screws)*
ST1-109S053	109S053	115 V		489-016-L10	109-049E	
ST1-109S051	109S051	200 V		489-016-L10	109-049E	
ST1-109S054	109S054	230 V		489-016-L10	109-049E	
ST1-109S030	109S030	100 V		489-016-L10	109-049E	
ST1-109S033	109S033	115 V		489-016-L10	109-049E	
ST1-109S031	109S031	200 V		489-016-L10	109-049E	
ST1-109S034	109S034	230 V		489-016-L10	109-049E	

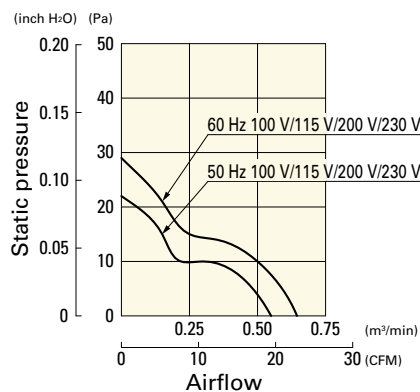
\* Though these are 2-hole or 3-hole frame mount types, 4 screws are included for extra.

## Airflow - Static Pressure Characteristics

109S050, 109S053, 109S051, 109S054

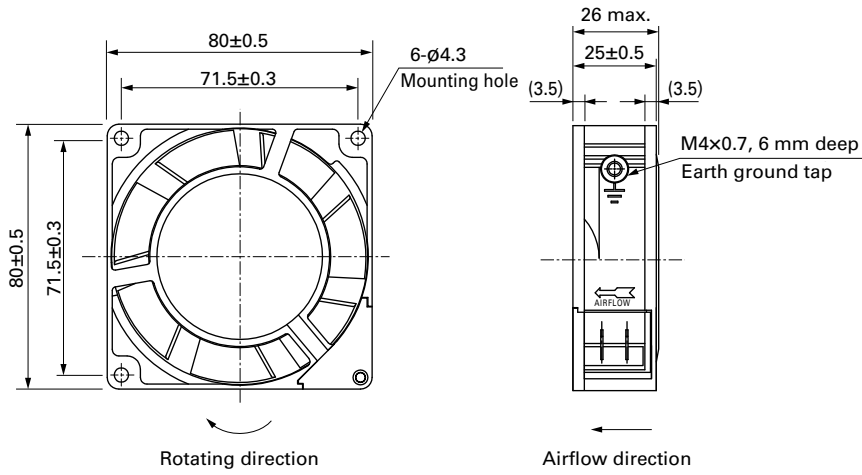


109S030, 109S033, 109S031, 109S034

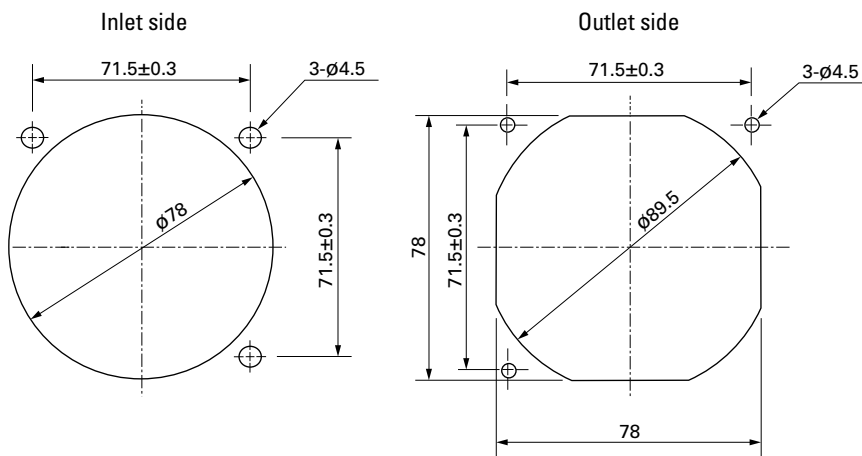




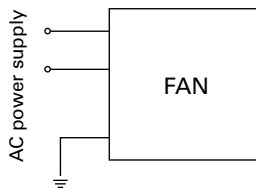
## Dimensions (unit: mm)



## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



## Wiring Diagram



## Options

### Finger guards

page: p. 513

Model no.: 109-049C, 109-049E, 109-049H

### Resin finger guards

page: p. 520

Model no.: 109-1002G

### Resin filter kits

page: p. 521

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),  
109-1002F30 (30PPI), 109-1002F40 (40PPI)

### Plug cord

page: pp. 523 to 524

Model no.: 489-016-L10, 489-016-L21, 489-047-L10,  
489-047-L21



# 80×80×38 mm

San Ace 80

## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Mass ..... 400 g

## Specifications

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109-150	100	50/60	9/8	0.13/0.11	0.17/0.15	2700/3150	0.9/1.05 31.8/37.1	31.4/44.1 0.126/0.177	35/39	-30 to +60	25000/60°C
109-153	115			0.11/0.1	0.14/0.12						
109-151	200			0.07/0.06	0.09/0.08						
109-154	230			0.06/0.05	0.08/0.07						

## Set Models

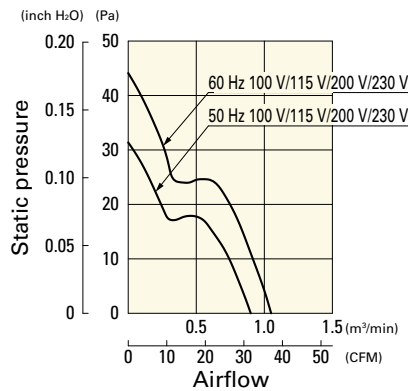
Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109-150	109-150	100 V		489-016-L10	109-049E	M4×55 mm (4 screws)*
ST1-109-153	109-153	115 V		489-016-L10	109-049E	
ST1-109-151	109-151	200 V		489-016-L10	109-049E	
ST1-109-154	109-154	230 V		489-016-L10	109-049E	

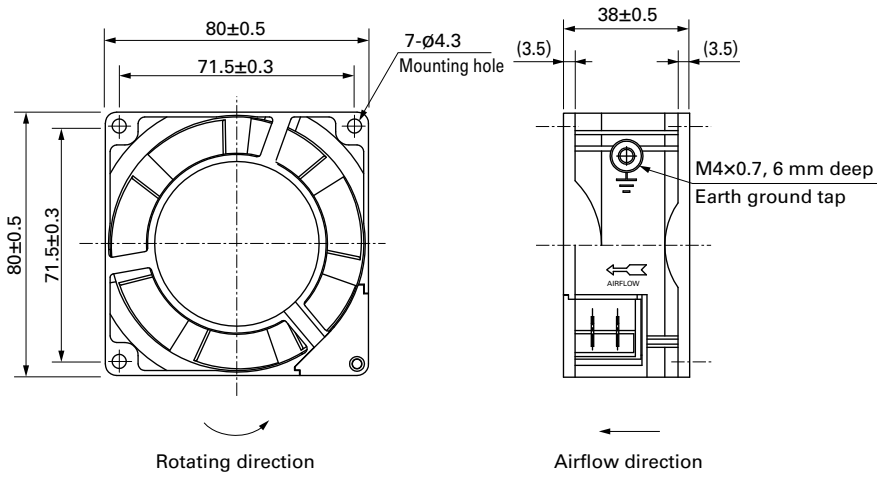
\*Though these are 2-hole or 3-hole frame mount types, 4 screws are included for extra.

## Airflow - Static Pressure Characteristics

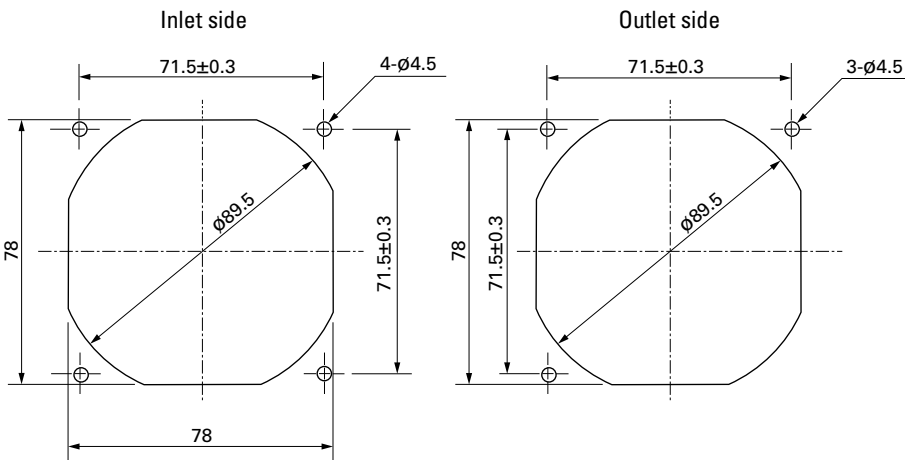
109-150, 109-153, 109-151, 109-154



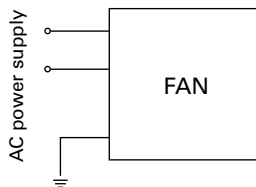
## Dimensions (unit: mm)



## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



## Wiring Diagram



## Options

### Finger guards

page: p. 513

Model no.: 109-049C, 109-049E, 109-049H

### Resin finger guards

page: p. 520

Model no.: 109-1002G

### Resin filter kits

page: p. 521

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),  
109-1002F30 (30PPI), 109-1002F40 (40PPI)

### Plug cord

page: pp. 523 to 524

Model no.: 489-016-L10, 489-016-L21, 489-047-L10,  
489-047-L21



# 80x80x42 mm

San Ace 80

## General Specifications

- Material ..... Frame: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Mass ..... 410 g

## Specifications

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]					
109-040UL	100	50/60	10/9	0.13/0.11	0.16/0.14	2650/3100	0.85/1.0 30.0/35.3	24.5/35.3 0.098/0.142	40/44	-30 to +60	25000/60°C					
109-043UL	115			0.11/0.1	0.14/0.12											
109-041UL	200			0.07/0.06	0.08/0.07											
109-044UL	230			0.06/0.05	0.07/0.06											
109-047UL*	100			4/3.5	0.05/0.05							0.05/0.05	1500/1500	0.43/0.43 15.2/15.2	8.8/ 8.8 0.035/0.035	24/24
109-033UL*	115				0.04/0.04							0.04/0.04				

\*These are low-speed models.

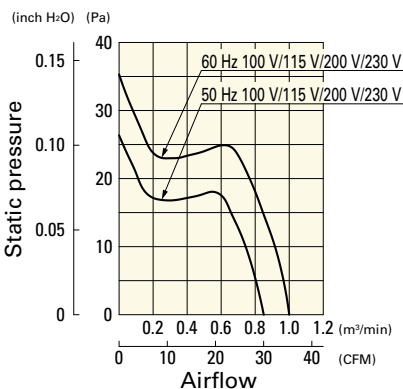
## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

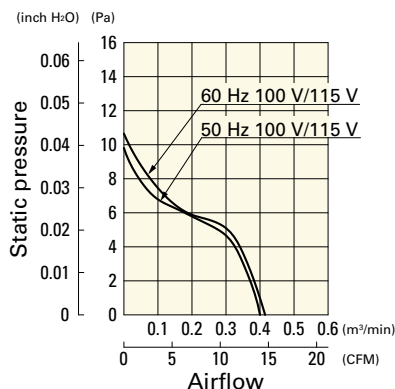
Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109-040UL	109-040UL	100 V		489-008-L10	109-049E	M4x55 mm (4 screws)
ST1-109-043UL	109-043UL	115 V		489-008-L10	109-049E	
ST1-109-041UL	109-041UL	200 V		489-008-L10	109-049E	
ST1-109-044UL	109-044UL	230 V		489-008-L10	109-049E	
ST1-109-047UL	109-047UL	100 V		489-008-L10	109-049E	
ST1-109-033UL	109-033UL	115 V		489-008-L10	109-049E	

## Airflow - Static Pressure Characteristics

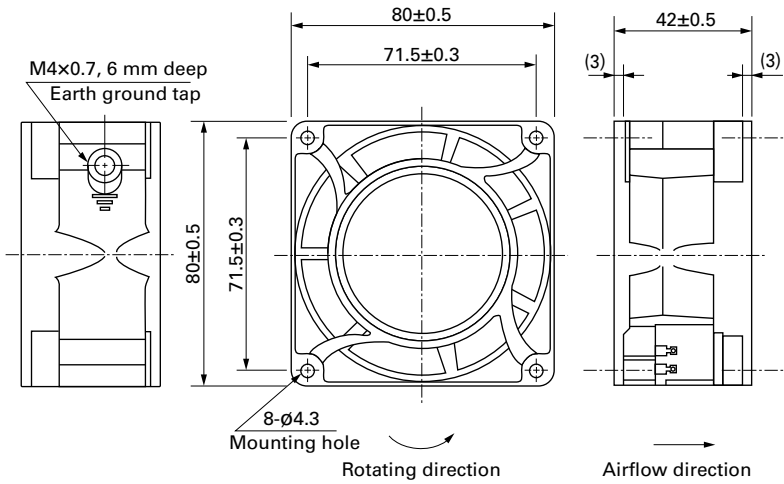
109-040UL, 109-043UL, 109-041UL, 109-044UL



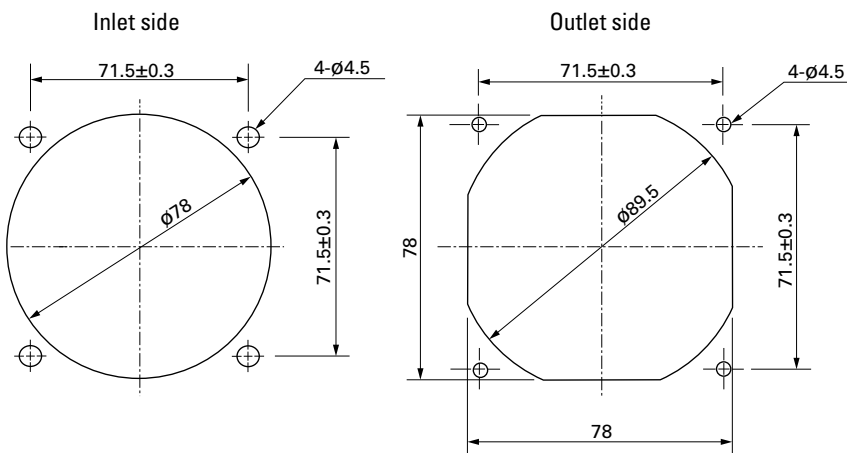
109-047UL, 109-033UL



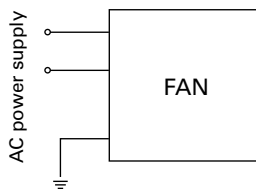
## Dimensions (unit: mm)



## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



## Wiring Diagram



## Options

### Finger guards

page: p. 513

Model no.: 109-049C, 109-049E, 109-049H

### Resin finger guards

page: p. 520

Model no.: 109-1002G

### Resin filter kits

page: p. 521

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),  
109-1002F30 (30PPI), 109-1002F40 (40PPI)

### Plug cord

page: p. 523

Model no.: 489-008-L10, 489-008-L21, 489-008-L35

# 92×92×25 mm

**San Ace 92**  Only standard fans (without sensors) have acquired CSA certification.



## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) ..... Between AC input and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute  
Between AC input and G: 50/60 Hz 1500 VAC 1 minute  
Between G and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Sensor-Purpose lead wire ..... ⊕Brown ⊖Black (Sensor) Yellow
- Mass ..... 290 g/310 g (with Sensor)

## Specifications

### Standard

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109S091</b>	100	50/60	8/7	0.1 /0.09	0.13/0.12	2700/3100	0.95/1.1 33.6/38.9	39.2/49.0 0.157/0.197	35/38	-30 to +60	25000/60°C
<b>109S093</b>	115			0.09/0.08	0.11/0.1						
<b>109S092</b>	200		11/10	0.07/0.06	0.08/0.08						
<b>109S094</b>	230		10/9	0.06/0.05	0.07/0.07						
<b>109S095</b>	100		8/7	0.1 /0.09	0.11/0.1	2400/2800	0.84/0.98 29.7/34.6	31.4/40.2 0.126/0.161	32/35		
<b>109S096*</b>	100		7/6	0.09/0.08	0.09/0.08	1500/1700	0.55/0.65 19.4/23	12.5/16.3 0.05 /0.065	24/27		
<b>109S193*</b>	115			0.08/0.07	0.08/0.07						
<b>109S192*</b>	200		8/7	0.06/0.05	0.06/0.05						
<b>109S194*</b>	230			0.05/0.04	0.05/0.04						

\*These are low-speed models.

### with Sensor

For sensor specifications, please refer to p. 531. Sensor specification differs depending on the fan's speed specification.

For a 5 V sensor power supply (ITEM-20), please append "-20" to the end of model number. E.g. 109S491-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109S491-30

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109S491</b>	100	50/60	8/7	0.1 /0.09	0.13/0.12	2700/3100	0.95/1.1 33.6/38.9	39.2/49.0 0.157/0.197	35/38	-10 to +60	25000/60°C
<b>109S493</b>	115			0.09/0.08	0.11/0.1						
<b>109S492</b>	200		11/10	0.07/0.06	0.08/0.08						
<b>109S494</b>	230		10/9	0.06/0.05	0.07/0.07						
<b>109S495</b>	100		8/7	0.1 /0.09	0.11/0.1	2400/2800	0.84/0.98 29.7/34.6	31.4/40.2 0.126/0.161	32/35		
<b>109S496*</b>			7/6	0.09/0.08	0.09/0.08	1500/1700	0.55/0.65 19.4/23	12.5/16.3 0.05 /0.065	24/27		

\*These are low-speed models.

For the **San Ace 92AD** 9AD type **92×92×38** mm fan, please refer to p. 458.

This fan works while internally converting AC power into DC power, providing the superior performance of a DC fan with the flexibility of AC input.

## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

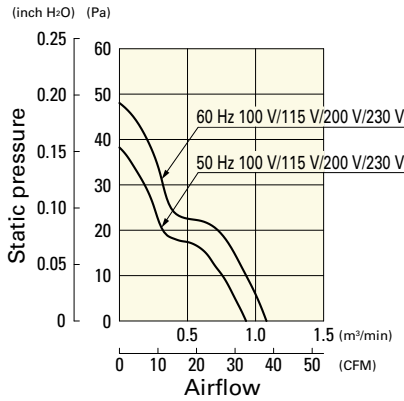
Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109S091	109S091	100 V		489-016-L10	109-099E	M3×40 mm (4 screws)*
ST1-109S093	109S093	115 V		489-016-L10	109-099E	
ST1-109S092	109S092	200 V		489-016-L10	109-099E	
ST1-109S094	109S094	230 V		489-016-L10	109-099E	
ST1-109S095	109S095	100 V		489-016-L10	109-099E	
ST1-109S096	109S096	100 V		489-016-L10	109-099E	
ST1-109S193	109S193	115 V		489-016-L10	109-099E	
ST1-109S192	109S192	200 V		489-016-L10	109-099E	
ST1-109S194	109S194	230 V		489-016-L10	109-099E	
ST1-109S491-20	109S491-20	100 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S491-30	109S491-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S493-20	109S493-20	115 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S493-30	109S493-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S492-20	109S492-20	200 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S492-30	109S492-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S494-20	109S494-20	230 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S494-30	109S494-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S495-20	109S495-20	100 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S495-30	109S495-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S496-20	109S496-20		○ (5 V)	489-016-L10	109-099E	
ST1-109S496-30	109S496-30		○ (12 V)	489-016-L10	109-099E	

\*Though these are 2-hole or 3-hole frame mount types, 4 screws are included for extra.

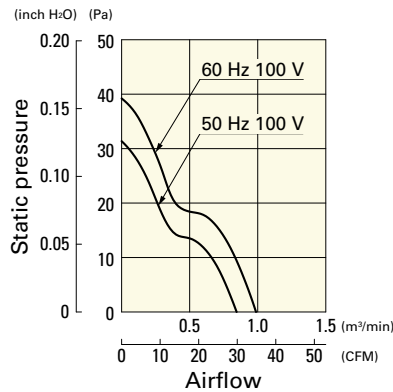
## Airflow - Static Pressure Characteristics

### Standard

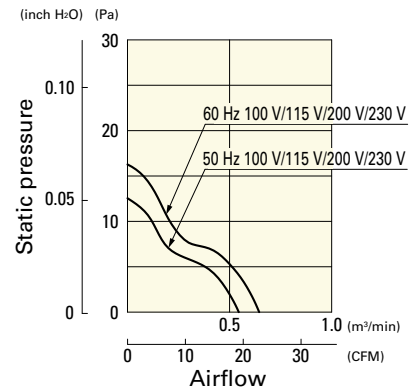
#### 109S091, 109S093, 109S092, 109S094



#### 109S095

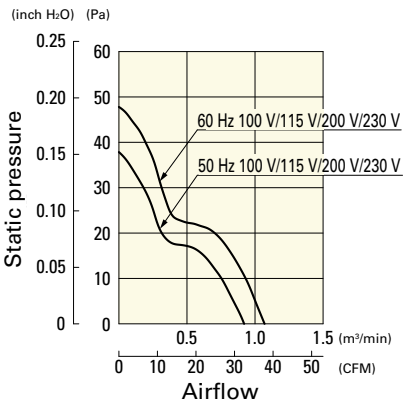


#### 109S096, 109S193, 109S192, 109S194

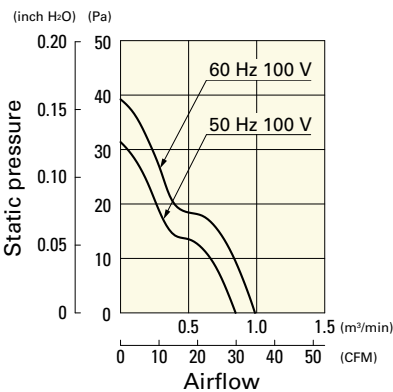


### with Sensor

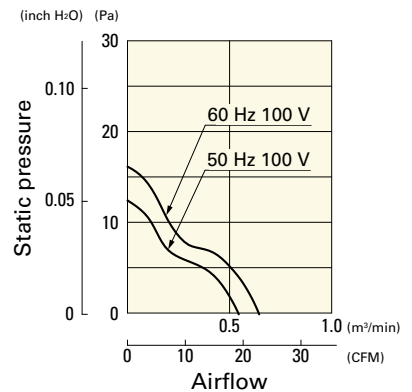
#### 109S491, 109S493, 109S492, 109S494



#### 109S495

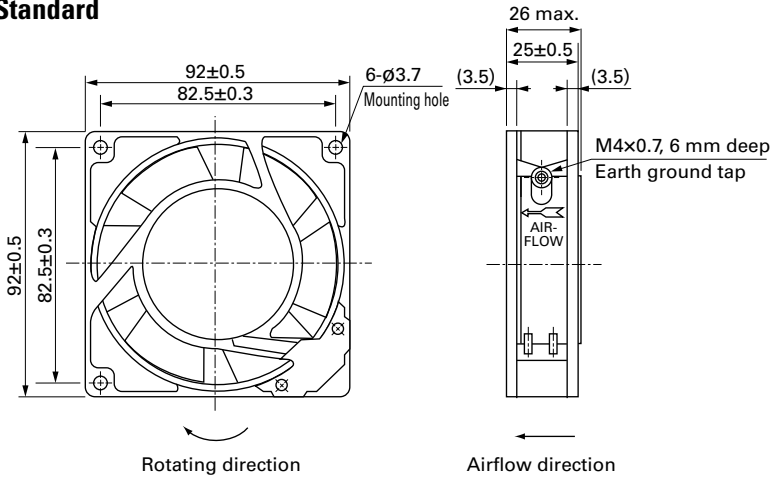


#### 109S496

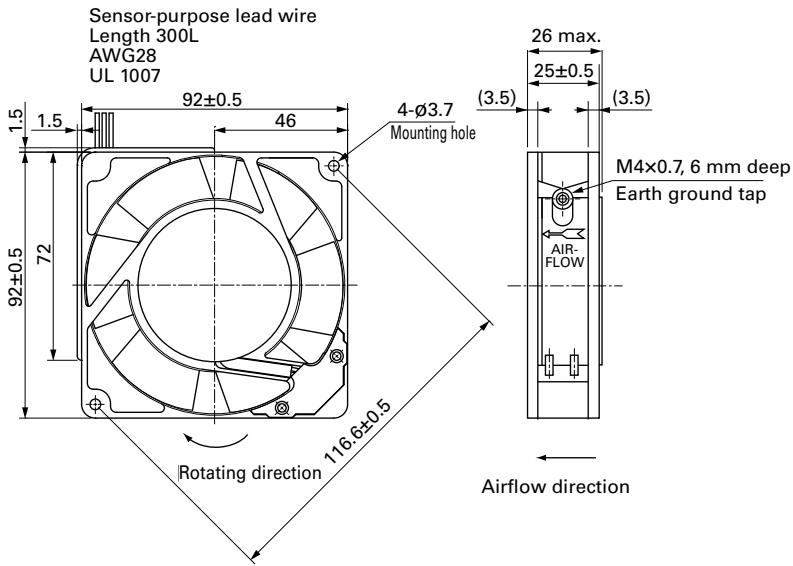


**Dimensions (unit: mm)**

**Standard**

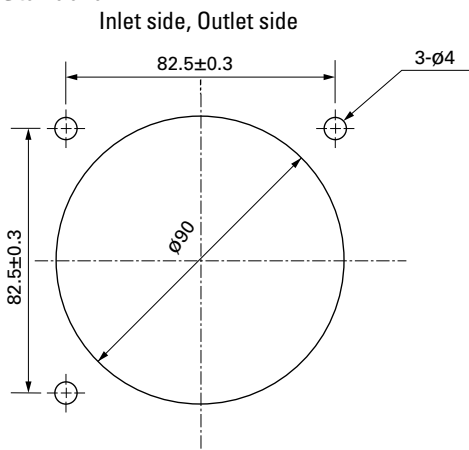


**with Sensor**

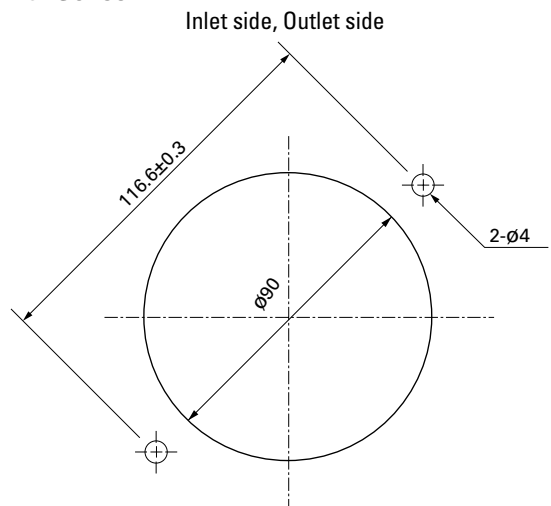


**Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)**

**Standard**



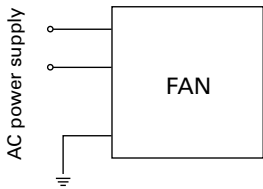
**with Sensor**





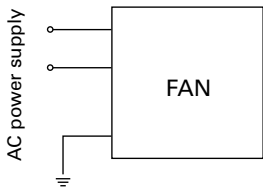
## Wiring Diagram

### Standard

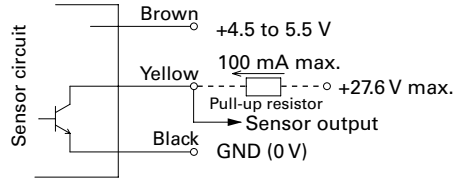


### with Sensor

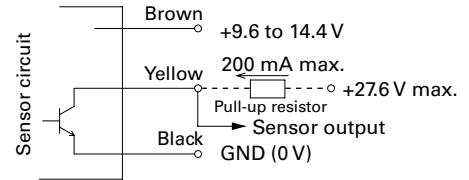
For fan power supply



For sensor circuit  
5 V (ITEM-20)



12 V (ITEM-30)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

## Options

### Finger guards

page: p. 513

Model no.: 109-099C, 109-099E, 109-099H

### Resin finger guards

page: p. 520

Model no.: 109-1001G

### Resin filter kits

page: p. 521

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),  
109-1001F30 (30PPI), 109-1001F40 (40PPI)

### Plug cord

page: pp. 523 to 524

Model no.: 489-016-L10, 489-016-L21, 489-047-L10,  
489-047-L21

# 120×120×25 mm

**San Ace 120**      Only standard fans (without sensors) have acquired CSA certification.



## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) ..... Between AC input and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute  
Between AC input and G: 50/60 Hz 1500 VAC 1 minute  
Between G and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Sensor-Purpose lead wire ..... ⊕Brown ⊖Black (Sensor) Yellow
- Mass ..... 370 g/390 g (with Sensor)

## Specifications

### Standard

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]	
<b>109S085</b>	100	50/60	13.5/12	0.16/0.14	0.19/0.17	2500/2900	1.95/2.3 68.9/81.3	48 /51.9 0.193/0.216	38/41	-30 to +60	25000/60°C	
<b>109S084</b>	115			0.14/0.12	0.16/0.15							
<b>109S088</b>	200			0.08/0.07	0.1 /0.09							
<b>109S087</b>	230			0.07/0.06	0.08/0.07							
<b>109S081</b>	100		9.5/8.5	12/10	0.11	0.11/0.1	2200/2350	1.7 /1.8 60.1/63.6	29.4/26.5 0.118/0.106			34/35
<b>109S083</b>	115				0.1	0.1 /0.09						
<b>109S082</b>	200				0.07	0.07/0.06						
<b>109S089</b>	230				0.06	0.06/0.05						
<b>109S086*</b>	100			0.14/0.12	0.15/0.13	1400/1600	1.1 /1.25 38.9/44.2	14.7/18.6 0.059/0.075	24/27			

\*These are low-speed models.

### with Sensor

For sensor specifications, please refer to p. 531. Sensor specification differs depending on the fan's speed specification.

For a 5 V sensor power supply (ITEM-20), please append "-20" to the end of model number. E.g. 109S485-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109S485-30

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109S485</b>	100	50/60	13.5/12	0.16/0.14	0.19/0.17	2500/2900	1.95/2.3 68.9/81.3	48 /51.9 0.193/0.216	38/41	-10 to +60	25000/60°C
<b>109S484</b>	115			0.14/0.12	0.16/0.15						
<b>109S488</b>	200			0.08/0.07	0.1 /0.09						
<b>109S487</b>	230			0.07/0.06	0.08/0.07						
<b>109S486*</b>	100		12/10	0.14/0.12	0.15/0.13	1400/1600	1.1 /1.25 38.9/44.2	14.7/18.6 0.059/0.075	24/27		

\*These are low-speed models.

## Set Models

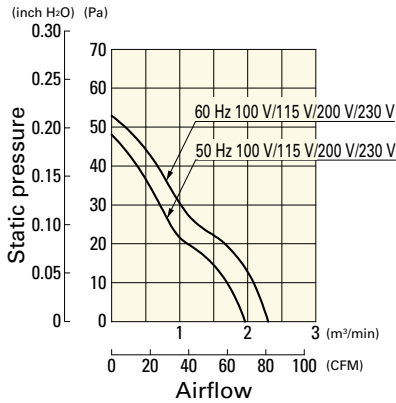
Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109S085	109S085	100 V		489-016-L10	109-019E	M3×40 mm (4 screws)
ST1-109S084	109S084	115 V		489-016-L10	109-019E	
ST1-109S088	109S088	200 V		489-016-L10	109-019E	
ST1-109S087	109S087	230 V		489-016-L10	109-019E	
ST1-109S081	109S081	100 V		489-016-L10	109-019E	
ST1-109S083	109S083	115 V		489-016-L10	109-019E	
ST1-109S082	109S082	200 V		489-016-L10	109-019E	
ST1-109S089	109S089	230 V		489-016-L10	109-019E	
ST1-109S086	109S086			489-016-L10	109-019E	
ST1-109S485-20	109S485-20	100 V	○ (5 V)	489-016-L10	109-019E	
ST1-109S485-30	109S485-30		○ (12 V)	489-016-L10	109-019E	
ST1-109S484-20	109S484-20	115 V	○ (5 V)	489-016-L10	109-019E	
ST1-109S484-30	109S484-30		○ (12 V)	489-016-L10	109-019E	
ST1-109S488-20	109S488-20	200 V	○ (5 V)	489-016-L10	109-019E	
ST1-109S488-30	109S488-30		○ (12 V)	489-016-L10	109-019E	
ST1-109S487-20	109S487-20	230 V	○ (5 V)	489-016-L10	109-019E	
ST1-109S487-30	109S487-30		○ (12 V)	489-016-L10	109-019E	
ST1-109S486-20	109S486-20	100 V	○ (5 V)	489-016-L10	109-019E	
ST1-109S486-30	109S486-30		○ (12 V)	489-016-L10	109-019E	

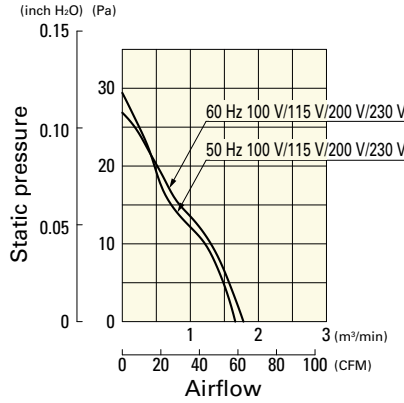
## Airflow - Static Pressure Characteristics

### Standard

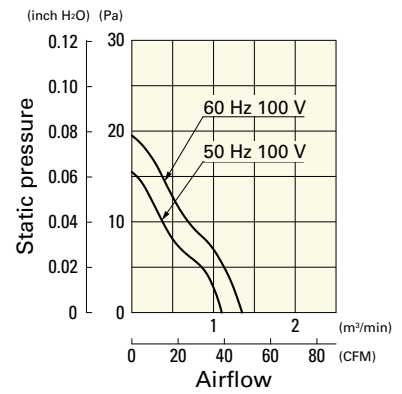
#### 109S085, 109S084, 109S088, 109S087



#### 109S081, 109S083, 109S082, 109S089

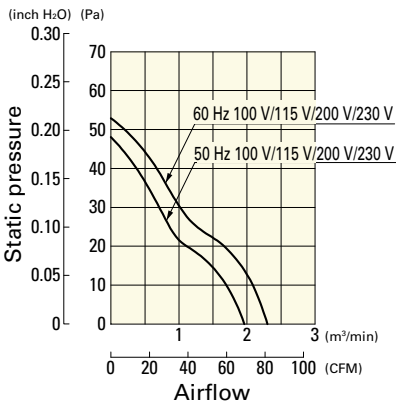


#### 109S086

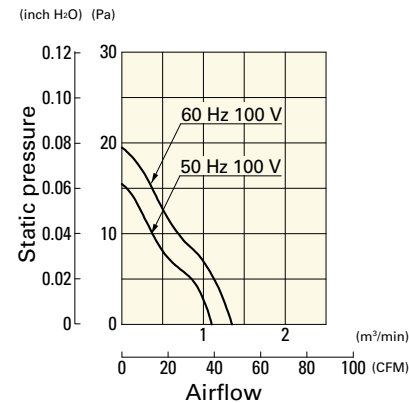


### with Sensor

#### 109S485, 109S484, 109S488, 109S487

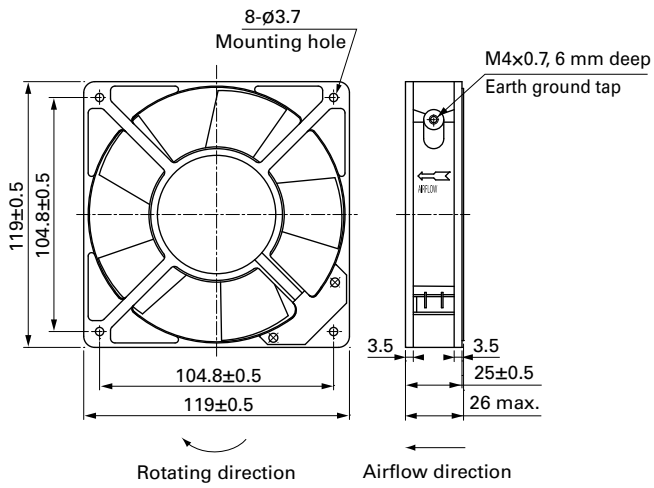


#### 109S486

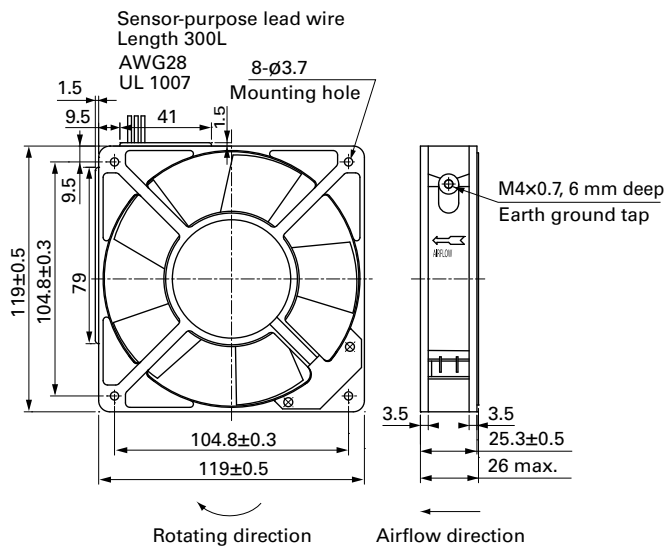


**Dimensions (unit: mm)**

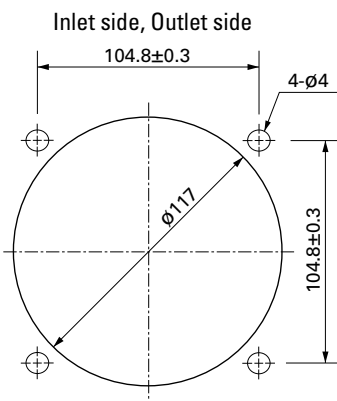
**Standard**



**with Sensor** When mounting the model with a sensor, please screw-mount through both flanges as it has a sensor box.

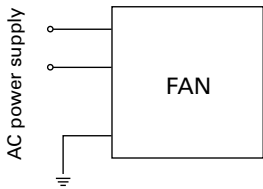


**Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)**



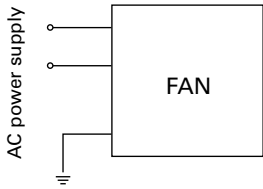
## Wiring Diagram

### Standard

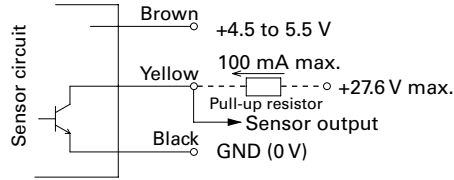


### with Sensor

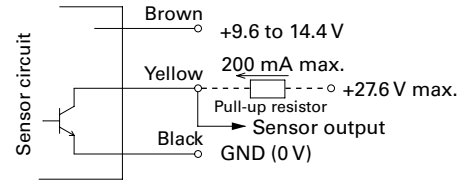
For fan power supply



For sensor circuit  
5 V (ITEM-20)



12 V (ITEM-30)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

## Options

### Finger guards

page: p. 514

Model no.: 109-019C, 109-019H, 109-019E, 109-019K

### Resin finger guards

page: p. 520

Model no.: 109-1000G

### Resin filter kits

page: p. 521

Model no.: 109-1000F13 (13PPI), 109-1000F20 (20PPI),  
109-1000F30 (30PPI), 109-1000F40 (40PPI)

### Plug cord

page: pp. 523 to 524

Model no.: 489-016-L10, 489-016-L21, 489-047-L10,  
489-047-L21



# 120×120×38 mm

**San Ace 120**      Certifications vary by model no. Please refer to pp. 562 to 563.

## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) ..... Between AC input and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute  
Between AC input and G: 50/60 Hz 1500 VAC 1 minute  
Between G and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Sensor-Purpose lead wire ..... ⊕Brown ⊖Black (Sensor) Yellow
- Mass ..... 550 g/580 g (with Sensor)

## Specifications

### Standard

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]								
109S075UL	100	50/60	18/16	0.24/0.21	0.32/0.28	2700/3100	2.5 / 2.9 88.3/102.5	57.9/68.7 0.233/0.276	42/45	-30 to +60	25000/60°C								
109S074UL	115			0.21/0.18	0.27/0.24														
109S078UL	200			0.12/0.1	0.16/0.14														
109S072UL	230			0.11/0.09	0.14/0.13														
109S005	100	14/12	0.18/0.16	0.25/0.22	2700/3100	2.35/2.7 83 / 95.4	55.9/65.7 0.224/0.264	40/43											
109S005UL									109S024			120	0.16/0.14	0.21/0.18					
109S024UL	115								0.09/0.08			0.13/0.11							
109S008	200								10/10			0.08/0.07	0.11/0.09	2450/2700	2.15/2.35 76 / 83	44.1/49.0 0.177/0.197	38/40		
109S008UL		109S013	100	0.16/0.14	0.16/0.15														
109S025	230	7/7	0.1 / 0.09	0.1 / 0.09	1800/2000	1.55/1.75 54.8/ 60.8	23.5/26.4 0.094/0.106	30/32											
109S025UL																		109S006*	109S006UL*
109S029UL	200								7/7			0.05/0.04	0.05/0.04	1650/1700	1.45/1.5 51.2/ 53	17.6/17.6 0.071/0.071	28/28		
109S010*																		109S010UL*	240

\*These are low-speed models.

## with Sensor

For sensor specifications, please refer to p. 531. Sensor specification differs depending on the fan's speed specification.

For a 5 V sensor power supply (ITEM-20), please append "-20" to the end of model number. E.g. 109S405UL-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109S405UL-30

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]					
109S405UL	100	50/60	14/12	0.18/0.16	0.25/0.22	2700/3100	2.35/2.7 83 / 95.4	55.9/65.7 0.224/0.264	40/43	-10 to +60	25000/60°C					
109S424UL	115			0.16/0.14	0.21/0.18											
109S408UL	200			0.09/0.08	0.13/0.11											
109S425UL	230			0.08/0.07	0.11/0.09											
109S429UL	100			7/6	0.18/0.16							0.23/0.21	2450/2700	2.15/2.35 76 / 83	44.1/49.0 0.177/0.197	38/40
109S406UL*					0.09/0.08							0.1 /0.09	1650/1700	1.45/1.5 51 / 53	17.7/17.7 0.071/0.071	28/28
109S475UL	100		18/16	0.24/0.21	0.32/0.28	2700/3100	2.5 /2.9 88.3/102.4	57.9/68.7 0.233/0.276	42/45							
109S474UL	115			0.21/0.18	0.27/0.24											
109S478UL	200			0.12/0.1	0.16/0.14											
109S472UL	230			0.11/0.09	0.14/0.13											

\*These are low-speed models.

For the **San Ace 120AD** 9AD type **120×120×38** mm fan, please refer to p. 461.

This fan works while internally converting AC power into DC power, providing the superior performance of a DC fan with the flexibility of AC input.

## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

Order no.	Set items						
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws	
ST1-109S075UL	109S075UL	100 V		489-037-L10	109-019E	M3×55 mm (4 screws)	
ST1-109S074UL	109S074UL	115 V		489-037-L10	109-019E		
ST1-109S078UL	109S078UL	200 V		489-037-L10	109-019E		
ST1-109S072UL	109S072UL	230 V		489-037-L10	109-019E		
ST1-109S005	109S005	100 V		489-006-L10	109-019E		
ST1-109S005UL	109S005UL		489-037-L10	109-019E			
ST1-109S024	109S024	120 V		489-006-L10	109-019E		
ST1-109S024UL	109S024UL	115 V		489-037-L10	109-019E		
ST1-109S008	109S008	200 V		489-006-L10	109-019E		
ST1-109S008UL	109S008UL		489-037-L10	109-019E			
ST1-109S025	109S025	230 V		489-006-L10	109-019E		
ST1-109S025UL	109S025UL		489-037-L10	109-019E			
ST1-109S029UL	109S029UL	100 V		489-037-L10	109-019E		
ST1-109S013	109S013		489-006-L10	109-019E			
ST1-109S013UL	109S013UL		489-037-L10	109-019E			
ST1-109S006	109S006		489-006-L10	109-019E			
ST1-109S006UL	109S006UL		100 V		489-037-L10		109-019E
			115 V				
ST1-109S010	109S010	200 V		489-006-L10	109-019E		
ST1-109S010UL	109S010UL	200 V		489-037-L10	109-019E		
		240 V					
ST1-109S405UL-20	109S405UL-20	100 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S405UL-30	109S405UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S424UL-20	109S424UL-20	115 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S424UL-30	109S424UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S408UL-20	109S408UL-20	200 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S408UL-30	109S408UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S425UL-20	109S425UL-20	230 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S425UL-30	109S425UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S429UL-20	109S429UL-20	100 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S429UL-30	109S429UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S406UL-20	109S406UL-20	100 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S406UL-30	109S406UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S475UL-20	109S475UL-20	100 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S475UL-30	109S475UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S474UL-20	109S474UL-20	115 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S474UL-30	109S474UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S478UL-20	109S478UL-20	200 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S478UL-30	109S478UL-30		○ (12 V)	489-037-L10	109-019E		
ST1-109S472UL-20	109S472UL-20	230 V	○ (5 V)	489-037-L10	109-019E		
ST1-109S472UL-30	109S472UL-30		○ (12 V)	489-037-L10	109-019E		

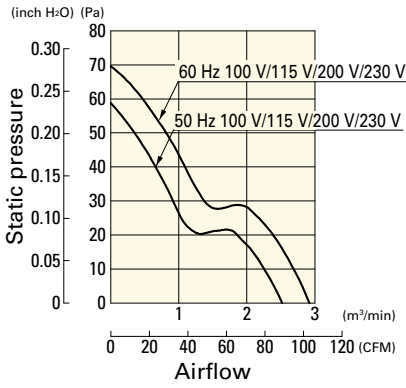
AC Fan 120 mm sq.

AC

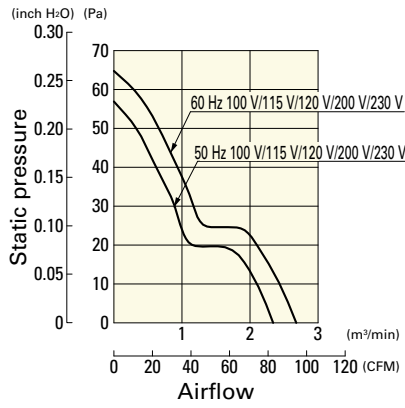
**Airflow - Static Pressure Characteristics**

**Standard**

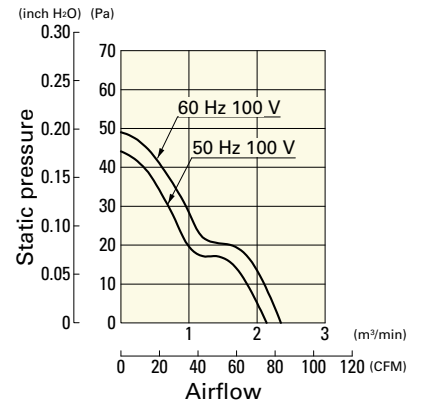
**109S075UL, 109S074UL, 109S078UL, 109S072UL**



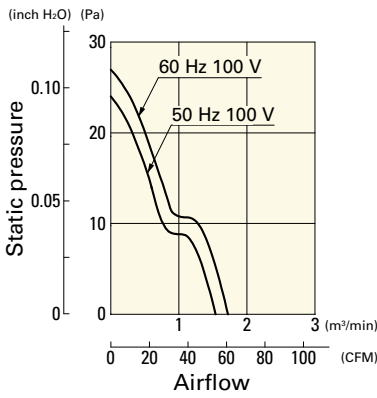
**109S005, 109S005UL, 109S024, 109S024UL, 109S008, 109S008UL, 109S025, 109S025UL**



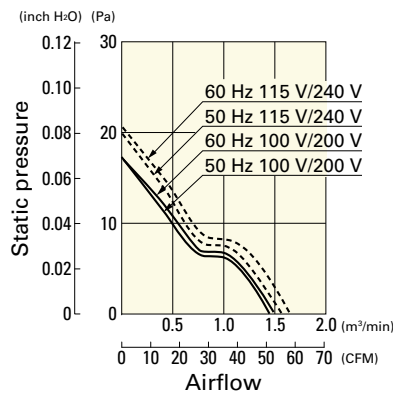
**109S029UL**



**109S013, 109S013UL**

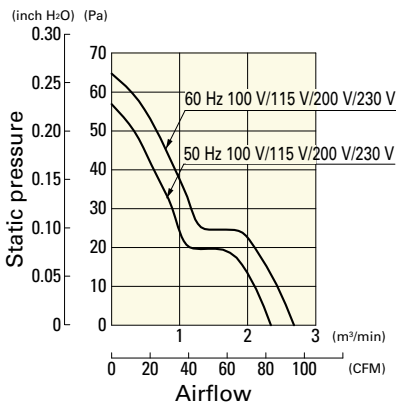


**109S006, 109S006UL, 109S010, 109S010UL**

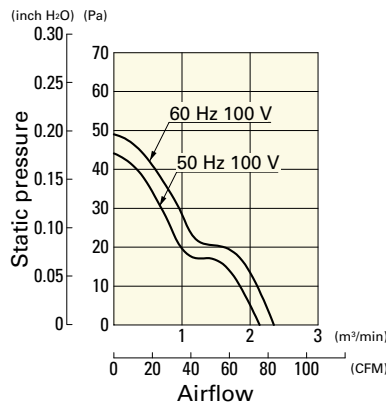


**with Sensor**

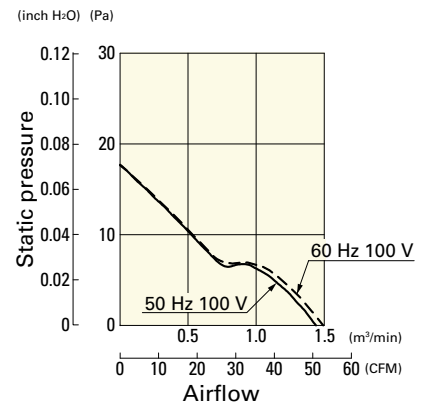
**109S405UL, 109S424UL, 109S408UL, 109S425UL**



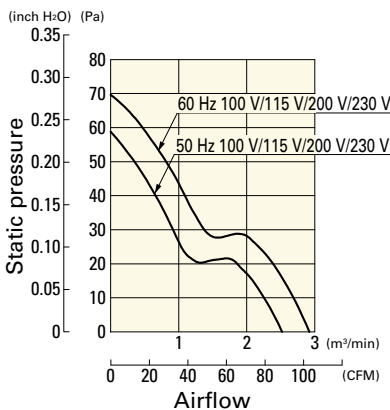
**109S429UL**



**109S406UL**



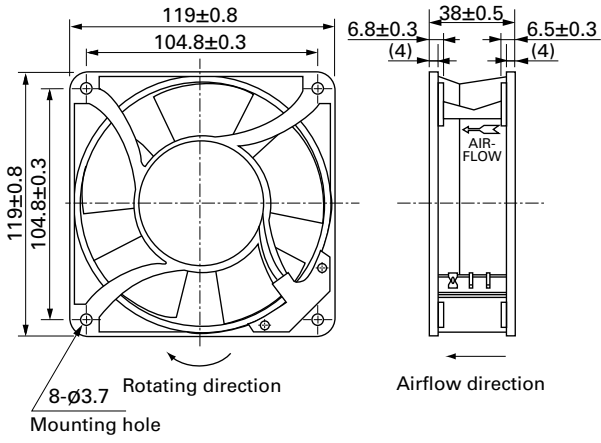
**109S475UL, 109S474UL, 109S478UL, 109S472UL**





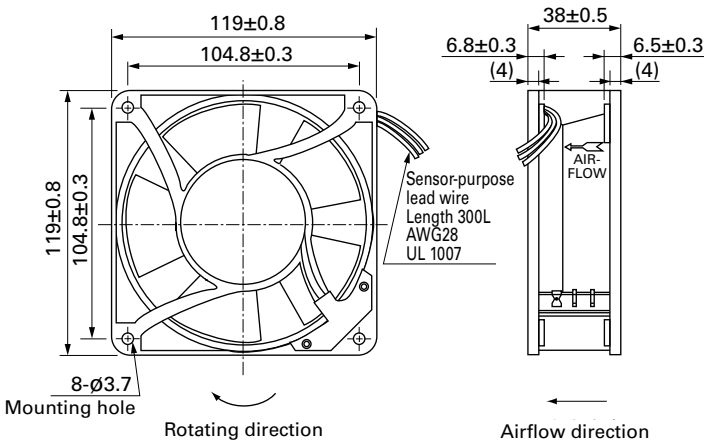
■ Dimensions (unit: mm)

Standard

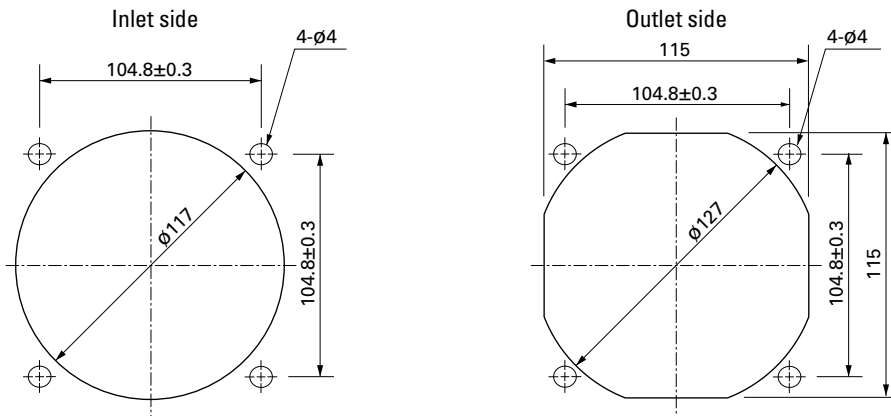


with Sensor

When mounting the model with a sensor, please screw-mount through both flanges as it has a sensor box.

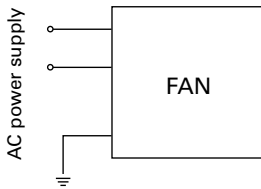


■ Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



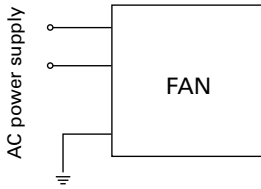
## Wiring Diagram

### Standard

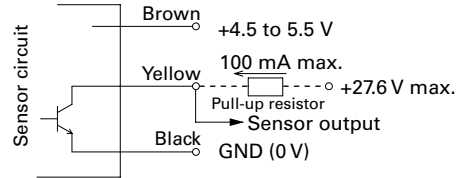


### with Sensor

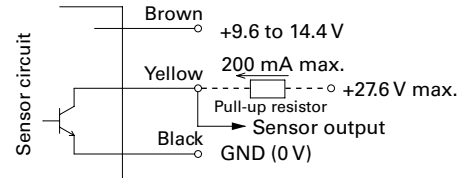
For fan power supply



For sensor circuit  
5 V (ITEM-20)



12 V (ITEM-30)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

## Options

### Finger guards

page: p. 514

Model no.: 109-019C, 109-019H, 109-019E, 109-019K

### Resin finger guards

page: p. 520

Model no.: 109-1000G

### Resin filter kits

page: p. 521

Model no.: 109-1000F13 (13PPI), 109-1000F20 (20PPI),  
109-1000F30 (30PPI), 109-1000F40 (40PPI)

### Filter kits

page: p. 522

Model no.: 109-018

### Screen kits

page: p. 522

Model no.: 109-020

### Plug cord

page: pp. 523 to 524

Exclusive for fans without UL at the end of the model number.

Model no.: 489-006-L10, 489-006-L21, 489-006-L35

Exclusive for fans with UL at the end of the model number.

Model no.: 489-037-L10, 489-037-L21, 489-037-L35,  
489-007-L10, 489-007-L21



# 160×160×51 mm

**San Ace 160** Only standard fans (without sensors) have acquired CSA certification.

## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Capacitor motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) ..... Between AC input and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute  
Between AC input and G: 50/60 Hz 1500 VAC 1 minute  
Between G and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Sensor-Purpose lead wire ..... ⊕Brown ⊖Black (Sensor) Yellow
- Mass ..... 1100 g

## Specifications

### Standard

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109-601</b>	100	50/60	37.5/33	0.43/0.35	0.72/0.7	2850/3350	7.2/8.5 254.4/300.4	156.8/166.6 0.63/0.669	56/60	-30 to +60	25000/60°C
<b>109-604</b>	115			0.39/0.31	0.62/0.61						
<b>109-602</b>	200			0.23/0.18	0.36/0.35						
<b>109-603</b>	230			0.21/0.16	0.32/0.31						

### with Sensor

For sensor specifications, please refer to p. 531. Sensor specification differs depending on the fan's speed specification.

For a 5 V sensor power supply (ITEM-20), please append "-20" to the end of model number. E.g. 109-641-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109-641-30

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109-641</b>	100	50/60	37.5/33	0.43/0.35	0.72/0.7	2850/3350	7.2/8.5 254.4/300.4	156.8/166.6 0.63/0.669	56/60	-10 to +60	25000/60°C
<b>109-644</b>	115			0.39/0.31	0.62/0.61						
<b>109-642</b>	200			0.23/0.18	0.36/0.35						
<b>109-643</b>	230			0.21/0.16	0.32/0.31						

## Set Models

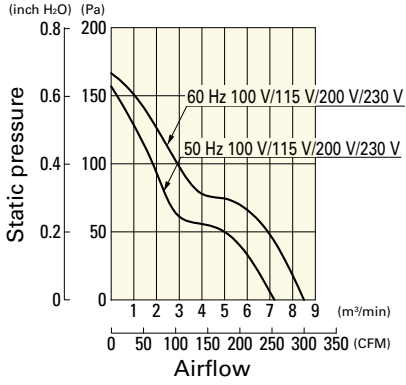
Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
<b>ST1-109-601</b>	109-601	100 V		489-1618-L10	109-619E	M5×20 mm (4 screws)
<b>ST1-109-604</b>	109-604	115 V		489-1618-L10	109-619E	
<b>ST1-109-602</b>	109-602	200 V		489-1618-L10	109-619E	
<b>ST1-109-603</b>	109-603	230 V		489-1618-L10	109-619E	
<b>ST1-109-641-20</b>	109-641-20	100 V	○ (5 V)	489-1618-L10	109-619E	
<b>ST1-109-641-30</b>	109-641-30		○ (12 V)	489-1618-L10	109-619E	
<b>ST1-109-644-20</b>	109-644-20	115 V	○ (5 V)	489-1618-L10	109-619E	
<b>ST1-109-644-30</b>	109-644-30		○ (12 V)	489-1618-L10	109-619E	
<b>ST1-109-642-20</b>	109-642-20	200 V	○ (5 V)	489-1618-L10	109-619E	
<b>ST1-109-642-30</b>	109-642-30		○ (12 V)	489-1618-L10	109-619E	
<b>ST1-109-643-20</b>	109-643-20	230 V	○ (5 V)	489-1618-L10	109-619E	
<b>ST1-109-643-30</b>	109-643-30		○ (12 V)	489-1618-L10	109-619E	

## Airflow - Static Pressure Characteristics

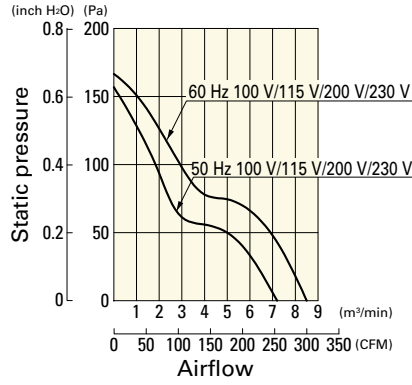
### Standard

109-601, 109-604, 109-602, 109-603



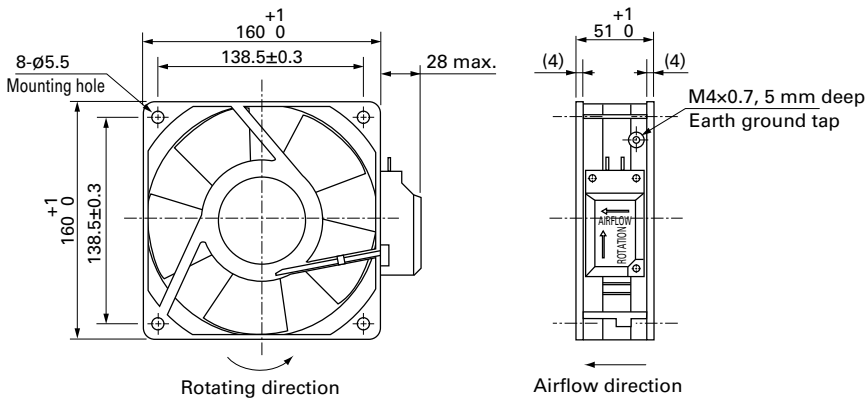
### with Sensor

109-641, 109-644, 109-642, 109-643

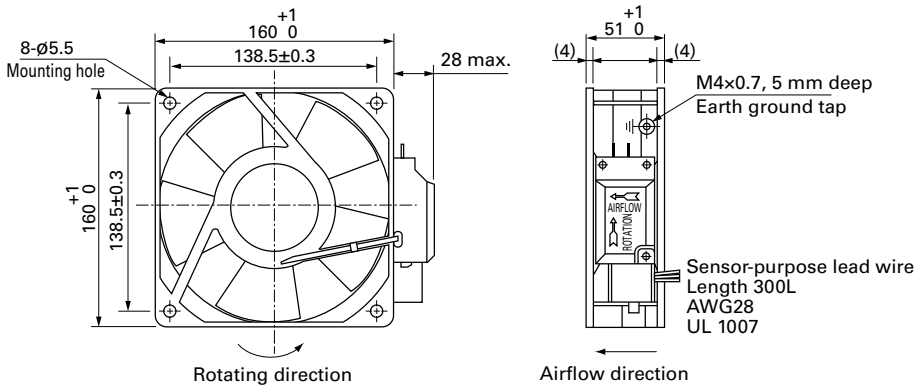


## Dimensions (unit: mm)

### Standard

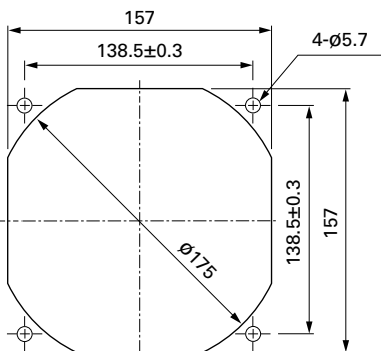


### with Sensor



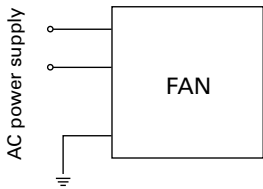
## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

Inlet side, Outlet side



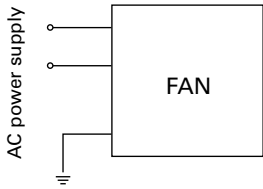
## Wiring Diagram

### Standard

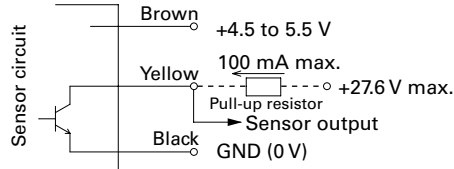


### with Sensor

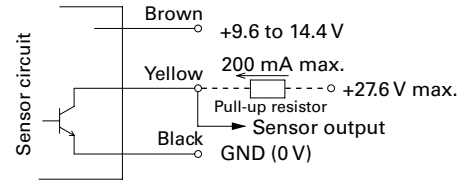
For fan power supply



For sensor circuit  
5 V (ITEM-20)



12 V (ITEM-30)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

## Options

### Finger guards

page: p. 514

Model no.: 109-619E, 109-619H, 109-620

### Plug cord

page: pp. 523 to 524

Model no.: 489-084-L10, 489-084-L21, 489-086-L10,  
489-086-L21, 489-1618-L10, 489-1618-L21,  
489-1618-L28, 489-1619-L10, 489-1619-L21

# Ø 172×150×51 mm

San Ace 172     

Sidecut type



## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Capacitor motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Mass ..... 1000 g

## Specifications

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109S301	100	50/60	27/25	0.33/0.25	0.65/0.64	2900/3500	5.3/6.4 187.3/226.1	147/196 0.59/0.787	51/56	-30 to +60	25000/60°C
109S304	115			0.29/0.22	0.55/0.54						
109S302	200			0.16/0.13	0.33/0.32						
109S303	230			0.14/0.11	0.28/0.27						

## Set Models

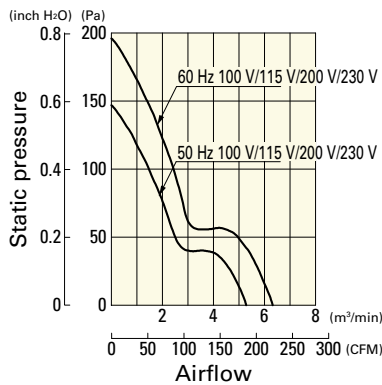
Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109S301	109S301	100 V		489-1619-L10	109-319E	M4×25 mm (4 screws)*
ST1-109S304	109S304	115 V		489-1619-L10	109-319E	
ST1-109S302	109S302	200 V		489-1619-L10	109-319E	
ST1-109S303	109S303	230 V		489-1619-L10	109-319E	

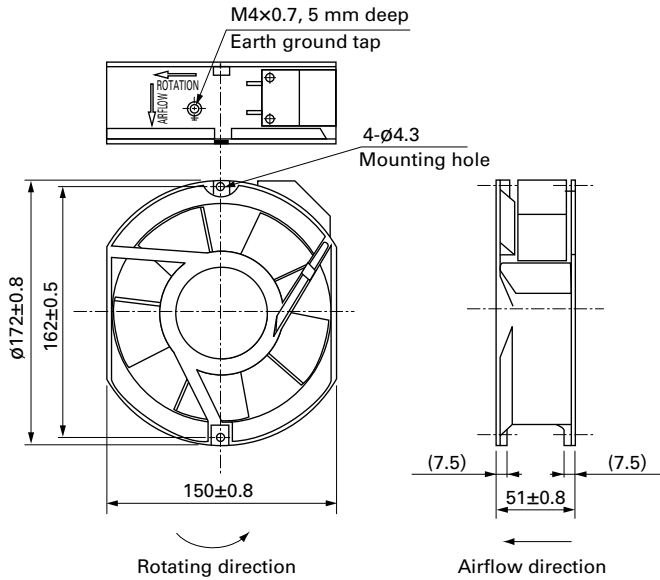
\*Though these are 2-hole or 3-hole frame mount types, 4 screws are included for extra.

## Airflow - Static Pressure Characteristics

109S301, 109S304, 109S302, 109S303

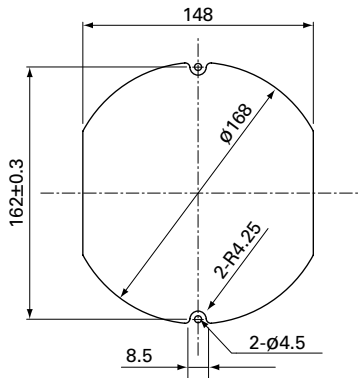


## Dimensions (unit: mm)

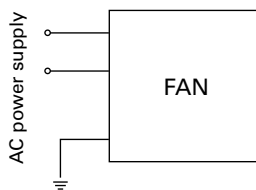


## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

Inlet side, Outlet side



## Wiring Diagram



## Options

### Finger guards

page: p. 515






Model no.: 109-319E, 109-319H, 109-320

### Plug cord

page: pp. 523 to 524

Model no.: 489-1619-L10, 489-1619-L21, 489-084-L10, 489-084-L21

# Ø 172x51 mm

**San Ace 172**      Only standard fans (without sensors) have acquired CSA certification. Round type


## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Capacitor motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) ..... Between AC input and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute  
Between AC input and G: 50/60 Hz 1500 VAC 1 minute  
Between G and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Sensor-Purpose lead wire ..... ⊕Brown ⊖Black (Sensor) Yellow
- Mass ..... 1000 g

## Specifications

### Standard

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109-311</b>	100	50/60	27/25	0.33/0.25	0.65/0.64	2900/3500	5.3/6.4 187.3/226.1	147/196 0.59/0.787	47/51	-30 to +60	25000/60°C
<b>109-314</b>	115			0.29/0.22	0.55/0.54						
<b>109-312</b>	200			0.16/0.13	0.33/0.32						
<b>109-313</b>	230			0.14/0.11	0.28/0.27						

### with Sensor

For sensor specifications, please refer to p. 531. Sensor specification differs depending on the fan's speed specification.

For a 5 V sensor power supply (ITEM-20), please append "-20" to the end of model number. E.g. 109-371-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109-371-30

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109-371</b>	100	50/60	27/25	0.33/0.25	0.65/0.64	2900/3500	5.3/6.4 187.3/226.1	147/196 0.59/0.787	47/51	-10 to +60	25000/60°C
<b>109-374</b>	115			0.29/0.22	0.55/0.54						
<b>109-372</b>	200			0.16/0.13	0.33/0.32						
<b>109-373</b>	230			0.14/0.11	0.28/0.27						

## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

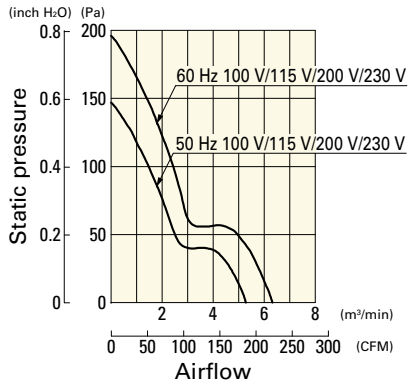
Order no.	Set items						Mounting screws
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards		
<b>ST1-109-311</b>	109-311	100 V		489-1619-L10	109-319E	M4×25 mm (4 screws)	
<b>ST1-109-314</b>	109-314	115 V		489-1619-L10	109-319E		
<b>ST1-109-312</b>	109-312	200 V		489-1619-L10	109-319E		
<b>ST1-109-313</b>	109-313	230 V		489-1619-L10	109-319E		
<b>ST1-109-371-20</b>	109-371-20	100 V	○ (5 V)	489-1619-L10	109-319E		
<b>ST1-109-371-30</b>	109-371-30		○ (12 V)	489-1619-L10	109-319E		
<b>ST1-109-374-20</b>	109-374-20	115 V	○ (5 V)	489-1619-L10	109-319E		
<b>ST1-109-374-30</b>	109-374-30		○ (12 V)	489-1619-L10	109-319E		
<b>ST1-109-372-20</b>	109-372-20	200 V	○ (5 V)	489-1619-L10	109-319E		
<b>ST1-109-372-30</b>	109-372-30		○ (12 V)	489-1619-L10	109-319E		
<b>ST1-109-373-20</b>	109-373-20	230 V	○ (5 V)	489-1619-L10	109-319E		
<b>ST1-109-373-30</b>	109-373-30		○ (12 V)	489-1619-L10	109-319E		



## Airflow - Static Pressure Characteristics

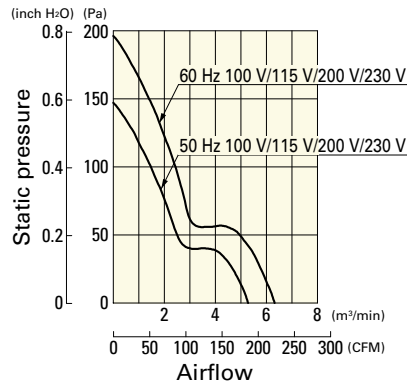
### Standard

109-311, 109-314, 109-312, 109-313



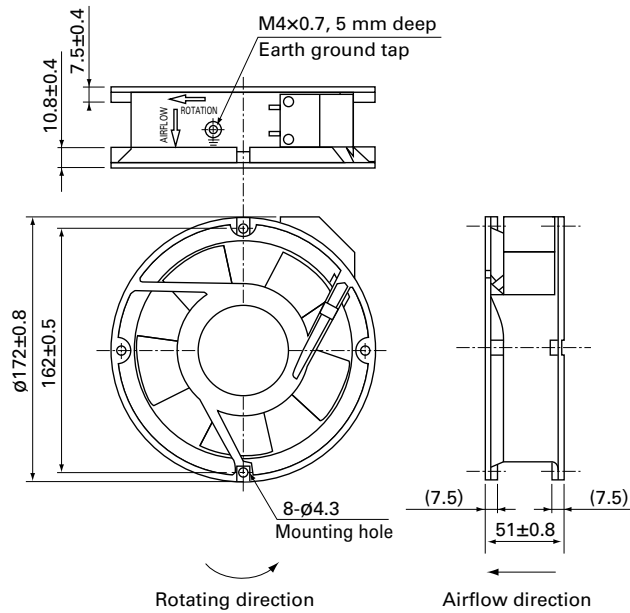
### with Sensor

109-371, 109-374, 109-372, 109-373

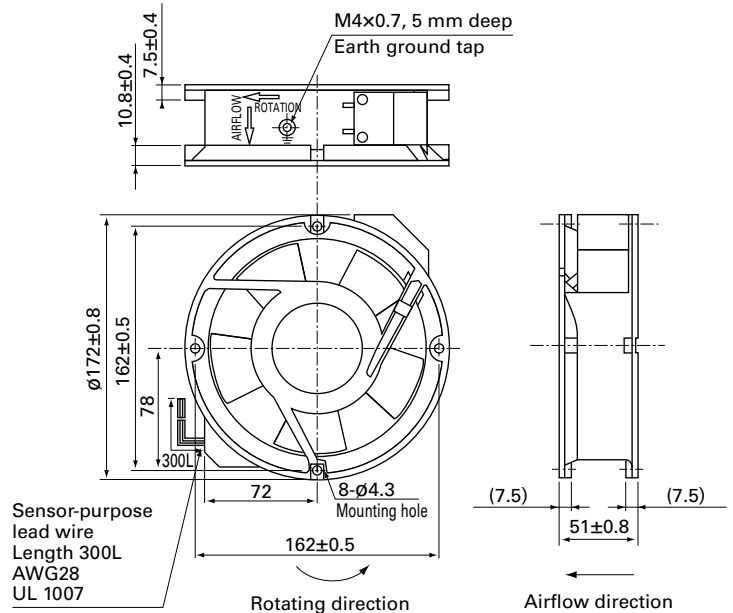


## Dimensions (unit: mm)

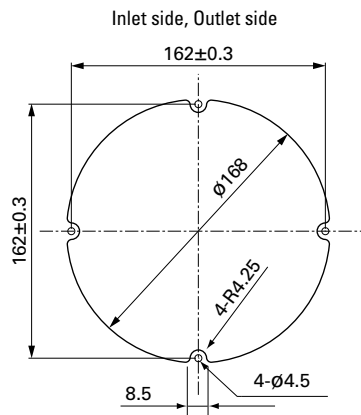
### Standard



### with Sensor



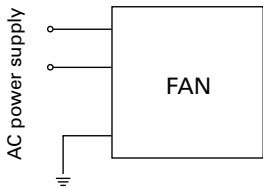
## Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



AC  
AC Fan ø172 mm

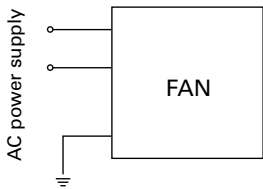
## Wiring Diagram

### Standard

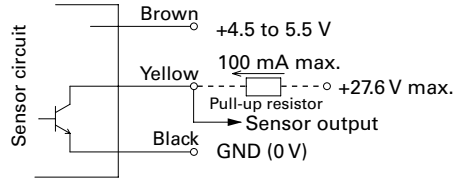


### with Sensor

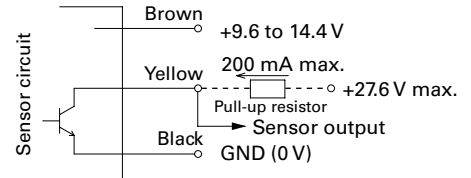
For fan power supply



For sensor circuit  
5 V (ITEM-20)



12 V (ITEM-30)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

## Options

### Finger guards

page: p. 515

Model no.: 109-319E, 109-319H, 109-320, 109-1066,  
109-1068

### Plug cord

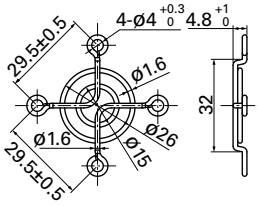
page: pp. 523 to 524

Model no.: 489-1619-L10, 489-1619-L21, 489-084-L10,  
489-084-L21

**36 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-1050	Nickel-chrome plating (silver)	4

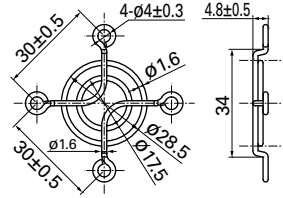
Inlet side, Outlet side



**38 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-1065	Nickel-chrome plating (silver)	5

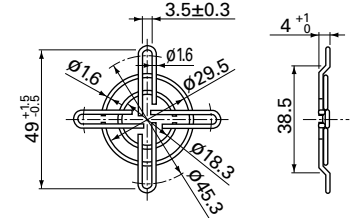
Inlet side, Outlet side



**40 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-059	Nickel-chrome plating (silver)	7
109-059H	Cation electropainting (black)	

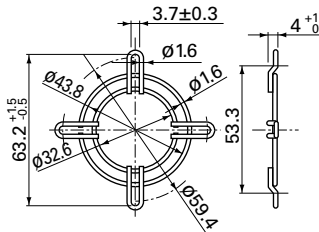
Inlet side, Outlet side



**52 mm sq. type**

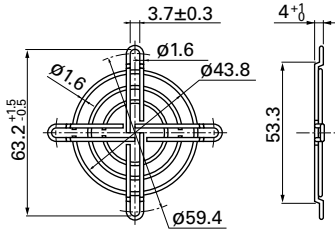
Model no.	Surface treatment	Mass (g)
109-149	Nickel-chrome plating (silver)	7

Outlet side



Model no.	Surface treatment	Mass (g)
109-149E	Nickel-chrome plating (silver)	9

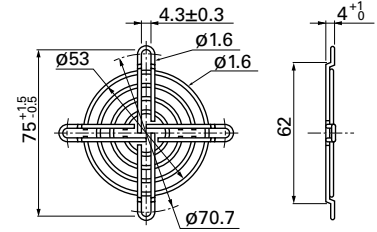
Inlet side, Outlet side



**60 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-139E	Nickel-chrome plating (silver)	14.5
109-139H	Cation electropainting (black)	

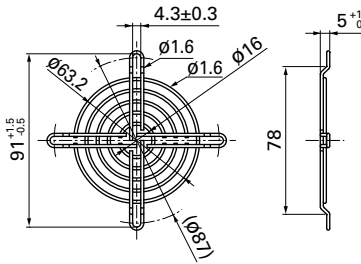
Inlet side, Outlet side



**70 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-1128	Nickel-chrome plating (silver)	17

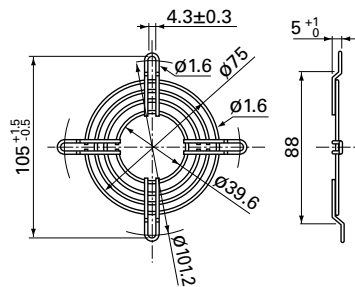
Inlet side, Outlet side



**80 mm sq. type**

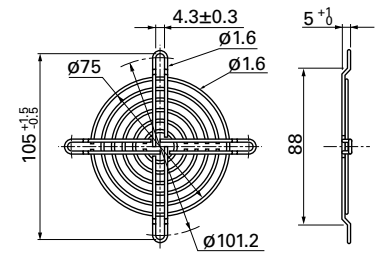
Model no.	Surface treatment	Mass (g)
109-049C	Nickel-chrome plating (silver)	17

Outlet side



Model no.	Surface treatment	Mass (g)
109-049E	Nickel-chrome plating (silver)	21
109-049H	Cation electropainting (black)	

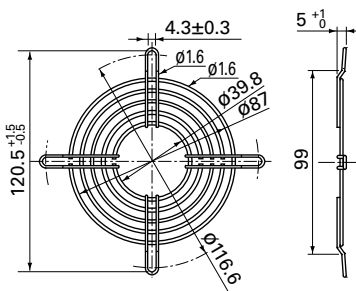
Inlet side, Outlet side



**92 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-099C	Nickel-chrome plating (silver)	22

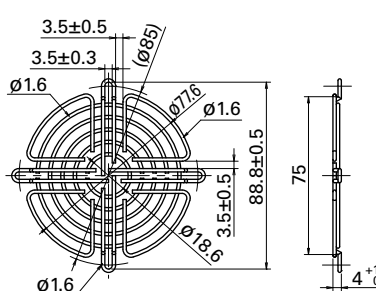
Outlet side



**ø92 mm type**

Model no.	Surface treatment	Mass (g)
109-1147	Nickel-chrome plating (silver)	23

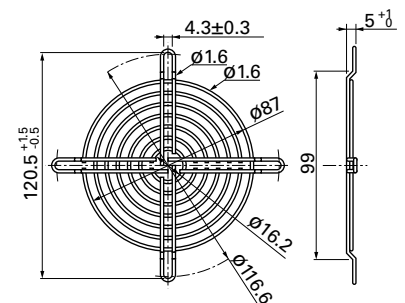
Impeller side, Nameplate side



**92 mm sq., ø100 mm type**

Model no.	Surface treatment	Mass (g)
109-099E	Nickel-chrome plating (silver)	29
109-099H	Cation electropainting (black)	

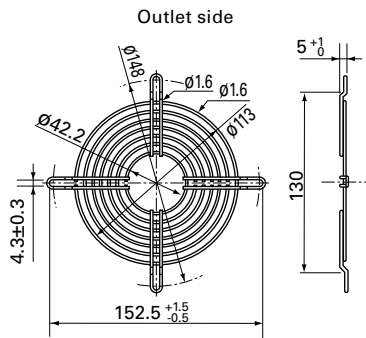
Inlet side, Outlet side



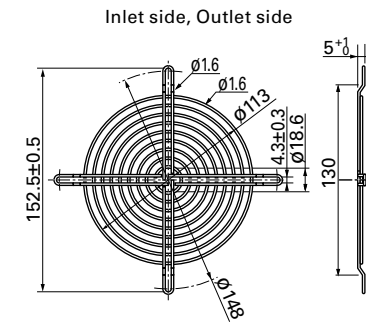
Option

**120 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-019C	Nickel-chrome plating (silver)	32
109-019H	Cation electropainting (black)	

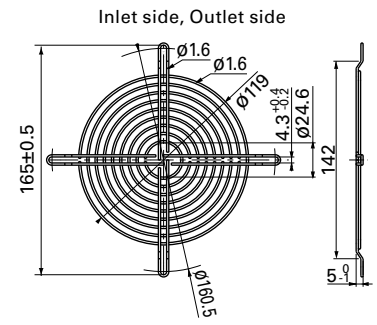


Model no.	Surface treatment	Mass (g)
109-019E	Nickel-chrome plating (silver)	42
109-019K	Cation electropainting (black)	



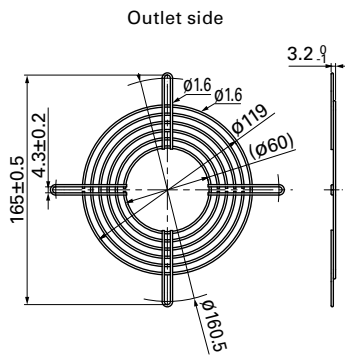
**127 mm sq.,  $\phi$ 175 mm type**

Model no.	Surface treatment	Mass (g)
109-722	Nickel-chrome plating (silver)	43



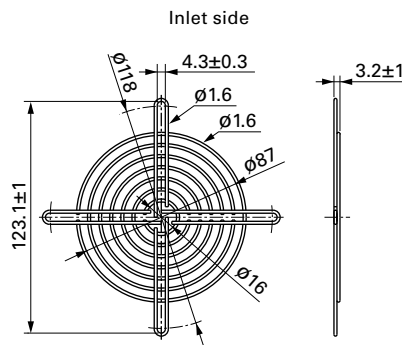
**127 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-723	Nickel-chrome plating (silver)	34



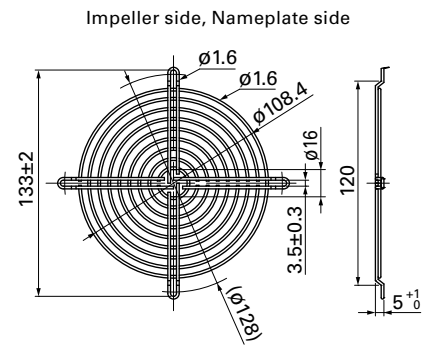
**$\phi$ 133 mm type**

Model no.	Surface treatment	Mass (g)
109-1112	Nickel-chrome plating (silver)	65



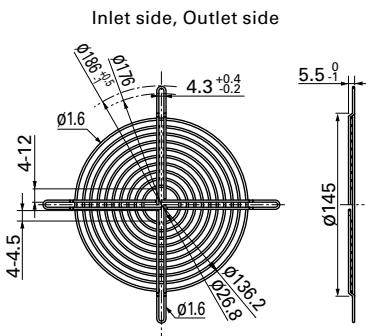
**$\phi$ 136 mm type**

Model no.	Surface treatment	Mass (g)
109-1139	Nickel-chrome plating (silver)	41



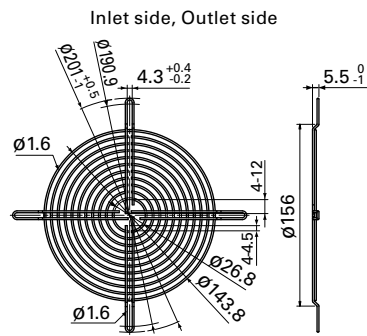
**140 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-719	Nickel-chrome plating (silver)	51
109-719H	Cation electropainting (black)	

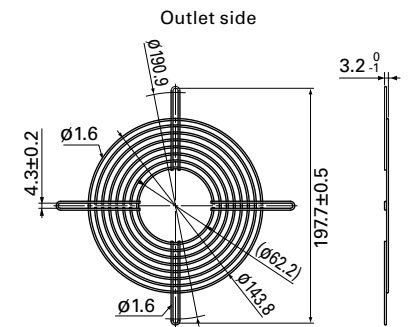


**150 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-1051	Nickel-chrome plating (silver)	63

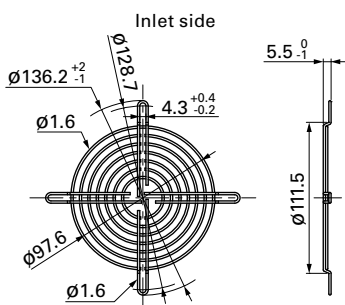


Model no.	Surface treatment	Mass (g)
109-1052	Nickel-chrome plating (silver)	53



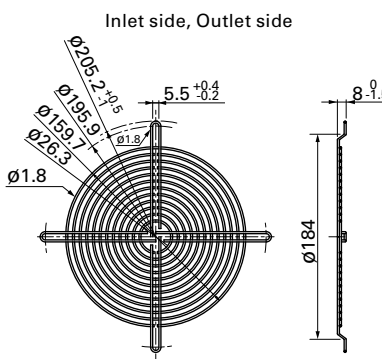
**$\phi$ 150 mm type**

Model no.	Surface treatment	Mass (g)
109-1104	Nickel-chrome plating (silver)	31
109-1104H	Cation electropainting (black)	

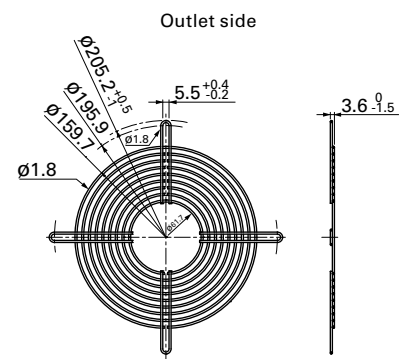


**160 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-619E	Nickel-chrome plating (silver)	85
109-619H	Cation electropainting (black)	



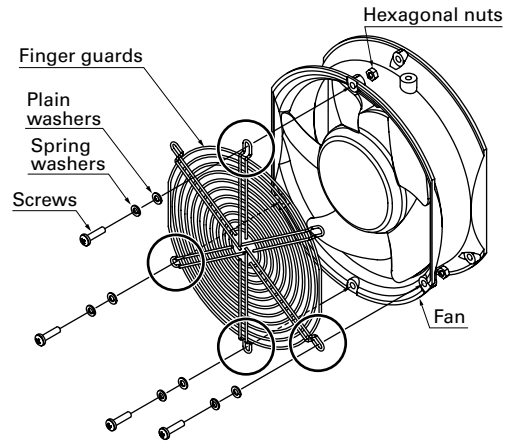
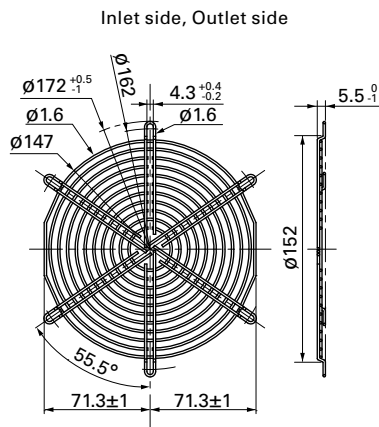
Model no.	Surface treatment	Mass (g)
109-620	Nickel-chrome plating (silver)	74



**Ø172 mm Sidecut type**

Model no.	Surface treatment	Mass (g)	Applicable model no.
109-319J	Nickel-chrome plating (silver)	65	9SG57□□P5□□□/9GV57□□H501 9CR5748P9G001/9WG5748P5□□001

Finger guard 109-319J should be mounted with four holes as in the drawing.

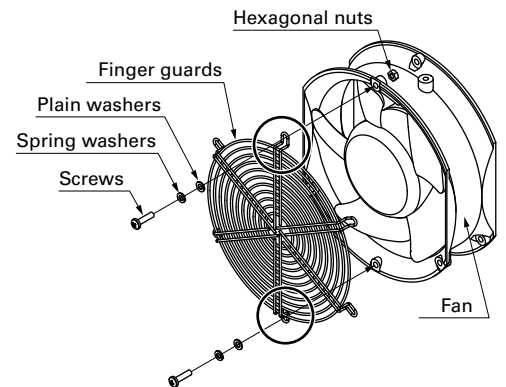
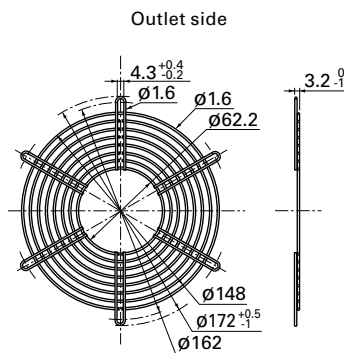
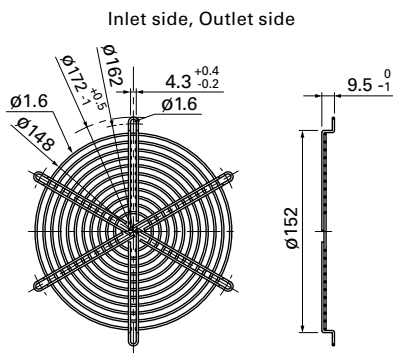


**Ø172 mm Sidecut, Round type**

Model no.	Surface treatment	Mass (g)
109-319E	Nickel-chrome plating (silver)	69
109-319H	Cation electropainting (black)	

Model no.	Surface treatment	Mass (g)
109-320	Nickel-chrome plating (silver)	53

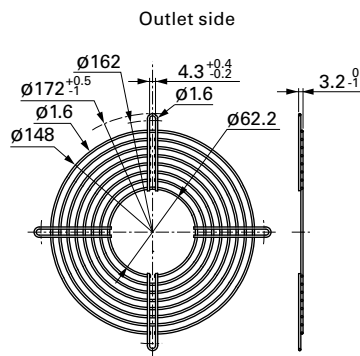
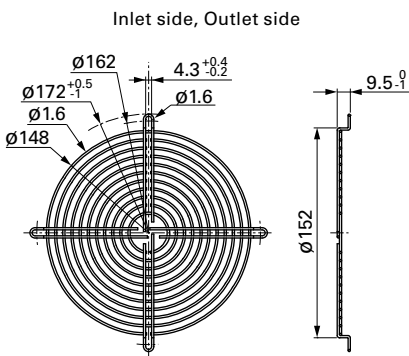
Finger guards 109-319E, 109-319H, and 109-320 should be mounted with two holes as in the drawing and do not use any other holes.



**Ø172 mm Round type**

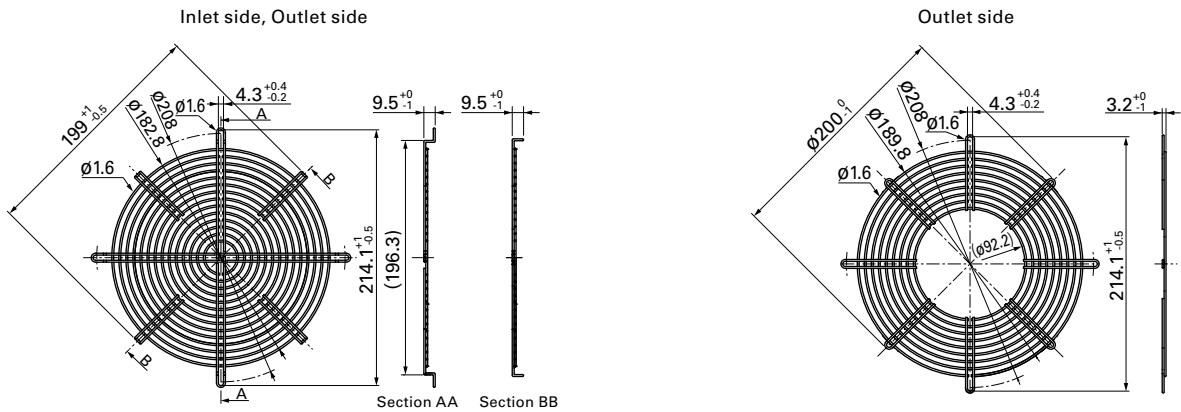
Model no.	Surface treatment	Mass (g)
109-1066	Nickel-chrome plating (silver)	61

Model no.	Surface treatment	Mass (g)
109-1068	Nickel-chrome plating (silver)	54



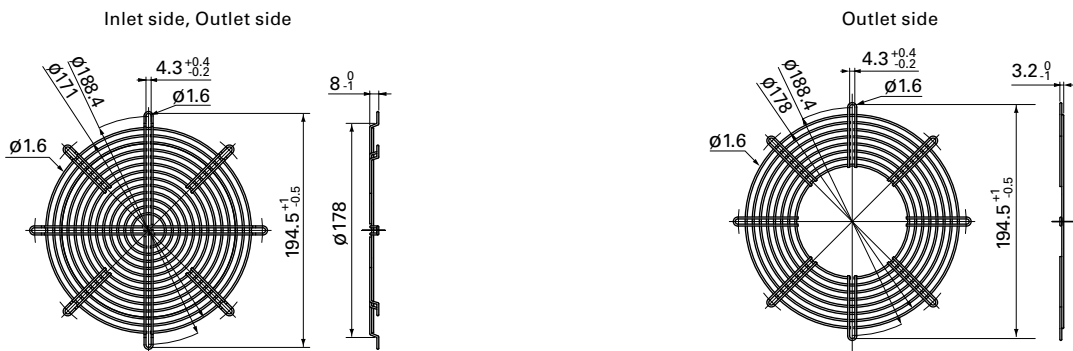
**∅200 mm type**

Model no.	Surface treatment	Mass (g)	Applicable model no.	Model no.	Surface treatment	Mass (g)	Applicable model no.
109-1102	Nickel-chrome plating (silver)	100	9GV2048P0G201	109-1103	Nickel-chrome plating (silver)	80	9GV2048P0G201



**∅200 mm type**

Model no.	Surface treatment	Mass (g)	Applicable model no.	Model no.	Surface treatment	Mass (g)	Applicable model no.
109-720	Nickel-chrome plating (silver)	84	109E2024□□□□	109-721	Nickel-chrome plating (silver)	66	109E2024□□□□
109-720H	Cation electropainting (black)		9EC20□□□001	109-721H	Cation electropainting (black)		9EC20□□□001

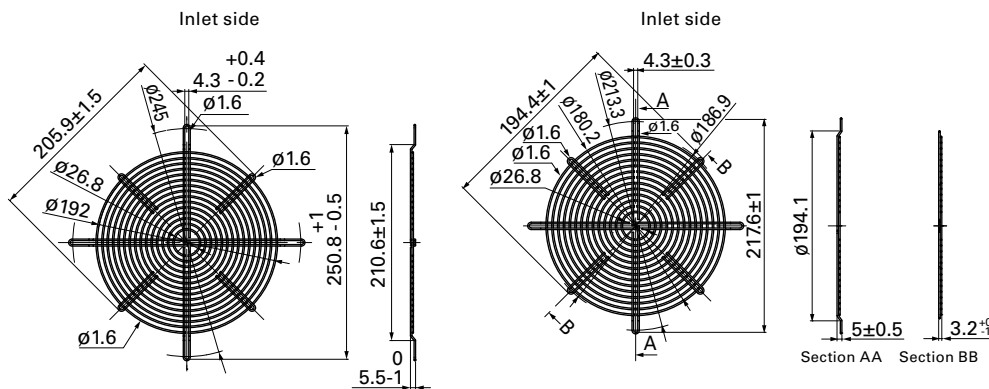


**∅221 mm type**

Model no.	Surface treatment	Mass (g)
109-1138	Nickel-chrome plating (silver)	105
109-1138H	Cation electropainting (black)	

**∅225 mm type**

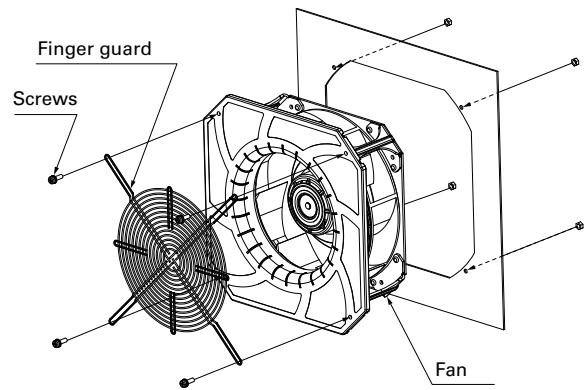
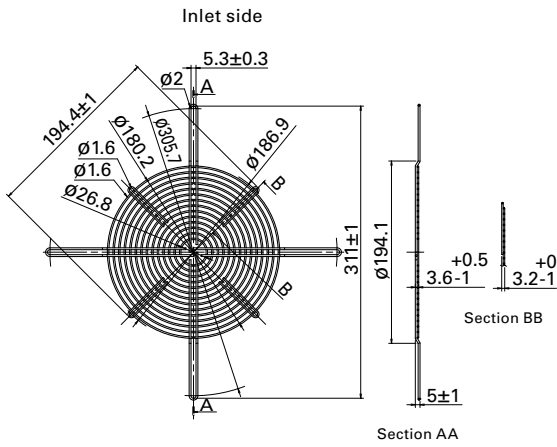
Model no.	Surface treatment	Mass (g)
109-1137	Nickel-chrome plating (silver)	94
109-1137H	Cation electropainting (black)	



**270 mm sq. type (for Bracket-mounted Centrifugal Fan)**

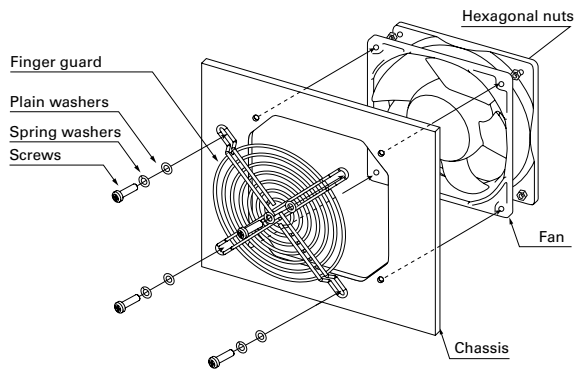
Model no.	Surface treatment	Mass (g)
109-1146	Nickel-chrome plating (silver)	106

Finger guard 109-1146 should be mounted with four holes as in the drawing.

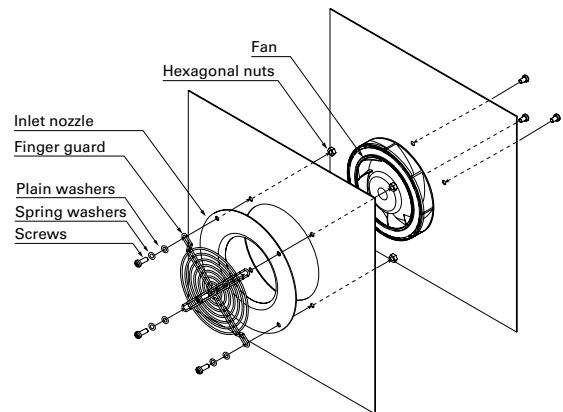


**Mounting example**

Axial fan



Centrifugal fan

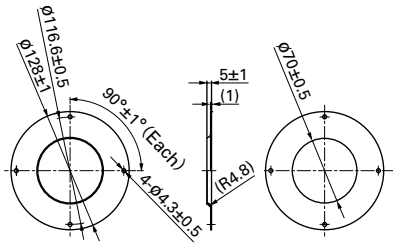


**Inlet nozzle for centrifugal fan and splash proof centrifugal fan** Dimensions (unit: mm) DC

Nozzle mounted in fan inlet side to adjust the flow of introduced air. Material: Steel sheet

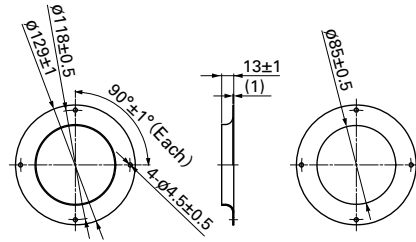
**∅100 mm type**

Model no.	Surface treatment	Mass (g)
109-1080	Electro nickel plating (silver)	80



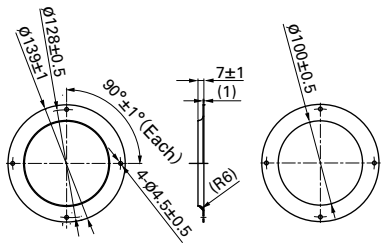
**∅133 mm type**

Model no.	Surface treatment	Mass (g)
109-1069	Electro nickel plating (silver)	76
109-1069H	Cation electropainting (black)	



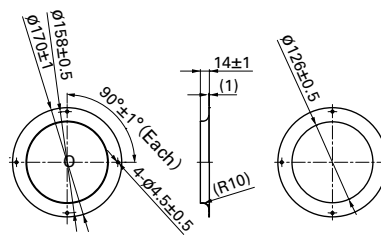
**∅150 mm type**

Model no.	Surface treatment	Mass (g)
109-1081	Electro nickel plating (silver)	70
109-1081H	Cation electropainting (black)	



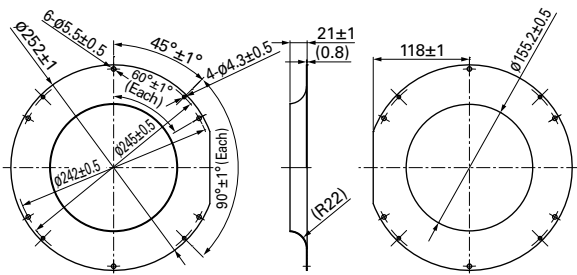
**∅175 mm type**

Model no.	Surface treatment	Mass (g)
109-1073	Electro nickel plating (silver)	100
109-1073H	Cation electropainting (black)	



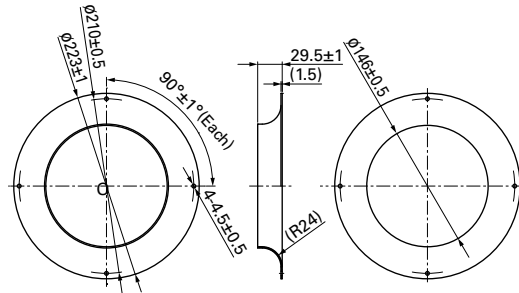
**∅221 mm type**

Model no.	Surface treatment	Mass (g)
109-1135	Electro nickel plating (silver)	230
109-1135H	Cation electropainting (black)	



**∅225 mm type**

Model no.	Surface treatment	Mass (g)
109-1134	Electro nickel plating (silver)	360
109-1134H	Cation electropainting (black)	



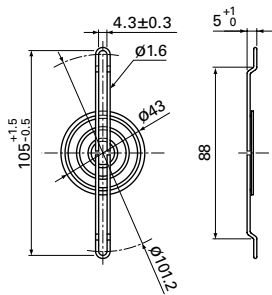


It is a metallic piece that protects materials from the adverse effects of electromagnetic noise sources. It provides electromagnetic shielding. It is attached to the casing of a device by means of the fan fixing screw (s). Ground the devices equipped with an EMC guard.

**80 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-1038	Nickel-chrome plating (silver)	14

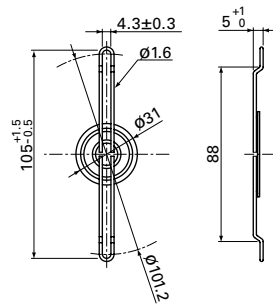
Representative fans model numbers	Dimensions of fans (mm)
109P08*	80×80×20
9GV08*	80×80×25
9GV08*	80×80×38
9HV08*	
9HVA08*	



**80 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-1039	Nickel-chrome plating (silver)	10

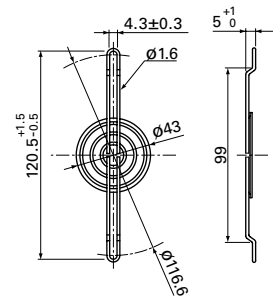
Representative fans model numbers	Dimensions of fans (mm)
109P08*	80×80×15
9GA08*	80×80×20
109R08*	80×80×25
9A08*	
9GA08*	
9GA08*	80×80×32
9G08*	80×80×38
9GA08*	



**92 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-1040	Nickel-chrome plating (silver)	15

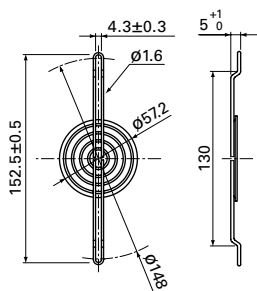
Representative fans model numbers	Dimensions of fans (mm)
9G09*	92×92×32
9G09*	92×92×38
9GV09*	
9GA09*	



**120 mm sq. type**

Model no.	Surface treatment	Mass (g)
109-1037	Nickel-chrome plating (silver)	26

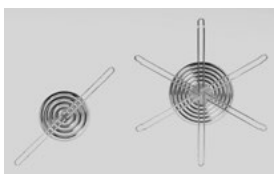
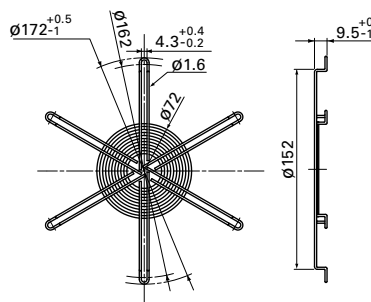
Representative fans model numbers	Dimensions of fans (mm)
9G12*	120×120×25
9GV12*	
9GL12*	
9G12*	120×120×38
9GV12*	
9HV12*	
9LG12*	



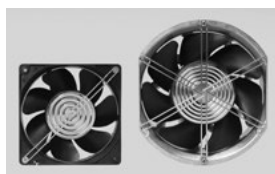
**Ø172 mm type**

Model no.	Surface treatment	Mass (g)
109-1036	Nickel-chrome plating (silver)	49

Representative fans model numbers	Dimensions of fans (mm)
109E47*	Ø172×25
109L17*	Ø172×51
9GV57*	
109E17*	
109E57*	
9SG57*	



EMC guard



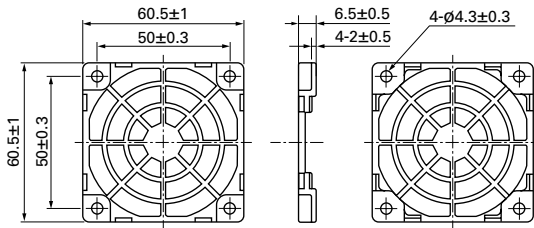
attached to a cooling fan

**Resin finger guards** Dimensions (unit: mm) DC AC

Material Frame: Resin (PPE+PS) UL file no. E82268 94V-0

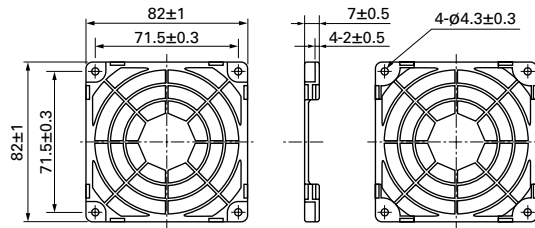
**60 mm sq. type**

Model no.	Mass (g)
109-1003G	7



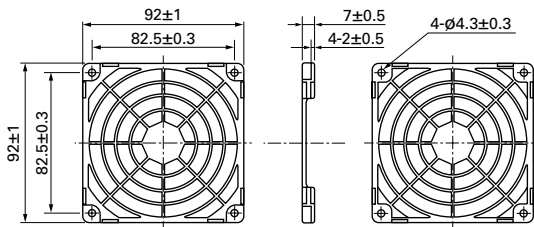
**80 mm sq. type**

Model no.	Mass (g)
109-1002G	10



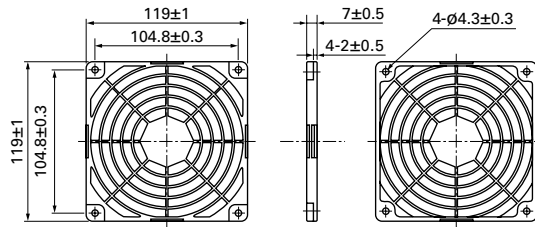
**92 mm sq. type**

Model no.	Mass (g)
109-1001G	12



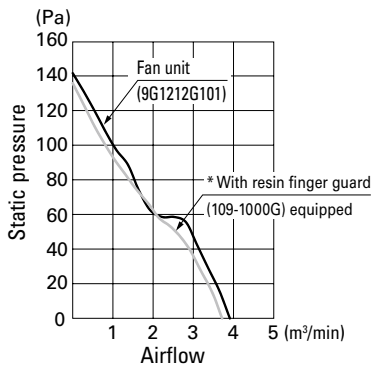
**120 mm sq. type**

Model no.	Mass (g)
109-1000G	23



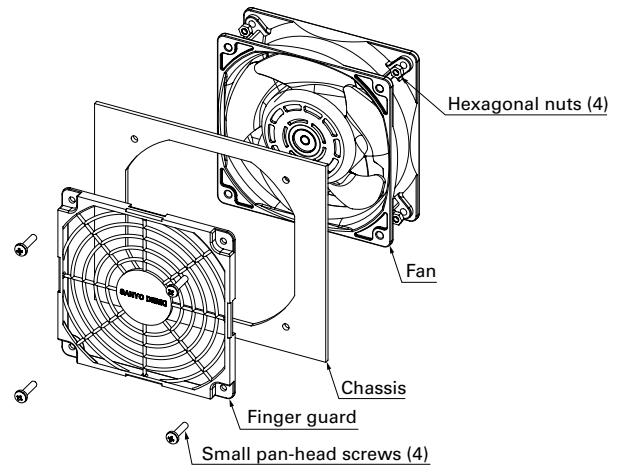
**Airflow - Static pressure characteristics**

Measured with our double chamber measuring device (120 mm sq. type)



Applied voltage: 12 VDC  
 \* Finger guard is attached on air inlet side of fan.

**Mounting example**

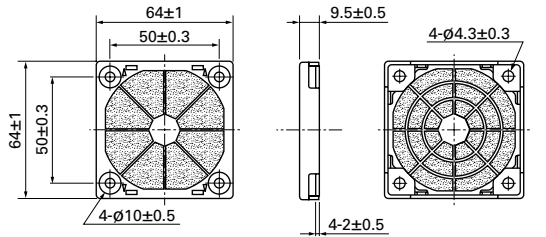


- Operating temperature limit is between -20 to +70°C. (non condensing)
- Plastic finger guards are placed on both the intake and exhaust sides of the fan.
- No nuts or screws for use in attachment included.

Material Guard, cover: Resin (PPE+PS) UL file no. E82268 94V-0 Filter: Polyurethane foam UL file no. E74916 (S) 94HF-1  
 PPI: Particles Per Inch Indicates the number of holes per inch. Note that the higher the number, the finer the grain of the sponge.

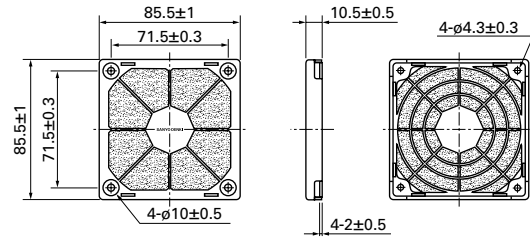
**60 mm sq. type**

Model no.	Mass (g)	
109-1003F13 (13 PPI)	11	
109-1003F20 (20 PPI)		
109-1003F30 (30 PPI)		
109-1003F40 (40 PPI)		
Replacement filter model no.		Quantity
109-1003M13 (13 PPI)	5	
109-1003M20 (20 PPI)		
109-1003M30 (30 PPI)		
109-1003M40 (40 PPI)		



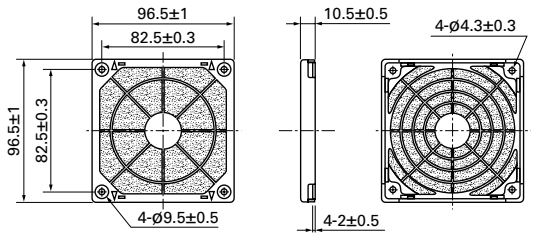
**80 mm sq. type**

Model no.	Mass (g)	
109-1002F13 (13 PPI)	19	
109-1002F20 (20 PPI)		
109-1002F30 (30 PPI)		
109-1002F40 (40 PPI)		
Replacement filter model no.		Quantity
109-1002M13 (13 PPI)	5	
109-1002M20 (20 PPI)		
109-1002M30 (30 PPI)		
109-1002M40 (40 PPI)		



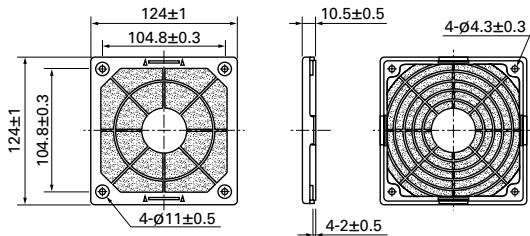
**92 mm sq. type**

Model no.	Mass (g)	
109-1001F13 (13 PPI)	25	
109-1001F20 (20 PPI)		
109-1001F30 (30 PPI)		
109-1001F40 (40 PPI)		
Replacement filter model no.		Quantity
109-1001M13 (13 PPI)	5	
109-1001M20 (20 PPI)		
109-1001M30 (30 PPI)		
109-1001M40 (40 PPI)		



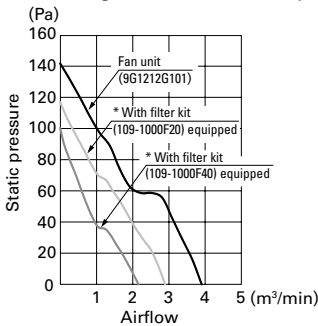
**120 mm sq. type**

Model no.	Mass (g)	
109-1000F13 (13 PPI)	44	
109-1000F20 (20 PPI)		
109-1000F30 (30 PPI)		
109-1000F40 (40 PPI)		
Replacement filter model no.		Quantity
109-1000M13 (13 PPI)	5	
109-1000M20 (20 PPI)		
109-1000M30 (30 PPI)		
109-1000M40 (40 PPI)		



**Airflow - Static pressure characteristics**

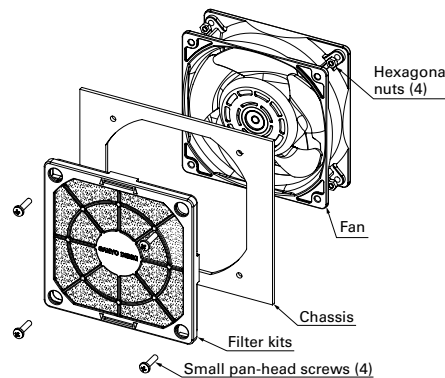
Measured with our double chamber measuring device (120 mm sq. type)



Applied voltage: 12 VDC

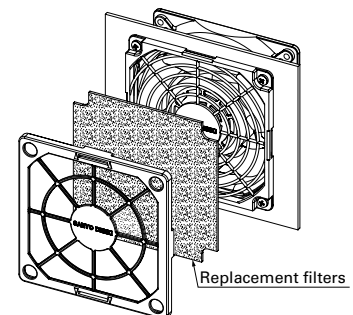
\* Filter kit is attached on air inlet side of fan.

**Mounting example**



**Filter replacement (example)**

Replacement filters can be replaced by taking off the front part of the filter kit. There is no need to remove the screws.



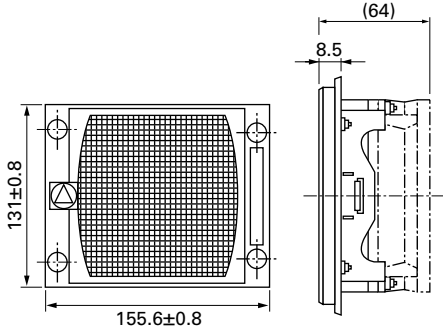
- Filter kit is one of the option to keep air in the chassis clean filtering dust in external atmosphere when pulling-air cooling is implemented. The filter kit is hooked up through mounting hole of fan frame with screw as well as finger guard. Some performances (airflow & static pressure) of the fan motor decreases when filter kit is hooked up.
- This Filter Kit is composed of 3 components, including a guard, a filter and a cover. It is delivered as a finished product at delivery, saving assembly time when mounting. It can be mounted by inserting a screw in the apertures of the cover.
- The filter and cover can be easily removed from the guard with one touch. There is no need for fan removal when undertaking maintenance. ● Operating temperature limit is between -10 to +60°C. (non condensing)
- The filter will deteriorate with age, and the level of deterioration will vary upon usage conditions. Please be aware that the filter has a greater tendency to deteriorate under high temperature and humidity. For long-term storage, please store under the temperature range of 10 to 30°C, humidity range of 20 to 65%. Usage and storage period is approximately 2 years.
- Cooling ability decreases with filter contamination due to clogging. Filter replacement is recommended approximately every six months of usage. Please replace the filter if deterioration or clogging is seen at inspection.
- When replacing the filter, please use genuine SANYO DENKI filters. ● Do not water-wash the filter.
- Avoid use and storage under high temperature or humidity, direct sunlight or exposure to ultraviolet light, or in corrosive gas. ● No nuts or screws for use in attachment included.

**Filter kits** Applicable models: AC Fan 120×120×38 mm Dimensions, Reference Dimensions of Mounting Holes (unit: mm) AC

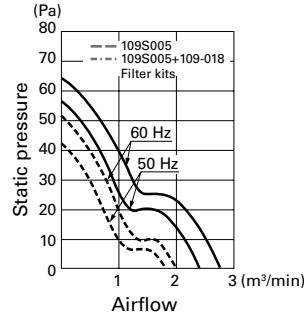
Neither filter kit can be installed on ACDC fans, or AC fans with sensors. Please evaluate it by assembly filter kits on the device.

Model no.	Material	Mass (g)
109-018	Steel Wire Mesh: Stainless 16-mesh nets in 3 layers Cover: Resin Metal fittings: Steel (chromate-plated)	182

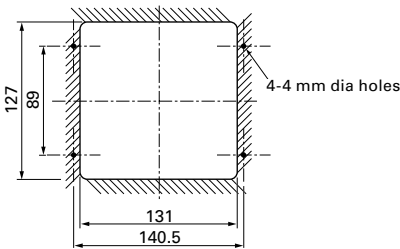
**Dimensions**



**Airflow - Static Pressure Characteristics**  
(Measured with our double chamber measuring device)

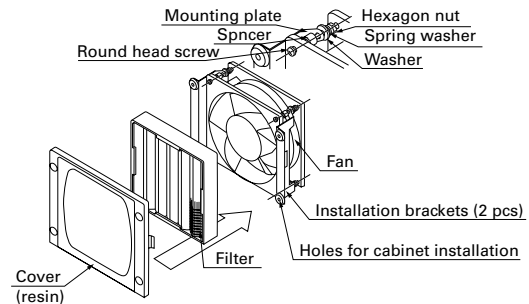


**Reference Dimensions of Mounting Holes**



●The parts shown in the installation diagram (nuts, washers, and screws) are included.

**Mounting Example**

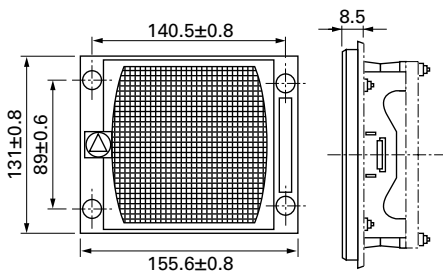


**Screen kits** Applicable models: AC Fan 120×120×38 mm Dimensions, Reference Dimensions of Mounting Holes (unit: mm) AC

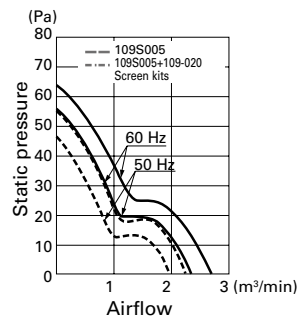
Neither screen kit can be installed on ACDC fans, or AC fans with sensors.

Model no.	Material	Mass (g)
109-020	Steel Wire Mesh: Stainless 16-mesh nets in 1 layers Cover: Resin Metal fittings: Steel (chromate-plated)	135

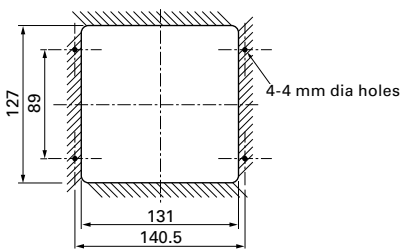
**Dimensions**



**Airflow - Static Pressure Characteristics**  
(Measured with our double chamber measuring device)

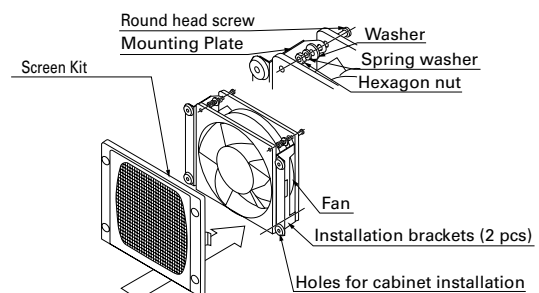


**Reference Dimensions of Mounting Holes**



●The parts shown in the installation diagram (nuts, washers, and screws) are included.

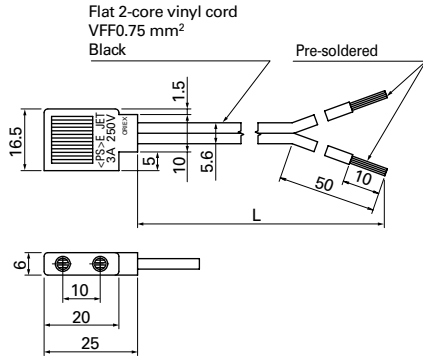
**Mounting Example**



Products compliant with electrical appliance and material safety law

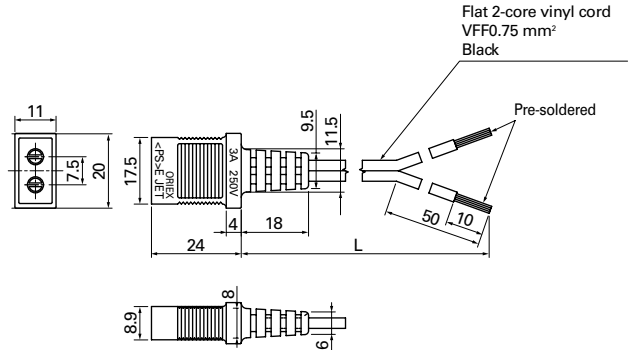
For 80×80×42 mm

Model no.	Power cord length [L] (mm)	Mass (g)
489-008-L10	1000	30
489-008-L21	2100	61
489-008-L35	3500	99



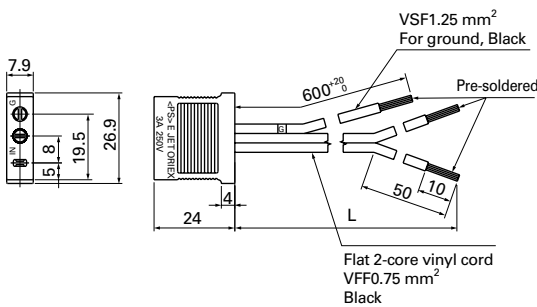
For 80×80×25 mm, 80×80×38 mm, 92×92×25 mm, 120×120×25 mm

Model no.	Power cord length [L] (mm)	Mass (g)
489-016-L10	1000	34
489-016-L21	2100	64



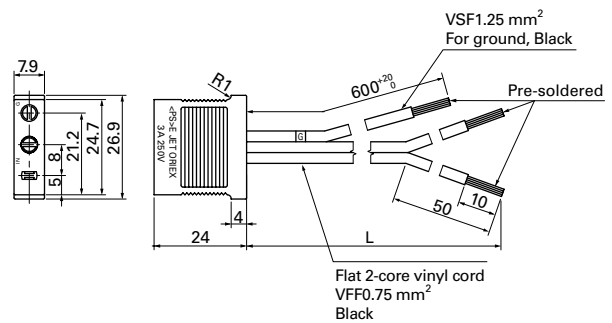
For 120×120×38 mm (not including AC/DC fan)

Model no.	Power cord length [L] (mm)	Mass (g)
489-006-L10	1000	47
489-006-L21	2100	76
489-006-L35	3500	114



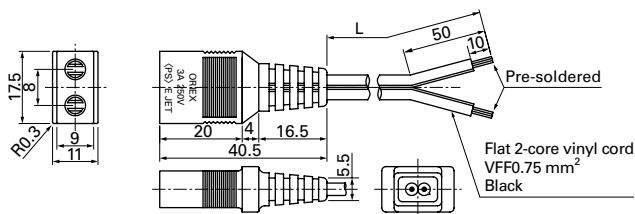
For 120×120×38 mm (not including AC/DC fan)

Model no.	Power cord length [L] (mm)	Mass (g)
489-037-L10	1000	46
489-037-L21	2100	76
489-037-L35	3500	114



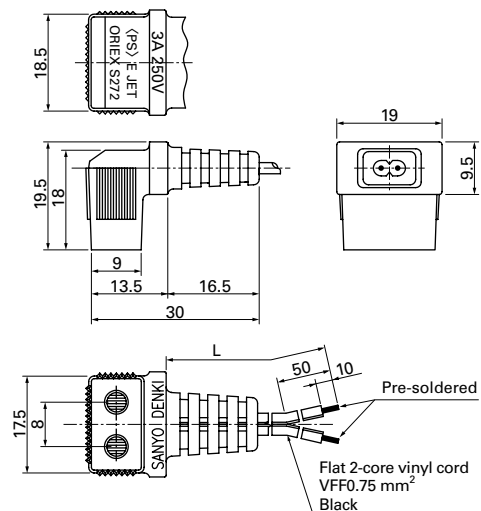
For 160×160×51 mm

Model no.	Power cord length [L] (mm)	Mass (g)
489-1618-L10	1000	34
489-1618-L21	2100	63
489-1618-L28	2800	83



For ø172×51 mm, ø172×150×51 mm, 160×160×51 mm

Model no.	Power cord length [L] (mm)	Mass (g)
489-1619-L10	1000	34
489-1619-L21	2100	64



● Be careful not to damage the plug/cord when taking them out of the package.

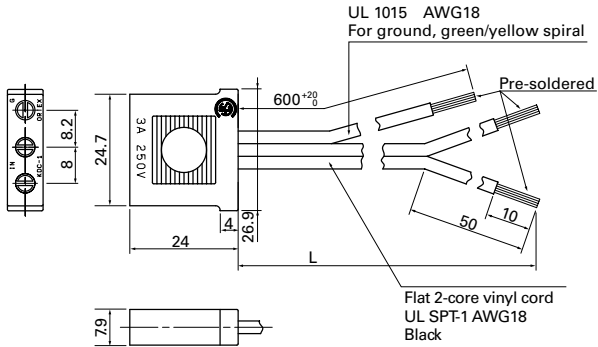
Option

**Plug cord for AC fan** Dimensions (unit: mm) AC

**UL/CSA certified UL file no.: E50197 CSA file no.: LR67048**

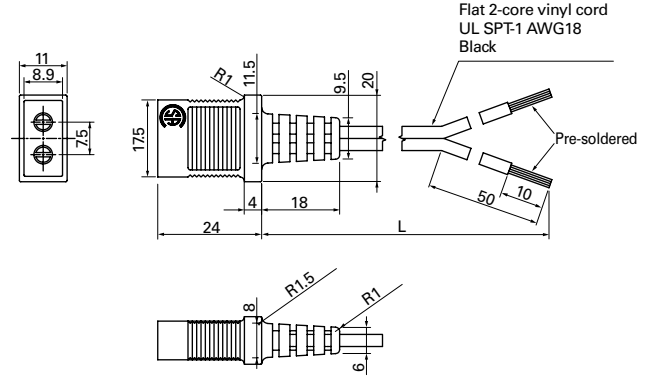
**For 120×120×38 mm (not including AC/DC fan)**

Model no.	Power cord length [L] (mm)	Mass (g)
489-007-L10	1000	48
489-007-L21	2100	80



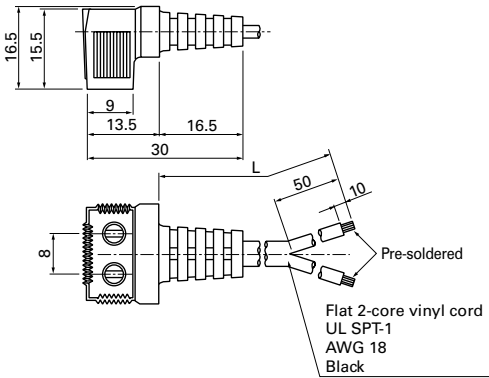
**For 80×80×25 mm, 80×80×38 mm, 92×92×25 mm, 120×120×25 mm**

Model no.	Power cord length [L] (mm)	Mass (g)
489-047-L10	1000	38
489-047-L21	2100	71



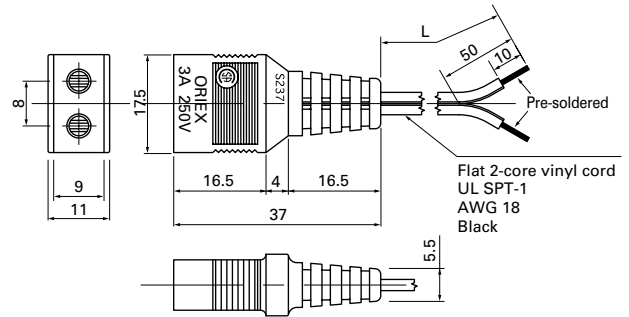
**For ∅172×51 mm, ∅172×150×51 mm, 160×160×51 mm**

Model no.	Power cord length [L] (mm)	Mass (g)
489-084-L10	1000	37
489-084-L21	2100	70



**For 160×160×51 mm**

Model no.	Power cord length [L] (mm)	Mass (g)
489-086-L10	1000	37
489-086-L21	2100	70

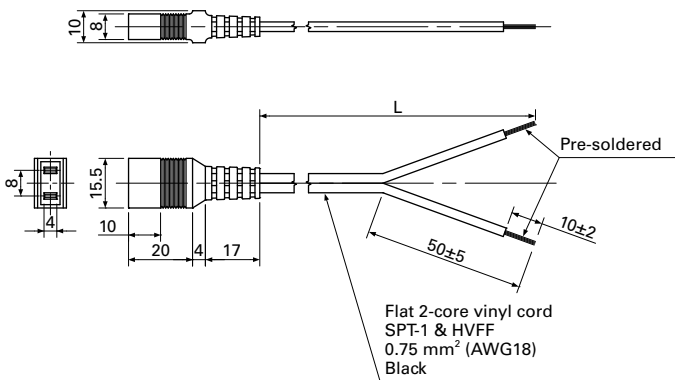


**Plug cord for ACDC fan** Dimensions (unit: mm) AC

**Products compliant with electrical appliance and material safety law, UL/CSA [c-UL] certified**

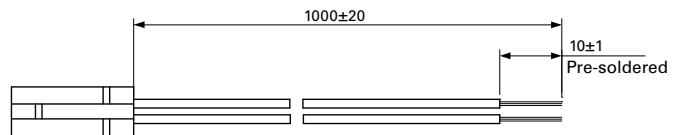
**UL file no.E43202**

Model no.	Power cord length [L] (mm)	Mass (g)
489-1635-L10	1000	38
489-1635-L21	2100	74



**Wiring Harness for Sensor**

Model no.	Mass (g)
489-1636	9



● Be careful not to damage the plug/cord when taking them out of the package.

# Index by Model No./Safety Standards List - DC Fans DC

Models listed in the main section of this catalog	List of models (models not listed in the main section of this catalog are options. Standards for optional model numbers may differ from the certified standards listed at right. Contact us for details of models with "-" model numbers.)				Frame size	Rib	Standard (certification status is for the models listed in this catalog, and standards for optional model numbers may differ.)			page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
	109BC12FC7-1	109BC12FA7-1	109BC12FC7-1	109BC12FD7-1			—	52 × 15 mm	—	
109BC12GC7-1	109BC12GA7-1	109BC12GC7-1	109BC12GD7-1	—	52 × 15 mm	—	✓	✓	✓	436
109BC12HC7-1	109BC12HA7-1	109BC12HC7-1	109BC12HD7-1	—	52 × 15 mm	—	✓	✓	✓	436
109BC12MC7-1	109BC12MA7-1	109BC12MC7-1	109BC12MD7-1	—	52 × 15 mm	—	✓	✓	✓	436
109BC24FC7-1	109BC24FA7-1	109BC24FC7-1	109BC24FD7-1	—	52 × 15 mm	—	✓	✓	✓	436
109BC24GC7-1	109BC24GA7-1	109BC24GC7-1	109BC24GD7-1	—	52 × 15 mm	—	✓	✓	✓	436
109BC24HC7-1	109BC24HA7-1	109BC24HC7-1	109BC24HD7-1	—	52 × 15 mm	—	✓	✓	✓	436
109BD12FC2	109BD12FA2	109BD12FC2	109BD12FD2	—	76 × 30 mm	—	✓	✓	✓	440
109BD12HC2	109BD12HA2	109BD12HC2	109BD12HD2	109BD12P2H01	76 × 30 mm	—	✓	✓	✓	440
109BD12MC2	109BD12MA2	109BD12MC2	109BD12MD2	—	76 × 30 mm	—	✓	✓	✓	440
109BD24FC2	109BD24FA2	109BD24FC2	109BD24FD2	—	76 × 30 mm	—	✓	✓	✓	440
109BD24HC2	109BD24HA2	109BD24HC2	109BD24HD2	—	76 × 30 mm	—	✓	✓	✓	440
109BD24MC2	109BD24MA2	109BD24MC2	109BD24MD2	—	76 × 30 mm	—	✓	✓	✓	440
109BG12HC1	109BG12HA1	109BG12HC1	109BG12HD1	—	160 × 40 mm	—	✓	✓	✓	455
109BG12MC1	109BG12MA1	109BG12MC1	109BG12MD1	—	160 × 40 mm	—	✓	✓	✓	455
109BG24HC1	109BG24HA1	109BG24HC1	109BG24HD1	—	160 × 40 mm	—	✓	✓	✓	455
109BG24MC1	109BG24MA1	109BG24MC1	109BG24MD1	—	160 × 40 mm	—	✓	✓	✓	455
109BJ12HC2	109BJ12HA2	109BJ12HC2	109BJ12HD2	—	127 × 32 mm	—	✓	✓	✓	453
109BJ12MC2	109BJ12MA2	109BJ12MC2	109BJ12MD2	—	127 × 32 mm	—	✓	✓	✓	453
109BJ24HC2	109BJ24HA2	109BJ24HC2	109BJ24HD2	—	127 × 32 mm	—	✓	✓	✓	453
109BJ24MC2	109BJ24MA2	109BJ24MC2	109BJ24MD2	—	127 × 32 mm	—	✓	✓	✓	453
109BM12GC2-1	109BM12GA2-1	109BM12GC2-1	109BM12GD2-1	—	97 × 33 mm	—	✓	✓	✓	442
109BM12HC2-1	109BM12HA2-1	109BM12HC2-1	109BM12HD2-1	—	97 × 33 mm	—	✓	✓	✓	442
109BM12MC2-1	109BM12MA2-1	109BM12MC2-1	109BM12MD2-1	109BM12P2M01	97 × 33 mm	—	✓	✓	✓	442
109BM24GC2-1	109BM24GA2-1	109BM24GC2-1	109BM24GD2-1	—	97 × 33 mm	—	✓	✓	✓	442
109BM24HC2-1	109BM24HA2-1	109BM24HC2-1	109BM24HD2-1	—	97 × 33 mm	—	✓	✓	✓	442
109BM24MC2-1	109BM24MA2-1	109BM24MC2-1	109BM24MD2-1	—	97 × 33 mm	—	✓	✓	✓	442
109E1312A101	109E1312A102	109E1312A101	109E1312A1D01	—	127 × 127 × 38 mm	No	✓	✓	✓	189
109E1312S101	109E1312S102	109E1312S101	109E1312S1D01	—	127 × 127 × 38 mm	No	✓	✓	✓	189
109E1324A101	109E1324A102	109E1324A101	109E1324A1D01	—	127 × 127 × 38 mm	No	✓	✓	✓	189
109E1324G101	109E1324G102	109E1324G101	109E1324G1D01	—	127 × 127 × 38 mm	No	✓	✓	✓	189
109E1324S101	109E1324S102	109E1324S101	109E1324S1D01	—	127 × 127 × 38 mm	No	✓	✓	✓	189
109E1348A101	109E1348A102	109E1348A101	109E1348A1D01	—	127 × 127 × 38 mm	No	✓	✓	✓	189
109E1348G101	109E1348G102	109E1348G101	109E1348G1D01	—	127 × 127 × 38 mm	No	✓	✓	✓	189
109E1348S101	109E1348S102	109E1348S101	109E1348S1D01	—	127 × 127 × 38 mm	No	✓	✓	✓	189
109E1712F501	109E1712F502	109E1712F501	109E1712F5D01	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1712H501	109E1712H502	109E1712H501	109E1712H5D01	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1712K501	109E1712K502	109E1712K501	—	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1712M501	109E1712M502	109E1712M501	—	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1712Y501	109E1712Y502	109E1712Y501	—	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1724C501	109E1724C502	109E1724C501	109E1724C5D01	9EH1724P5C01	Ø172 × 51 mm	No	✓	✓	✓	213
109E1724F501	109E1724F502	109E1724F501	109E1724F5D01	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1724H501	109E1724H502	109E1724H501	109E1724H5D01	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1724K501	109E1724K502	109E1724K501	109E1724K5D01	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1724M501	109E1724M502	109E1724M501	109E1724M5D01	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1748C501	109E1748C502	109E1748C501	—	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1748F501	109E1748F502	109E1748F501	—	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1748H501	109E1748H502	109E1748H501	109E1748H5D01	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E1748K501	109E1748K502	109E1748K501	—	109E1748P5K03	Ø172 × 51 mm	No	✓	✓	✓	213
109E1748M501	109E1748M502	109E1748M501	—	—	Ø172 × 51 mm	No	✓	✓	✓	213
109E4712L401	109E4712L402	109E4712L401	109E4712L4D01	—	Ø172 × 147 × 25 mm	No	✓	✓	✓	200
109E4712M401	109E4712M402	109E4712M401	109E4712M4D01	—	Ø172 × 147 × 25 mm	No	✓	✓	✓	200

Please contact your point of sale regarding low-speed sensors.

Standard name	Certification number
UL	E46810
CSA	172248

TÜV certification numbers differ by model.

The content of this catalog is current as of September 2017. Please ask us about new products that we released after September 2017 if you want.

Models listed in the main section of this catalog	List of models (models not listed in the main section of this catalog are options. Standards for optional model numbers may differ from the certified standards listed at right. Contact us for details of models with "-" model numbers.)				Frame size	Rib	Standard (certification status is for the models listed in this catalog, and standards for optional model numbers may differ.)			page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
	109E4724F401	109E4724F402	109E4724F401	109E4724F4D01			—	∅172 × 147 × 25 mm	No	
109E4724H401	109E4724H402	109E4724H401	109E4724H4D01	109E4724P4H01	∅172 × 147 × 25 mm	No	✓	✓	✓	200
109E4724L401	109E4724L402	109E4724L401	109E4724L4D01	—	∅172 × 147 × 25 mm	No	✓	✓	✓	200
109E4724M401	109E4724M402	109E4724M401	109E4724M4D01	—	∅172 × 147 × 25 mm	No	✓	✓	✓	200
109E4748F401	109E4748F402	109E4748F401	109E4748F4D01	—	∅172 × 147 × 25 mm	No	✓	✓	✓	200
109E4748H401	109E4748H402	109E4748H401	109E4748H4D01	—	∅172 × 147 × 25 mm	No	✓	✓	✓	200
109E4748L401	109E4748L402	109E4748L401	109E4748L4D01	—	∅172 × 147 × 25 mm	No	✓	✓	✓	200
109E4748M401	109E4748M402	109E4748M401	109E4748M4D01	—	∅172 × 147 × 25 mm	No	✓	✓	✓	200
109E4748S401	109E4748S402	109E4748S401	109E4748S4D01	—	∅172 × 147 × 25 mm	No	✓	✓	✓	200
109E5712F501	109E5712F502	109E5712F501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5712H501	109E5712H502	109E5712H501	109E5712H5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5712K501	109E5712K502	109E5712K501	109E5712K5D01	109E5712P5K04	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5712M501	109E5712M502	109E5712M501	109E5712M5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5712Y501	109E5712Y502	109E5712Y501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5724C501	109E5724C502	109E5724C501	109E5724C5D01	9EH5724P5C01	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5724F501	109E5724F502	109E5724F501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5724H501	109E5724H502	109E5724H501	109E5724H5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5724K501	109E5724K502	109E5724K501	109E5724K5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5724M501	109E5724M502	109E5724M501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5748C501	109E5748C502	109E5748C501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5748F501	109E5748F502	109E5748F501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5748H501	109E5748H502	109E5748H501	109E5748H5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5748K501	109E5748K502	109E5748K501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109E5748M501	109E5748M502	109E5748M501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	210
109L1712H501	109L1712H502	109L1712H501	109L1712H5D01	—	∅172 × 51 mm	No	✓	✓	✓	391
109L1712M501	109L1712M502	109L1712M501	109L1712M5D01	—	∅172 × 51 mm	No	✓	✓	✓	391
109L1724H501	109L1724H502	109L1724H501	109L1724H5D01	—	∅172 × 51 mm	No	✓	✓	✓	391
109L1724M501	109L1724M502	109L1724M501	109L1724M5D01	—	∅172 × 51 mm	No	✓	✓	✓	391
109L1748H501	109L1748H502	109L1748H501	109L1748H5D01	—	∅172 × 51 mm	No	✓	✓	✓	391
109L1748M501	109L1748M502	109L1748M501	109L1748M5D01	—	∅172 × 51 mm	No	✓	✓	✓	391
109L5712H501	109L5712H502	109L5712H501	109L5712H5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	389
109L5712M501	109L5712M502	109L5712M501	109L5712M5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	389
109L5724H501	109L5724H502	109L5724H501	109L5724H5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	389
109L5724M501	109L5724M502	109L5724M501	109L5724M5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	389
109L5748H501	109L5748H502	109L5748H501	109L5748H5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	389
109L5748M501	109L5748M502	109L5748M501	109L5748M5D01	—	∅172 × 150 × 51 mm	No	✓	✓	✓	389
109P0405F3013	109P0405F3023	109P0405F3013	109P0405F3D013	—	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0405F601	109P0405F602	109P0405F601	109P0405F6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0405H3013	109P0405H3023	109P0405H3013	109P0405H3D013	—	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0405H601	109P0405H602	109P0405H601	109P0405H6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0405H701	109P0405H702	109P0405H701	109P0405H7D01	—	40 × 40 × 15 mm	Yes	✓	✓	✓	23
109P0405H901	109P0405H902	109P0405H901	109P0405H9D01	—	40 × 40 × 10 mm	Yes	✓	✓	✓	19
109P0405J601	109P0405J602	109P0405J601	—	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0405M601	109P0405M602	109P0405M601	109P0405M6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0405M701	109P0405M702	109P0405M701	109P0405M7D01	—	40 × 40 × 15 mm	Yes	✓	✓	✓	23
109P0405M901	109P0405M902	109P0405M901	109P0405M9D01	—	40 × 40 × 10 mm	Yes	✓	✓	✓	19
109P0412B3013	109P0412B3023	109P0412B3013	109P0412B3D013	109P0412P3B013	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0412D601	109P0412D602	109P0412D601	109P0412D6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0412E601	109P0412E602	109P0412E601	109P0412E6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0412F3013	109P0412F3023	109P0412F3013	109P0412F3D013	—	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0412F601	109P0412F602	109P0412F601	109P0412F6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0412G3013	109P0412G3023	109P0412G3013	109P0412G3D013	—	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0412G601	109P0412G602	109P0412G601	109P0412G6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0412H3013	109P0412H3023	109P0412H3013	109P0412H3D013	109P0412P3H013	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0412H601	109P0412H602	109P0412H601	109P0412H6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30
109P0412H701	109P0412H702	109P0412H701	109P0412H7D01	—	40 × 40 × 15 mm	Yes	✓	✓	✓	23
109P0412H901	109P0412H902	109P0412H901	109P0412H9D01	109P0412P9H01	40 × 40 × 10 mm	Yes	✓	✓	✓	19
109P0412J3013	109P0412J3023	109P0412J3013	109P0412J3D013	9PH0412P3J013	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0412K3013	109P0412K3023	109P0412K3013	109P0412K3D013	9PH0412P3K033	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0412M3013	109P0412M3023	109P0412M3013	109P0412M3D013	—	40 × 40 × 28 mm	Yes	✓	✓	✓	47
109P0412M601	109P0412M602	109P0412M601	109P0412M6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	30

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
	109R0812L401	109R0812L402	109R0812L401	109R0812L4D01			—	80 × 80 × 25 mm	Yes	
109R0812L4011	109R0812L4021	109R0812L4011	109R0812L4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0812M401	109R0812M402	109R0812M401	109R0812M4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0812M4011	109R0812M4021	109R0812M4011	109R0812M4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0812S401	109R0812S402	109R0812S401	109R0812S4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0812S4011	109R0812S4021	109R0812S4011	109R0812S4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0824F401	109R0824F402	109R0824F401	109R0824F4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0824F4011	109R0824F4021	109R0824F4011	109R0824F4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0824G401	109R0824G402	109R0824G401	109R0824G4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0824G4011	109R0824G4021	109R0824G4011	109R0824G4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0824H401	109R0824H402	109R0824H401	109R0824H4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0824H4011	109R0824H4021	109R0824H4011	109R0824H4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0824L401	109R0824L402	109R0824L401	109R0824L4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0824L4011	109R0824L4021	109R0824L4011	109R0824L4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0824M401	109R0824M402	109R0824M401	109R0824M4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0824M4011	109R0824M4021	109R0824M4011	109R0824M4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0824S401	109R0824S402	109R0824S401	109R0824S4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0824S4011	109R0824S4021	109R0824S4011	109R0824S4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0848K401	109R0848K402	109R0848K401	109R0848K4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0848K4011	109R0848K4021	109R0848K4011	109R0848K4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
109R0848S401	109R0848S402	109R0848S401	109R0848S4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	117
109R0848S4011	109R0848S4021	109R0848S4011	109R0848S4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	117
9A0612F401	9A0612F402	9A0612F401	9A0612F4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0612F4011	9A0612F4021	9A0612F4011	9A0612F4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0612G401	9A0612G402	9A0612G401	9A0612G4D01	9AH0612P4G03	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0612G4011	9A0612G4021	9A0612G4011	9A0612G4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0612H401	9A0612H402	9A0612H401	9A0612H4D01	9AH0612P4H05	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0612H4011	9A0612H4021	9A0612H4011	9A0612H4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0612M401	9A0612M402	9A0612M401	9A0612M4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0612M4011	9A0612M4021	9A0612M4011	9A0612M4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0612S401	9A0612S402	9A0612S401	9A0612S4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0612S4011	9A0612S4021	9A0612S4011	9A0612S4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0624F401	9A0624F402	9A0624F401	9A0624F4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0624F4011	9A0624F4021	9A0624F4011	9A0624F4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0624G401	9A0624G402	9A0624G401	9A0624G4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0624G4011	9A0624G4021	9A0624G4011	—	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0624H401	9A0624H402	9A0624H401	9A0624H4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0624H4011	9A0624H4021	9A0624H4011	9A0624H4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0624M401	9A0624M402	9A0624M401	9A0624M4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0624M4011	9A0624M4021	9A0624M4011	9A0624M4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0624S401	9A0624S402	9A0624S401	9A0624S4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	80
9A0624S4011	9A0624S4021	9A0624S4011	9A0624S4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	80
9A0812F401	9A0812F402	9A0812F401	9A0812F4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0812F4011	9A0812F4021	9A0812F4011	9A0812F4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0812G401	9A0812G402	9A0812G401	9A0812G4D01	9AH0812P4G04	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0812G4011	9A0812G4021	9A0812G4011	9A0812G4D011	9AH0812P4G011	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0812H401	9A0812H402	9A0812H401	9A0812H4D01	9AH0812P4H04	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0812H4011	9A0812H4021	9A0812H4011	9A0812H4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0812L401	9A0812L402	9A0812L401	9A0812L4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0812L4011	9A0812L4021	9A0812L4011	9A0812L4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0812M401	9A0812M402	9A0812M401	9A0812M4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0812M4011	9A0812M4021	9A0812M4011	9A0812M4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0812S401	9A0812S402	9A0812S401	9A0812S4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0812S4011	9A0812S4021	9A0812S4011	9A0812S4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0824F401	9A0824F402	9A0824F401	9A0824F4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0824F4011	9A0824F4021	9A0824F4011	9A0824F4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0824G401	9A0824G402	9A0824G401	9A0824G4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0824G4011	9A0824G4021	9A0824G4011	9A0824G4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0824H401	9A0824H402	9A0824H401	9A0824H4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0824H4011	9A0824H4021	9A0824H4011	9A0824H4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0824L401	9A0824L402	9A0824L401	9A0824L4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
9A0824L4011	9A0824L4021	9A0824L4011	9A0824L4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0824M401	9A0824M402	9A0824M401	9A0824M4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0824M4011	9A0824M4021	9A0824M4011	9A0824M4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0824S401	9A0824S402	9A0824S401	9A0824S4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	120
9A0824S4011	9A0824S4021	9A0824S4011	9A0824S4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	120
9A0912F401	9A0912F402	9A0912F401	9A0912F4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0912F4011	9A0912F4021	9A0912F4011	9A0912F4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0912G401	9A0912G402	9A0912G401	9A0912G4D01	9AH0912P4G03	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0912G4011	9A0912G4021	9A0912G4011	9A0912G4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0912H401	9A0912H402	9A0912H401	9A0912H4D01	9AH0912P4H03	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0912H4011	9A0912H4021	9A0912H4011	9A0912H4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0912L401	9A0912L402	9A0912L401	9A0912L4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0912L4011	9A0912L4021	9A0912L4011	9A0912L4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0912M401	9A0912M402	9A0912M401	9A0912M4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0912M4011	9A0912M4021	9A0912M4011	9A0912M4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0912S401	9A0912S402	9A0912S401	9A0912S4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0912S4011	9A0912S4021	9A0912S4011	9A0912S4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0924F401	9A0924F402	9A0924F401	9A0924F4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0924F4011	9A0924F4021	9A0924F4011	9A0924F4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0924G401	9A0924G402	9A0924G401	9A0924G4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0924G4011	9A0924G4021	9A0924G4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0924H401	9A0924H402	9A0924H401	9A0924H4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0924H4011	9A0924H4021	9A0924H4011	9A0924H4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0924L401	9A0924L402	9A0924L401	9A0924L4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0924L4011	9A0924L4021	9A0924L4011	9A0924L4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0924M401	9A0924M402	9A0924M401	9A0924M4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0924M4011	9A0924M4021	9A0924M4011	9A0924M4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0924S401	9A0924S402	9A0924S401	9A0924S4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0924S4011	9A0924S4021	9A0924S4011	9A0924S4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9A0948S401	9A0948S402	9A0948S401	9A0948S4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	146
9A0948S4011	9A0948S4021	9A0948S4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	146
9B1TP24P0H001	—	—	—	9B1TP24P0H001	∅270 × 99 mm	—	✓	✓	✓	430
9B1TP48P0G001	—	—	—	9B1TP48P0G001	∅270 × 99 mm	—	✓	✓	✓	430
9B1TP48P0H001	—	—	—	9B1TP48P0H001	∅270 × 99 mm	—	✓	✓	✓	430
9B1TS48P0G001	—	—	—	9B1TS48P0G001	∅270 × 119 mm	—	✓	✓	✓	433
9B1TS48P0H001	—	—	—	9B1TS48P0H001	∅270 × 119 mm	—	✓	✓	✓	433
9BD12FC6-1	9BD12FA6-1	9BD12FC6-1	9BD12FD6-1	—	76 × 20 mm	—	✓	✓	✓	438
9BD12HC6-1	9BD12HA6-1	9BD12HC6-1	9BD12HD6-1	—	76 × 20 mm	—	✓	✓	✓	438
9BD12SC6-1	9BD12SA6-1	9BD12SC6-1	9BD12SD6-1	9BD12P6S01	76 × 20 mm	—	✓	✓	✓	438
9BD24FC6-1	9BD24FA6-1	9BD24FC6-1	9BD24FD6-1	—	76 × 20 mm	—	✓	✓	✓	438
9BD24HC6-1	9BD24HA6-1	9BD24HC6-1	9BD24HD6-1	—	76 × 20 mm	—	✓	✓	✓	438
9BD24SC6-1	9BD24SA6-1	9BD24SC6-1	9BD24SD6-1	9BD24P6S06	76 × 20 mm	—	✓	✓	✓	438
9BFB12P2H003	—	—	—	9BFB12P2H003	120 × 32 mm	—	✓	✓	✓	451
9BFB24P2H003	—	—	—	9BFB24P2H003	120 × 32 mm	—	✓	✓	✓	451
9BMB12F201	9BMB12F202	9BMB12F201	9BMB12F2D01	9BMB12P2F01	97 × 33 mm	—	✓	✓	✓	446
9BMB12G201	9BMB12G202	9BMB12G201	9BMB12G2D01	9BMB12P2G01	97 × 33 mm	—	✓	✓	✓	446
9BMB12H201	9BMB12H202	9BMB12H201	9BMB12H2D01	9BMB12P2H01	97 × 33 mm	—	✓	✓	✓	446
9BMB12K201	9BMB12K202	9BMB12K201	—	9BMB12P2K01	97 × 33 mm	—	✓	✓	✓	446
9BMB12P2F01	9BMB12F202	9BMB12F201	9BMB12F2D01	9BMB12P2F01	97 × 33 mm	—	✓	✓	✓	446
9BMB12P2G01	9BMB12G202	9BMB12G201	9BMB12G2D01	9BMB12P2G01	97 × 33 mm	—	✓	✓	✓	446
9BMB12P2H01	9BMB12H202	9BMB12H201	9BMB12H2D01	9BMB12P2H01	97 × 33 mm	—	✓	✓	✓	446
9BMB12P2K01	9BMB12K202	9BMB12K201	—	9BMB12P2K01	97 × 33 mm	—	✓	✓	✓	446
9BMB12P2S01	9BMB12S202	9BMB12S201	—	9BMB12P2S01	97 × 33 mm	—	✓	✓	✓	446
9BMB12S201	9BMB12S202	9BMB12S201	—	9BMB12P2S01	97 × 33 mm	—	✓	✓	✓	446
9BMB24F201	9BMB24F202	9BMB24F201	9BMB24F2D01	9BMB24P2F01	97 × 33 mm	—	✓	✓	✓	446
9BMB24G201	9BMB24G202	9BMB24G201	9BMB24G2D01	9BMB24P2G01	97 × 33 mm	—	✓	✓	✓	446
9BMB24H201	9BMB24H202	9BMB24H201	9BMB24H2D01	9BMB24P2H01	97 × 33 mm	—	✓	✓	✓	446
9BMB24K201	9BMB24K202	9BMB24K201	—	9BMB24P2K01	97 × 33 mm	—	✓	✓	✓	446
9BMB24P2F01	9BMB24F202	9BMB24F201	9BMB24F2D01	9BMB24P2F01	97 × 33 mm	—	✓	✓	✓	446
9BMB24P2G01	9BMB24G202	9BMB24G201	9BMB24G2D01	9BMB24P2G01	97 × 33 mm	—	✓	✓	✓	446
9BMB24P2H01	9BMB24H202	9BMB24H201	9BMB24H2D01	9BMB24P2H01	97 × 33 mm	—	✓	✓	✓	446

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Models listed in the main section of this catalog	List of models (models not listed in the main section of this catalog are options. Standards for optional model numbers may differ from the certified standards listed at right. Contact us for details of models with "-" model numbers.)				Frame size	Rib	Standard (certification status is for the models listed in this catalog, and standards for optional model numbers may differ.)			page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
	9BMB24P2K01	9BMB24K202	9BMB24K201	—			9BMB24P2K01	97 × 33 mm	—	
9BMB24P2S01	9BMB24S202	9BMB24S201	—	9BMB24P2S01	97 × 33 mm	—	✓	✓	✓	446
9BMB24S201	9BMB24S202	9BMB24S201	—	9BMB24P2S01	97 × 33 mm	—	✓	✓	✓	446
9BMC12P2G001	9BMC12G2002	—	—	9BMC12P2G001	97 × 33 mm	—	✓	✓	✓	444
9BMC24P2G001	—	—	—	9BMC24P2G001	97 × 33 mm	—	✓	✓	✓	444
9CR0612P5G03	9CR0612G502	9CR0612G501	—	9CR0612P5G03	60 × 60 × 51 mm	—	✓	✓	✓	236
9CR0612P5H03	—	9CR0612H501	—	9CR0612P5H03	60 × 60 × 51 mm	—	✓	✓	✓	236
9CR1212P0G03	9CR1212G002	9CR1212G001	—	9CR1212P0G03	120 × 120 × 76 mm	—	✓	✓	✓	254
9CR5748P9G001	—	—	—	9CR5748P9G001	∅172 × 150 × 102 mm	—	✓	✓	✓	256
9CRA0312P4J03	—	9CRA0312J401	—	9CRA0312P4J03	38 × 38 × 48 mm	—	✓	✓	✓	222
9CRA0312P4K03	9CRA0312K402	—	—	9CRA0312P4K03	38 × 38 × 48 mm	—	✓	✓	✓	222
9CRA0412P4G03	9CRA0412G402	—	—	9CRA0412P4G03	40 × 40 × 48 mm	—	✓	✓	✓	224
9CRA0412P4J03	9CRA0412J402	9CRA0412J401	—	9CRA0412P4J03	40 × 40 × 48 mm	—	✓	✓	✓	224
9CRA0412P4K03	9CRA0412K402	9CRA0412K401	—	9CRA0412P4K03	40 × 40 × 48 mm	—	✓	✓	✓	224
9CRA0612P0G001	—	—	—	9CRA0612P0G001	60 × 60 × 76 mm	—	✓	✓	✓	243
9CRA0612P0S001	—	—	—	9CRA0612P0S001	60 × 60 × 76 mm	—	✓	✓	✓	243
9CRA0612P6G001	—	—	—	9CRA0612P6G001	60 × 60 × 56 mm	—	✓	✓	✓	238
9CRA0612P6J001	—	—	—	9CRA0612P6J001	60 × 60 × 56 mm	—	✓	✓	✓	238
9CRA0612P6K001	—	—	—	9CRA0612P6K001	60 × 60 × 56 mm	—	✓	✓	✓	238
9CRA0812P8G001	—	9CRA0812G8001	—	9CRA0812P8G001	80 × 80 × 80 mm	—	✓	✓	✓	249
9CRA0824P8G001	—	—	—	9CRA0824P8G001	80 × 80 × 80 mm	—	✓	✓	✓	249
9CRA0848P8G001	—	—	—	9CRA0848P8G001	80 × 80 × 80 mm	—	✓	✓	✓	249
9CRA0912P0G001	—	—	—	9CRA0912P0G001	92 × 92 × 76 mm	—	✓	✓	✓	252
9CRA0948P0G601	—	—	—	9CRA0948P0G601	92 × 92 × 76 mm	—	✓	✓	✓	252
9CRB0812P8G001	—	—	—	9CRB0812P8G001	80 × 80 × 80 mm	—	✓	✓	✓	245
9CRD0412P5G03	—	—	—	9CRD0412P5G03	40 × 40 × 56 mm	—	✓	✓	✓	231
9CRD0412P5H03	—	—	—	9CRD0412P5H03	40 × 40 × 56 mm	—	✓	✓	✓	231
9CRD0412P5J03	—	—	—	9CRD0412P5J03	40 × 40 × 56 mm	—	✓	✓	✓	231
9CRD0412P5M03	—	—	—	9CRD0412P5M03	40 × 40 × 56 mm	—	✓	✓	✓	231
9CRE0412P5J03	9CRE0412J502	—	—	9CRE0412P5J03	40 × 40 × 56 mm	—	✓	✓	✓	234
9CRE0612P0G001	—	—	—	9CRE0612P0G001	60 × 60 × 76 mm	—	✓	✓	✓	241
9CRE0812P8G001	—	—	—	9CRE0812P8G001	80 × 80 × 80 mm	—	✓	✓	✓	247
9CRH0412P5J001	—	—	—	9CRH0412P5J001	40 × 40 × 56 mm	—	✓	✓	✓	227
9CRL0612P0G001	—	—	—	9CRL0612P0G001	60 × 60 × 76 mm	No	✓	✓	✓	361
9CRL0812P8G001	—	—	—	9CRL0812P8G001	80 × 80 × 80 mm	No	✓	✓	✓	366
9CRV0412P5J201	—	—	—	9CRV0412P5J201	40 × 40 × 56 mm	—	✓	✓	✓	229
9EC2024H001	9EC2024H002	9EC2024H001	9EC2024H0D01	—	∅200 × 70 mm	No	✓	✓	✓	218
9EC2048A001	9EC2048A002	9EC2048A001	9EC2048A0D01	9EC2048P0A01	∅200 × 70 mm	No	✓	✓	✓	218
9EC2048H001	9EC2048H002	9EC2048H001	—	—	∅200 × 70 mm	No	✓	✓	✓	218
9EC2048J001	9EC2048J002	9EC2048J001	—	9EC2048P0J01	∅200 × 70 mm	No	—	—	—	218
9G0612G101	9G0612G102	9G0612G101	9G0612G1D01	9G0612P1G03	60 × 60 × 38 mm	Yes	✓	✓	✓	92
9G0612G1011	9G0612G1021	9G0612G1011	9G0612G1D011	9G0612P1G011	60 × 60 × 38 mm	No	✓	✓	✓	92
9G0612P4H001	9G0612H4002	—	9G0612H4D001	9G0612P4H001	60 × 60 × 25 mm	Yes	✓	✓	✓	73
9G0612P4H0011	9G0612H40021	9G0612H40011	9G0612H4D0011	9G0612P4H0011	60 × 60 × 25 mm	No	✓	✓	✓	73
9G0612P4S001	9G0612S4002	9G0612S4001	—	9G0612P4S001	60 × 60 × 25 mm	Yes	✓	✓	✓	73
9G0612P4S0011	9G0612S40021	—	—	9G0612P4S0011	60 × 60 × 25 mm	No	✓	✓	✓	73
9G0612S101	9G0612S102	9G0612S101	9G0612S1D01	—	60 × 60 × 38 mm	Yes	✓	✓	✓	92
9G0612S1011	9G0612S1021	9G0612S1011	—	—	60 × 60 × 38 mm	No	✓	✓	✓	92
9G0624G101	9G0624G102	9G0624G101	9G0624G1D01	9G0624P1G03	60 × 60 × 38 mm	Yes	✓	✓	✓	92
9G0624G1011	9G0624G1021	9G0624G1011	9G0624G1D011	9G0624P1G031	60 × 60 × 38 mm	No	✓	✓	✓	92
9G0624H101	9G0624H102	9G0624H101	9G0624H1D01	—	60 × 60 × 38 mm	Yes	✓	✓	✓	92
9G0624H1011	9G0624H1021	9G0624H1011	—	—	60 × 60 × 38 mm	No	✓	✓	✓	92
9G0624P4H001	9G0624H4002	9G0624H4001	9G0624H4D001	9G0624P4H001	60 × 60 × 25 mm	Yes	✓	✓	✓	73
9G0624P4H0011	9G0624H40021	—	—	9G0624P4H0011	60 × 60 × 25 mm	No	✓	✓	✓	73
9G0624P4S001	9G0624S4002	—	9G0624S4D001	9G0624P4S001	60 × 60 × 25 mm	Yes	✓	✓	✓	73
9G0624P4S0011	9G0624S40021	—	—	9G0624P4S0011	60 × 60 × 25 mm	No	✓	✓	✓	73
9G0624S101	9G0624S102	9G0624S101	9G0624S1D01	—	60 × 60 × 38 mm	Yes	✓	✓	✓	92
9G0624S1011	9G0624S1021	9G0624S1011	—	—	60 × 60 × 38 mm	No	✓	✓	✓	92
9G0648G101	9G0648G102	9G0648G101	9G0648G1D01	9G0648P1G01	60 × 60 × 38 mm	Yes	✓	✓	✓	92
9G0648G1011	9G0648G1021	9G0648G1011	—	9G0648P1G011	60 × 60 × 38 mm	No	✓	✓	✓	92
9G0648P4S001	—	—	—	9G0648P4S001	60 × 60 × 25 mm	Yes	✓	✓	✓	73

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9G1212E401	9G1212E402	9G1212E401	9G1212E4D01	9G1212P4E05	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1212E4011	9G1212E4021	9G1212E4011	9G1212E4D011	9G1212P4E041	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1212F101	9G1212F102	9G1212F101	—	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1212F1011	9G1212F1021	9G1212F1011	—	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1212F401	9G1212F402	9G1212F401	9G1212F4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1212F4011	9G1212F4021	9G1212F4011	9G1212F4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1212G101	9G1212G102	9G1212G101	9G1212G1D01	9G1212P1G04	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1212G1011	9G1212G1021	9G1212G1011	9G1212G1D011	9G1212P1G081	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1212G401	9G1212G402	9G1212G401	9G1212G4D01	9G1212P4G03	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1212G4011	9G1212G4021	9G1212G4011	9G1212G4D011	9G1212P4G031	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1212H101	9G1212H102	9G1212H101	9G1212H1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1212H1011	9G1212H1021	9G1212H1011	9G1212H1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1212H401	9G1212H402	9G1212H401	9G1212H4D01	9G1212P4H04	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1212H4011	9G1212H4021	9G1212H4011	9G1212H4D011	9G1212P4H091	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1212M101	9G1212M102	9G1212M101	9G1212M1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1212M1011	9G1212M1021	9G1212M1011	9G1212M1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1212M401	9G1212M402	9G1212M401	9G1212M4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1212M4011	9G1212M4021	9G1212M4011	9G1212M4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1224A401	9G1224A402	9G1224A401	9G1224A4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1224A4011	9G1224A4021	9G1224A4011	9G1224A4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1224E101	9G1224E102	9G1224E101	9G1224E1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1224E1011	9G1224E1021	9G1224E1011	9G1224E1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1224E401	9G1224E402	9G1224E401	9G1224E4D01	9G1224P4E01	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1224E4011	9G1224E4021	9G1224E4011	9G1224E4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1224F101	9G1224F102	9G1224F101	9G1224F1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1224F1011	9G1224F1021	9G1224F1011	—	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1224F401	9G1224F402	9G1224F401	9G1224F4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1224F4011	9G1224F4021	9G1224F4011	9G1224F4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1224G101	9G1224G102	9G1224G101	9G1224G1D01	9G1224P1G01	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1224G1011	9G1224G1021	9G1224G1011	9G1224G1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1224G401	9G1224G402	9G1224G401	9G1224G4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1224G4011	9G1224G4021	9G1224G4011	9G1224G4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1224H101	9G1224H102	9G1224H101	9G1224H1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1224H1011	9G1224H1021	9G1224H1011	9G1224H1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1224H401	9G1224H402	9G1224H401	9G1224H4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1224H4011	9G1224H4021	9G1224H4011	9G1224H4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1224M101	9G1224M102	9G1224M101	9G1224M1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1224M1011	9G1224M1021	9G1224M1011	9G1224M1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1224M401	9G1224M402	9G1224M401	9G1224M4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1224M4011	9G1224M4021	9G1224M4011	9G1224M4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1248A401	9G1248A402	9G1248A401	9G1248A4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1248A4011	9G1248A4021	9G1248A4011	9G1248A4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1248E101	9G1248E102	9G1248E101	9G1248E1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1248E1011	9G1248E1021	9G1248E1011	9G1248E1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1248E401	9G1248E402	9G1248E401	9G1248E4D01	9G1248P4E05	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1248E4011	9G1248E4021	9G1248E4011	9G1248E4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1248F101	9G1248F102	9G1248F101	9G1248F1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1248F1011	9G1248F1021	9G1248F1011	—	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1248F401	9G1248F402	9G1248F401	9G1248F4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1248F4011	9G1248F4021	9G1248F4011	9G1248F4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1248G101	9G1248G102	9G1248G101	9G1248G1D01	9G1248P1G04	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1248G1011	9G1248G1021	9G1248G1011	9G1248G1D011	9G1248P1G041	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1248G401	9G1248G402	9G1248G401	9G1248G4D01	9G1248P4G04	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1248G4011	9G1248G4021	9G1248G4011	9G1248G4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1248H101	9G1248H102	9G1248H101	9G1248H1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1248H1011	9G1248H1021	9G1248H1011	9G1248H1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1248H401	9G1248H402	9G1248H401	9G1248H4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172
9G1248H4011	9G1248H4021	9G1248H4011	9G1248H4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	172
9G1248M101	9G1248M102	9G1248M101	9G1248M1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	182
9G1248M1011	9G1248M1021	9G1248M1011	9G1248M1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	182
9G1248M401	9G1248M402	9G1248M401	9G1248M4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	172

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Models listed in the main section of this catalog	List of models (models not listed in the main section of this catalog are options. Standards for optional model numbers may differ from the certified standards listed at right. Contact us for details of models with "-" model numbers.)				Frame size	Rib	Standard (certification status is for the models listed in this catalog, and standards for optional model numbers may differ.)			page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
	9GA0612P6G001	9GA0612G6002	9GA0612G6001	—			9GA0612P6G001	60 × 60 × 20 mm	Yes	
9GA0612P6S001	9GA0612S6002	9GA0612S6001	—	9GA0612P6S001	60 × 60 × 20 mm	Yes	✓	✓	✓	65
9GA0612P7G01	9GA0612G702	9GA0612G701	9GA0612G7D01	9GA0612P7G01	60 × 60 × 15 mm	Yes	✓	✓	✓	59
9GA0612P7H01	9GA0612H702	9GA0612H701	9GA0612H7D01	9GA0612P7H01	60 × 60 × 15 mm	Yes	✓	✓	✓	59
9GA0624H6001	9GA0624H6002	9GA0624H6001	9GA0624H6D001	—	60 × 60 × 20 mm	Yes	✓	✓	✓	65
9GA0624M6001	9GA0624M6002	9GA0624M6001	9GA0624M6D001	—	60 × 60 × 20 mm	Yes	✓	✓	✓	65
9GA0624M701	9GA0624M702	9GA0624M701	—	—	60 × 60 × 15 mm	Yes	✓	✓	✓	59
9GA0624P1J03	9GA0624J102	9GA0624J101	—	9GA0624P1J03	60 × 60 × 38 mm	Yes	✓	✓	✓	85
9GA0624P1J031	9GA0624J1021	9GA0624J1011	—	9GA0624P1J031	60 × 60 × 38 mm	No	✓	✓	✓	85
9GA0624P1K03	—	—	—	9GA0624P1K03	60 × 60 × 38 mm	Yes	✓	✓	✓	85
9GA0624P1K031	—	—	—	9GA0624P1K031	60 × 60 × 38 mm	No	✓	✓	✓	85
9GA0624P6G001	9GA0624G6002	9GA0624G6001	—	9GA0624P6G001	60 × 60 × 20 mm	Yes	✓	✓	✓	65
9GA0624P6S001	9GA0624S6002	—	—	9GA0624P6S001	60 × 60 × 20 mm	Yes	✓	✓	✓	65
9GA0624P7G01	9GA0624G702	—	—	9GA0624P7G01	60 × 60 × 15 mm	Yes	✓	✓	—	59
9GA0712P1G001	—	—	—	9GA0712P1G001	70 × 70 × 38 mm	Yes	✓	✓	✓	95
9GA0712P1G0011	—	—	—	9GA0712P1G0011	70 × 70 × 38 mm	No	✓	✓	✓	95
9GA0712P1H001	—	—	—	9GA0712P1H001	70 × 70 × 38 mm	Yes	✓	✓	✓	95
9GA0712P1H0011	—	—	—	9GA0712P1H0011	70 × 70 × 38 mm	No	✓	✓	✓	95
9GA0812H7001	—	9GA0812H7001	9GA0812H7D001	—	80 × 80 × 15 mm	Yes	✓	✓	✓	97
9GA0812P1G61	—	—	—	9GA0812P1G61	80 × 80 × 38 mm	Yes	✓	✓	✓	131
9GA0812P1G611	—	—	—	9GA0812P1G611	80 × 80 × 38 mm	No	✓	✓	✓	131
9GA0812P1H61	9GA0812H162	9GA0812H161	9GA0812H1D61	9GA0812P1H61	80 × 80 × 38 mm	Yes	✓	✓	✓	131
9GA0812P1H611	9GA0812H1621	9GA0812H1611	—	9GA0812P1H611	80 × 80 × 38 mm	No	✓	✓	✓	131
9GA0812P1S61	9GA0812S162	9GA0812S161	9GA0812S1D61	9GA0812P1S61	80 × 80 × 38 mm	Yes	✓	✓	✓	131
9GA0812P1S611	9GA0812S1621	9GA0812S1611	—	9GA0812P1S611	80 × 80 × 38 mm	No	✓	✓	✓	131
9GA0812P2H001	—	—	—	9GA0812P2H001	80 × 80 × 32 mm	Yes	✓	✓	✓	123
9GA0812P2H0011	—	—	—	9GA0812P2H0011	80 × 80 × 32 mm	No	✓	✓	✓	123
9GA0812P2M001	—	—	—	9GA0812P2M001	80 × 80 × 32 mm	Yes	✓	✓	✓	123
9GA0812P2M0011	—	—	—	9GA0812P2M0011	80 × 80 × 32 mm	No	✓	✓	✓	123
9GA0812P2S001	—	9GA0812S2001	—	9GA0812P2S001	80 × 80 × 32 mm	Yes	✓	✓	✓	123
9GA0812P2S0011	—	—	—	9GA0812P2S0011	80 × 80 × 32 mm	No	✓	✓	✓	123
9GA0812P4G001	9GA0812G4002	9GA0812G4001	—	9GA0812P4G001	80 × 80 × 25 mm	Yes	✓	✓	✓	108
9GA0812P4G0011	9GA0812G40021	9GA0812G40011	—	9GA0812P4G0011	80 × 80 × 25 mm	No	✓	✓	✓	108
9GA0812P4H001	9GA0812H4002	9GA0812H4001	9GA0812H4D001	9GA0812P4H001	80 × 80 × 25 mm	Yes	✓	✓	✓	108
9GA0812P4H0011	9GA0812H40021	9GA0812H40011	—	9GA0812P4H0011	80 × 80 × 25 mm	No	✓	✓	✓	108
9GA0812P4J001	9GA0812J4002	9GA0812J4001	9GA0812J4D001	9GA0812P4J001	80 × 80 × 25 mm	Yes	✓	✓	✓	108
9GA0812P4J0011	9GA0812J40021	9GA0812J40011	—	9GA0812P4J0011	80 × 80 × 25 mm	No	✓	✓	✓	108
9GA0812P6G001	9GA0812G6002	9GA0812G6001	—	9GA0812P6G001	80 × 80 × 20 mm	Yes	✓	✓	✓	102
9GA0812P6M001	9GA0812M6002	9GA0812M6001	—	9GA0812P6M001	80 × 80 × 20 mm	Yes	✓	✓	✓	102
9GA0812P7G001	—	—	—	9GA0812P7G001	80 × 80 × 15 mm	Yes	✓	✓	✓	97
9GA0812P7S001	—	—	—	9GA0812P7S001	80 × 80 × 15 mm	Yes	✓	✓	✓	97
9GA0824H7001	9GA0824H7002	9GA0824H7001	9GA0824H7D001	—	80 × 80 × 15 mm	Yes	✓	✓	✓	97
9GA0824P1H61	9GA0824H162	9GA0824H161	9GA0824H1D61	9GA0824P1H61	80 × 80 × 38 mm	Yes	✓	✓	✓	131
9GA0824P1H611	9GA0824H1621	9GA0824H1611	—	9GA0824P1H611	80 × 80 × 38 mm	No	✓	✓	✓	131
9GA0824P1S61	9GA0824S162	9GA0824S161	—	9GA0824P1S61	80 × 80 × 38 mm	Yes	✓	✓	✓	131
9GA0824P1S611	9GA0824S1621	9GA0824S1611	—	9GA0824P1S611	80 × 80 × 38 mm	No	✓	✓	✓	131
9GA0824P2S001	9GA0824S2002	—	—	9GA0824P2S001	80 × 80 × 32 mm	Yes	✓	✓	✓	123
9GA0824P2S0011	—	—	—	9GA0824P2S0011	80 × 80 × 32 mm	No	✓	✓	✓	123
9GA0824P4G001	9GA0824G4002	9GA0824G4001	—	9GA0824P4G001	80 × 80 × 25 mm	Yes	✓	✓	✓	108
9GA0824P4G0011	9GA0824G40021	9GA0824G40011	—	9GA0824P4G0011	80 × 80 × 25 mm	No	✓	✓	✓	108
9GA0824P4H001	9GA0824H4002	9GA0824H4001	9GA0824H4D001	9GA0824P4H001	80 × 80 × 25 mm	Yes	✓	✓	✓	108
9GA0824P4H0011	9GA0824H40021	9GA0824H40011	—	9GA0824P4H0011	80 × 80 × 25 mm	No	✓	✓	✓	108
9GA0824P4J001	9GA0824J4002	9GA0824J4001	9GA0824J4D001	9GA0824P4J001	80 × 80 × 25 mm	Yes	✓	✓	✓	108
9GA0824P4J0011	9GA0824J40021	9GA0824J40011	9GA0824J4D0011	9GA0824P4J0011	80 × 80 × 25 mm	No	✓	✓	✓	108
9GA0824P6G001	9GA0824G6002	9GA0824G6001	—	9GA0824P6G001	80 × 80 × 20 mm	Yes	✓	✓	✓	102
9GA0824P6M001	9GA0824M6002	9GA0824M6001	—	9GA0824P6M001	80 × 80 × 20 mm	Yes	✓	✓	✓	102
9GA0824P7G001	—	—	9GA0824G7D001	9GA0824P7G001	80 × 80 × 15 mm	Yes	✓	✓	✓	97
9GA0824P7S001	—	—	—	9GA0824P7S001	80 × 80 × 15 mm	Yes	✓	✓	✓	97
9GA0848P1S61	—	—	—	9GA0848P1S61	80 × 80 × 38 mm	Yes	✓	✓	✓	131
9GA0848P1S611	—	—	—	9GA0848P1S611	80 × 80 × 38 mm	No	✓	✓	✓	131
9GA0848P2S001	—	—	—	9GA0848P2S001	80 × 80 × 32 mm	Yes	✓	✓	✓	123

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9GA0848P2S0011	—	—	—	9GA0848P2S0011	80 × 80 × 32 mm	No	✓	✓	✓	123
9GA0912P1H03	9GA0912H102	9GA0912H101	9GA0912H1D01	9GA0912P1H03	92 × 92 × 38 mm	Yes	✓	✓	✓	152
9GA0912P1H031	9GA0912H1021	9GA0912H1011	—	9GA0912P1H031	92 × 92 × 38 mm	No	✓	✓	✓	152
9GA0912P4G03	9GA0912G402	9GA0912G401	9GA0912G4D01	9GA0912P4G03	92 × 92 × 25 mm	Yes	✓	✓	✓	141
9GA0912P4G031	9GA0912G4021	9GA0912G4011	—	9GA0912P4G031	92 × 92 × 25 mm	No	✓	✓	✓	141
9GA0912P4J03	9GA0912J402	9GA0912J401	9GA0912J4D01	9GA0912P4J03	92 × 92 × 25 mm	Yes	✓	✓	✓	141
9GA0912P4J031	9GA0912J4021	9GA0912J4011	—	9GA0912P4J031	92 × 92 × 25 mm	No	✓	✓	✓	141
9GA0912P4S03	9GA0912S402	9GA0912S401	—	9GA0912P4S03	92 × 92 × 25 mm	Yes	✓	✓	✓	141
9GA0912P4S031	9GA0912S4021	9GA0912S4011	—	9GA0912P4S031	92 × 92 × 25 mm	No	✓	✓	✓	141
9GA0924P1H01	9GA0924H102	9GA0924H101	9GA0924H1D01	9GA0924P1H01	92 × 92 × 38 mm	Yes	✓	✓	✓	152
9GA0924P1H011	—	9GA0924H1011	9GA0924H1D011	9GA0924P1H011	92 × 92 × 38 mm	No	✓	✓	✓	152
9GA0924P4G03	9GA0924G402	9GA0924G401	9GA0924G4D01	9GA0924P4G03	92 × 92 × 25 mm	Yes	✓	✓	✓	141
9GA0924P4G031	9GA0924G4021	9GA0924G4011	—	9GA0924P4G031	92 × 92 × 25 mm	No	✓	✓	✓	141
9GA0924P4J03	9GA0924J402	9GA0924J401	9GA0924J4D01	9GA0924P4J03	92 × 92 × 25 mm	Yes	✓	✓	✓	141
9GA0924P4J031	9GA0924J4021	9GA0924J4011	—	9GA0924P4J031	92 × 92 × 25 mm	No	✓	✓	✓	141
9GA0924P4S03	9GA0924S402	9GA0924S401	—	9GA0924P4S03	92 × 92 × 25 mm	Yes	✓	✓	✓	141
9GA0924P4S031	9GA0924S4021	9GA0924S4011	—	9GA0924P4S031	92 × 92 × 25 mm	No	✓	✓	✓	141
9GA0948P1H03	9GA0948H102	9GA0948H101	—	9GA0948P1H03	92 × 92 × 38 mm	Yes	✓	✓	✓	152
9GA0948P1H031	—	—	—	9GA0948P1H031	92 × 92 × 38 mm	No	✓	✓	✓	152
9GA1212G4001	—	9GA1212G4001	—	9GA1212P4G001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1212G40011	—	9GA1212G40011	—	9GA1212P4G0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1212P4G001	—	9GA1212G4001	—	9GA1212P4G001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1212P4G0011	—	9GA1212G40011	—	9GA1212P4G0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1212P4S001	—	9GA1212S4001	—	9GA1212P4S001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1212P4S0011	—	9GA1212S40011	—	9GA1212P4S0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1212S4001	—	9GA1212S4001	—	9GA1212P4S001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1212S40011	—	9GA1212S40011	—	9GA1212P4S0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1224G4001	9GA1224G4002	9GA1224G4001	9GA1224G4D001	9GA1224P4G001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1224G40011	—	9GA1224G40011	—	9GA1224P4G0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1224P4G001	9GA1224G4002	9GA1224G4001	9GA1224G4D001	9GA1224P4G001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1224P4G0011	—	9GA1224G40011	—	9GA1224P4G0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1224P4S001	—	9GA1224S4001	—	9GA1224P4S001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1224P4S0011	—	9GA1224S40011	—	9GA1224P4S0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1224S4001	—	9GA1224S4001	—	9GA1224P4S001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1224S40011	—	9GA1224S40011	—	9GA1224P4S0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1248G4001	—	9GA1248G4001	—	9GA1248P4G001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1248G40011	—	9GA1248G40011	—	9GA1248P4G0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1248P4G001	—	9GA1248G4001	—	9GA1248P4G001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1248P4G0011	—	9GA1248G40011	—	9GA1248P4G0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1248P4S001	—	9GA1248S4001	—	9GA1248P4S001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1248P4S0011	—	9GA1248S40011	—	9GA1248P4S0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GA1248S4001	—	9GA1248S4001	—	9GA1248P4S001	120 × 120 × 25 mm	Yes	✓	✓	✓	165
9GA1248S40011	—	9GA1248S40011	—	9GA1248P4S0011	120 × 120 × 25 mm	No	✓	✓	✓	165
9GAX0412P3K001	—	—	—	9GAX0412P3K001	40 × 40 × 28 mm	Yes	✓	✓	✓	35
9GAX0412P3K0011	—	—	—	9GAX0412P3K0011	40 × 40 × 28 mm	No	✓	✓	✓	35
9GAX0412P3K003	—	—	—	9GAX0412P3K003	40 × 40 × 28 mm	Yes	✓	✓	✓	35
9GAX0412P3K0031	—	—	—	9GAX0412P3K0031	40 × 40 × 28 mm	No	✓	✓	✓	35
9GAX0412P3S001	—	—	—	9GAX0412P3S001	40 × 40 × 28 mm	Yes	✓	✓	✓	35
9GAX0412P3S0011	—	—	—	9GAX0412P3S0011	40 × 40 × 28 mm	No	✓	✓	✓	35
9GAX0412P3S003	—	—	—	9GAX0412P3S003	40 × 40 × 28 mm	Yes	✓	✓	✓	35
9GAX0412P3S0031	—	—	—	9GAX0412P3S0031	40 × 40 × 28 mm	No	✓	✓	✓	35
9GE0412P3G03	—	—	9GE0412G3D01	9GE0412P3G03	40 × 40 × 28 mm	No	✓	✓	✓	42
9GE0412P3J03	—	9GE0412J301	9GE0412J3D01	9GE0412P3J03	40 × 40 × 28 mm	No	✓	✓	✓	42
9GE0412P3K03	—	9GE0412K301	9GE0412K3D01	9GE0412P3K03	40 × 40 × 28 mm	No	✓	✓	✓	42
9GL1212E101	9GL1212E102	9GL1212E101	9GL1212E1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1212F101	9GL1212F102	9GL1212F101	9GL1212F1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1212G101	9GL1212G102	9GL1212G101	9GL1212G1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1212H101	9GL1212H102	9GL1212H101	9GL1212H1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1212M101	9GL1212M102	9GL1212M101	9GL1212M1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1224E101	9GL1224E102	9GL1224E101	9GL1224E1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1224F101	9GL1224F102	9GL1224F101	9GL1224F1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9GL1224G101	9GL1224G102	9GL1224G101	9GL1224G1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1224H101	9GL1224H102	9GL1224H101	9GL1224H1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1224M101	9GL1224M102	9GL1224M101	9GL1224M1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1248E101	9GL1248E102	9GL1248E101	9GL1248E1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1248F101	9GL1248F102	9GL1248F101	9GL1248F1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1248G101	9GL1248G102	9GL1248G101	9GL1248G1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1248H101	9GL1248H102	9GL1248H101	9GL1248H1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GL1248M101	9GL1248M102	9GL1248M101	9GL1248M1D01	—	120 × 120 × 38 mm	No	✓	✓	✓	379
9GP1224P1G001	—	—	—	9GP1224P1G001	120 × 120 × 38 mm	No	✓	✓	✓	408
9GP1248P1G001	—	—	—	9GP1248P1G001	120 × 120 × 38 mm	No	✓	✓	✓	408
9GP5724P5H001	—	—	—	9GP5724P5H001	∅172 × 150 × 51 mm	No	✓	✓	✓	410
9GP5748P5G001	—	—	—	9GP5748P5G001	∅172 × 150 × 51 mm	No	✓	✓	✓	410
9GT0412P3J001	9GT0412J3002	9GT0412J3001	9GT0412J3D001	9GT0412P3J001	40 × 40 × 28 mm	No	✓	✓	✓	394
9GT0424P3J001	9GT0424J3002	9GT0424J3001	9GT0424J3D001	9GT0424P3J001	40 × 40 × 28 mm	No	✓	✓	✓	394
9GT0612P4G001	9GT0612G4002	9GT0612G4001	9GT0612G4D001	9GT0612P4G001	60 × 60 × 25 mm	No	✓	✓	✓	396
9GT0624P4G001	9GT0624G4002	9GT0624G4001	—	9GT0624P4G001	60 × 60 × 25 mm	No	✓	✓	✓	396
9GT0812P4S001	9GT0812S4002	9GT0812S4001	9GT0812S4D001	9GT0812P4S001	80 × 80 × 25 mm	No	✓	✓	✓	398
9GT0824P4S001	9GT0824S4002	9GT0824S4001	—	9GT0824P4S001	80 × 80 × 25 mm	No	✓	✓	✓	398
9GT0912P1M001	9GT0912M1002	9GT0912M1001	9GT0912M1D001	9GT0912P1M001	92 × 92 × 38 mm	No	✓	✓	✓	402
9GT0912P4J001	9GT0912J4002	9GT0912J4001	9GT0912J4D001	9GT0912P4J001	92 × 92 × 25 mm	No	✓	✓	✓	400
9GT0924P1M001	9GT0924M1002	—	9GT0924M1D001	9GT0924P1M001	92 × 92 × 38 mm	No	✓	✓	✓	402
9GT0924P4J001	9GT0924J4002	9GT0924J4001	—	9GT0924P4J001	92 × 92 × 25 mm	No	✓	✓	✓	400
9GT1212P1S001	—	—	—	9GT1212P1S001	120 × 120 × 38 mm	No	✓	✓	✓	404
9GT1224P1S001	9GT1224S1002	—	9GT1224S1D001	9GT1224P1S001	120 × 120 × 38 mm	No	✓	✓	✓	404
9GV0312E301	9GV0312E302	9GV0312E301	9GV0312E3D01	—	38 × 38 × 28 mm	Yes	✓	✓	✓	17
9GV0312E3011	—	9GV0312E3011	9GV0312E3D011	—	38 × 38 × 28 mm	No	✓	✓	✓	17
9GV0312G301	9GV0312G302	9GV0312G301	9GV0312G3D01	9GV0312P3G03	38 × 38 × 28 mm	Yes	✓	✓	✓	17
9GV0312G3011	9GV0312G3021	9GV0312G3011	—	—	38 × 38 × 28 mm	No	✓	✓	✓	17
9GV0312H301	9GV0312H302	9GV0312H301	9GV0312H3D01	—	38 × 38 × 28 mm	Yes	✓	✓	✓	17
9GV0312H3011	—	9GV0312H3011	—	—	38 × 38 × 28 mm	No	✓	✓	✓	17
9GV0312J301	9GV0312J302	9GV0312J301	9GV0312J3D01	9GV0312P3J03	38 × 38 × 28 mm	Yes	✓	✓	✓	17
9GV0312J3011	9GV0312J3021	9GV0312J3011	—	9GV0312P3J031	38 × 38 × 28 mm	No	✓	✓	✓	17
9GV0312K301	—	9GV0312K301	9GV0312K3D01	9GV0312P3K01	38 × 38 × 28 mm	Yes	✓	✓	✓	17
9GV0312K3011	—	9GV0312K3011	9GV0312K3D011	—	38 × 38 × 28 mm	No	✓	✓	✓	17
9GV0412C301	—	9GV0412C301	9GV0412C3D01	—	40 × 40 × 28 mm	Yes	✓	✓	✓	45
9GV0412C3011	—	9GV0412C3011	9GV0412C3D011	—	40 × 40 × 28 mm	No	✓	✓	✓	45
9GV0412G301	9GV0412G302	9GV0412G301	9GV0412G3D01	9GV0412P3G03	40 × 40 × 28 mm	Yes	✓	✓	✓	45
9GV0412G3011	9GV0412G3021	9GV0412G3011	9GV0412G3D011	9GV0412P3G031	40 × 40 × 28 mm	No	✓	✓	✓	45
9GV0412H301	—	9GV0412H301	9GV0412H3D01	9GV0412P3H01	40 × 40 × 28 mm	Yes	✓	✓	✓	45
9GV0412H3011	—	9GV0412H3011	—	—	40 × 40 × 28 mm	No	✓	✓	✓	45
9GV0412J301	9GV0412J302	9GV0412J301	9GV0412J3D01	9GV0412P3J03	40 × 40 × 28 mm	Yes	✓	✓	✓	45
9GV0412J3011	9GV0412J3021	9GV0412J3011	9GV0412J3D011	9GV0412P3J031	40 × 40 × 28 mm	No	✓	✓	✓	45
9GV0412K301	9GV0412K302	9GV0412K301	9GV0412K3D01	9GV0412P3K03	40 × 40 × 28 mm	Yes	✓	✓	✓	45
9GV0412K3011	—	9GV0412K3011	—	—	40 × 40 × 28 mm	No	✓	✓	✓	45
9GV0612P1G03	9GV0612G102	9GV0612G101	9GV0612G1D01	9GV0612P1G03	60 × 60 × 38 mm	Yes	✓	✓	✓	88
9GV0612P1G031	9GV0612G1021	9GV0612G1011	9GV0612G1D011	9GV0612P1G031	60 × 60 × 38 mm	No	✓	✓	✓	88
9GV0612P1H03	9GV0612H102	9GV0612H101	9GV0612H1D01	9GV0612P1H03	60 × 60 × 38 mm	Yes	✓	✓	✓	88
9GV0612P1H031	9GV0612H1021	9GV0612H1011	9GV0612H1D011	9GV0612P1H031	60 × 60 × 38 mm	No	✓	✓	✓	88
9GV0612P1L01	9GV0612L102	—	—	9GV0612P1L01	60 × 60 × 38 mm	Yes	✓	✓	✓	88
9GV0612P1L011	9GV0612L1021	9GV0612L1011	9GV0612L1D011	9GV0612P1L011	60 × 60 × 38 mm	No	✓	✓	✓	88
9GV0612P1M03	9GV0612M102	9GV0612M101	9GV0612M1D01	9GV0612P1M03	60 × 60 × 38 mm	Yes	✓	✓	✓	88
9GV0612P1M031	—	9GV0612M1011	9GV0612M1D011	9GV0612P1M031	60 × 60 × 38 mm	No	✓	✓	✓	88
9GV0624P1G03	9GV0624G102	—	9GV0624G1D01	9GV0624P1G03	60 × 60 × 38 mm	Yes	✓	✓	✓	88
9GV0624P1G031	9GV0624G1021	—	—	9GV0624P1G031	60 × 60 × 38 mm	No	✓	✓	✓	88
9GV0624P1M03	9GV0624M102	9GV0624M101	—	9GV0624P1M03	60 × 60 × 38 mm	Yes	✓	✓	✓	88
9GV0624P1M031	—	—	—	9GV0624P1M031	60 × 60 × 38 mm	No	✓	✓	✓	88
9GV0648P1H03	—	—	—	9GV0648P1H03	60 × 60 × 38 mm	Yes	✓	✓	✓	88
9GV0648P1H031	—	—	—	9GV0648P1H031	60 × 60 × 38 mm	No	✓	✓	✓	88
9GV0812P1F03	—	—	—	9GV0812P1F03	80 × 80 × 38 mm	Yes	✓	✓	✓	135
9GV0812P1F031	—	—	—	9GV0812P1F031	80 × 80 × 38 mm	No	✓	✓	✓	135
9GV0812P1G03	9GV0812G102	9GV0812G101	—	9GV0812P1G03	80 × 80 × 38 mm	Yes	✓	✓	✓	135

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9GV0812P1G031	9GV0812G1021	9GV0812G1011	—	9GV0812P1G031	80 × 80 × 38 mm	No	✓	✓	✓	135
9GV0812P1H03	9GV0812H102	9GV0812H101	—	9GV0812P1H03	80 × 80 × 38 mm	Yes	✓	✓	✓	135
9GV0812P1H031	9GV0812H1021	9GV0812H1011	—	9GV0812P1H031	80 × 80 × 38 mm	No	✓	✓	✓	135
9GV0812P1M03	—	—	—	9GV0812P1M03	80 × 80 × 38 mm	Yes	✓	✓	✓	135
9GV0812P1M031	—	—	—	9GV0812P1M031	80 × 80 × 38 mm	No	✓	✓	✓	135
9GV0812P4J03	9GV0812J402	9GV0812J401	—	9GV0812P4J03	80 × 80 × 25 mm	Yes	✓	✓	✓	114
9GV0812P4J031	9GV0812J4021	9GV0812J4011	—	9GV0812P4J031	80 × 80 × 25 mm	No	✓	✓	✓	114
9GV0812P4K03	—	9GV0812K401	9GV0812K4D01	9GV0812P4K03	80 × 80 × 25 mm	Yes	✓	✓	✓	114
9GV0812P4K031	9GV0812K4021	9GV0812K4011	9GV0812K4D011	9GV0812P4K031	80 × 80 × 25 mm	No	✓	✓	✓	114
9GV0824P1G03	9GV0824G102	9GV0824G101	—	9GV0824P1G03	80 × 80 × 38 mm	Yes	✓	✓	✓	135
9GV0824P1G031	—	—	—	9GV0824P1G031	80 × 80 × 38 mm	No	✓	✓	✓	135
9GV0824P4K01	9GV0824K402	9GV0824K401	—	9GV0824P4K01	80 × 80 × 25 mm	Yes	✓	✓	✓	114
9GV0824P4K011	—	—	—	9GV0824P4K011	80 × 80 × 25 mm	No	✓	✓	✓	114
9GV0848P1G03	9GV0848G102	9GV0848G101	—	9GV0848P1G03	80 × 80 × 38 mm	Yes	✓	✓	✓	135
9GV0848P1G031	—	9GV0848G1011	—	9GV0848P1G031	80 × 80 × 38 mm	No	✓	✓	✓	135
9GV0848P4K03	—	9GV0848K401	—	9GV0848P4K03	80 × 80 × 25 mm	Yes	✓	✓	✓	114
9GV0848P4K031	—	—	—	9GV0848P4K031	80 × 80 × 25 mm	No	✓	✓	✓	114
9GV0912P1F03	—	—	—	9GV0912P1F03	92 × 92 × 38 mm	Yes	✓	✓	✓	157
9GV0912P1F031	—	—	—	9GV0912P1F031	92 × 92 × 38 mm	No	✓	✓	✓	157
9GV0912P1G03	—	—	—	9GV0912P1G03	92 × 92 × 38 mm	Yes	✓	✓	✓	157
9GV0912P1G031	—	—	—	9GV0912P1G031	92 × 92 × 38 mm	No	✓	✓	✓	157
9GV0912P1H03	9GV0912H102	—	9GV0912H1D01	9GV0912P1H03	92 × 92 × 38 mm	Yes	✓	✓	✓	157
9GV0912P1H031	—	—	—	9GV0912P1H031	92 × 92 × 38 mm	No	✓	✓	✓	157
9GV0948P1F03	—	—	—	9GV0948P1F03	92 × 92 × 38 mm	Yes	✓	✓	✓	157
9GV0948P1F031	—	—	—	9GV0948P1F031	92 × 92 × 38 mm	No	✓	✓	✓	157
9GV0948P1H03	9GV0948H102	9GV0948H101	—	9GV0948P1H03	92 × 92 × 38 mm	Yes	✓	✓	✓	157
9GV0948P1H031	9GV0948H1021	—	—	9GV0948P1H031	92 × 92 × 38 mm	No	✓	✓	✓	157
9GV1212P1G01	—	—	—	9GV1212P1G01	120 × 120 × 38 mm	Yes	✓	✓	✓	179
9GV1212P1G011	—	9GV1212G1011	9GV1212G1D011	9GV1212P1G011	120 × 120 × 38 mm	No	✓	✓	✓	179
9GV1212P1J01	9GV1212J102	9GV1212J101	9GV1212J1D01	9GV1212P1J01	120 × 120 × 38 mm	Yes	✓	✓	✓	179
9GV1212P1J011	9GV1212J1021	9GV1212J1011	—	9GV1212P1J011	120 × 120 × 38 mm	No	✓	✓	✓	179
9GV1212P4G01	9GV1212G402	9GV1212G401	—	9GV1212P4G01	120 × 120 × 25 mm	Yes	✓	✓	✓	169
9GV1212P4G011	9GV1212G4021	9GV1212G4011	—	9GV1212P4G011	120 × 120 × 25 mm	No	✓	✓	✓	169
9GV1224P1H01	9GV1224H102	9GV1224H101	9GV1224H1D01	9GV1224P1H01	120 × 120 × 38 mm	Yes	✓	✓	✓	179
9GV1224P1H011	9GV1224H1021	9GV1224H1011	9GV1224H1D011	9GV1224P1H011	120 × 120 × 38 mm	No	✓	✓	✓	179
9GV1224P1J01	9GV1224J102	9GV1224J101	9GV1224J1D01	9GV1224P1J01	120 × 120 × 38 mm	Yes	✓	✓	✓	179
9GV1224P1J011	9GV1224J1021	9GV1224J1011	9GV1224J1D011	9GV1224P1J011	120 × 120 × 38 mm	No	✓	✓	✓	179
9GV1224P4G01	9GV1224G402	9GV1224G401	9GV1224G4D01	9GV1224P4G01	120 × 120 × 25 mm	Yes	✓	✓	✓	169
9GV1224P4G011	9GV1224G4021	—	—	9GV1224P4G011	120 × 120 × 25 mm	No	✓	✓	✓	169
9GV1248P1J01	9GV1248J102	9GV1248J101	9GV1248J1D01	9GV1248P1J01	120 × 120 × 38 mm	Yes	✓	✓	✓	179
9GV1248P1J011	9GV1248J1021	9GV1248J1011	—	9GV1248P1J011	120 × 120 × 38 mm	No	✓	✓	✓	179
9GV1248P4G01	9GV1248G402	9GV1248G4011	—	9GV1248P4G01	120 × 120 × 25 mm	Yes	✓	✓	✓	169
9GV1248P4G011	—	9GV1248G4011	—	9GV1248P4G011	120 × 120 × 25 mm	No	✓	✓	✓	169
9GV1248P4H01	9GV1248H402	9GV1248H401	9GV1248H4D01	9GV1248P4H01	120 × 120 × 25 mm	Yes	✓	✓	✓	169
9GV1248P4H011	—	—	—	9GV1248P4H011	120 × 120 × 25 mm	No	✓	✓	✓	169
9GV1248P4J01	—	—	—	9GV1248P4J01	120 × 120 × 25 mm	Yes	✓	✓	✓	169
9GV1248P4J011	—	—	—	9GV1248P4J011	120 × 120 × 25 mm	No	✓	✓	✓	169
9GV1412P1G001	—	—	—	9GV1412P1G001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1412P1H001	—	—	—	9GV1412P1H001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1412P1S001	—	—	—	9GV1412P1S001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1424P1G001	—	—	—	9GV1424P1G001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1424P1H001	—	—	—	9GV1424P1H001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1424P1S001	—	—	—	9GV1424P1S001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1448P1G001	—	—	—	9GV1448P1G001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1448P1H001	—	—	—	9GV1448P1H001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1448P1S001	—	—	—	9GV1448P1S001	140 × 140 × 38 mm	No	✓	✓	✓	192
9GV1512H501	9GV1512H502	9GV1512H501	—	9GV1512P5H03	150 × 150 × 50 mm	Yes	✓	✓	✓	198
9GV1512H5011	9GV1512H5021	9GV1512H5011	—	—	150 × 150 × 50 mm	No	✓	✓	✓	198
9GV1512M501	9GV1512M502	9GV1512M501	—	9GV1512P5M03	150 × 150 × 50 mm	Yes	✓	✓	✓	198
9GV1512M5011	9GV1512M5021	9GV1512M5011	—	9GV1512P5M011	150 × 150 × 50 mm	No	✓	✓	✓	198
9GV1524M501	9GV1524M502	9GV1524M501	9GV1524M5D01	—	150 × 150 × 50 mm	Yes	✓	✓	✓	198

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
	9GV1524M5011	—	9GV1524M5011	—			—	150 × 150 × 50 mm	No	
9GV2048P0G201	9GV2048G0202	—	—	9GV2048P0G201	∅200 × 70 mm	No	✓	✓	✓	216
9GV3612G301	9GV3612G302	9GV3612G301	9GV3612G3D01	9GV3612P3G03	36 × 36 × 28 mm	Yes	✓	✓	✓	12
9GV3612J301	9GV3612J302	9GV3612J301	9GV3612J3D01	9GV3612P3J03	36 × 36 × 28 mm	Yes	✓	✓	✓	12
9GV5724H501	9GV5724H502	9GV5724H501	—	9GV5724P5H03	∅172 × 150 × 51 mm	No	✓	✓	✓	208
9GV5748H501	9GV5748H502	9GV5748H501	—	9GV5748P5H01	∅172 × 150 × 51 mm	No	✓	✓	✓	208
9GX3612P3K001	9GX3612K3002	—	—	9GX3612P3K001	36 × 36 × 28 mm	Yes	✓	✓	✓	12
9HV0412P3K001	—	—	—	9HV0412P3K001	40 × 40 × 28 mm	No	✓	✓	✓	33
9HV0612P1J001	—	—	—	9HV0612P1J001	60 × 60 × 38 mm	Yes	✓	✓	✓	83
9HV0612P1J0011	—	—	—	9HV0612P1J0011	60 × 60 × 38 mm	No	✓	✓	✓	83
9HV0812P1G601	9HV0812G1002	9HV0812G1001	—	9HV0812P1G601	80 × 80 × 38 mm	Yes	✓	✓	✓	128
9HV0812P1G6011	9HV0812G10021	9HV0812G10011	—	9HV0812P1G6011	80 × 80 × 38 mm	No	✓	✓	✓	128
9HV0824P1G003	—	—	9HV0824G1D001	9HV0824P1G003	80 × 80 × 38 mm	Yes	✓	✓	✓	128
9HV0824P1G0011	—	—	—	9HV0824P1G0011	80 × 80 × 38 mm	No	✓	✓	✓	128
9HV0848P1G001	9HV0848G1002	9HV0848G1001	9HV0848G1D001	9HV0848P1G001	80 × 80 × 38 mm	Yes	✓	✓	✓	128
9HV0848P1G0011	9HV0848G10021	9HV0848G10011	—	9HV0848P1G0011	80 × 80 × 38 mm	No	✓	✓	✓	128
9HV0912P1G001	—	—	—	9HV0912P1G001	92 × 92 × 38 mm	Yes	✓	✓	✓	155
9HV0912P1G0011	—	—	—	9HV0912P1G0011	92 × 92 × 38 mm	No	✓	✓	✓	155
9HV0948P1G001	—	—	—	9HV0948P1G001	92 × 92 × 38 mm	Yes	✓	✓	✓	155
9HV0948P1G0011	—	—	—	9HV0948P1G0011	92 × 92 × 38 mm	No	✓	✓	✓	155
9HV1224P1A001	—	—	—	9HV1224P1A001	120 × 120 × 38 mm	No	✓	✓	✓	176
9HV1248P1G001	9HV1248G1002	9HV1248G1001	—	9HV1248P1G001	120 × 120 × 38 mm	No	✓	✓	✓	176
9HV1248P1H001	9HV1248H1002	9HV1248H1001	—	9HV1248P1H001	120 × 120 × 38 mm	No	✓	✓	✓	176
9HV5724P5H001	9HV5724H5002	9HV5724H5001	9HV5724H5D001	9HV5724P5H001	∅172 × 150 × 51 mm	No	✓	✓	✓	203
9HV5748P5G001	—	—	—	9HV5748P5G001	∅172 × 150 × 51 mm	No	✓	✓	✓	203
9HVA0812P1G001	—	—	—	9HVA0812P1G001	80 × 80 × 38 mm	Yes	✓	✓	✓	126
9HVA0812P1G0011	—	—	—	9HVA0812P1G0011	80 × 80 × 38 mm	No	✓	✓	✓	126
9L0412H301	9L0412H302	9L0412H301	9L0412H3D01	—	40 × 40 × 28 mm	No	✓	✓	✓	354
9L0412J301	9L0412J302	9L0412J301	9L0412J3D01	9L0412P3J01	40 × 40 × 28 mm	No	✓	✓	✓	354
9L0412M301	9L0412M302	9L0412M301	9L0412M3D01	—	40 × 40 × 28 mm	No	✓	✓	✓	354
9LG0612P4H001	9LG0612H4002	9LG0612H4001	9LG0612H4D001	9LG0612P4H001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0612P4J001	—	—	9LG0612J4D001	9LG0612P4J001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0612P4M001	—	9LG0624M4001	9LG0612M4D001	9LG0612P4M001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0612P4S001	—	9LG0612S4001	—	9LG0612P4S001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0624P4H001	—	—	—	9LG0624P4H001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0624P4J001	—	—	—	9LG0624P4J001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0624P4M001	—	9LG0624M4001	—	9LG0624P4M001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0624P4S001	—	—	—	9LG0624P4S001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0648P4H001	—	—	—	9LG0648P4H001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0648P4J001	—	—	—	9LG0648P4J001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0648P4M001	—	—	—	9LG0648P4M001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0648P4S001	—	—	—	9LG0648P4S001	60 × 60 × 25 mm	No	✓	✓	✓	356
9LG0812P4G001	—	—	—	9LG0812P4G001	80 × 80 × 25 mm	No	✓	✓	✓	363
9LG0812P4H001	—	—	—	9LG0812P4H001	80 × 80 × 25 mm	No	✓	✓	✓	363
9LG0812P4J001	9LG0812J4002	—	9LG0812J4D001	9LG0812P4J001	80 × 80 × 25 mm	No	✓	✓	✓	363
9LG0824P4G001	9LG0824G4002	—	9LG0824G4D001	9LG0824P4G001	80 × 80 × 25 mm	No	✓	✓	✓	363
9LG0824P4H001	—	—	—	9LG0824P4H001	80 × 80 × 25 mm	No	✓	✓	✓	363
9LG0824P4J001	—	—	9LG0824J4D001	9LG0824P4J001	80 × 80 × 25 mm	No	✓	✓	✓	363
9LG0912P1F001	—	—	—	9LG0912P1F001	92 × 92 × 38 mm	No	✓	✓	✓	372
9LG0912P1H001	—	—	—	9LG0912P1H001	92 × 92 × 38 mm	No	✓	✓	✓	372
9LG0912P4G001	9LG0912G4002	—	—	9LG0912P4G001	92 × 92 × 25 mm	No	✓	✓	✓	368
9LG0912P4H001	—	—	—	9LG0912P4H001	92 × 92 × 25 mm	No	✓	✓	✓	368
9LG0912P4J001	—	—	—	9LG0912P4J001	92 × 92 × 25 mm	No	✓	✓	✓	368
9LG0912P4S001	—	—	—	9LG0912P4S001	92 × 92 × 25 mm	No	✓	✓	✓	368
9LG0924P1F001	—	—	—	9LG0924P1F001	92 × 92 × 38 mm	No	✓	✓	✓	372
9LG0924P1H001	—	—	—	9LG0924P1H001	92 × 92 × 38 mm	No	✓	✓	✓	372
9LG0924P4G001	—	—	—	9LG0924P4G001	92 × 92 × 25 mm	No	✓	✓	✓	368
9LG0924P4H001	—	—	—	9LG0924P4H001	92 × 92 × 25 mm	No	✓	✓	✓	368
9LG0924P4J001	—	—	9LG0924J4D001	9LG0924P4J001	92 × 92 × 25 mm	No	✓	✓	✓	368
9LG0924P4S001	—	—	9LG0924S4D001	9LG0924P4S001	92 × 92 × 25 mm	No	✓	✓	✓	368
9LG1212P1G001	—	—	—	9LG1212P1G001	120 × 120 × 38 mm	No	✓	✓	✓	375

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Models listed in the main section of this catalog	List of models (models not listed in the main section of this catalog are options. Standards for optional model numbers may differ from the certified standards listed at right. Contact us for details of models with "-" model numbers.)				Frame size	Rib	Standard (certification status is for the models listed in this catalog, and standards for optional model numbers may differ.)			page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9LG1212P1H001	—	—	—	9LG1212P1H001	120 × 120 × 38 mm	No	✓	✓	✓	375
9LG1212P1S001	—	—	—	9LG1212P1S001	120 × 120 × 38 mm	No	✓	✓	✓	375
9LG1224P1G001	—	—	9LG1224G1D001	9LG1224P1G001	120 × 120 × 38 mm	No	✓	✓	✓	375
9LG1224P1H001	—	9LG1224H1001	9LG1224H1D001	9LG1224P1H001	120 × 120 × 38 mm	No	✓	✓	✓	375
9LG1224P1S001	—	9LG1224S1001	9LG1224S1D001	9LG1224P1S001	120 × 120 × 38 mm	No	✓	✓	✓	375
9LG1248P1G001	9LG1248G1002	—	—	9LG1248P1G001	120 × 120 × 38 mm	No	✓	✓	✓	375
9LG1248P1H001	—	—	—	9LG1248P1H001	120 × 120 × 38 mm	No	✓	✓	✓	375
9LG1248P1S001	—	—	—	9LG1248P1S001	120 × 120 × 38 mm	No	✓	✓	✓	375
9LG1412P1A001	—	—	—	9LG1412P1A001	140 × 140 × 38 mm	No	—	—	—	382
9LG1412P1H001	—	—	—	9LG1412P1H001	140 × 140 × 38 mm	No	—	—	—	382
9LG1412P1M001	9LG1412M1002	9LG1412M1001	9LG1412M1D001	9LG1412P1M001	140 × 140 × 38 mm	No	—	—	—	382
9LG1412P5G001	—	—	—	9LG1412P5G001	140 × 140 × 51 mm	No	—	—	—	386
9LG1412P5S001	—	—	—	9LG1412P5S001	140 × 140 × 51 mm	No	—	—	—	386
9LG1424P1A001	—	—	—	9LG1424P1A001	140 × 140 × 38 mm	No	—	—	—	382
9LG1424P1H001	—	—	—	9LG1424P1H001	140 × 140 × 38 mm	No	—	—	—	382
9LG1424P1M001	9LG1424M1002	9LG1424M1001	9LG1424M1D001	9LG1424P1M001	140 × 140 × 38 mm	No	—	—	—	382
9LG1424P5G001	—	—	—	9LG1424P5G001	140 × 140 × 51 mm	No	—	—	—	386
9LG1424P5S001	9LG1424S5002	9LG1424S5001	9LG1424S5D001	9LG1424P5S001	140 × 140 × 51 mm	No	—	—	—	386
9LG1448P1A001	—	—	—	9LG1448P1A001	140 × 140 × 38 mm	No	—	—	—	382
9LG1448P1H001	—	—	—	9LG1448P1H001	140 × 140 × 38 mm	No	—	—	—	382
9LG1448P1M001	9LG1448M1002	9LG1448M1001	9LG1448M1D001	9LG1448P1M001	140 × 140 × 38 mm	No	—	—	—	382
9LG1448P5G001	—	—	—	9LG1448P5G001	140 × 140 × 51 mm	No	—	—	—	386
9LG1448P5S001	—	—	—	9LG1448P5S001	140 × 140 × 51 mm	No	—	—	—	386
9RF0912P1H001	—	—	—	9RF0912P1H001	∅92 × 38 mm	No	✓	✓	✓	260
9RF0924P1H001	—	—	—	9RF0924P1H001	∅92 × 38 mm	No	✓	✓	✓	260
9RF1312P3H001	—	—	—	9RF1312P3H001	∅136 × 28 mm	No	✓	✓	✓	262
9RF1324P3H001	—	—	—	9RF1324P3H001	∅136 × 28 mm	No	✓	✓	✓	262
9S0612F401	9S0612F402	9S0612F401	9S0612F4D01	9S0612P4F01	60 × 60 × 25 mm	Yes	✓	✓	✓	71
9S0612F4011	9S0612F4021	9S0612F4011	9S0612F4D011	9S0612P4F011	60 × 60 × 25 mm	No	✓	✓	✓	71
9S0612H401	9S0612H402	9S0612H401	9S0612H4D01	9S0612P4H01	60 × 60 × 25 mm	Yes	✓	✓	✓	71
9S0612H4011	9S0612H4021	9S0612H4011	9S0612H4D011	9S0612P4H011	60 × 60 × 25 mm	No	✓	✓	✓	71
9S0612M401	9S0612M402	9S0612M401	9S0612M4D01	9S0612P4M01	60 × 60 × 25 mm	Yes	✓	✓	✓	71
9S0612M4011	9S0612M4021	9S0612M4011	9S0612M4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	71
9S0612S401	9S0612S402	9S0612S401	9S0612S4D01	9S0612P4S01	60 × 60 × 25 mm	Yes	✓	✓	✓	71
9S0612S4011	—	9S0612S4011	—	—	60 × 60 × 25 mm	No	✓	✓	✓	71
9S0812F401	9S0812F402	9S0812F401	9S0812F4D01	9S0812P4F01	80 × 80 × 25 mm	Yes	✓	✓	✓	112
9S0812F4011	9S0812F4021	9S0812F4011	9S0812F4D011	9S0812P4F011	80 × 80 × 25 mm	No	✓	✓	✓	112
9S0812H401	9S0812H402	9S0812H401	9S0812H4D01	—	80 × 80 × 25 mm	Yes	✓	✓	—	112
9S0812H4011	—	9S0812H4011	9S0812H4D011	—	80 × 80 × 25 mm	No	✓	✓	—	112
9S0812L401	9S0812L402	9S0812L401	9S0812L4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	112
9S0812L4011	9S0812L4021	9S0812L4011	9S0812L4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	112
9S0812M401	9S0812M402	9S0812M401	9S0812M4D01	9S0812P4M01	80 × 80 × 25 mm	Yes	✓	✓	✓	112
9S0812M4011	9S0812M4021	9S0812M4011	9S0812M4D011	9S0812P4M011	80 × 80 × 25 mm	No	✓	✓	✓	112
9S0824L401	9S0824L402	9S0824L401	9S0824L4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	112
9S0824L4011	9S0824L4021	9S0824L4011	9S0824L4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	112
9S0824M401	9S0824M402	9S0824M401	9S0824M4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	112
9S0824M4011	9S0824M4021	9S0824M4011	9S0824M4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	112
9S0912F401	9S0912F402	9S0912F401	9S0912F4D01	9S0912P4F01	92 × 92 × 25 mm	Yes	✓	✓	✓	144
9S0912F4011	9S0912F4021	9S0912F4011	9S0912F4D011	9S0912P4F011	92 × 92 × 25 mm	No	✓	✓	✓	144
9S0912L401	9S0912L402	9S0912L401	9S0912L4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	144
9S0912L4011	9S0912L4021	9S0912L4011	9S0912L4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	144
9S0912M401	9S0912M402	9S0912M401	9S0912M4D01	9S0912P4M01	92 × 92 × 25 mm	Yes	✓	✓	✓	144
9S0912M4011	9S0912M4021	9S0912M4011	9S0912M4D011	9S0912P4M011	92 × 92 × 25 mm	No	✓	✓	✓	144
9S0924F401	9S0924F402	9S0924F401	9S0924F4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	144
9S0924F4011	9S0924F4021	9S0924F4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	144
9S0924L401	9S0924L402	9S0924L401	9S0924L4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	144
9S0924L4011	9S0924L4021	9S0924L4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	144
9S0924M401	9S0924M402	9S0924M401	9S0924M4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	144
9S0924M4011	9S0924M4021	9S0924M4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	144
9S1212F401	9S1212F402	9S1212F401	9S1212F4D01	9S1212P4F01	120 × 120 × 25 mm	Yes	✓	✓	✓	163
9S1212F4011	9S1212F4021	9S1212F4011	9S1212F4D011	9S1212P4F011	120 × 120 × 25 mm	No	✓	✓	✓	163

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9S1212H401	9S1212H402	9S1212H401	9S1212H4D01	9S1212P4H01	120 × 120 × 25 mm	Yes	✓	✓	✓	163
9S1212H4011	9S1212H4021	9S1212H4011	—	9S1212P4H011	120 × 120 × 25 mm	No	✓	✓	✓	163
9S1212L401	9S1212L402	9S1212L401	9S1212L4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	163
9S1212L4011	9S1212L4021	9S1212L4011	9S1212L4D011	9S1212P4L011	120 × 120 × 25 mm	No	✓	✓	✓	163
9S1212M401	9S1212M402	9S1212M401	9S1212M4D01	9S1212P4M01	120 × 120 × 25 mm	Yes	✓	✓	✓	163
9S1212M4011	9S1212M4021	9S1212M4011	9S1212M4D011	9S1212P4M011	120 × 120 × 25 mm	No	✓	✓	✓	163
9S1224M401	9S1224M402	9S1224M401	9S1224M4D01	—	120 × 120 × 25 mm	Yes	✓	✓	✓	163
9S1224M4011	9S1224M4021	9S1224M4011	9S1224M4D011	—	120 × 120 × 25 mm	No	✓	✓	✓	163
9SG1212G101	9SG1212G102	9SG1212G101	9SG1212G1D01	9SG1212P1G01	120 × 120 × 38 mm	No	✓	✓	✓	185
9SG1224G101	9SG1224G102	9SG1224G101	9SG1224G1D01	9SG1224P1G01	120 × 120 × 38 mm	No	✓	✓	✓	185
9SG1224H101	9SG1224H102	9SG1224H101	9SG1224H1D01	—	120 × 120 × 38 mm	No	—	—	—	185
9SG1248G101	9SG1248G102	9SG1248G101	—	9SG1248P1G01	120 × 120 × 38 mm	No	✓	✓	✓	185
9SG5724P5H61	9SG5724H562	—	—	9SG5724P5H61	∅172 × 150 × 51 mm	No	✓	✓	✓	205
9SG5748P5G01	—	—	—	9SG5748P5G01	∅172 × 150 × 51 mm	No	✓	✓	✓	205
9SG5748P5H01	—	—	—	9SG5748P5H01	∅172 × 150 × 51 mm	No	✓	✓	✓	205
9TG24P0G01	9TG24G002	9TG24G001	—	9TG24P0G01	∅175 × 69 mm	—	✓	✓	✓	422
9TG24P0S01	9TG24S002	9TG24S001	—	9TG24P0S01	∅175 × 69 mm	—	✓	✓	✓	422
9TG48P0G01	—	—	—	9TG48P0G01	∅175 × 69 mm	—	✓	✓	✓	422
9TGA24P0H001	—	—	—	9TGA24P0H001	∅175 × 69 mm	—	✓	✓	✓	420
9TGA48P0G001	—	—	—	9TGA48P0G001	∅175 × 69 mm	—	✓	✓	✓	420
9TJ24P0H61	—	—	—	9TJ24P0H61	∅133 × 91 mm	—	✓	✓	✓	416
9TJ48P0H01	—	—	—	9TJ48P0H01	∅133 × 91 mm	—	✓	✓	✓	416
9TM24P4H01	—	—	—	9TM24P4H01	∅100 × 25 mm	—	✓	✓	✓	414
9TM48P4H01	—	—	—	9TM48P4H01	∅100 × 25 mm	—	✓	✓	✓	414
9TN24P1H01	—	—	—	9TN24P1H01	∅150 × 35 mm	—	✓	✓	✓	418
9TN48P1H01	—	—	—	9TN48P1H01	∅150 × 35 mm	—	✓	✓	✓	418
9TP24P0H001	—	—	—	9TP24P0H001	∅221 × 71 mm	—	✓	✓	✓	425
9TP48P0G001	9TP48G0002	—	—	9TP48P0G001	∅221 × 71 mm	—	✓	✓	✓	425
9TP48P0H001	—	—	—	9TP48P0H001	∅221 × 71 mm	—	✓	✓	✓	425
9TS48P0G001	—	—	—	9TS48P0G001	∅225 × 99 mm	—	✓	✓	✓	428
9TS48P0H001	—	—	—	9TS48P0H001	∅225 × 99 mm	—	✓	✓	✓	428
9W1TG48P0H61	—	—	—	9W1TG48P0H61	∅175 × 69 mm	—	✓	✓	✓	326
9W1TJ24P0H61	—	—	—	9W1TJ24P0H61	∅133 × 91 mm	—	✓	✓	✓	322
9W1TJ48P0H61	—	—	—	9W1TJ48P0H61	∅133 × 91 mm	—	✓	✓	✓	322
9W1TM48P4G01	—	—	—	9W1TM48P4G01	∅100 × 25 mm	—	✓	✓	✓	320
9W1TM48P4H01	—	—	—	9W1TM48P4H01	∅100 × 25 mm	—	✓	✓	✓	320
9W1TN48P1H01	—	—	—	9W1TN48P1H01	∅150 × 35 mm	—	✓	✓	✓	324
9W2TP24P0H001	—	—	—	9W2TP24P0H001	∅221 × 71 mm	—	✓	✓	✓	328
9W2TP48P0S001	—	—	—	9W2TP48P0S001	∅221 × 71 mm	—	✓	✓	✓	328
9W2TS48P0S001	—	—	—	9W2TS48P0S001	∅225 × 99 mm	—	✓	✓	✓	330
9WE1724K501	9WE1724K502	9WE1724K501	—	—	∅172 × 51 mm	No	✓	✓	✓	317
9WE5724K501	9WE5724K502	9WE5724K501	—	—	∅172 × 150 × 51 mm	No	✓	✓	✓	315
9WE5748K501	9WE5748K502	9WE5748K501	9WE5748K5D01	9WE5748P5K01	∅172 × 150 × 51 mm	No	✓	✓	✓	315
9WF0424F601	9WF0424F602	9WF0424F601	9WF0424F6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	336
9WF0424H601	9WF0424H602	9WF0424H601	9WF0424H6D01	—	40 × 40 × 20 mm	Yes	✓	✓	✓	336
9WF0424H701	9WF0424H702	9WF0424H701	9WF0424H7D01	—	40 × 40 × 15 mm	Yes	✓	✓	✓	334
9WF0624H401	9WF0624H402	9WF0624H401	9WF0624H4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	342
9WF0624H601	—	9WF0624H601	9WF0624H6D01	—	60 × 60 × 20 mm	Yes	✓	✓	✓	340
9WF0624H701	9WF0624H702	9WF0624H701	9WF0624H7D01	—	60 × 60 × 15 mm	Yes	✓	✓	✓	338
9WF0824S401	9WF0824S402	9WF0824S401	9WF0824S4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	344
9WF0924H201	9WF0924H202	9WF0924H201	9WF0924H2D01	—	92 × 92 × 32 mm	Yes	✓	✓	✓	348
9WF0924H2011	—	9WF0924H2011	—	—	92 × 92 × 32 mm	No	✓	✓	✓	348
9WF0924H401	9WF0924H402	9WF0924H401	9WF0924H4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	346
9WF0924H4011	—	—	9WF0924H4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	346
9WF0924S201	9WF0924S202	9WF0924S201	9WF0924S2D01	—	92 × 92 × 32 mm	Yes	✓	✓	✓	348
9WF0924S2011	—	9WF0924S2011	—	—	92 × 92 × 32 mm	No	✓	✓	✓	348
9WF1224H101	9WF1224H102	9WF1224H101	9WF1224H1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	350
9WG1212E101-E	9WG1212E102-E	9WG1212E101-E	9WG1212E1D01-E	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1212F101-E	9WG1212F102-E	9WG1212F101-E	—	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1212G101-E	9WG1212G102-E	9WG1212G101-E	9WG1212G1D01-E	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1212H101-E	9WG1212H102-E	9WG1212H101-E	9WG1212H1D01-E	—	120 × 120 × 38 mm	No	✓	✓	✓	303

Please contact your point of sale regarding low-speed sensors.

Models listed in the main section of this catalog	List of models (models not listed in the main section of this catalog are options. Standards for optional model numbers may differ from the certified standards listed at right. Contact us for details of models with "-" model numbers.)				Frame size	Rib	Standard (certification status is for the models listed in this catalog, and standards for optional model numbers may differ.)			page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9WG1212M101-E	9WG1212M102-E	9WG1212M101-E	—	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1224E101-E	9WG1224E102-E	9WG1224E101-E	9WG1224E1D01-E	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1224F101-E	9WG1224F102-E	9WG1224F101-E	9WG1224F1D01-E	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1224G101-E	9WG1224G102-E	9WG1224G101-E	9WG1224G1D01-E	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1224H101-E	9WG1224H102-E	9WG1224H101-E	9WG1224H1D01-E	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1224M101-E	9WG1224M102-E	9WG1224M101-E	—	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1248E101-E	9WG1248E102-E	9WG1248E101-E	—	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1248F101-E	9WG1248F102-E	9WG1248F101-E	—	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1248G101-E	9WG1248G102-E	9WG1248G101-E	—	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1248H101-E	9WG1248H102-E	9WG1248H101-E	9WG1248H1D01-E	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG1248M101-E	9WG1248M102-E	9WG1248M101-E	—	—	120 × 120 × 38 mm	No	✓	✓	✓	303
9WG5748P5G001	9WG5748G5002	—	—	9WG5748P5G001	∅172 × 150 × 51 mm	No	✓	✓	✓	313
9WG5748P5H001	—	9WG5748H5001	9WG5748H5D001	9WG5748P5H001	∅172 × 150 × 51 mm	No	✓	✓	✓	313
9WL0412P3G001	9WL0412G3002	9WL0412G3001	—	9WL0412P3G001	40 × 40 × 28 mm	No	✓	✓	✓	268
9WL0412P3J001	9WL0412J3002	9WL0412J3001	—	9WL0412P3J001	40 × 40 × 28 mm	No	✓	✓	✓	268
9WL0424P3G001	9WL0424G3002	9WL0424G3001	—	9WL0424P3G001	40 × 40 × 28 mm	No	✓	✓	✓	268
9WL0424P3J001	9WL0424J3002	9WL0424J3001	—	9WL0424P3J001	40 × 40 × 28 mm	No	✓	✓	✓	268
9WL0612P4H001	—	—	—	9WL0612P4H001	60 × 60 × 25 mm	No	✓	✓	✓	271
9WL0612P4J001	9WL0612J4002	—	9WL0612J4D001	9WL0612P4J001	60 × 60 × 25 mm	No	✓	✓	✓	271
9WL0612P4S001	9WL0612S4002	—	9WL0612S4D001	9WL0612P4S001	60 × 60 × 25 mm	No	✓	✓	✓	271
9WL0624P4H001	—	9WL0624H4001	—	9WL0624P4H001	60 × 60 × 25 mm	No	✓	✓	✓	271
9WL0624P4J001	—	—	—	9WL0624P4J001	60 × 60 × 25 mm	No	✓	✓	✓	271
9WL0624P4S001	—	—	—	9WL0624P4S001	60 × 60 × 25 mm	No	✓	✓	✓	271
9WL0812P4G001	—	—	9WL0812G4D001	9WL0812P4G001	80 × 80 × 25 mm	No	✓	✓	✓	277
9WL0812P4H001	9WL0812H4002	—	—	9WL0812P4H001	80 × 80 × 25 mm	No	✓	✓	✓	277
9WL0812P4J001	—	—	—	9WL0812P4J001	80 × 80 × 25 mm	No	✓	✓	✓	277
9WL0824P4G001	—	—	—	9WL0824P4G001	80 × 80 × 25 mm	No	✓	✓	✓	277
9WL0824P4H001	—	—	—	9WL0824P4H001	80 × 80 × 25 mm	No	✓	✓	✓	277
9WL0824P4J001	—	—	—	9WL0824P4J001	80 × 80 × 25 mm	No	✓	✓	✓	277
9WL0912P4G001	—	—	—	9WL0912P4G001	92 × 92 × 25 mm	No	✓	✓	✓	286
9WL0912P4H001	—	—	—	9WL0912P4H001	92 × 92 × 25 mm	No	✓	✓	✓	286
9WL0912P4J001	9WL0912J4002	—	—	9WL0912P4J001	92 × 92 × 25 mm	No	✓	✓	✓	286
9WL0912P4S001	—	—	—	9WL0912P4S001	92 × 92 × 25 mm	No	✓	✓	✓	286
9WL0924P4H001	—	—	—	9WL0924P4H001	92 × 92 × 25 mm	No	✓	✓	✓	286
9WL0924P4J001	—	—	—	9WL0924P4J001	92 × 92 × 25 mm	No	✓	✓	✓	286
9WL0924P4S001	—	—	—	9WL0924P4S001	92 × 92 × 25 mm	No	✓	✓	✓	286
9WL1412P1A001	—	—	—	9WL1412P1A001	140 × 140 × 38 mm	No	—	—	—	306
9WL1412P1H001	—	—	—	9WL1412P1H001	140 × 140 × 38 mm	No	—	—	—	306
9WL1412P1M001	9WL1412M1002	9WL1412M1001	9WL1412M1D001	9WL1412P1M001	140 × 140 × 38 mm	No	—	—	—	306
9WL1412P5G001	—	—	—	9WL1412P5G001	140 × 140 × 51 mm	No	—	—	—	310
9WL1412P5S001	—	—	—	9WL1412P5S001	140 × 140 × 51 mm	No	—	—	—	310
9WL1424P1A001	—	—	—	9WL1424P1A001	140 × 140 × 38 mm	No	—	—	—	306
9WL1424P1H001	—	—	—	9WL1424P1H001	140 × 140 × 38 mm	No	—	—	—	306
9WL1424P1M001	9WL1424M1002	9WL1424M1001	9WL1424M1D001	9WL1424P1M001	140 × 140 × 38 mm	No	—	—	—	306
9WL1424P5G001	—	—	—	9WL1424P5G001	140 × 140 × 51 mm	No	—	—	—	310
9WL1424P5S001	—	—	—	9WL1424P5S001	140 × 140 × 51 mm	No	—	—	—	310
9WL1448P1A001	—	—	—	9WL1448P1A001	140 × 140 × 38 mm	No	—	—	—	306
9WL1448P1H001	—	—	—	9WL1448P1H001	140 × 140 × 38 mm	No	—	—	—	306
9WL1448P1M001	9WL1448M1002	9WL1448M1001	9WL1448M1D001	9WL1448P1M001	140 × 140 × 38 mm	No	—	—	—	306
9WL1448P5G001	—	—	—	9WL1448P5G001	140 × 140 × 51 mm	No	—	—	—	310
9WL1448P5S001	—	—	—	9WL1448P5S001	140 × 140 × 51 mm	No	—	—	—	310
9WP0412F6001	9WP0412F6002	9WP0412F6001	9WP0412F6D001	—	40 × 40 × 20 mm	Yes	✓	✓	✓	266
9WP0412H6001	9WP0412H6002	9WP0412H6001	—	—	40 × 40 × 20 mm	Yes	✓	✓	✓	266
9WP0612D401	9WP0612D402	9WP0612D401	9WP0612D4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	274
9WP0612D4011	—	9WP0612D4011	9WP0612D4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	274
9WP0612G401	9WP0612G402	9WP0612G401	9WP0612G4D01	9WP0612P4G01	60 × 60 × 25 mm	Yes	✓	✓	✓	274
9WP0612G4011	9WP0612G4021	9WP0612G4011	—	—	60 × 60 × 25 mm	No	✓	✓	✓	274
9WP0612H401	9WP0612H402	9WP0612H401	9WP0612H4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	274
9WP0612H4011	9WP0612H4021	9WP0612H4011	9WP0612H4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	274
9WP0624G401	9WP0624G402	9WP0624G401	9WP0624G4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	274
9WP0624G4011	—	9WP0624G4011	—	—	60 × 60 × 25 mm	No	✓	✓	✓	274

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9WP0624H401	9WP0624H402	9WP0624H401	9WP0624H4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	274
9WP0624H4011	9WP0624H4021	9WP0624H4011	9WP0624H4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	274
9WP0624J401	9WP0624J402	9WP0624J401	—	—	60 × 60 × 25 mm	Yes	✓	✓	✓	274
9WP0624J4011	—	9WP0624J4011	—	—	60 × 60 × 25 mm	No	✓	✓	✓	274
9WP0648H401	9WP0648H402	9WP0648H401	9WP0648H4D01	—	60 × 60 × 25 mm	Yes	✓	✓	✓	274
9WP0648H4011	9WP0648H4021	9WP0648H4011	9WP0648H4D011	—	60 × 60 × 25 mm	No	✓	✓	✓	274
9WP0812G401	9WP0812G402	9WP0812G401	9WP0812G4D01	9WP0812P4G01	80 × 80 × 25 mm	Yes	✓	✓	✓	280
9WP0812G4011	9WP0812G4021	9WP0812G4011	9WP0812G4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	280
9WP0812H401	9WP0812H402	9WP0812H401	9WP0812H4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	280
9WP0812H4011	9WP0812H4021	9WP0812H4011	9WP0812H4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	280
9WP0824H401	9WP0824H402	9WP0824H401	9WP0824H4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	280
9WP0824H4011	9WP0824H4021	9WP0824H4011	9WP0824H4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	280
9WP0824S401	9WP0824S402	9WP0824S401	9WP0824S4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	280
9WP0824S4011	9WP0824S4021	9WP0824S4011	—	—	80 × 80 × 25 mm	No	✓	✓	✓	280
9WP0848S401	9WP0848S402	9WP0848S401	9WP0848S4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	280
9WP0848S4011	9WP0848S4021	9WP0848S4011	9WP0848S4D011	—	80 × 80 × 25 mm	No	✓	✓	✓	280
9WP0912F401	9WP0912F402	9WP0912F401	9WP0912F4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	293
9WP0912F4011	—	9WP0912F4011	9WP0912F4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	293
9WP0912S401	9WP0912S402	9WP0912S401	9WP0912S4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	293
9WP0912S4011	—	9WP0912S4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	293
9WP0924B401	9WP0924B402	9WP0924B401	9WP0924B4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	293
9WP0924B4011	9WP0924B4021	9WP0924B4011	9WP0924B4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	293
9WP0924F401	9WP0924F402	9WP0924F401	9WP0924F4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	293
9WP0924F4011	9WP0924F4021	9WP0924F4011	9WP0924F4D011	—	92 × 92 × 25 mm	No	✓	✓	✓	293
9WP0924G401	9WP0924G402	9WP0924G401	9WP0924G4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	293
9WP0924G4011	—	9WP0924G4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	293
9WP0924H401	9WP0924H402	9WP0924H401	9WP0924H4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	293
9WP0924H4011	—	9WP0924H4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	293
9WP0924S401	9WP0924S402	9WP0924S401	9WP0924S4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	293
9WP0924S4011	—	9WP0924S4011	—	—	92 × 92 × 25 mm	No	✓	✓	✓	293
9WP1212H101	9WP1212H102	9WP1212H101	9WP1212H1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	301
9WP1212H1011	9WP1212H1021	9WP1212H1011	9WP1212H1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	301
9WP1212L101	—	9WP1212L101	—	—	120 × 120 × 38 mm	Yes	✓	✓	✓	301
9WP1212L1011	—	9WP1212L1011	—	—	120 × 120 × 38 mm	No	✓	✓	✓	301
9WP1224H101	9WP1224H102	9WP1224H101	9WP1224H1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	301
9WP1224H1011	9WP1224H1021	9WP1224H1011	9WP1224H1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	301
9WP1248H101	9WP1248H102	9WP1248H101	9WP1248H1D01	—	120 × 120 × 38 mm	Yes	✓	✓	✓	301
9WP1248H1011	9WP1248H1021	9WP1248H1011	9WP1248H1D011	—	120 × 120 × 38 mm	No	✓	✓	✓	301
9WS0812F401	9WS0812F402	9WS0812F401	9WS0812F4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	282
9WS0812F4011	9WS0812F4021	9WS0812F4011	—	—	80 × 80 × 25 mm	No	✓	✓	✓	282
9WS0812H401	9WS0812H402	9WS0812H401	—	—	80 × 80 × 25 mm	Yes	✓	✓	✓	282
9WS0812H4011	9WS0812H4021	9WS0812H4011	—	—	80 × 80 × 25 mm	No	✓	✓	✓	282
9WS0812M401	9WS0812M402	9WS0812M401	9WS0812M4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	282
9WS0812M4011	9WS0812M4021	9WS0812M4011	—	—	80 × 80 × 25 mm	No	✓	✓	✓	282
9WS0824F401	9WS0824F402	9WS0824F401	—	—	80 × 80 × 25 mm	Yes	✓	✓	✓	282
9WS0824F4011	9WS0824F4021	9WS0824F4011	—	—	80 × 80 × 25 mm	No	✓	✓	✓	282
9WS0824H401	9WS0824H402	9WS0824H401	9WS0824H4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	282
9WS0824H4011	9WS0824H4021	9WS0824H4011	—	—	80 × 80 × 25 mm	No	✓	✓	✓	282
9WS0824M401	9WS0824M402	9WS0824M401	9WS0824M4D01	—	80 × 80 × 25 mm	Yes	✓	✓	✓	282
9WS0824M4011	9WS0824M4021	9WS0824M4011	—	—	80 × 80 × 25 mm	No	✓	✓	✓	282
9WS0912F401	9WS0912F402	9WS0912F401	9WS0912F4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	290
9WS0912H401	9WS0912H402	9WS0912H401	—	—	92 × 92 × 25 mm	Yes	✓	✓	✓	290
9WS0912L401	9WS0912L402	9WS0912L401	—	—	92 × 92 × 25 mm	Yes	✓	✓	✓	290
9WS0912M401	9WS0912M402	9WS0912M401	—	—	92 × 92 × 25 mm	Yes	✓	✓	✓	290
9WS0924F401	9WS0924F402	9WS0924F401	—	—	92 × 92 × 25 mm	Yes	✓	✓	✓	290
9WS0924H401	9WS0924H402	9WS0924H401	9WS0924H4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	290
9WS0924L401	9WS0924L402	9WS0924L401	—	—	92 × 92 × 25 mm	Yes	✓	✓	✓	290
9WS0924M401	9WS0924M402	9WS0924M401	9WS0924M4D01	—	92 × 92 × 25 mm	Yes	✓	✓	✓	290
9VV0812P1M001	—	9VV0812M1001	9VV0812M1D001	9VV0812P1M001	80 × 80 × 38 mm	Yes	✓	✓	✓	284
9VV0812P1M0011	—	—	—	9VV0812P1M0011	80 × 80 × 38 mm	No	✓	✓	✓	284
9VV0848P1H001	—	—	—	9VV0848P1H001	80 × 80 × 38 mm	Yes	✓	✓	✓	284

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	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			UL (cUL)	CSA (cUL)	TÜV	
							✓	✓	✓	
9WV0848P1H0011	—	—	—	9WV0848P1H0011	80 × 80 × 38 mm	No	✓	✓	✓	284
9WV0924P1H001	9WV0924H1002	—	—	9WV0924P1H001	92 × 92 × 38 mm	Yes	✓	✓	✓	296
9WV0948P1H001	—	—	—	9WV0948P1H001	92 × 92 × 38 mm	Yes	✓	✓	✓	296
9WV1212P1J001	9WV1212J1002	—	9WV1212J1D001	9WV1212P1J001	120 × 120 × 38 mm	No	✓	✓	✓	298
9WV1224P1H001	9WV1224H102	9WV1224H101	9WV1224H1D001	9WV1224P1H001	120 × 120 × 38 mm	No	✓	✓	✓	298
9WV1224P1J601	—	9WV1224J1001	—	9WV1224P1J601	120 × 120 × 38 mm	No	✓	✓	✓	298
9WV1248P1J001	9WV1248J1002	9WV1248J1001	9WV1248J1D001	9WV1248P1J001	120 × 120 × 38 mm	No	✓	✓	✓	298

Please contact your point of sale regarding low-speed sensors.

## Index by Model No./Safety Standards List - ACDC Fans **AC**

Models listed in the main section of this catalog	Frame size	Model	Rated voltage [V]	UL (cUL)	CSA (cUL)	TÜV	CE	PSE	Note	page
9AD0901H12	92×92×38 mm	San Ace 92AD	100 to 240	✓	✓	✓	✓	✓	Ribbed	458
9AD0901H121	92×92×38 mm	San Ace 92AD	100 to 240	✓	✓	✓	✓	✓	Ribless	458
9AD0901H1H	92×92×38 mm	San Ace 92AD	100 to 240	✓	✓	✓	✓	✓	Ribbed	458
9AD0901H1H1	92×92×38 mm	San Ace 92AD	100 to 240	✓	✓	✓	✓	✓	Ribless	458
9AD0901M12	92×92×38 mm	San Ace 92AD	100 to 240	✓	✓	✓	✓	✓	Ribbed	458
9AD0901M121	92×92×38 mm	San Ace 92AD	100 to 240	✓	✓	✓	✓	✓	Ribless	458
9AD0901M1H	92×92×38 mm	San Ace 92AD	100 to 240	✓	✓	✓	✓	✓	Ribbed	458
9AD0901M1H1	92×92×38 mm	San Ace 92AD	100 to 240	✓	✓	✓	✓	✓	Ribless	458
9AD1201H12	120×120×38 mm	San Ace 120AD	100 to 240	✓	✓	✓	✓	✓	Ribbed	461
9AD1201H121	120×120×38 mm	San Ace 120AD	100 to 240	✓	✓	✓	✓	✓	Ribless	461
9AD1201H1H	120×120×38 mm	San Ace 120AD	100 to 240	✓	✓	✓	✓	✓	Ribbed	461
9AD1201H1H1	120×120×38 mm	San Ace 120AD	100 to 240	✓	✓	✓	✓	✓	Ribless	461

Please contact your point of sale for pulse sensors and lock sensors.

## Index by Model No./Safety Standards List - AC Fans **AC**

Models listed in the main section of this catalog	Frame size	Model	Rated voltage [V]	UL	CSA	TÜV	CE	PSE	Note	page
109-033UL	80×80×42 mm	San Ace 80	115	✓	✓	✓	✓	✓		476
109-040UL	80×80×42 mm	San Ace 80	100	✓	✓	✓	✓	✓		476
109-041UL	80×80×42 mm	San Ace 80	200	✓	✓	✓	✓	✓		476
109-043UL	80×80×42 mm	San Ace 80	115	✓	✓	✓	✓	✓		476
109-044UL	80×80×42 mm	San Ace 80	230	✓	✓	✓	✓	✓		476
109-047UL	80×80×42 mm	San Ace 80	100	✓	✓	✓	✓	✓		476
109-130	60×60×38 mm	San Ace 60	100	✓	—	✓	✓	—		468
109-133	60×60×38 mm	San Ace 60	115	✓	—	✓	✓	—		468
109-150	80×80×38 mm	San Ace 80	100	✓	✓	✓	✓	✓		474
109-151	80×80×38 mm	San Ace 80	200	✓	✓	✓	✓	✓		474
109-153	80×80×38 mm	San Ace 80	115	✓	✓	✓	✓	✓		474
109-154	80×80×38 mm	San Ace 80	230	✓	✓	✓	✓	✓		474
109-180	60×60×28 mm	San Ace 60	100	✓	—	✓	✓	—		466
109-183	60×60×28 mm	San Ace 60	115	✓	—	✓	✓	—		466
109-210	80×80×20 mm	San Ace 80	100	✓	✓	✓	✓	—		470
109-213	80×80×20 mm	San Ace 80	115	✓	✓	✓	✓	—		470
109-311	∅172×51 mm (Round type)	San Ace 172	100	✓	✓	✓	✓	✓		496
109-312	∅172×51 mm (Round type)	San Ace 172	200	✓	✓	✓	✓	✓		496
109-313	∅172×51 mm (Round type)	San Ace 172	230	✓	✓	✓	✓	✓		496
109-314	∅172×51 mm (Round type)	San Ace 172	115	✓	✓	✓	✓	✓		496
109-371	∅172×51 mm (with sensor)	San Ace 172	100	✓	—	✓	✓	✓		496
109-372	∅172×51 mm (with sensor)	San Ace 172	200	✓	—	✓	✓	✓		496
109-373	∅172×51 mm (with sensor)	San Ace 172	230	✓	—	✓	✓	✓		496
109-374	∅172×51 mm (with sensor)	San Ace 172	115	✓	—	✓	✓	✓		496
109-601	160×160×51 mm	San Ace 160	100	✓	✓	✓	✓	✓		491
109-602	160×160×51 mm	San Ace 160	200	✓	✓	✓	✓	✓		491
109-603	160×160×51 mm	San Ace 160	230	✓	✓	✓	✓	✓		491
109-604	160×160×51 mm	San Ace 160	115	✓	✓	✓	✓	✓		491
109-641	160×160×51 mm (with sensor)	San Ace 160	100	✓	—	✓	✓	✓		491
109-642	160×160×51 mm (with sensor)	San Ace 160	200	✓	—	✓	✓	✓		491
109-643	160×160×51 mm (with sensor)	San Ace 160	230	✓	—	✓	✓	✓		491
109-644	160×160×51 mm (with sensor)	San Ace 160	115	✓	—	✓	✓	✓		491
109S005	120×120×38 mm	San Ace 120	100	—	—	—	—	✓		486
109S005UL	120×120×38 mm	San Ace 120	100	✓	✓	✓	✓	✓		486
109S006	120×120×38 mm	San Ace 120	100	—	—	—	—	✓		486
109S006UL	120×120×38 mm	San Ace 120	100/115	✓	✓	✓	✓	✓		486
109S008	120×120×38 mm	San Ace 120	200	—	—	—	—	✓		486
109S008UL	120×120×38 mm	San Ace 120	200	✓	✓	✓	✓	✓		486
109S010	120×120×38 mm	San Ace 120	200	—	—	—	—	✓		486
109S010UL	120×120×38 mm	San Ace 120	200/240	✓	✓	✓	✓	✓		486
109S013	120×120×38 mm	San Ace 120	100	—	—	—	—	✓		486
109S013UL	120×120×38 mm	San Ace 120	100	✓	✓	✓	✓	✓		486
109S024	120×120×38 mm	San Ace 120	120	—	—	—	—	✓		486
109S024UL	120×120×38 mm	San Ace 120	115	✓	✓	✓	✓	✓		486
109S025	120×120×38 mm	San Ace 120	230	—	—	—	—	✓		486
109S025UL	120×120×38 mm	San Ace 120	230	✓	✓	✓	✓	✓		486
109S029UL	120×120×38 mm	San Ace 120	100	✓	✓	✓	✓	✓		486

Models listed in the main section of this catalog	Frame size	Model	Rated voltage [V]	UL	CSA	TÜV	CE	PSE	Note	page
109S030	80×80×25 mm	San Ace 80	100	✓	✓	✓	✓	✓		472
109S031	80×80×25 mm	San Ace 80	200	✓	✓	✓	✓	✓		472
109S033	80×80×25 mm	San Ace 80	115	✓	✓	✓	✓	✓		472
109S034	80×80×25 mm	San Ace 80	230	✓	✓	✓	✓	✓		472
109S050	80×80×25 mm	San Ace 80	100	✓	✓	✓	✓	✓		472
109S051	80×80×25 mm	San Ace 80	200	✓	✓	✓	✓	✓		472
109S053	80×80×25 mm	San Ace 80	115	✓	✓	✓	✓	✓		472
109S054	80×80×25 mm	San Ace 80	230	✓	✓	✓	✓	✓		472
109S072UL	120×120×38 mm	San Ace 120	230	✓	✓	✓	✓	✓		486
109S074UL	120×120×38 mm	San Ace 120	115	✓	✓	✓	✓	✓		486
109S075UL	120×120×38 mm	San Ace 120	100	✓	✓	✓	✓	✓		486
109S078UL	120×120×38 mm	San Ace 120	200	✓	✓	✓	✓	✓		486
109S081	120×120×25 mm	San Ace 120	100	✓	✓	✓	✓	✓		482
109S082	120×120×25 mm	San Ace 120	200	✓	✓	✓	✓	✓		482
109S083	120×120×25 mm	San Ace 120	115	✓	✓	✓	✓	✓		482
109S084	120×120×25 mm	San Ace 120	115	✓	✓	✓	✓	✓		482
109S085	120×120×25 mm	San Ace 120	100	✓	✓	✓	✓	✓		482
109S086	120×120×25 mm	San Ace 120	100	✓	✓	✓	✓	✓		482
109S087	120×120×25 mm	San Ace 120	230	✓	✓	✓	✓	✓		482
109S088	120×120×25 mm	San Ace 120	200	✓	✓	✓	✓	✓		482
109S089	120×120×25 mm	San Ace 120	230	✓	✓	✓	✓	✓		482
109S091	92×92×25 mm	San Ace 92	100	✓	✓	✓	✓	✓		478
109S092	92×92×25 mm	San Ace 92	200	✓	✓	✓	✓	✓		478
109S093	92×92×25 mm	San Ace 92	115	✓	✓	✓	✓	✓		478
109S094	92×92×25 mm	San Ace 92	230	✓	✓	✓	✓	✓		478
109S095	92×92×25 mm	San Ace 92	100	✓	✓	✓	✓	✓		478
109S096	92×92×25 mm	San Ace 92	100	✓	✓	✓	✓	✓		478
109S192	92×92×25 mm	San Ace 92	200	✓	✓	✓	✓	✓		478
109S193	92×92×25 mm	San Ace 92	115	✓	✓	✓	✓	✓		478
109S194	92×92×25 mm	San Ace 92	230	✓	✓	✓	✓	✓		478
109S301	∅172×150×51 mm (Sidecut type)	San Ace 172	100	✓	✓	✓	✓	✓		494
109S302	∅172×150×51 mm (Sidecut type)	San Ace 172	200	✓	✓	✓	✓	✓		494
109S303	∅172×150×51 mm (Sidecut type)	San Ace 172	230	✓	✓	✓	✓	✓		494
109S304	∅172×150×51 mm (Sidecut type)	San Ace 172	115	✓	✓	✓	✓	✓		494
109S405UL	120×120×38 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		487
109S406UL	120×120×38 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		487
109S408UL	120×120×38 mm (with sensor)	San Ace 120	200	✓	—	✓	✓	✓		487
109S424UL	120×120×38 mm (with sensor)	San Ace 120	115	✓	—	✓	✓	✓		487
109S425UL	120×120×38 mm (with sensor)	San Ace 120	230	✓	—	✓	✓	✓		487
109S429UL	120×120×38 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		487
109S472UL	120×120×38 mm (with sensor)	San Ace 120	230	✓	—	✓	✓	✓		487
109S474UL	120×120×38 mm (with sensor)	San Ace 120	115	✓	—	✓	✓	✓		487
109S475UL	120×120×38 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		487
109S478UL	120×120×38 mm (with sensor)	San Ace 120	200	✓	—	✓	✓	✓		487
109S484	120×120×25 mm (with sensor)	San Ace 120	115	✓	—	✓	✓	✓		482
109S485	120×120×25 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		482
109S486	120×120×25 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		482
109S487	120×120×25 mm (with sensor)	San Ace 120	230	✓	—	✓	✓	✓		482
109S488	120×120×25 mm (with sensor)	San Ace 120	200	✓	—	✓	✓	✓		482
109S491	92×92×25 mm (with sensor)	San Ace 92	100	✓	—	✓	✓	✓		478
109S492	92×92×25 mm (with sensor)	San Ace 92	200	✓	—	✓	✓	✓		478
109S493	92×92×25 mm (with sensor)	San Ace 92	115	✓	—	✓	✓	✓		478
109S494	92×92×25 mm (with sensor)	San Ace 92	230	✓	—	✓	✓	✓		478
109S495	92×92×25 mm (with sensor)	San Ace 92	100	✓	—	✓	✓	✓		478
109S496	92×92×25 mm (with sensor)	San Ace 92	100	✓	—	✓	✓	✓		478

## Index by Model No. - Options

### ■ Finger Guards **DC** **AC**

Model no.	Category	Matching fan size	page
109-019C	Finger Guards	120 mm sq. type	514
109-019E	Finger Guards	120 mm sq. type	514
109-019H	Finger Guards	120 mm sq. type	514
109-019K	Finger Guards	120 mm sq. type	514
109-049C	Finger Guards	80 mm sq. type	513
109-049E	Finger Guards	80 mm sq. type	513
109-049H	Finger Guards	80 mm sq. type	513
109-059	Finger Guards	40 mm sq. type	513
109-059H	Finger Guards	40 mm sq. type	513
109-099C	Finger Guards	92 mm sq. type	513
109-099E	Finger Guards	92 mm sq., $\phi$ 100 mm type	513
109-099H	Finger Guards	92 mm sq., $\phi$ 100 mm type	513
109-1050	Finger Guards	36 mm sq. type	513
109-1051	Finger Guards	150 mm sq. type	514
109-1052	Finger Guards	150 mm sq. type	514
109-1065	Finger Guards	38 mm sq. type	513
109-1066	Finger Guards	$\phi$ 172 mm type	515
109-1068	Finger Guards	$\phi$ 172 mm type	515
109-1102	Finger Guards	$\phi$ 200 mm type	516
109-1103	Finger Guards	$\phi$ 200 mm type	516
109-1104	Finger Guards	$\phi$ 150 mm type	514
109-1104H	Finger Guards	$\phi$ 150 mm type	514
109-1112	Finger Guards	$\phi$ 133 mm type	514
109-1128	Finger Guards	70 mm sq. type	513
109-1137	Finger Guards	$\phi$ 225 mm type	516
109-1137H	Finger Guards	$\phi$ 225 mm type	516
109-1138	Finger Guards	$\phi$ 221 mm type	516
109-1138H	Finger Guards	$\phi$ 221 mm type	516
109-1139	Finger Guards	$\phi$ 136 mm type	514
109-1146	Finger Guards	270 mm sq. type	517
109-1147	Finger Guards	$\phi$ 92 mm type	513
109-139E	Finger Guards	60 mm sq. type	513
109-139H	Finger Guards	60 mm sq. type	513
109-149	Finger Guards	52 mm sq. type	513
109-149E	Finger Guards	52 mm sq. type	513
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109-320	Finger Guards	$\phi$ 172 mm type	515
109-619E	Finger Guards	160 mm sq. type	514
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109-620	Finger Guards	160 mm sq. type	514
109-719	Finger Guards	140 mm sq. type	514
109-719H	Finger Guards	140 mm sq. type	514
109-720	Finger Guards	$\phi$ 200 mm type	516
109-720H	Finger Guards	$\phi$ 200 mm type	516
109-721	Finger Guards	$\phi$ 200 mm type	516
109-721H	Finger Guards	$\phi$ 200 mm type	516
109-722	Finger Guards	127 mm sq., $\phi$ 175 mm type	514
109-723	Finger Guards	127 mm sq. type	514

### ■ Resin Finger Guards/Resin Filter Kits **DC** **AC**

Model no.	Category	Matching fan size	page
109-1000F13	Resin Filter Kits	120 mm sq. type	521
109-1000F20	Resin Filter Kits	120 mm sq. type	521
109-1000F30	Resin Filter Kits	120 mm sq. type	521
109-1000F40	Resin Filter Kits	120 mm sq. type	521
109-1001F13	Resin Filter Kits	92 mm sq. type	521
109-1001F20	Resin Filter Kits	92 mm sq. type	521
109-1001F30	Resin Filter Kits	92 mm sq. type	521
109-1001F40	Resin Filter Kits	92 mm sq. type	521
109-1002F13	Resin Filter Kits	80 mm sq. type	521
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109-1003F20	Resin Filter Kits	60 mm sq. type	521
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109-1000G	Resin Finger Guards	120 mm sq. type	520
109-1001G	Resin Finger Guards	92 mm sq. type	520
109-1002G	Resin Finger Guards	80 mm sq. type	520
109-1003G	Resin Finger Guards	60 mm sq. type	520

### ■ Replacement filter **DC** **AC**

Model no.	Category	Matching fan size	page
109-1000M13	Replacement filter	120 mm sq. type	521
109-1000M20	Replacement filter	120 mm sq. type	521
109-1000M30	Replacement filter	120 mm sq. type	521
109-1000M40	Replacement filter	120 mm sq. type	521
109-1001M13	Replacement filter	92 mm sq. type	521
109-1001M20	Replacement filter	92 mm sq. type	521
109-1001M30	Replacement filter	92 mm sq. type	521
109-1001M40	Replacement filter	92 mm sq. type	521
109-1002M13	Replacement filter	80 mm sq. type	521
109-1002M20	Replacement filter	80 mm sq. type	521
109-1002M30	Replacement filter	80 mm sq. type	521
109-1002M40	Replacement filter	80 mm sq. type	521
109-1003M13	Replacement filter	60 mm sq. type	521
109-1003M20	Replacement filter	60 mm sq. type	521
109-1003M30	Replacement filter	60 mm sq. type	521
109-1003M40	Replacement filter	60 mm sq. type	521

## ■ EMC guards/Inlet nozzle for centrifugal fan and splash proof centrifugal fan **DC**

Model no.	Category	Matching fan size	page
109-1036	EMC guards	∅172 mm type	519
109-1037	EMC guards	120 mm sq. type	519
109-1038	EMC guards	80 mm sq. type	519
109-1039	EMC guards	80 mm sq. type	519
109-1040	EMC guards	92 mm sq. type	519
109-1069	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅133 mm type	518
109-1069H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅133 mm type	518
109-1073	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅175 mm type	518
109-1073H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅175 mm type	518
109-1080	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅100 mm type	518
109-1081	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅150 mm type	518
109-1081H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅150 mm type	518
109-1134	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅225 mm type	518
109-1134H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅225 mm type	518
109-1135	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅221 mm type	518
109-1135H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅221 mm type	518

## ■ Plug Cord **AC**

Model no.	UL	CSA	PSE	Applicable model	page
489-006-L10			✓	120 × 120 × 38 mm	523
489-006-L21			✓	120 × 120 × 38 mm	523
489-006-L35			✓	120 × 120 × 38 mm	523
489-007-L10	✓	✓		120 × 120 × 38 mm	524
489-007-L21	✓	✓		120 × 120 × 38 mm	524
489-008-L10			✓	80 × 80 × 42 mm	523
489-008-L21			✓	80 × 80 × 42 mm	523
489-008-L35			✓	80 × 80 × 42 mm	523
489-016-L10			✓	120 × 120 × 25 mm 92 × 92 × 25 mm 80 × 80 × 25 mm 80 × 80 × 38 mm	523
489-016-L21			✓	120 × 120 × 25 mm 92 × 92 × 25 mm 80 × 80 × 25 mm 80 × 80 × 38 mm	523
489-037-L10			✓	120 × 120 × 38 mm	523
489-037-L21			✓	120 × 120 × 38 mm	523
489-037-L35			✓	120 × 120 × 38 mm	523
489-047-L10	✓	✓		120 × 120 × 25 mm 92 × 92 × 25 mm 80 × 80 × 25 mm 80 × 80 × 38 mm	524
489-047-L21	✓	✓		120 × 120 × 25 mm 92 × 92 × 25 mm 80 × 80 × 25 mm 80 × 80 × 38 mm	524
489-084-L10	✓	✓		∅172 × 51 mm ∅172 × 150 × 51 mm 160 × 160 × 51 mm	524
489-084-L21	✓	✓		∅172 × 51 mm ∅172 × 150 × 51 mm 160 × 160 × 51 mm	524
489-086-L10	✓	✓		160 × 160 × 51 mm	524
489-086-L21	✓	✓		160 × 160 × 51 mm	524
489-1618-L10			✓	160 × 160 × 51 mm	523
489-1618-L21			✓	160 × 160 × 51 mm	523
489-1618-L28			✓	160 × 160 × 51 mm	523
489-1619-L10			✓	∅172 × 51 mm ∅172 × 150 × 51 mm 160 × 160 × 51 mm	523
489-1619-L21			✓	∅172 × 51 mm ∅172 × 150 × 51 mm 160 × 160 × 51 mm	523
489-1635-L10	✓	✓	✓	ACDC Fan	524
489-1635-L21	✓	✓	✓		524

Recommended connectors for DC fans ···· page 525

## Deleted Models in this Catalog

Following models were deleted in this latest version of catalog. However, these models are not discontinued product. Please contact us for further assistance if necessary.

### DC Fan

Size	Model no.	Frame material	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
Ø200 × 70 mm	109E2024S001	Aluminum	24	21.6 to 26.4	1.9	45.6	3200	10.45 369	287.1 1.153	57	-10 to +70	40000
Ø200 × 70 mm	109E2024H001	Aluminum	24	20.4 to 27.6	1.0	24	2600	8.2 289.5	192 0.771	51	-10 to +70	40000
Ø200 × 70 mm	109E2024AS001	Aluminum	24	21.6 to 26.4	1.9	45.6	3200	10.45 369	287.1 1.153	57	-10 to +70	40000
					1.45	34.8	2800	9 317.8	215.6 0.865	54		
Ø200 × 70 mm	109E2024MH001	Aluminum	24	20.4 to 27.6	1.0	24	2600	8.2 289.5	192 0.771	51	-10 to +70	40000
					0.63	15.12	2100	6.7 236.6	115.4 0.463	45		

### Counter Rotating Fan

Size	Model no.	Frame material	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]		Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
							Inlet	Outlet					
40 × 40 × 56 mm	9CRA0412K501	Plastic	12	10.8 to 12.6	1.8	21.6	17000	13000	0.95 33.5	650 2.61	65	-20 to +60	40000
40 × 40 × 56 mm	9CRA0412J501	Plastic	12	10.8 to 13.2	1.4	16.8	15800	12200	0.9 31.8	570 2.29	62	-20 to +70	40000
40 × 40 × 56 mm	9CRA0412G501	Plastic	12	10.8 to 13.2	1.0	12	14000	10400	0.77 27.2	435 1.75	59	-20 to +70	40000
60 × 60 × 76 mm	9CR0612S001	Plastic	12	10.8 to 13.2	3.2	38.4	11500	7000	2.26 80	550 2.21	66	-10 to +60	40000
60 × 60 × 76 mm	9CR0612H001	Plastic	12	10.8 to 13.2	2.7	32.4	10300	6500	1.98 70	450 1.81	64	-10 to +60	40000
80 × 80 × 80 mm	9CR0812S801	Plastic	12	10.8 to 13.2	5.5	66.0	8000	5300	4.53 160	520 2.09	71	-10 to +60	40000
80 × 80 × 80 mm	9CR0812H801	Plastic	12	10.8 to 13.2	3.6	43.2	7000	4600	3.97 140	400 1.61	68	-10 to +60	40000

Size	Model no.	Frame material	Rated voltage [V]	PWM frequency [kHz]	Rated current [A]	Rated speed [min <sup>-1</sup> ]		Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
						Duty cycle 0%	Duty cycle 100%					
60 × 60 × 76 mm	9CR0612P0S03	Plastic	12	25.0	3.2	Inlet: 1300 Outlet: 800	Inlet: 11500 Outlet: 7000	2.26 79.8	550 2.21	66	40000	
	9CR0612P0H03	Plastic	12	25.0	2.7	Inlet: 1200 Outlet: 800	Inlet: 10300 Outlet: 6500	1.98 69.91	450 1.81	64	40000	
80 × 80 × 80 mm	9CR0848P8S03	Plastic	48	25.0	1.29	Inlet: 2000 Outlet: 1300	Inlet: 8000 Outlet: 5300	4.53 159.95	520 2.09	71	40000	

Size	Model no.	Frame material	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]		Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
								Inlet	Outlet					
40 × 40 × 56 mm	9CRB0412P5S201	Plastic	12	10.8 to 13.2	100	1.4	16.8	22000	19700	0.9 31.8	1045 4.197	68	-20 to +70	40000
						0.09	1.08	3800	3500	0.15 5.3	31 0.124	26	-20 to +70	40000
40 × 40 × 56 mm	9CRB0412P5K001	Plastic	12	10.8 to 13.2	100	0.88	10.56	19000	17000	0.76 26.83	730 2.93	62	-20 to +70	40000
						0.11	1.32	5700	5100	0.21 7.41	67 0.26	33	-20 to +70	40000
40 × 40 × 56 mm	9CRB0412P5J201	Plastic	12	10.8 to 13.2	100	0.72	8.64	17300	16000	0.71 25.1	650 2.61	61	-20 to +70	40000
						0.07	0.84	3450	3200	0.13 4.59	26 0.1	24	-20 to +70	40000

\* PWM frequency: 25 kHz

### Long Life Fan

Size	Model no.	Frame material	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
60 × 60 × 25 mm	109L0612G401	Aluminum	12	10.2 to 13.8	0.24	2.88	5600	0.78 27.5	87.3 0.35	39	-20 to +70	100000
60 × 60 × 25 mm	109L0612S401	Aluminum	12	10.2 to 13.8	0.17	2.04	4600	0.65 23.0	56.8 0.228	33	-20 to +70	100000
60 × 60 × 25 mm	109L0612H401	Aluminum	12	10.2 to 13.8	0.11	1.32	3800	0.53 18.7	40.2 0.161	28	-20 to +70	100000
60 × 60 × 25 mm	109L0612F401	Aluminum	12	10.2 to 13.8	0.09	1.08	3200	0.44 15.5	29.4 0.118	24	-20 to +70	100000
60 × 60 × 25 mm	109L0612M401	Aluminum	12	10.2 to 13.8	0.06	0.72	2600	0.36 12.7	19.6 0.079	20	-20 to +70	100000
60 × 60 × 25 mm	109L0624D401	Aluminum	24	20.4 to 27.6	0.12	2.88	5150	0.72 25.4	73.8 0.296	37	-20 to +70	100000
60 × 60 × 25 mm	109L0624S401	Aluminum	24	20.4 to 27.6	0.08	1.92	4600	0.65 23.0	56.8 0.23	33	-20 to +70	100000
60 × 60 × 25 mm	109L0624H401	Aluminum	24	20.4 to 27.6	0.06	1.44	3800	0.53 18.7	40.2 0.161	28	-20 to +70	100000
60 × 60 × 25 mm	109L0624F401	Aluminum	24	20.4 to 27.6	0.05	1.2	3200	0.44 15.5	29.4 0.118	24	-20 to +70	100000
60 × 60 × 25 mm	109L0624M401	Aluminum	24	20.4 to 27.6	0.04	0.96	2600	0.36 12.7	19.6 0.079	20	-20 to +70	100000
60 × 60 × 25 mm	109L0648G401	Aluminum	48	40.8 to 55.2	0.07	3.36	5600	0.78 27.5	87.3 0.35	39	-20 to +60	80000
60 × 60 × 25 mm	109L0648H401	Aluminum	48	40 to 53	0.04	1.92	3800	0.53 18.7	40.2 0.161	28	-20 to +70	100000

## Thermally Controlled Fan

Size	Model no.	Frame material	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]		Max. static pressure [Pa] [inchH <sub>2</sub> O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
52 × 52 × 15 mm	109P0512T7H12	Plastic	12	10.2 to 13.8	0.13	1.56	4600	0.255	9.0	31.9	0.128	27	-10 to +70	60000
					0.09	1.08	2300	0.13	4.6	8.8	0.035	17		
52 × 52 × 15 mm	109P0512T7H122	Plastic	12	10.2 to 13.8	0.13	1.56	4900	0.27	9.5	36.2	0.145	28	-10 to +70	60000
					0.09	1.08	2400	0.14	4.9	9.6	0.039	17		
60 × 60 × 15 mm	109P0612T7H12	Plastic	12	10.2 to 13.8	0.12	1.44	4100	0.4	14.1	38.2	0.153	32	-10 to +70	60000
					0.08	0.96	2050	0.2	7.1	9.3	0.037	18		
60 × 60 × 15 mm	109P0612T7H122	Plastic	12	10.2 to 13.8	0.12	1.44	4300	0.42	14.8	42.0	0.169	32	-10 to +70	60000
					0.08	0.96	2100	0.2	7.0	9.7	0.039	18		
60 × 60 × 20 mm	109P0612T6H12	Plastic	12	10.2 to 13.8	0.15	1.8	4200	0.42	14.8	31.9	0.128	31	-10 to +70	60000
					0.1	1.2	2100	0.21	7.4	8.8	0.035	21		
60 × 60 × 20 mm	109P0612T6H122	Plastic	12	10.2 to 13.8	0.15	1.8	4400	0.44	15.5	35.0	0.141	33	-10 to +70	60000
					0.1	1.2	2150	0.22	7.8	9.2	0.037	21		
60 × 60 × 25 mm	109R0612T4H12 109R0612T4H121	Plastic	12	10.2 to 13.8	0.13	1.56	3800	0.53	18.7	40.2	0.161	28	-10 to +60	60000
					0.1	1.2	1900	0.26	9.2	9.8	0.039	15		
60 × 60 × 25 mm	109R0612T4H122 109R0612T4H123	Plastic	12	10.2 to 13.8	0.13	1.56	3950	0.55	19.4	41.8	0.168	28	-10 to +60	60000
					0.1	1.2	1950	0.27	9.5	10.3	0.041	15		
80 × 80 × 20 mm	109P0812T6H12	Plastic	12	10.2 to 13.8	0.18	2.16	2900	0.84	29.7	29.4	0.118	31	-10 to +60	60000
					0.1	1.2	1450	0.42	14.8	7.4	0.03	18		
80 × 80 × 20 mm	109P0812T6H122	Plastic	12	10.2 to 13.8	0.18	2.16	3050	0.88	31.0	32.5	0.131	32	-10 to +60	60000
					0.1	1.2	1450	0.42	14.8	7.4	0.03	20		
80 × 80 × 25 mm	109R0812T4H12 109R0812T4H121	Plastic	12	10.2 to 13.8	0.14	1.68	2900	1.03	36.4	35.3	0.142	29	-10 to +60	60000
					0.09	1.08	1450	0.51	18.0	8.8	0.035	14		
80 × 80 × 25 mm	109R0812T4H122 109R0812T4H123	Plastic	12	10.2 to 13.8	0.14	1.68	3000	1.07	37.8	37.7	0.151	29	-10 to +60	60000
					0.09	1.08	1450	0.51	18.0	8.8	0.035	14		

## Blower

Size	Model no.	Frame material	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]		Max. static pressure [Pa] [inchH <sub>2</sub> O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
120 × 32 mm	109BF12HC2	Plastic	12	10.2 to 13.8	0.6	7.2	2400	0.78	27.5	175.4	0.704	52	-20 to +60	40000
120 × 32 mm	109BF12MC2	Plastic	12	10.2 to 13.8	0.32	3.84	1900	0.61	21.5	109.8	0.441	44	-20 to +60	40000
120 × 32 mm	109BF24HC2	Plastic	24	20.4 to 27.6	0.3	7.2	2400	0.78	27.5	175.4	0.704	52	-20 to +60	40000
120 × 32 mm	109BF24MC2	Plastic	24	20.4 to 27.6	0.16	3.84	1900	0.61	21.5	109.8	0.441	44	-20 to +60	40000

• Storage temperature is -30 to +70°C.