

# DC Fan

Wide lineup including low power consumption fans (9GA type), silent fans (9S type), and high airflow and high static pressure fans.

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

<b>9GV</b>	<b>12</b>	<b>12</b>	<b>J</b>	<b>1</b>	<b>01</b>	<b>1</b>
Type name	Frame size	Voltage	Speed code	Frame thickness	Sensor specifications	Frame form

Fans with PWM control function

<b>9GV</b>	<b>12</b>	<b>12</b>	<b>P</b>	<b>4</b>	<b>G</b>	<b>01</b>	
Type name	Frame size	Voltage	PWM control function	Frame thickness	Speed code	Individual customer's spec (2 to 4 digits)	Frame form

Type name	9GA 9GV 9HV etc.														
Frame size (mm)	03	04	05	06	08	09	12	13	14	15	17	36	47	57	20
	38×38	40×40	52×52	60×60	80×80	92×92	120×120	127×127	140×140	150×150	∅172	36×36	∅172×147 (sidecut)	∅172×150 (sidecut)	∅200
Voltage (V)	05	12	24	48											
	5	12	24	48	etc.										
Speed code	A	B	C	D	E	F	G	H	J	K	L	M	S	W	etc.
Frame thickness (mm)	0	1	2	3	4	5	6	7	9						
	70	38	32	28	25	50, 51	20	15	10						
Sensor specifications	01 or 001 With a pulse sensor				02 or 002 Without a sensor				D01 or D001 With a lock sensor						
Frame form	Nil				1				3				40 × 40 × 28 mm for 1U applications Plastic frame: Ribbed frame		
	Plastic frame: Ribbed frame Aluminum frame: Ribless frame				Plastic frame: Ribless frame										

**How to Read Specifications (DC fan)** The following is a sample. See respective product pages for detailed information.

Model no.	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]
<b>9GA0412G7001</b>	12	7 to 13.8	0.17	2.04	13100	0.36 12.7	192 0.77	42	-20 to +70	40000/60°C (70000/40°C)

- Rated voltage ..... This is the necessary voltage to drive the fan. E.g.) 12 VDC, 24 VDC, 48 VDC
- Operating voltage range ..... The voltage range over which fan operation is guaranteed.
- 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. Expected life at 40°C is for reference only.  
For more information, please refer to the technical material section.



# 36×36×28 mm

San Ace 36 9HV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 53 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	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]
▶▶ 9HV3612P3K001	12	10.8 to 13.2	100	1.75	21.0	32500	0.72 25.4	1400 5.62	67	-20 to +60	30000/60°C (53000/40°C)
			20	0.05	0.6	6000	0.12 4.2	47.2 0.19	26		

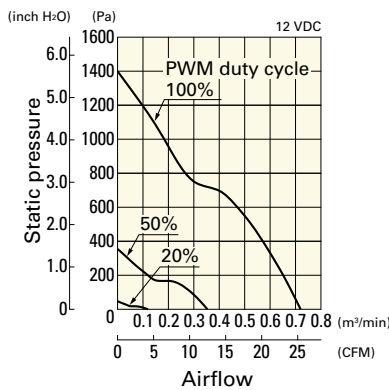
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

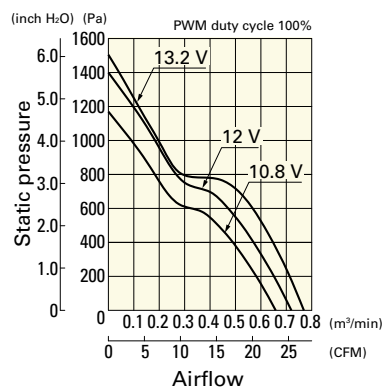
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9HV3612P3K001** With pulse sensor with PWM control function

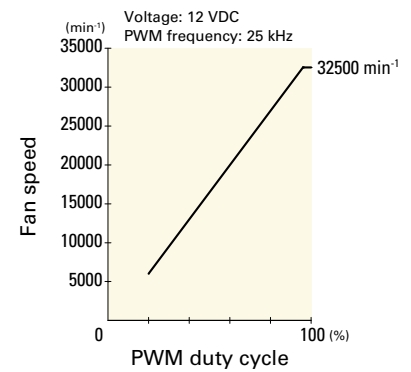
PWM duty cycle



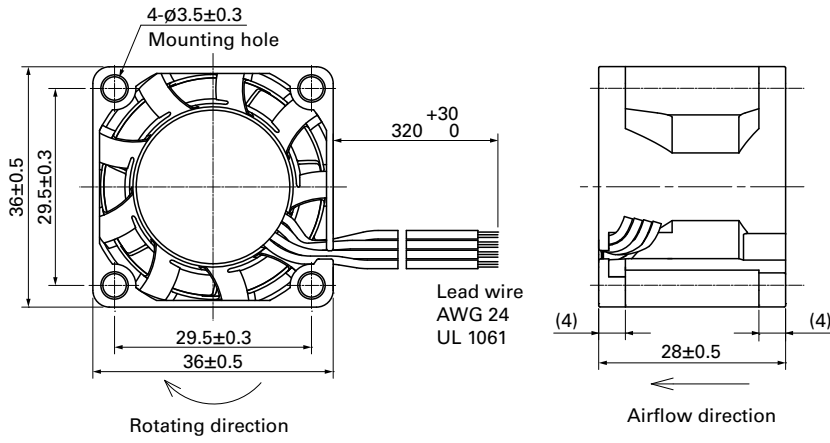
Operating voltage range



PWM duty - Speed characteristics example

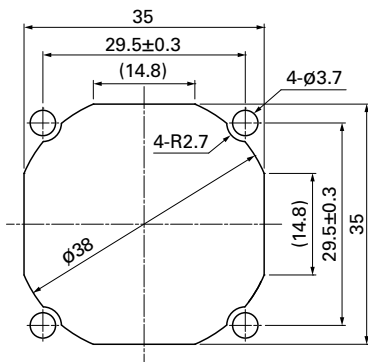


**Dimensions (unit: mm)**



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

Inlet side, Outlet side



**Options**

Finger guards

page: p. 584

Model no.: 109-1050

DC Fan

# 36x36x28 mm

San Ace 36 9GX 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 46 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	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]
9GX3612P3K001	12	10.8 to 13.2	100	1.3	15.6	24000	0.69 24.4	838 3.367	66	-10 to +60	40000/60°C (70000/40°C)
			0	0.07	0.84	3200	0.09 3.2	14.0 0.056	32		

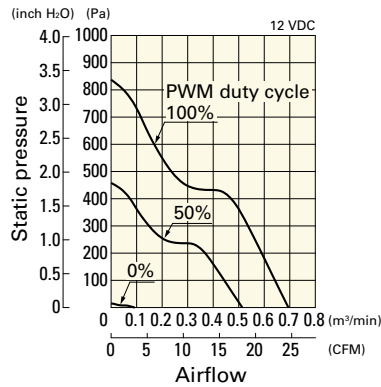
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

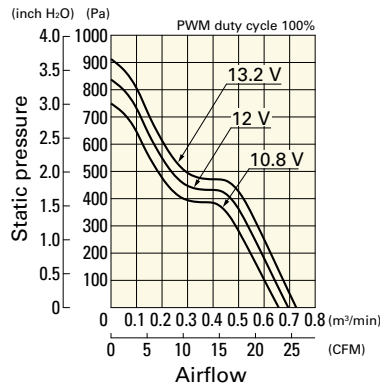
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GX3612P3K001** With pulse sensor with PWM control function

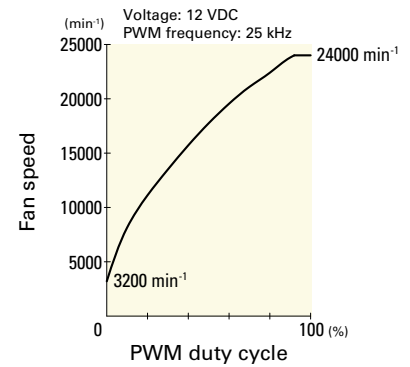
PWM duty cycle



Operating voltage range

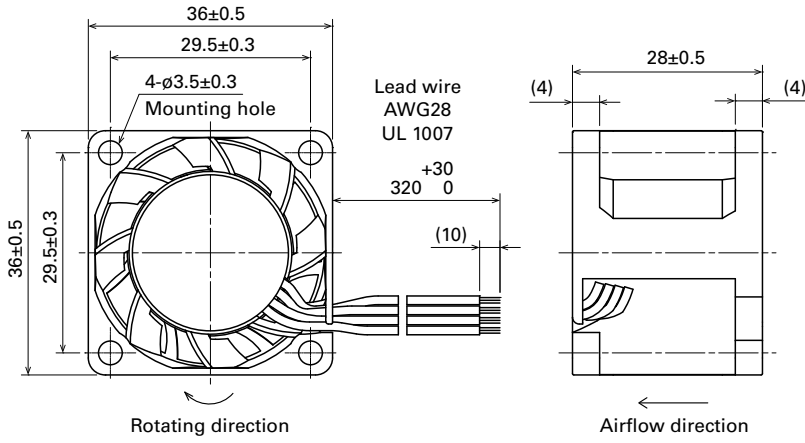


PWM duty - Speed characteristics example

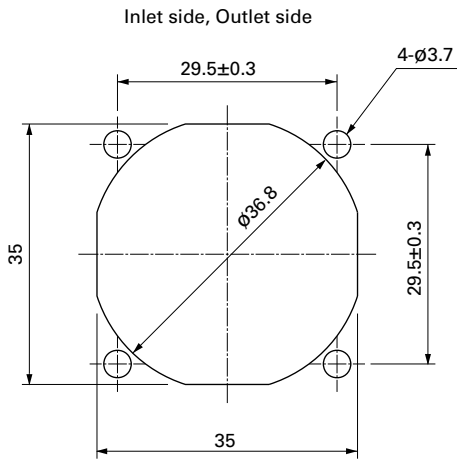




**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 584

Model no.: 109-1050

DC Fan

# 36×36×28 mm

San Ace 36 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -20 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow
- Mass ..... 46 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	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]
9GV3612J301	12	7.0 to 13.2	0.75	9.0	19000	0.55 19.4	525 2.108	58.5	-20 to +60	40000/60°C (70000/40°C)
9GV3612G301			0.34	4.08	14000	0.4 14.1	275 1.104	52.0		

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

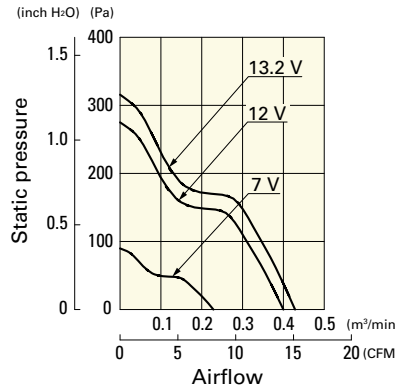
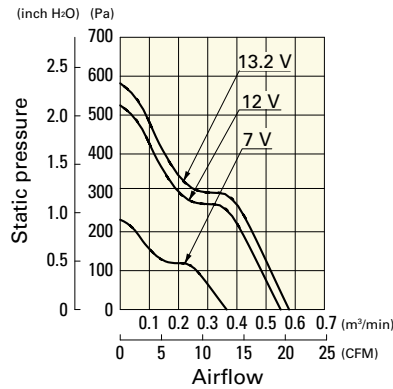
## Airflow - Static Pressure Characteristics

**9GV3612J301** With pulse sensor

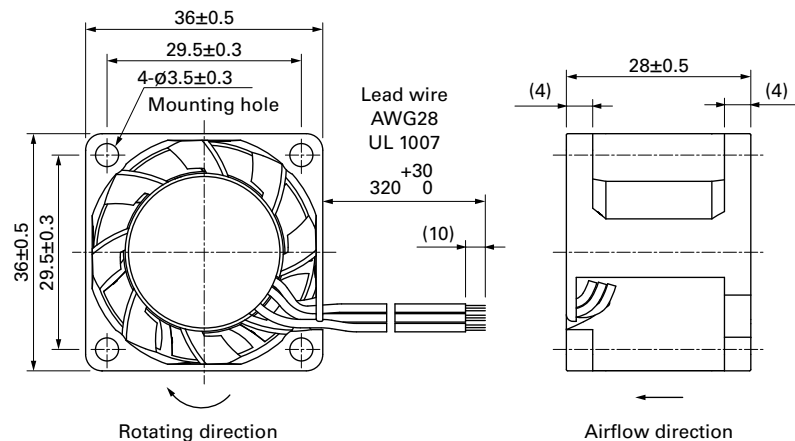
**9GV3612G301** With pulse sensor

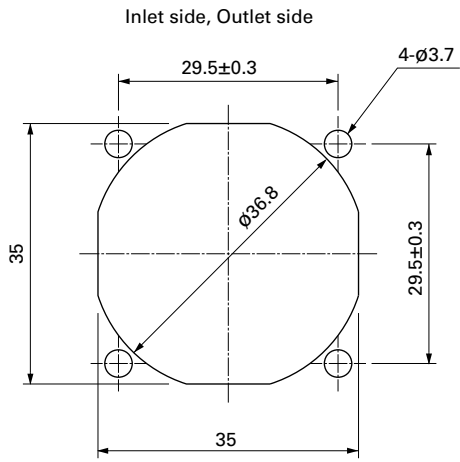
Operating voltage range

Operating voltage range



## Dimensions (unit: mm)



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

Finger guards

page: p. 584

Model no.: 109-1050

DC Fan

# 38x38x28 mm



**San Ace 38 9GA type** Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 52 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9GA0312P3K001	12	10.8 to 13.2	100	0.62	7.4	25000	0.6 21.2	800 3.21	59.0	-20 to +70	40000/60°C (70000/40°C)
			0	0.06	0.7	3000	0.07 2.5	11 0.04	15.0		
▶▶ 9GA0312P3J001			100	0.52	6.2	23500	0.57 20.1	720 2.89	57.5		
			0	0.06	0.7	3000	0.07 2.5	11 0.04	15.0		
▶▶ 9GA0312P3G001			100	0.33	4.0	19000	0.45 15.9	460 1.85	53.0		
			0	0.06	0.7	3000	0.07 2.5	11 0.04	15.0		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

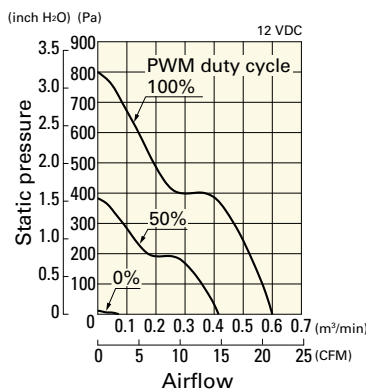
Note 1: Sensor and control options are available for selection. Refer to the table on p. 628.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

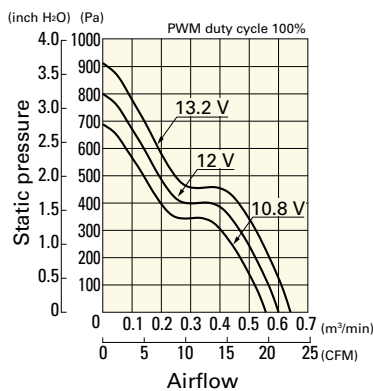
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0312P3K001** With pulse sensor with PWM control function

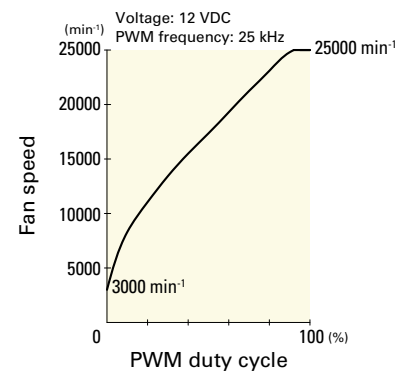
PWM duty cycle



Operating voltage range



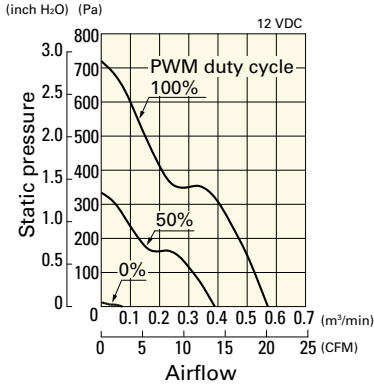
PWM duty - Speed characteristics example



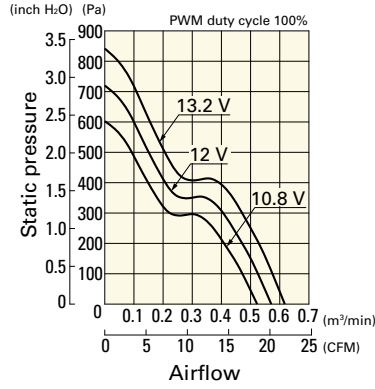
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0312P3J001** With pulse sensor with PWM control function

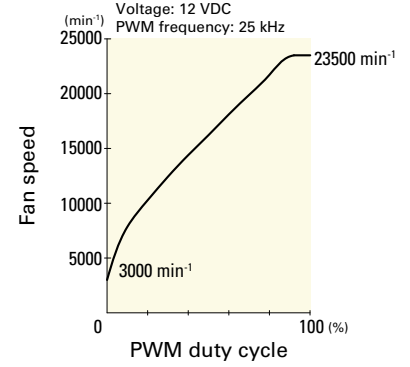
PWM duty cycle



Operating voltage range

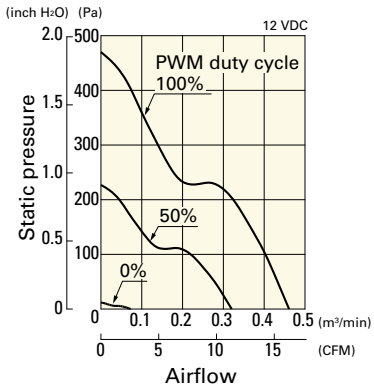


PWM duty - Speed characteristics example

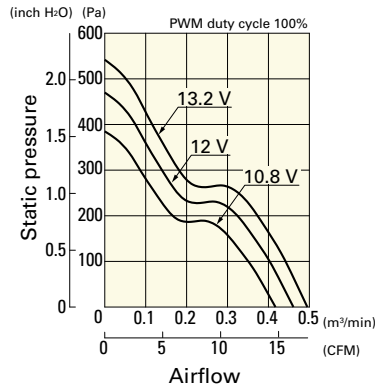


**9GA0312P3G001** With pulse sensor with PWM control function

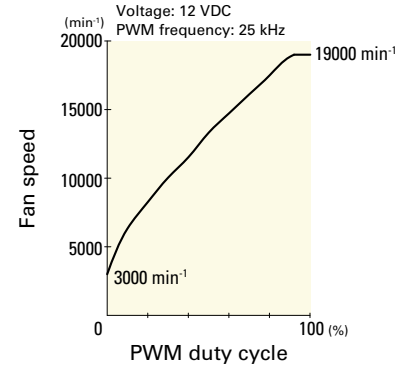
PWM duty cycle



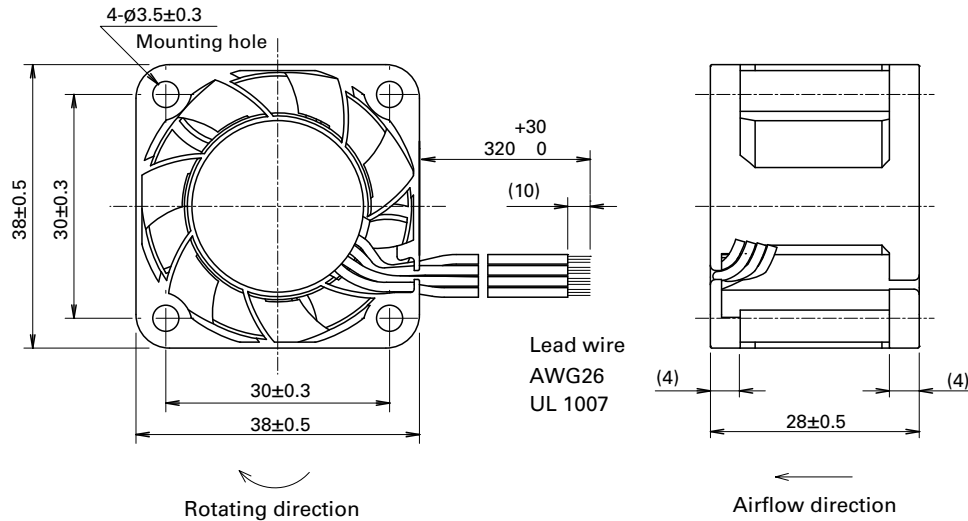
Operating voltage range



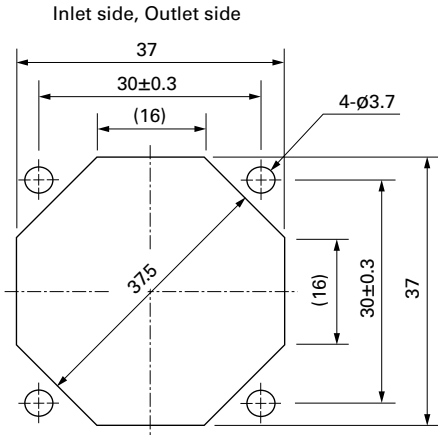
PWM duty - Speed characteristics example



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



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



Options

Finger guards

page: p. 584

Model no.: 109-1065



# 38x38x28 mm

San Ace 38 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -20 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow
- Mass ..... 50 g

## Specifications

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

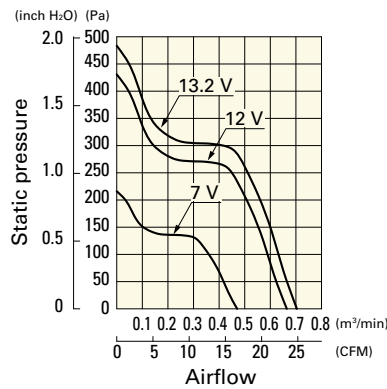
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GV0312K301	12	7 to 13.2	0.79	9.48	18200	0.65 23	425 1.707	59	-20 to +60	40000/60°C (70000/40°C)
9GV0312J301			0.6	7.2	15900	0.57 20	315 1.265	54		
9GV0312G301			0.4	4.8	13500	0.48 17	220 0.924	50		
9GV0312E301		4.5 to 13.2	0.21	2.52	10500	0.37 13.1	130 0.522	43		
9GV0312H301			0.16	1.92	7000	0.24 8.5	60 0.241	34		

Note: Sensor and control options are available for selection. Refer to the table on p. 632.

## Airflow - Static Pressure Characteristics

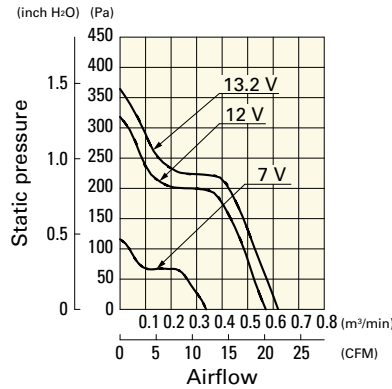
9GV0312K301 With pulse sensor

Operating voltage range



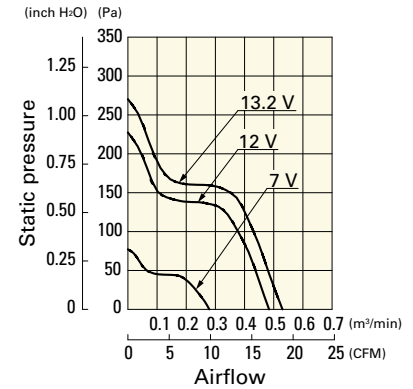
9GV0312J301 With pulse sensor

Operating voltage range



9GV0312G301 With pulse sensor

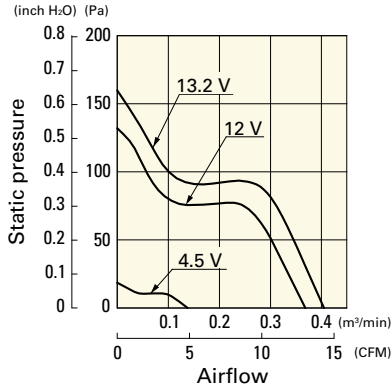
Operating voltage range



## Airflow - Static Pressure Characteristics

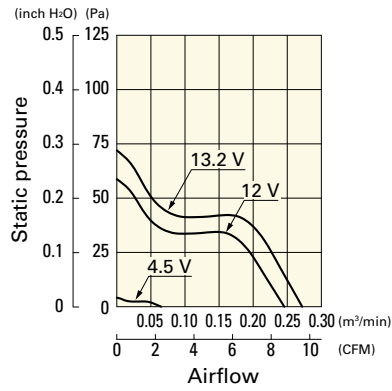
**9GV0312E301** With pulse sensor

Operating voltage range

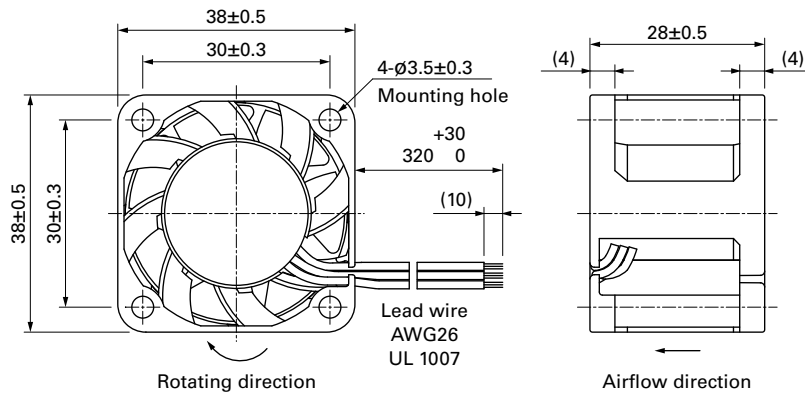


**9GV0312H301** With pulse sensor

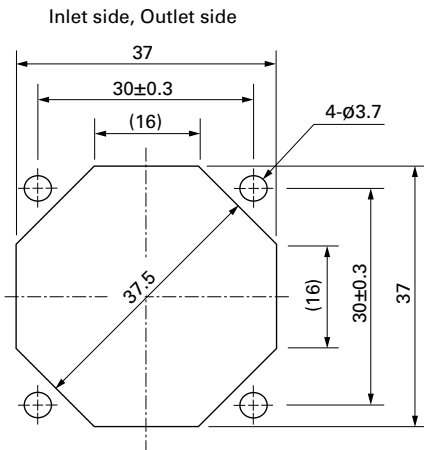
Operating voltage range



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



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



## Options

Finger guards

page: p. 584

Model no.: 109-1065



# 40x40x10 mm

San Ace 40 9P<sub>type</sub>   



## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 19 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	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]
▶▶ 109P0405H901	5	4.5 to 5.5	0.16	0.8	6200	0.15 5.3	41.2 0.165	25	-10 to +60	40000/60°C (70000/40°C)
▶▶ 109P0405M901			0.11	0.55	5000	0.12 4.2	27 0.108	21		
▶▶ 109P0412H901	12	7 to 13.8	0.07	0.84	6200	0.15 5.3	41.2 0.165	25		
▶▶ 109P0412M901			0.06	0.72	5000	0.12 4.2	27 0.108	21		
▶▶ 109P0424H901			0.04	0.96	6200	0.15 5.3	41.2 0.165	25		

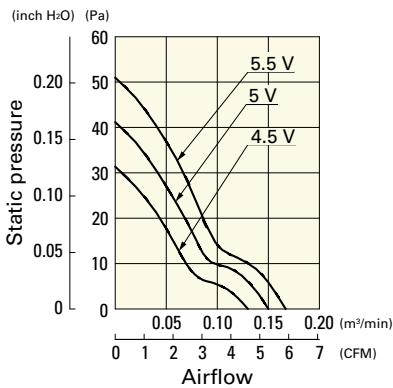
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 621 to 622.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

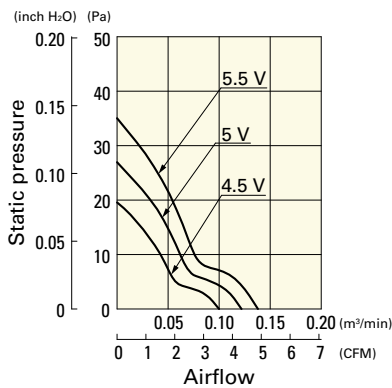
**109P0405H901** With pulse sensor

Operating voltage range



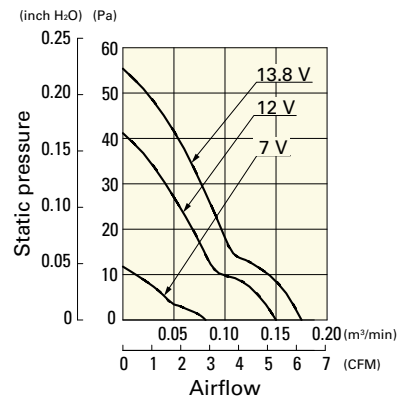
**109P0405M901** With pulse sensor

Operating voltage range



**109P0412H901** With pulse sensor

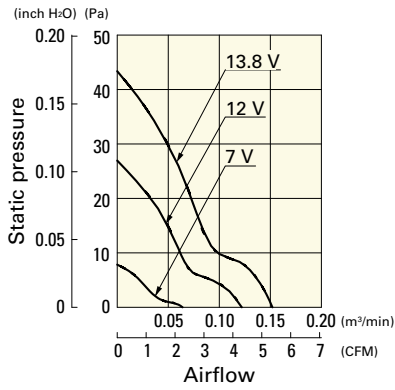
Operating voltage range



## Airflow - Static Pressure Characteristics

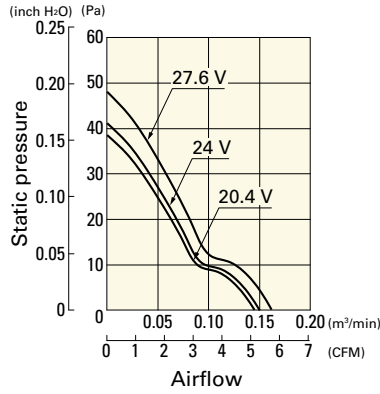
**109P0412M901** With pulse sensor

Operating voltage range

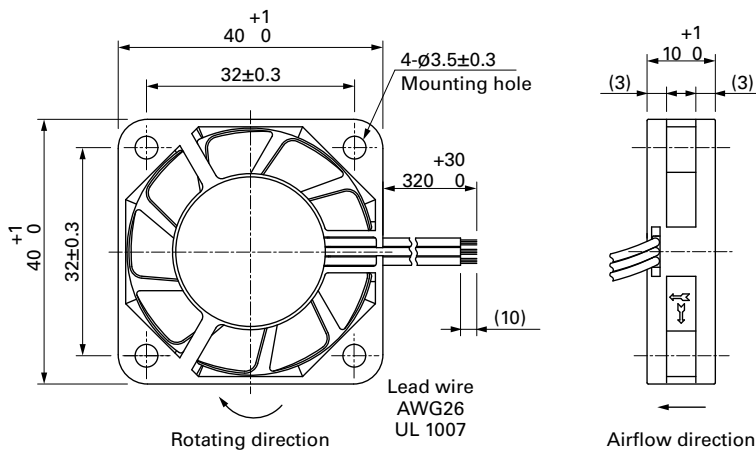


**109P0424H901** With pulse sensor

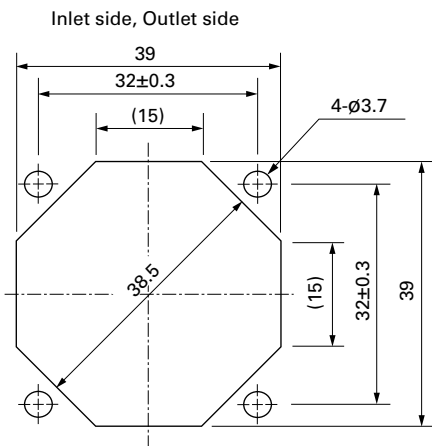
Operating voltage range



## Dimensions (unit: mm)



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



## Options

Finger guards

page: p. 584

Model no.: 109-059, 109-059H



# 40x40x15 mm

**San Ace 40 9GA type** Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 28 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	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>2</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GA0412P7G001	12	10.2 to 13.8	100	0.17	2.04	13100	0.36 12.7	192 0.77	42	-20 to +70	40000/60°C (70000/40°C)

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

The models listed below **have ribs and pulse sensors.**

Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>2</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GA0412G7001	12	7 to 13.8	0.17	2.04	13100	0.36 12.7	192 0.77	42	-20 to +70	40000/60°C (70000/40°C)
9GA0412H7001			0.06	0.72	7300	0.2 7.1	59.6 0.24	28		

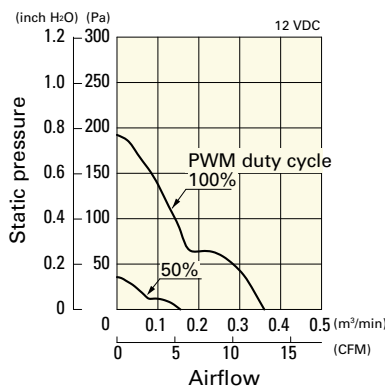
Note 1: Sensor and control options are available for selection. Refer to the table on p. 628.

Note 2: The mark indicates Short LeadTime Service applicable models. See p. 654 for details.

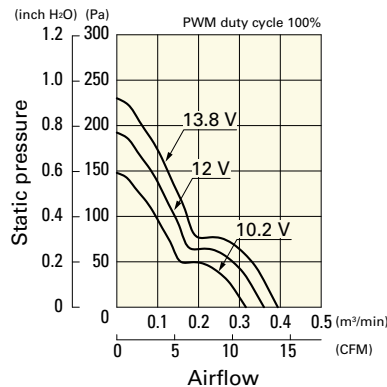
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0412P7G001** With pulse sensor with PWM control function

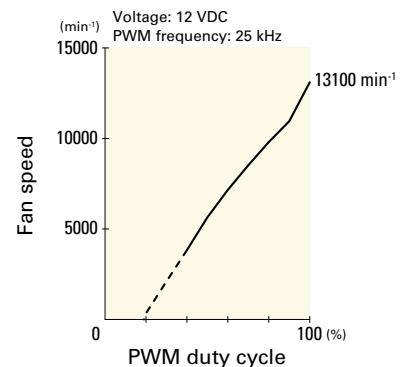
PWM duty cycle



Operating voltage range



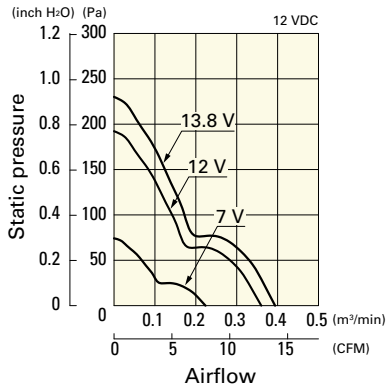
PWM duty - Speed characteristics example



**Airflow - Static Pressure Characteristics**

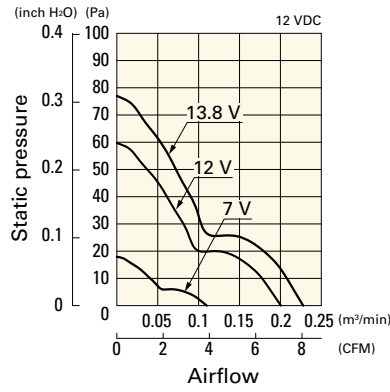
**9GA0412G7001** With pulse sensor

Operating voltage range

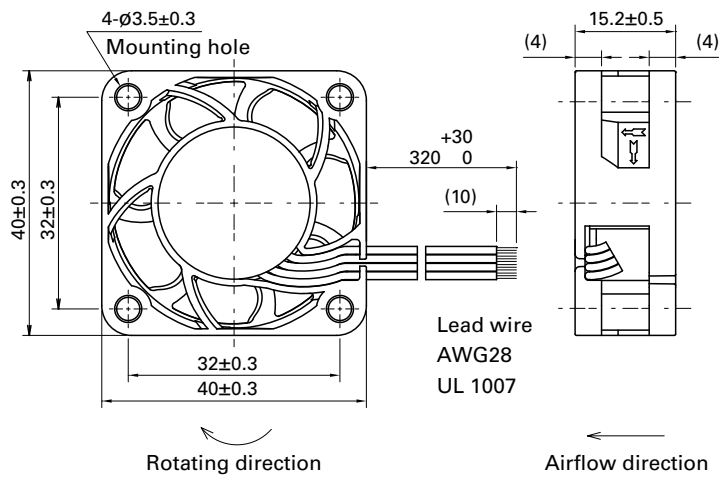


**9GA0412H7001** With pulse sensor

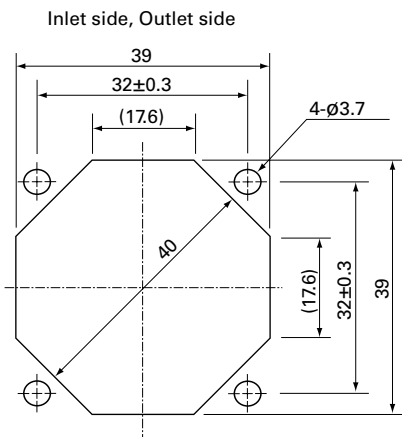
Operating voltage range



**Dimensions (unit: mm)** (With pulse sensor with PWM control function)



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



**Options**

Finger guards

page: p. 584

Model no.: 109-059, 109-059H



# 40x40x15 mm

San Ace 40 9P<sub>type</sub>

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue (Sensor) Yellow
- Mass ..... 32 g

## Specifications

The models listed below **have ribs and pulse sensors.**

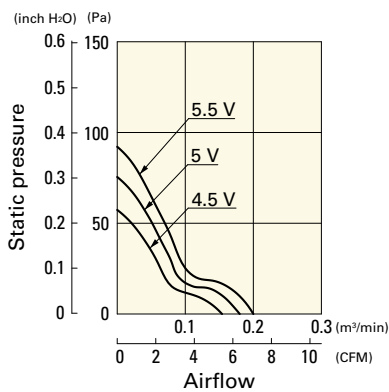
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]		
▶▶ 109P0405H701	5	4.5 to 5.5	0.28	1.4	7700	0.18 6.4	75.5 0.303	28	-20 to +60	60000/60°C (90000/40°C)		
▶▶ 109P0405M701			0.21	1.05	6500	0.15 5.3	52.9 0.213	24				
▶▶ 109P0412R701	12	7 to 13.8	0.13	1.56	9700	0.227 8.0	111.9 0.449	34			-20 to +70	40000/60°C (70000/40°C)
▶▶ 109P0412S701			0.18	2.16	8600	0.2 7.06	92.1 0.369	32				
▶▶ 109P0412H701			0.13	1.56	7700	0.18 6.4	75.5 0.303	28				
▶▶ 109P0412M701					6500	0.15 5.3	52.9 0.213	24				
▶▶ 109P0424H701	24	20.4 to 27.6	0.08	1.92	7700	0.18 6.4	75.5 0.303	28		60000/60°C (90000/40°C)		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 621 to 622.  
Note 2: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

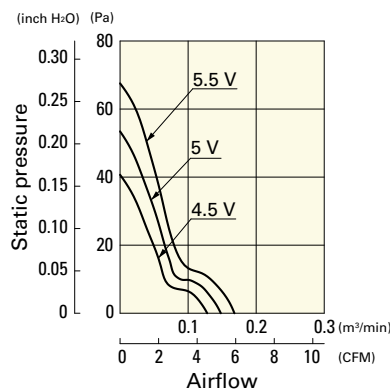
**109P0405H701** With pulse sensor

Operating voltage range



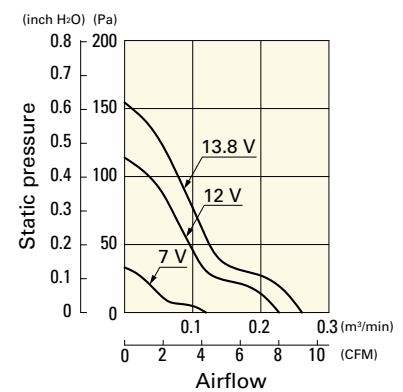
**109P0405M701** With pulse sensor

Operating voltage range



**109P0412R701** With pulse sensor

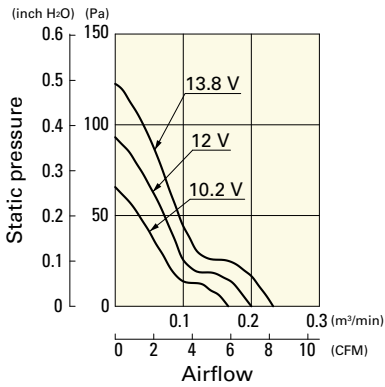
Operating voltage range



**Airflow - Static Pressure Characteristics**

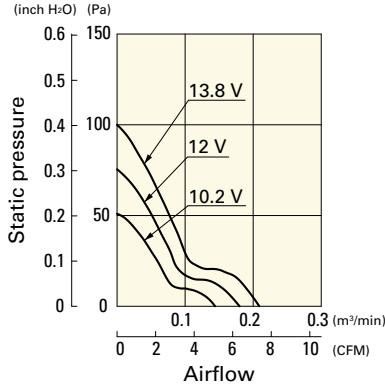
**109P0412S701** With pulse sensor

Operating voltage range



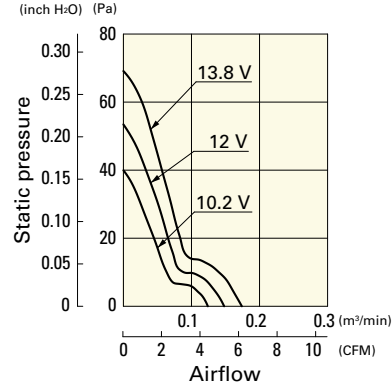
**109P0412H701** With pulse sensor

Operating voltage range



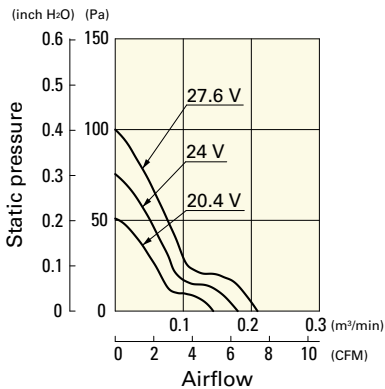
**109P0412M701** With pulse sensor

Operating voltage range

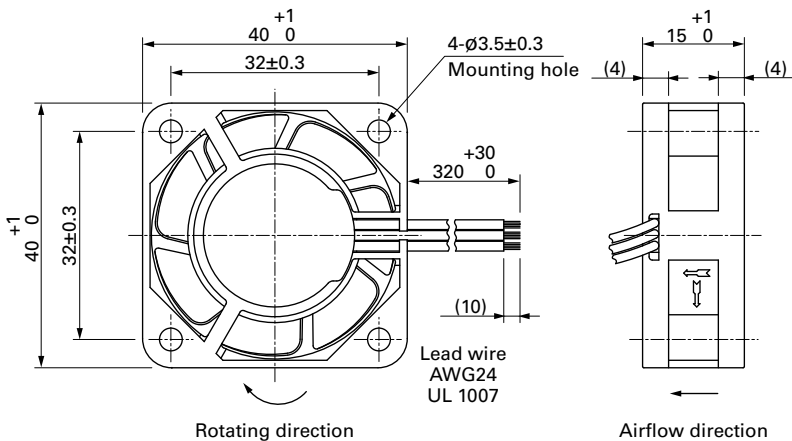


**109P0424H701** With pulse sensor

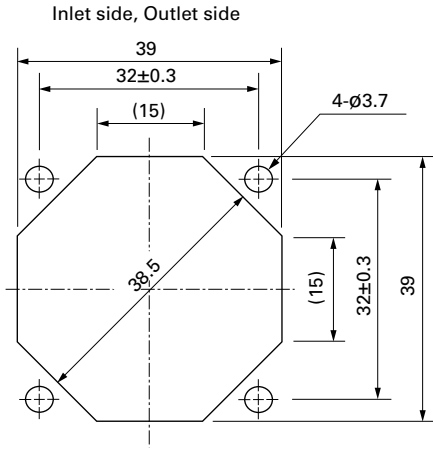
Operating voltage range



**Dimensions (unit: mm)**



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



Options

Finger guards

page: p. 584

Model no.: 109-059, 109-059H

DC Fan



# 40x40x20 mm

**San Ace 40 9GA type** Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 35 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	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]
9GA0405P6H001	5	4.5 to 5.5	100	0.35	1.75	12400	0.33 11.7	191 0.77	40	-20 to +70	60000/60°C (90000/40°C)
9GA0405P6F001			100	0.18	0.9	8000	0.21 7.4	79.5 0.32	28		
9GA0412P6G001	12	10.2 to 13.8	100	0.23	2.76	16000	0.42 14.8	318 1.28	47		40000/60°C (70000/40°C)
			0	0.04	0.48	3800	0.1 3.5	17.9 0.07	14		
9GA0412P6H001			100	0.14	1.68	12400	0.33 11.7	191 0.77	40		60000/60°C (90000/40°C)
			0	0.04	0.48	3800	0.1 3.5	17.9 0.07	14		
9GA0412P6F001			100	0.08	0.96	8000	0.21 7.4	79.5 0.32	28		40000/60°C (70000/40°C)
			0	0.03	0.36	2200	0.06 2.1	6.0 0.02	10		
9GA0424P6G001	24	20.4 to 27.6	100	0.13	3.12	16000	0.42 14.8	318 1.28	47		40000/60°C (70000/40°C)
9GA0424P6H001			100	0.08	1.92	12400	0.33 11.7	191 0.77	40		
9GA0424P6F001			100	0.04	0.96	8000	0.21 7.4	79.5 0.32	28		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

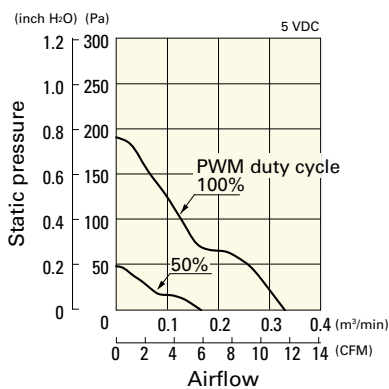
Note 1: Sensor and control options are available for selection. Refer to the table on p. 628.

Note 2: The ☺ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

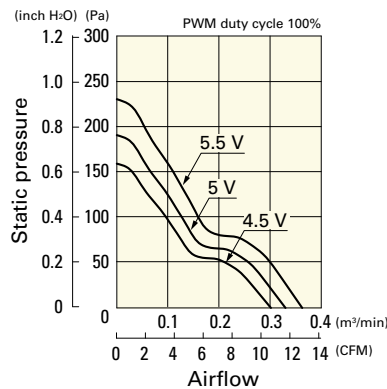
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0405P6H001** With pulse sensor with PWM control function

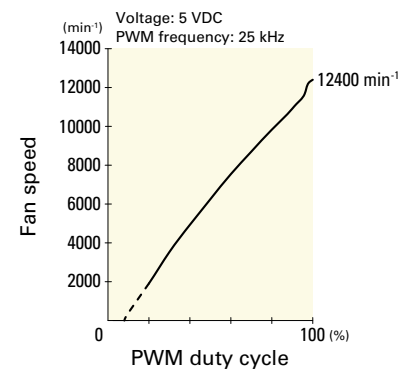
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example



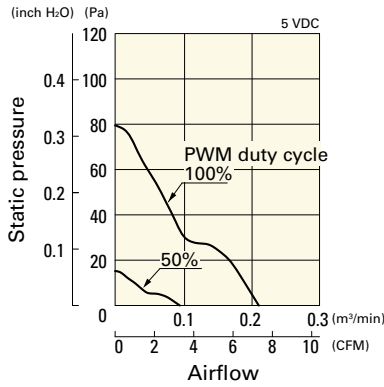


# Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

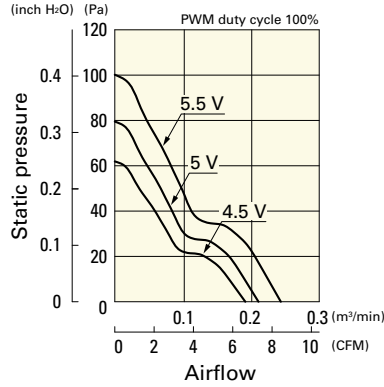
DC  
DC Fan 40 mm sq.

**9GA0405P6F001** With pulse sensor with PWM control function

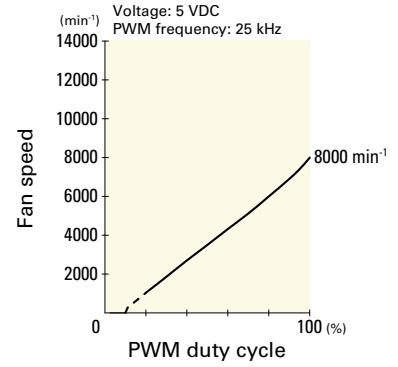
PWM duty cycle



Operating voltage range

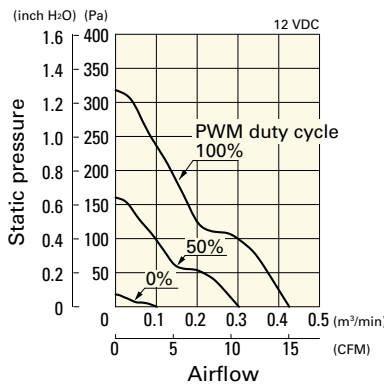


PWM duty - Speed characteristics example

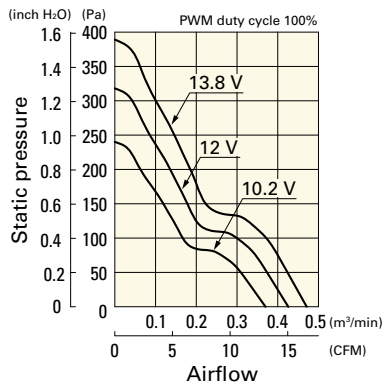


**9GA0412P6G001** With pulse sensor with PWM control function

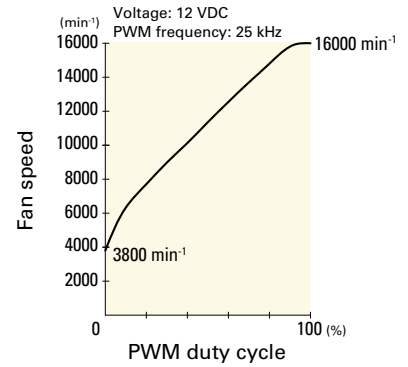
PWM duty cycle



Operating voltage range

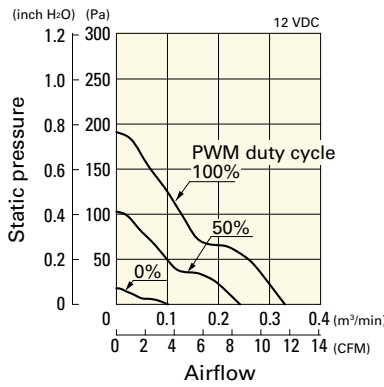


PWM duty - Speed characteristics example

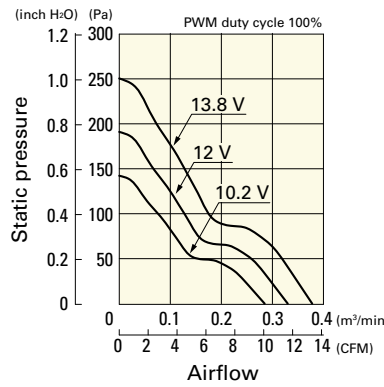


**9GA0412P6H001** With pulse sensor with PWM control function

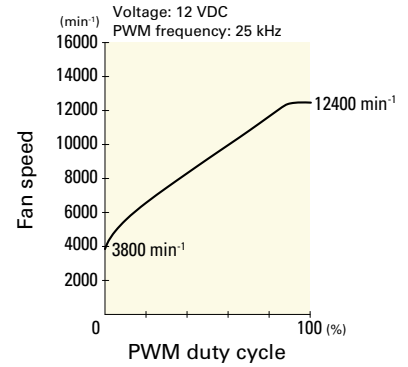
PWM duty cycle



Operating voltage range

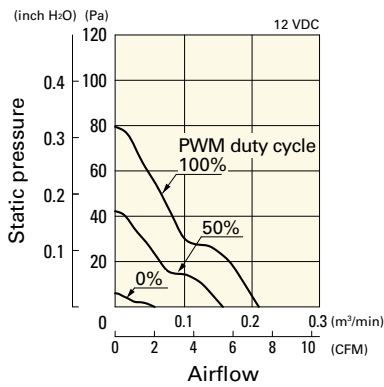


PWM duty - Speed characteristics example

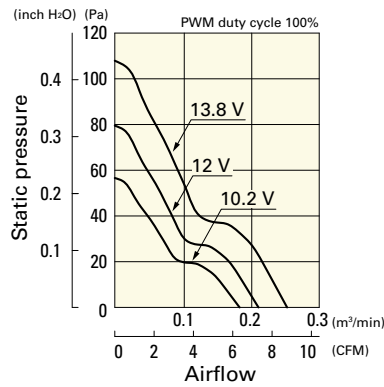


**9GA0412P6F001** With pulse sensor with PWM control function

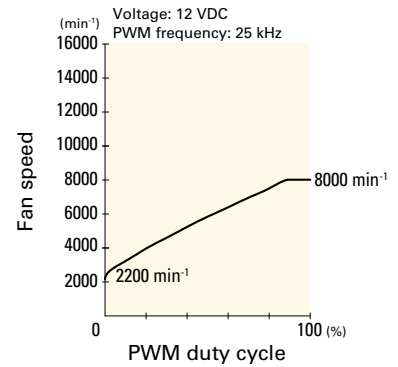
PWM duty cycle



Operating voltage range



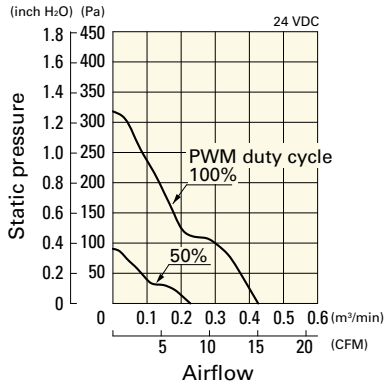
PWM duty - Speed characteristics example



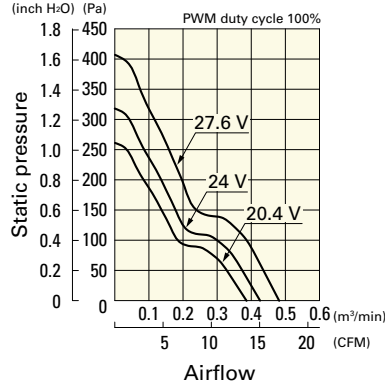
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0424P6G001** With pulse sensor with PWM control function

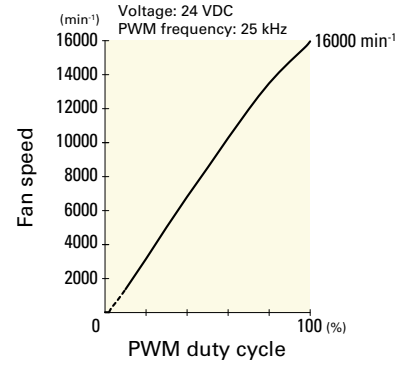
PWM duty cycle



Operating voltage range

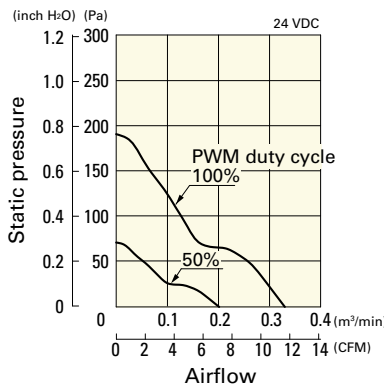


PWM duty - Speed characteristics example

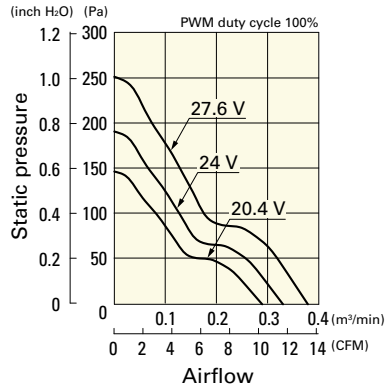


**9GA0424P6H001** With pulse sensor with PWM control function

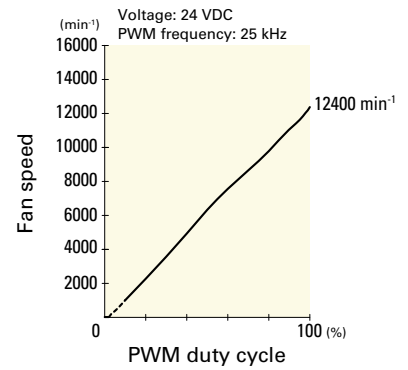
PWM duty cycle



Operating voltage range

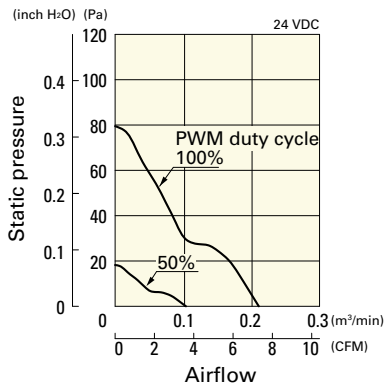


PWM duty - Speed characteristics example

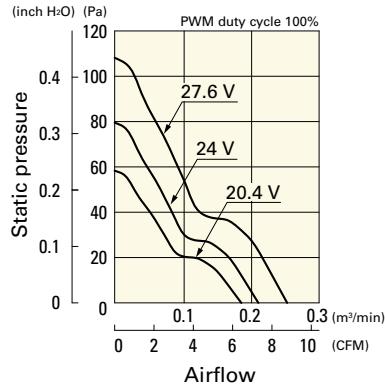


**9GA0424P6F001** With pulse sensor with PWM control function

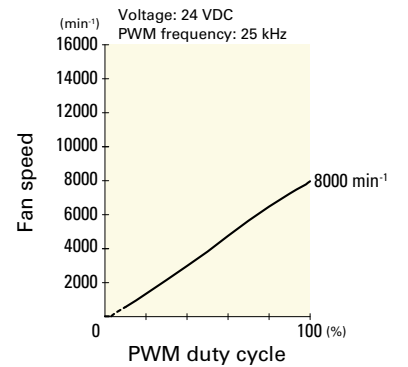
PWM duty cycle



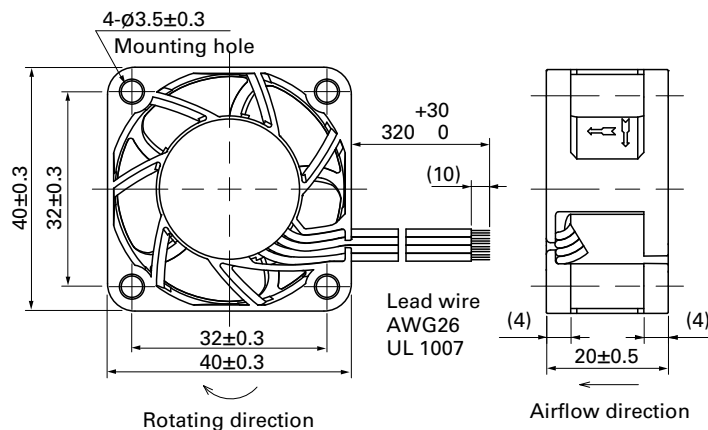
Operating voltage range



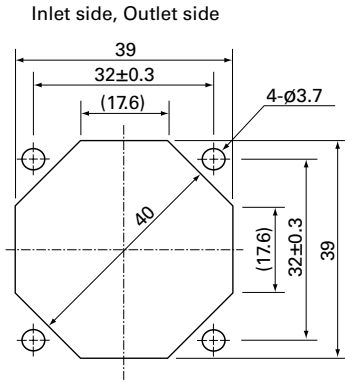
PWM duty - Speed characteristics example



## Dimensions (unit: mm)



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



■ Options

Finger guards

page: p. 584

Model no.: 109-059, 109-059H

DC Fan

# 40x40x20 mm



San Ace 40 9P 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 45 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	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]
▶▶▶ 109P0405J601	5	4.5 to 5.5	0.46	2.3	9800	0.28 9.9	98.5 0.396	39	-20 to +70	40000/60°C (70000/40°C)
▶▶▶ 109P0405H601			0.32	1.6	8000	0.225 8.0	65.7 0.264	33		
▶▶▶ 109P0405F601			0.25	1.25	6500	0.183 6.5	45.1 0.181	28		
▶▶▶ 109P0405M601			0.12	0.6	5000	0.136 4.8	26.5 0.106	24		
▶▶▶ 109P0412G601	12	7 to 13.8	0.28	3.36	12500	0.35 12.4	153.8 0.618	44	-20 to +60	40000/60°C (70000/40°C)
▶▶▶ 109P0412D601			0.18	2.16	11000	0.31 10.9	124 0.498	42		
▶▶▶ 109P0412E601			0.13	1.56	9200	0.26 9.2	87.3 0.351	37		
▶▶▶ 109P0412H601			0.11	1.32	8000	0.225 8.0	65.7 0.264	33		
▶▶▶ 109P0412F601			0.09	1.08	6500	0.183 6.5	45.1 0.181	28		
▶▶▶ 109P0412M601		0.06	0.72	5000	0.136 4.8	26.5 0.106	24			
▶▶▶ 109P0424G601	24	12 to 27.6	0.15	3.6	12500	0.35 12.4	153.8 0.618	44	-20 to +60	40000/60°C (70000/40°C)
▶▶▶ 109P0424D601			0.13	3.12	11000	0.31 10.9	124 0.498	42		
▶▶▶ 109P0424H601			0.07	1.68	8300	0.233 8.2	69.6 0.28	35		
▶▶▶ 109P0424F601		0.06	1.44	6500	0.183 6.5	45.1 0.181	28			
▶▶▶ 109P0424B601		0.06	1.44	5200	0.14 4.9	28.3 0.114	25			

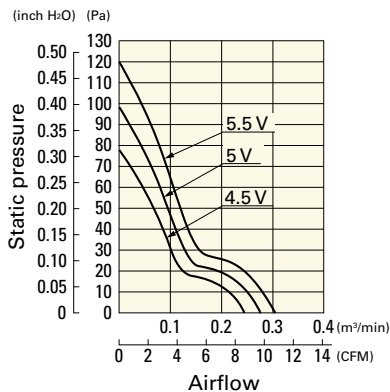
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 621 to 622.

Note 2: The ▶▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

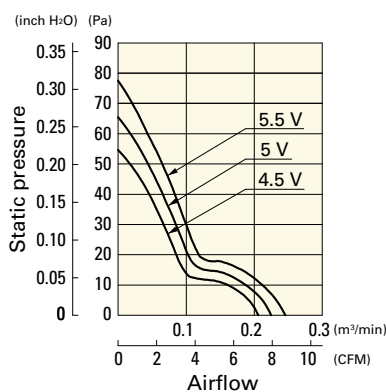
**109P0405J601** With pulse sensor

Operating voltage range



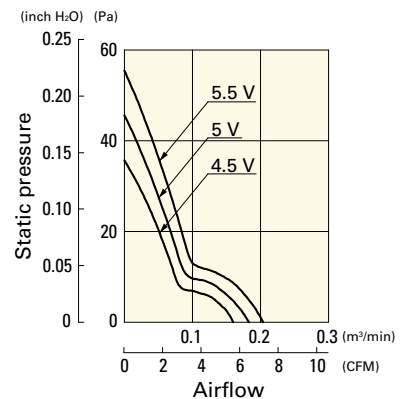
**109P0405H601** With pulse sensor

Operating voltage range



**109P0405F601** With pulse sensor

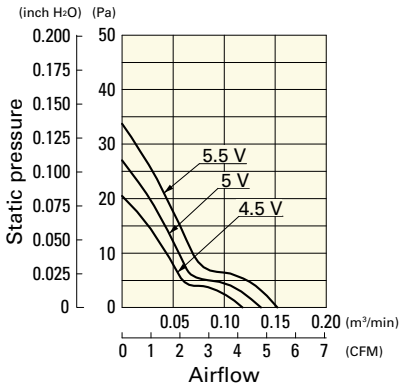
Operating voltage range



# Airflow - Static Pressure Characteristics

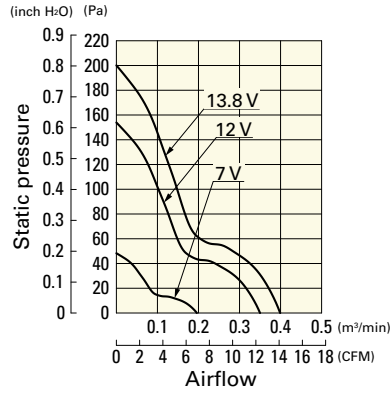
**109P0405M601** With pulse sensor

Operating voltage range



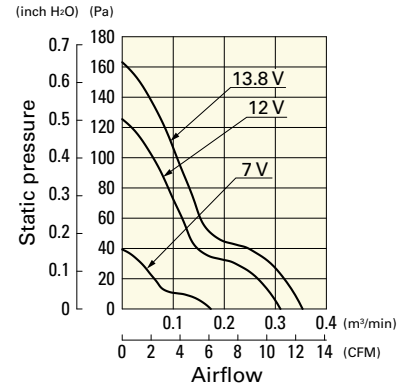
**109P0412G601** With pulse sensor

Operating voltage range



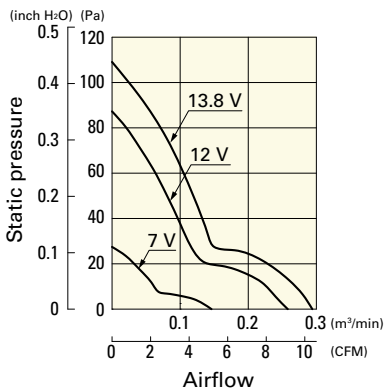
**109P0412D601** With pulse sensor

Operating voltage range



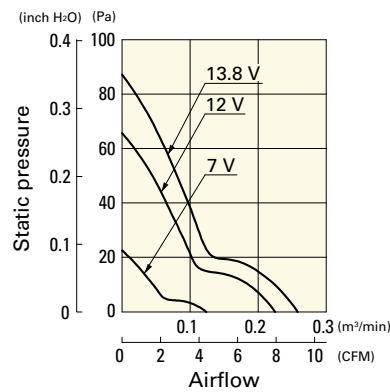
**109P0412E601** With pulse sensor

Operating voltage range



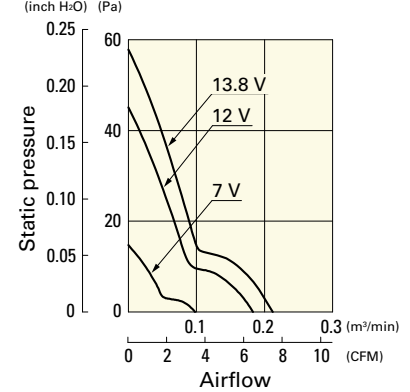
**109P0412H601** With pulse sensor

Operating voltage range



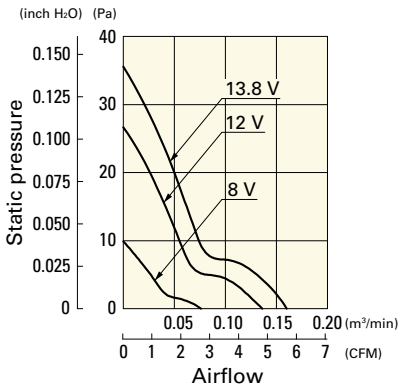
**109P0412F601** With pulse sensor

Operating voltage range



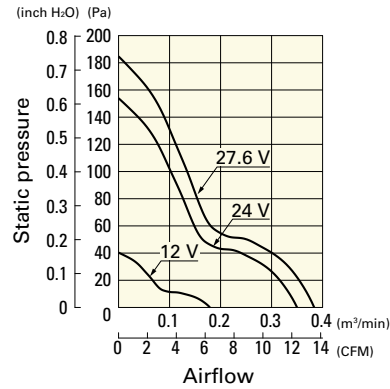
**109P0412M601** With pulse sensor

Operating voltage range



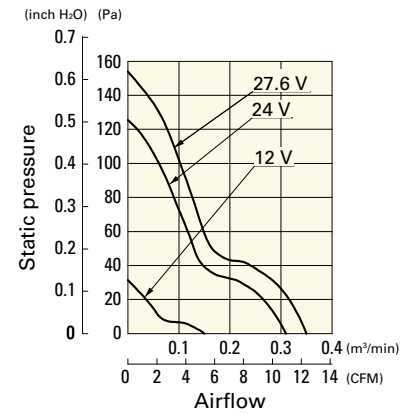
**109P0424G601** With pulse sensor

Operating voltage range



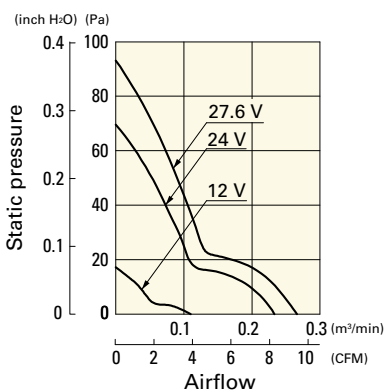
**109P0424D601** With pulse sensor

Operating voltage range



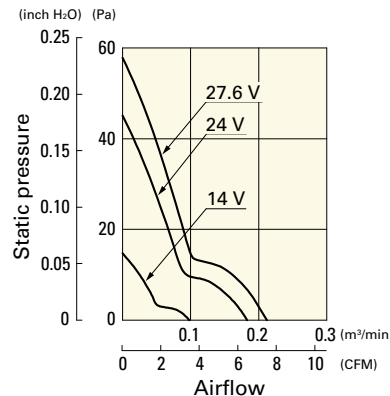
**109P0424H601** With pulse sensor

Operating voltage range



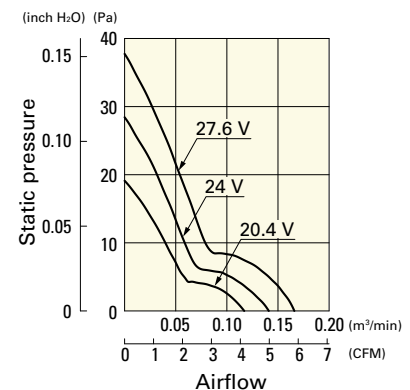
**109P0424F601** With pulse sensor

Operating voltage range

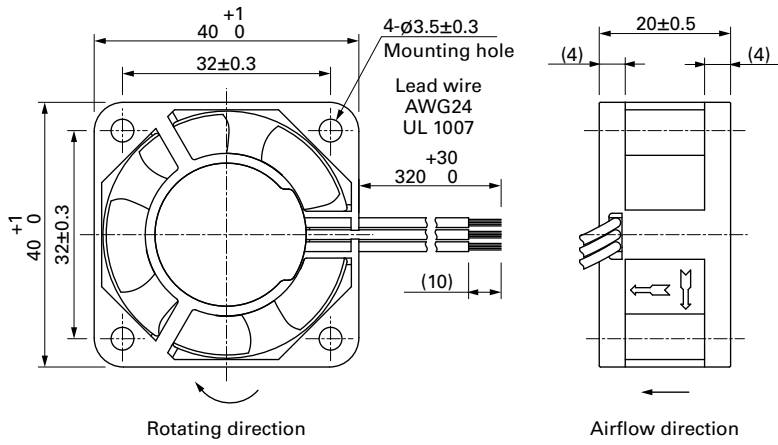


**109P0424B601** With pulse sensor

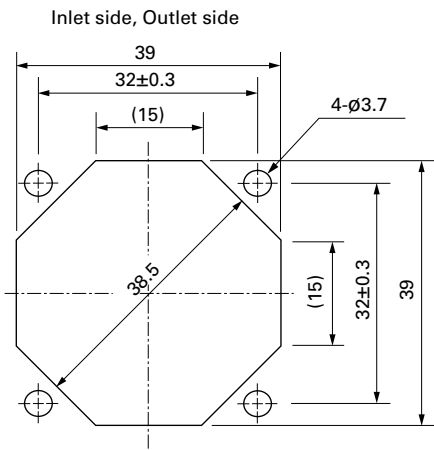
Operating voltage range



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 584

Model no.: 109-059, 109-059H



# 40x40x28 mm

San Ace 40 9HVA 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 57 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

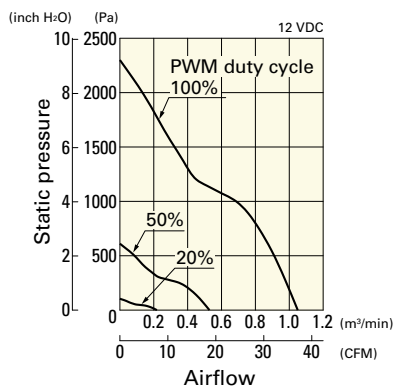
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9HVA0412P3J001	12	10.2 to 13.8	100	2.6	31.2	38000	1.05 37.1	2300 9.24	71	-20 to +70	30000/60°C (53000/40°C)
			20	0.12	1.4	8000	0.22 7.8	101 0.41	34		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

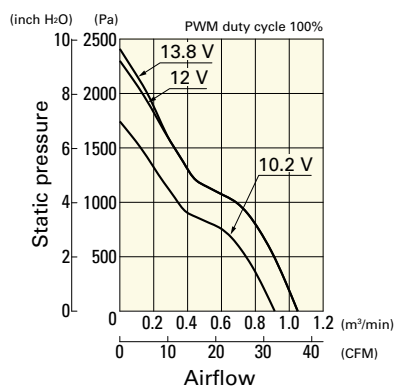
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9HVA0412P3J001** With pulse sensor with PWM control function

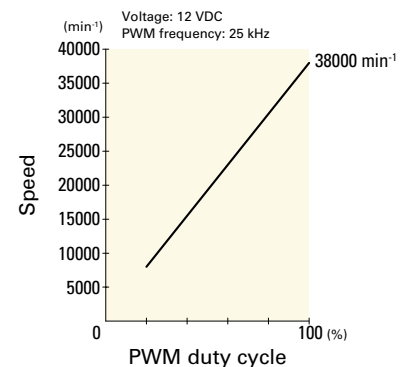
PWM duty cycle



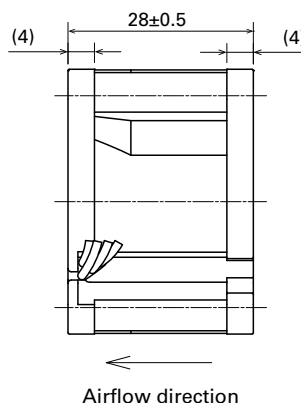
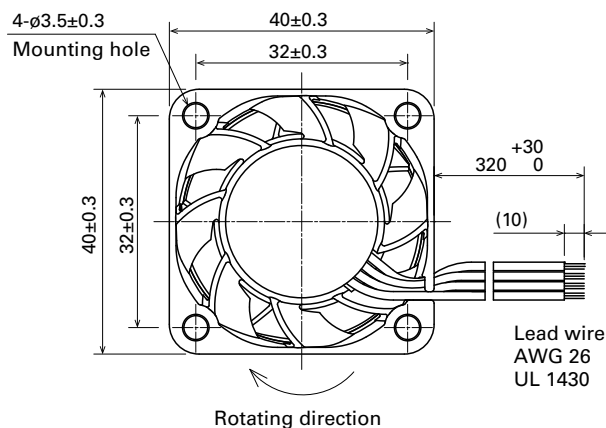
Operating voltage range

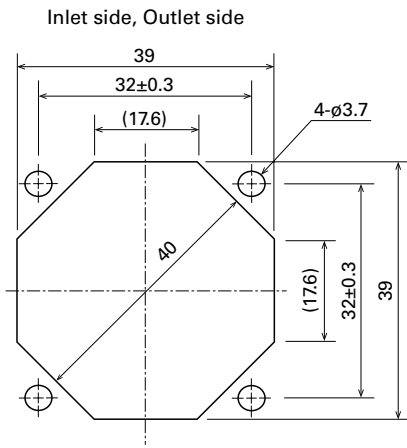


PWM duty - Speed characteristics example



## Dimensions (unit: mm)



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

Finger guards

page: p. 584

Model no.: 109-059, 109-059H



# 40x40x28 mm

San Ace 40 9GAX type Low Power Consumption Fan 



## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 53 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
9GAX0412P3S001	12	10.8 to 12.6	100	1.3	15.6	25000	0.9 31.8	1000 4.02	64	-20 to +60	30000/60°C (53000/40°C)
			20	0.07	0.84	4400	0.155 5.5	32 0.125	21.5		
9GAX0412P3S003			100	1.3	15.6	25000	0.9 31.8	1000 4.02	64		
			0	0.11	1.32	7800	0.26 9.2	87 0.35	38		
9GAX0412P3K001		10.8 to 13.2	100	0.92	11.04	22000	0.81 28.6	800 3.21	61		
			20	0.07	0.84	4200	0.15 5.3	28 0.11	21		
9GAX0412P3K003			100	0.92	11.04	22000	0.81 28.6	800 3.21	61		
			0	0.1	1.2	6500	0.24 8.5	70 0.28	32		

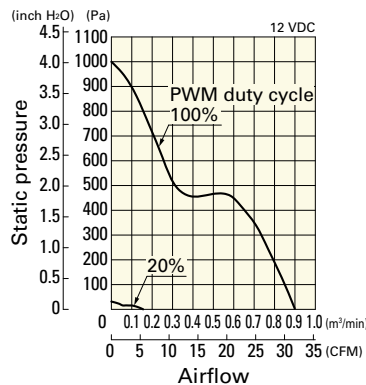
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The  mark indicates Short LeadTime Service applicable models. See p. 654 for details.

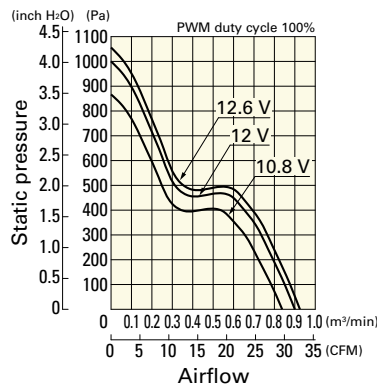
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GAX0412P3S001** With pulse sensor with PWM control function

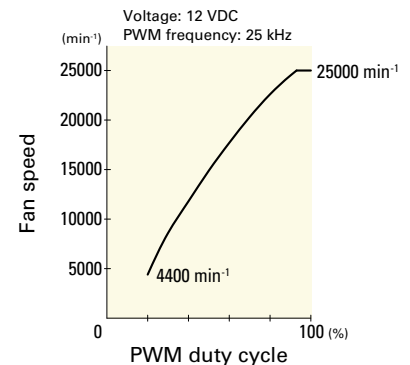
PWM duty cycle



Operating voltage range



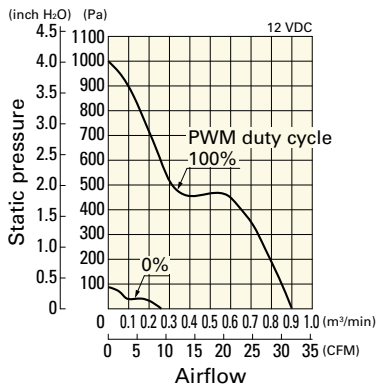
PWM duty - Speed characteristics example



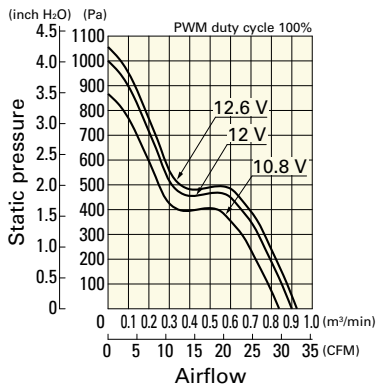
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GAX0412P3S003** With pulse sensor with PWM control function

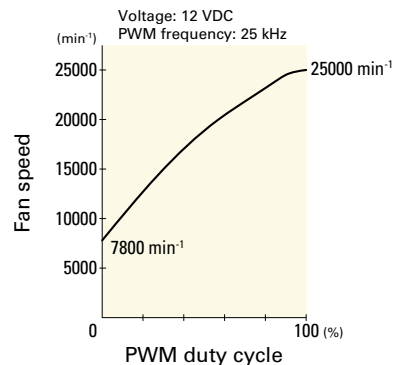
PWM duty cycle



Operating voltage range

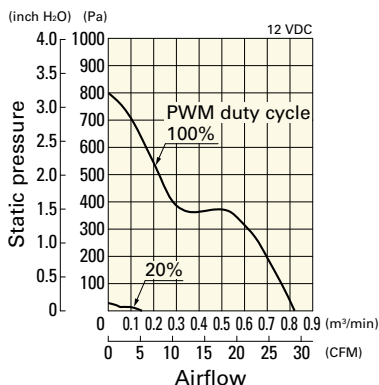


PWM duty - Speed characteristics example

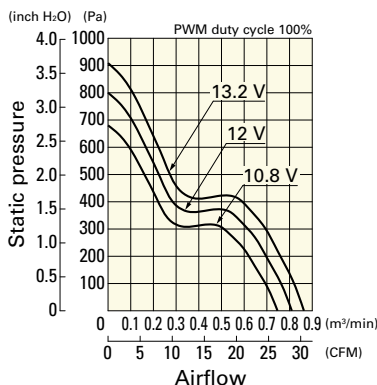


**9GAX0412P3K001** With pulse sensor with PWM control function

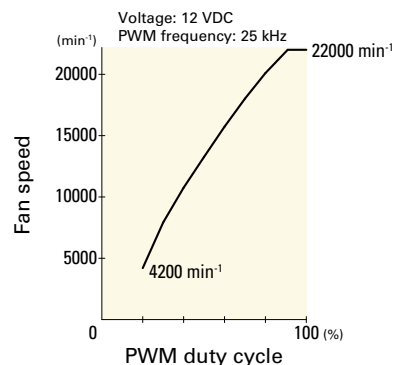
PWM duty cycle



Operating voltage range

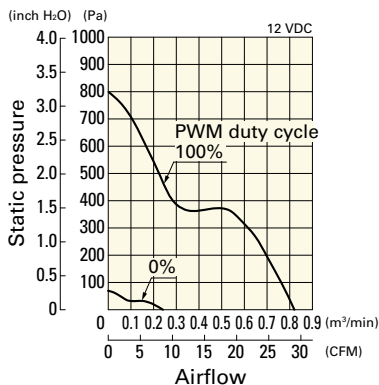


PWM duty - Speed characteristics example

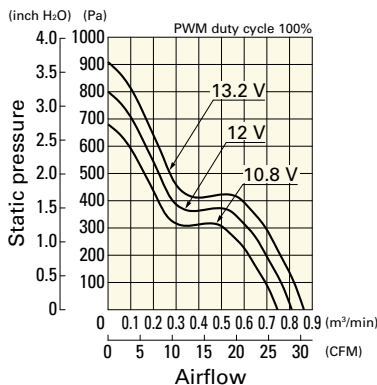


**9GAX0412P3K003** With pulse sensor with PWM control function

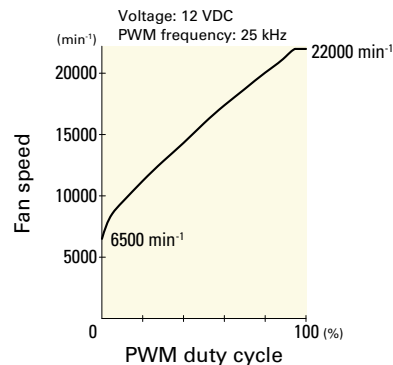
PWM duty cycle



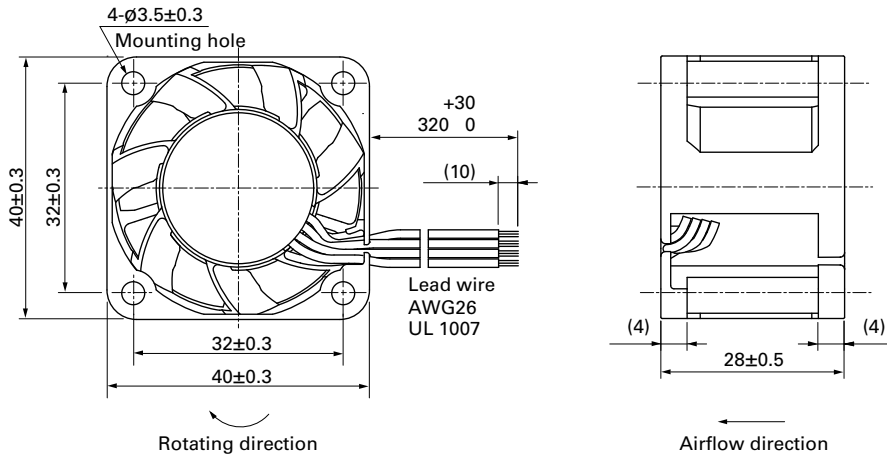
Operating voltage range



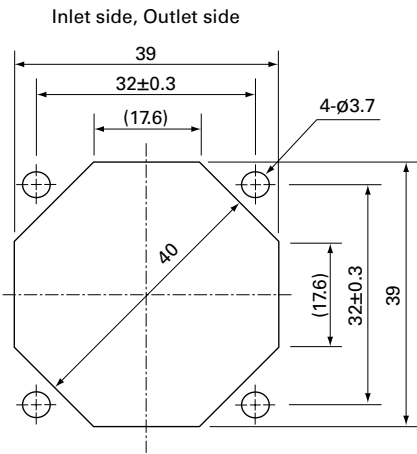
PWM duty - Speed characteristics example



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



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



**Options**

Finger guards

page: p. 584

Model no.: 109-059, 109-059H



# 40x40x28 mm

San Ace 40 9HV type

## General Specifications

- Material ..... Frame: Aluminum, 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 60 g

## Specifications

The models listed below **have pulse sensors with PWM control function.**

Model no.	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]
9HV0412P3K001	12	10.8 to 12.6	100	1.52	18.3	25000	0.83 29.3	1100 4.42	65	-20 to +60	40000/60°C (70000/40°C)
			0	0.2	2.4	7500	0.25 8.8	99 0.4	37		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

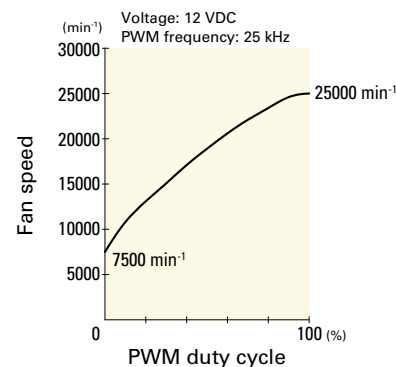
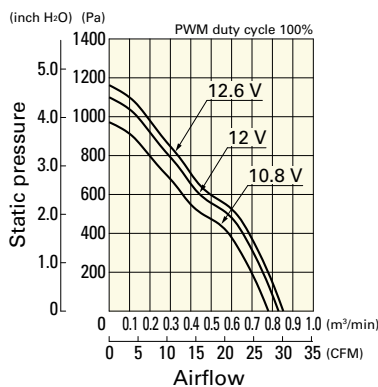
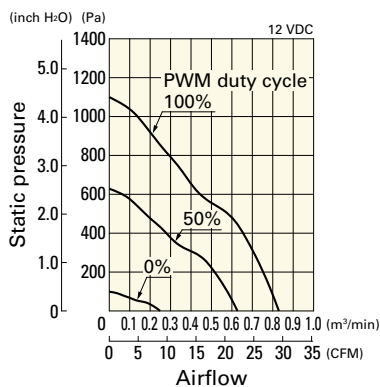
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9HV0412P3K001** With pulse sensor with PWM control function

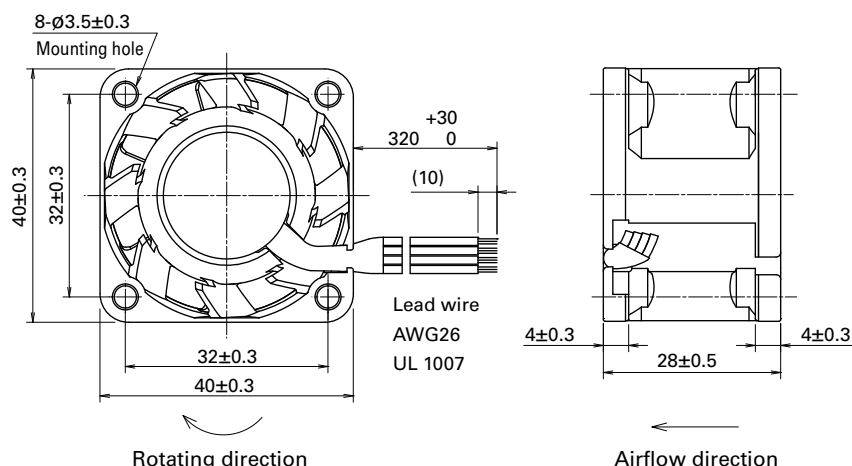
PWM duty cycle

Operating voltage range

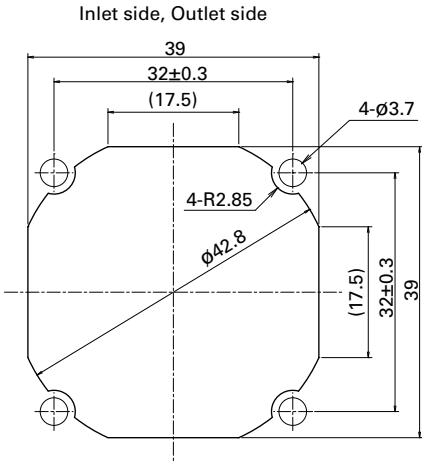
PWM duty - Speed characteristics example



## Dimensions (unit: mm)



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



■ **Options**

Finger guards

page: p. 584

Model no.: 109-059, 109-059H



# 40x40x28 mm

**San Ace 40 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 53 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]				
▶▶▶ 9GA0412P3K01	12	10.8 to 13.2	100	0.92	11.04	22000	0.81 28.6	799 3.21	61	-20 to +60	30000/60°C (53000/40°C)				
			0	0.1	1.2	6500	0.23 8.12	68 0.27	32						
▶▶▶ 9GA0412P3J01			100	0.49	5.88	18000	0.67 23.7	535 2.15	54						
			0	0.05	0.6	4500	0.16 5.7	33 0.13	22						
▶▶▶ 9GA0412P3G01			100	0.39	4.68	16500	0.61 21.5	450 1.81	53						
			0	0.05	0.6	4500	0.16 5.7	33 0.13	22						
▶▶▶ 9GA0412P3H01			100	0.28	3.36	14500	0.54 19.1	347 1.39	50						
			0	0.04	0.48	3500	0.13 4.6	20 0.08	17						
▶▶▶ 9GA0412P3M01			100	0.21	2.52	12500	0.46 16.2	258 1.04	47						
			0	0.04	0.48	3500	0.13 4.6	20 0.08	17						
▶▶▶ 9GA0424P3J001			24	21.6 to 26.4	100	0.27	6.48	18000	0.67 23.7			535 2.15	54	-20 to +70	40000/60°C (70000/40°C)
▶▶▶ 9GA0424P3G001					100	0.22	5.28	16500	0.61 21.5			450 1.81	53		
▶▶▶ 9GA0424P3H001	100	0.16			3.84	14500	0.54 19.1	347 1.39	50						
▶▶▶ 9GA0424P3M001	100	0.11			2.64	12500	0.46 16.2	258 1.04	47						

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

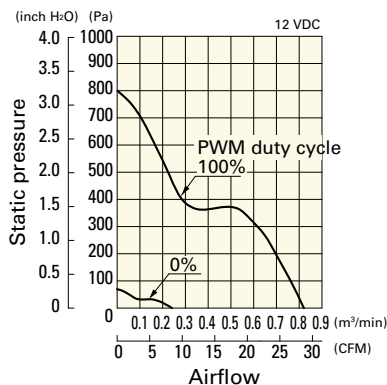
Note 1: Sensor and control options are available for selection. Refer to the table on p. 628.

Note 2: The ▶▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

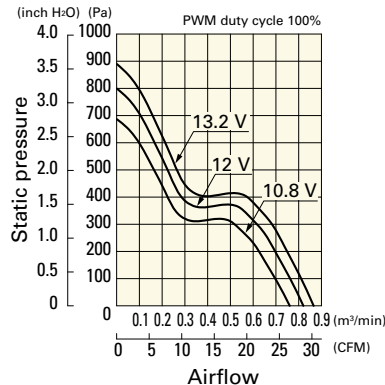
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0412P3K01** With pulse sensor with PWM control function

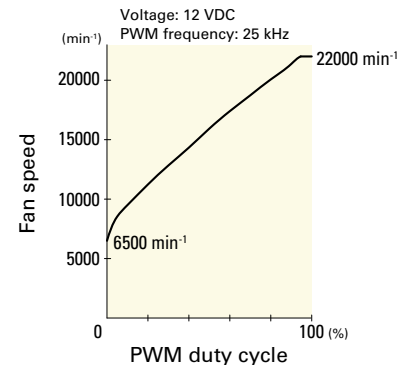
PWM duty cycle



Operating voltage range



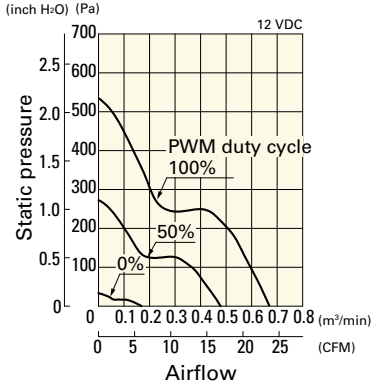
PWM duty - Speed characteristics example



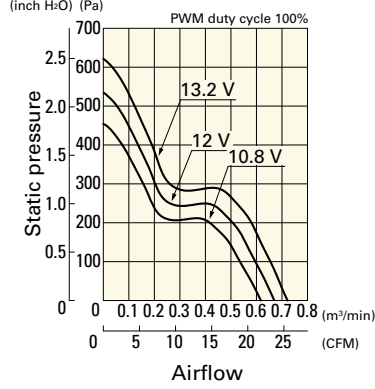
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0412P3J01** With pulse sensor with PWM control function

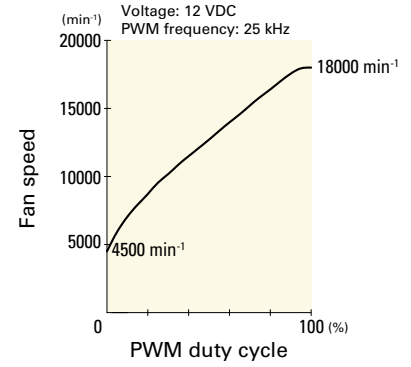
PWM duty cycle



Operating voltage range

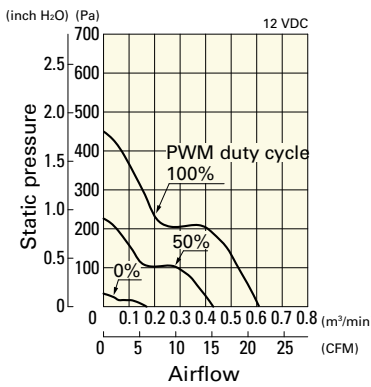


PWM duty - Speed characteristics example

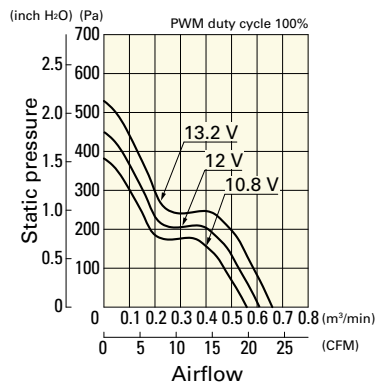


**9GA0412P3G01** With pulse sensor with PWM control function

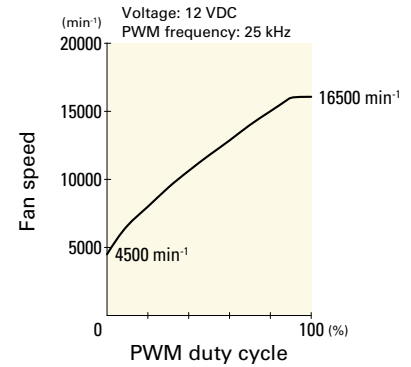
PWM duty cycle



Operating voltage range

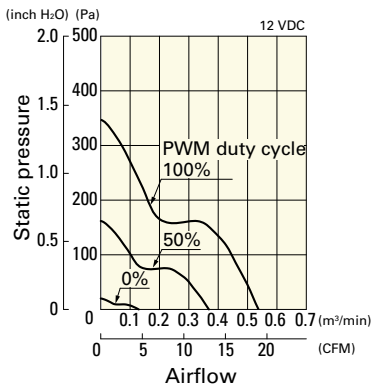


PWM duty - Speed characteristics example

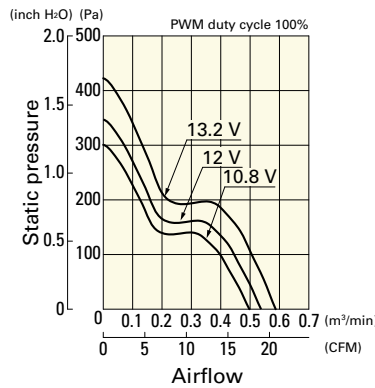


**9GA0412P3H01** With pulse sensor with PWM control function

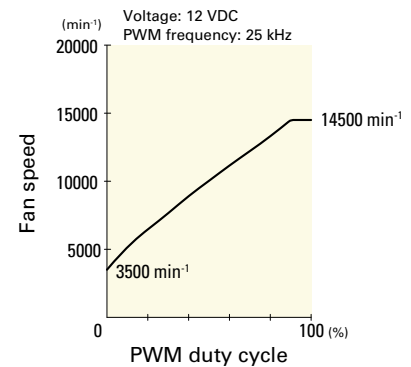
PWM duty cycle



Operating voltage range

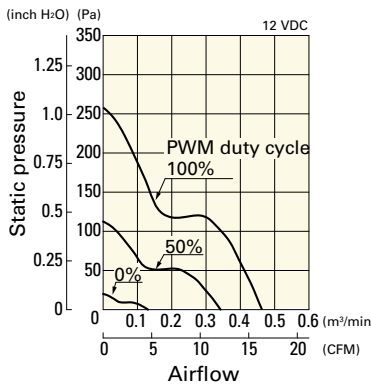


PWM duty - Speed characteristics example

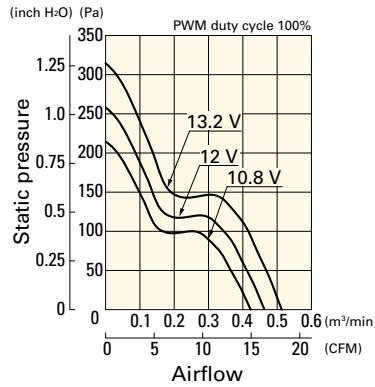


**9GA0412P3M01** With pulse sensor with PWM control function

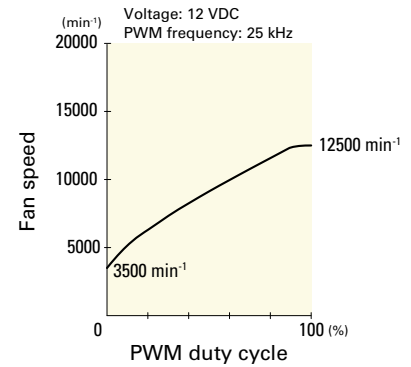
PWM duty cycle



Operating voltage range



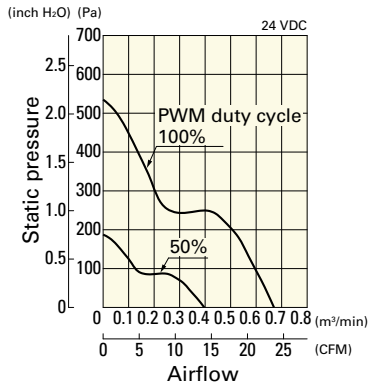
PWM duty - Speed characteristics example



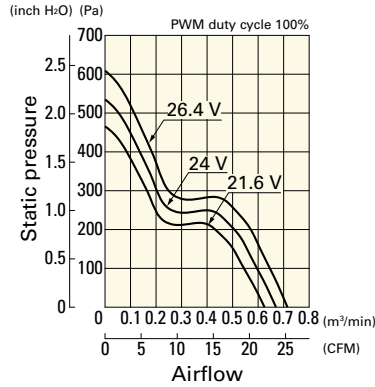
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0424P3J001** With pulse sensor with PWM control function

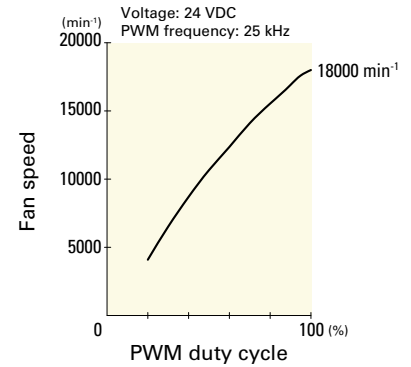
PWM duty cycle



Operating voltage range

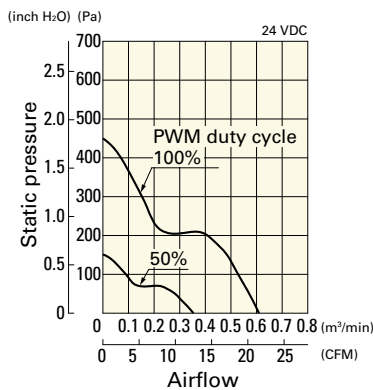


PWM duty - Speed characteristics example

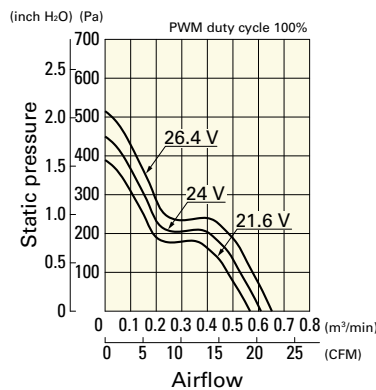


**9GA0424P3G001** With pulse sensor with PWM control function

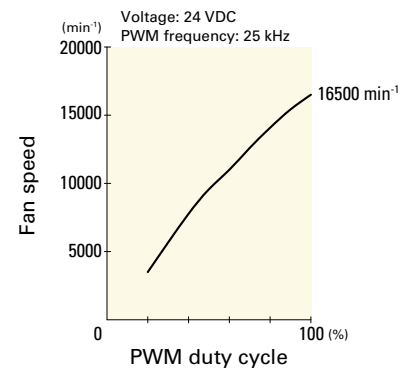
PWM duty cycle



Operating voltage range

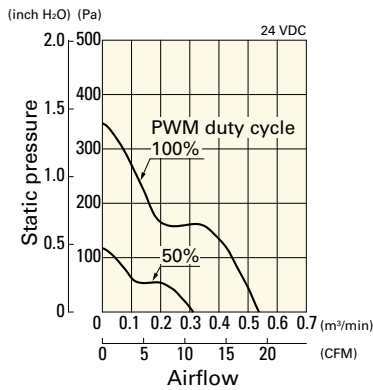


PWM duty - Speed characteristics example

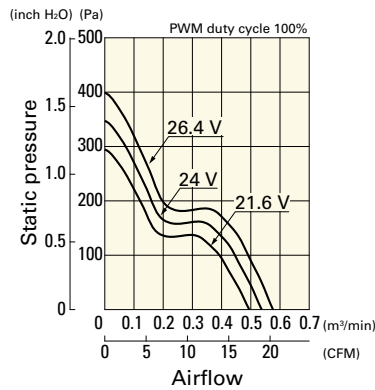


**9GA0424P3H001** With pulse sensor with PWM control function

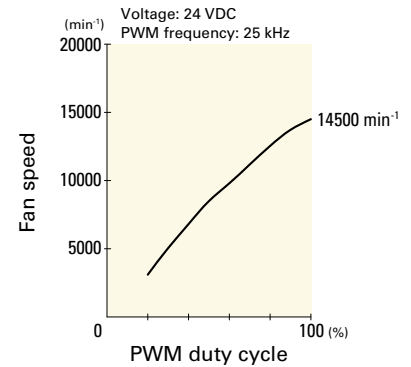
PWM duty cycle



Operating voltage range

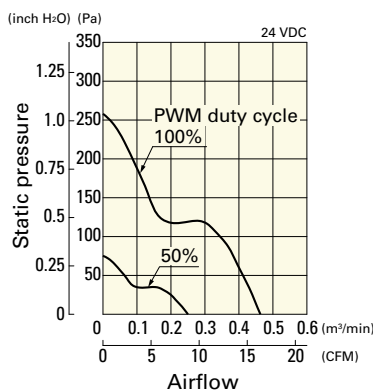


PWM duty - Speed characteristics example

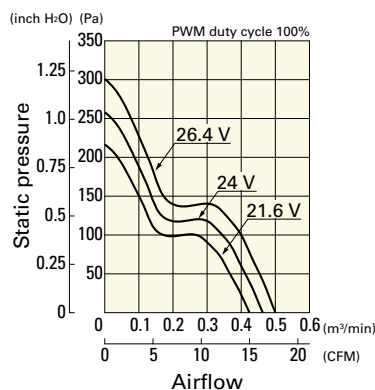


**9GA0424P3M001** With pulse sensor with PWM control function

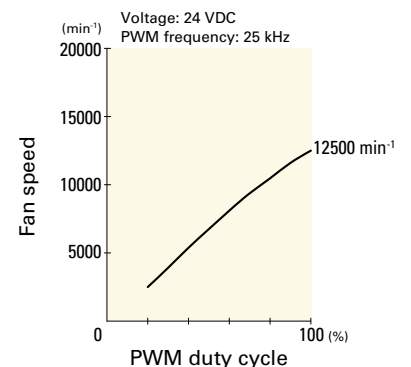
PWM duty cycle



Operating voltage range

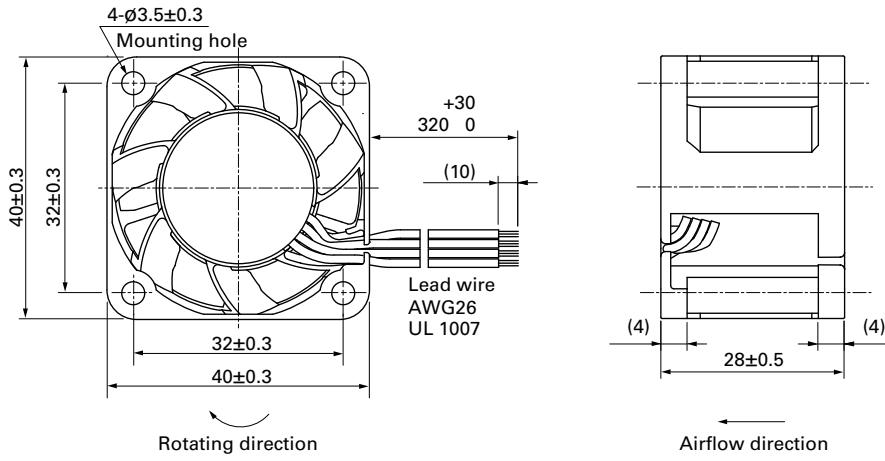


PWM duty - Speed characteristics example

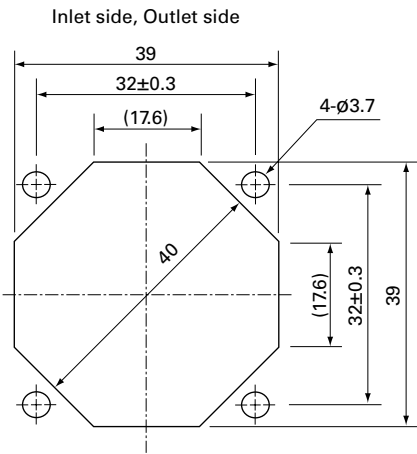




**Dimensions (unit: mm) (With ribs)**



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



**Options**

Finger guards

page: p. 584

Model no.: 109-059, 109-059H

# 40x40x28 mm



**San Ace 40 9GE** type

## General Specifications

- Material ..... Frame: Aluminum, 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 55 g

## Specifications

The models listed below **have pulse sensors with PWM control function.**

Model no.	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]
<b>9GE0412P3K03</b>	12	10.8 to 13.2	100	0.84	10.08	16500	0.76 26.8	415 1.666	58	-20 to +60	40000/60°C (70000/40°C)
			0	0.07	0.84	3000	0.13 4.6	13 0.052	17		
<b>9GE0412P3J03</b>			100	0.65	7.8	15000	0.69 24.4	343.0 1.378	56		
			0	0.05	0.6	2650	0.12 4.2	10.7 0.042	14		
<b>9GE0412P3G03</b>			100	0.47	5.64	13000	0.6 21.2	260 1.044	52		
			0	0.05	0.6	2400	0.11 3.9	8.2 0.033	13		

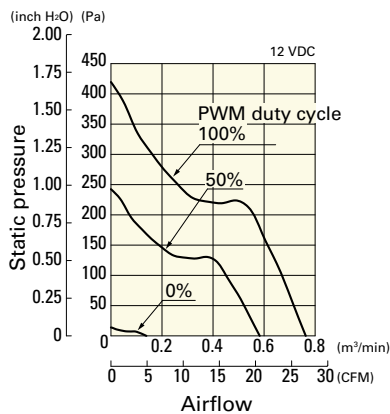
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 631.

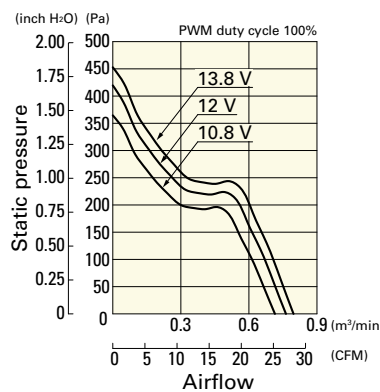
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GE0412P3K03** With pulse sensor with PWM control function

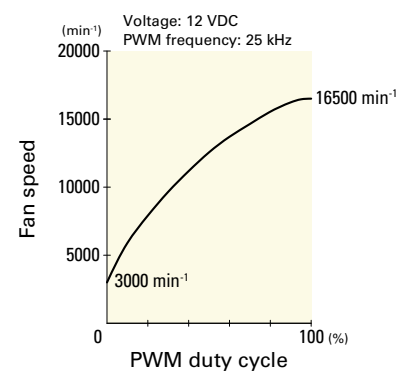
PWM duty cycle



Operating voltage range



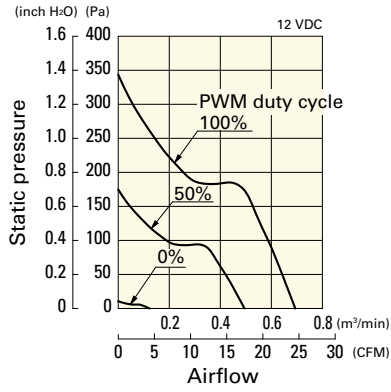
PWM duty - Speed characteristics example



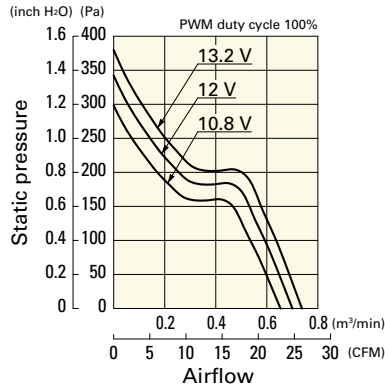
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GE0412P3J03** With pulse sensor with PWM control function

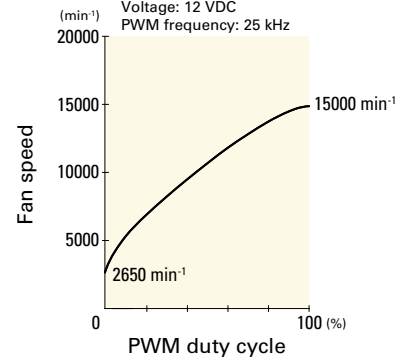
PWM duty cycle



Operating voltage range

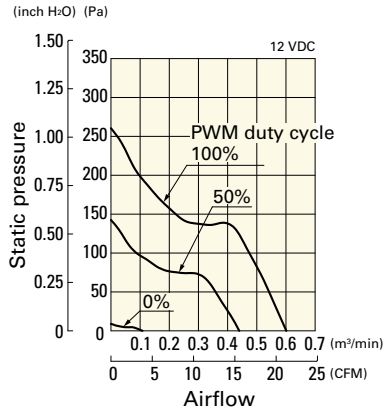


PWM duty - Speed characteristics example

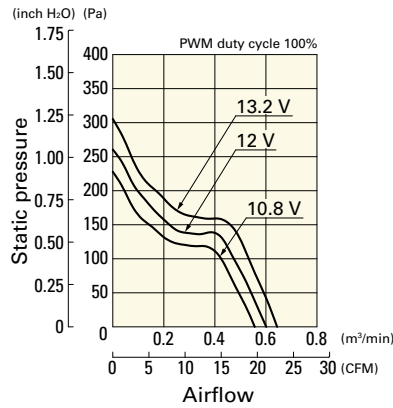


**9GE0412P3G03** With pulse sensor with PWM control function

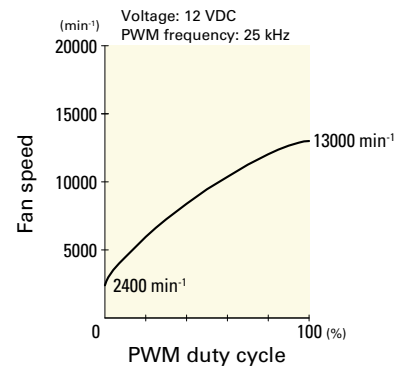
PWM duty cycle



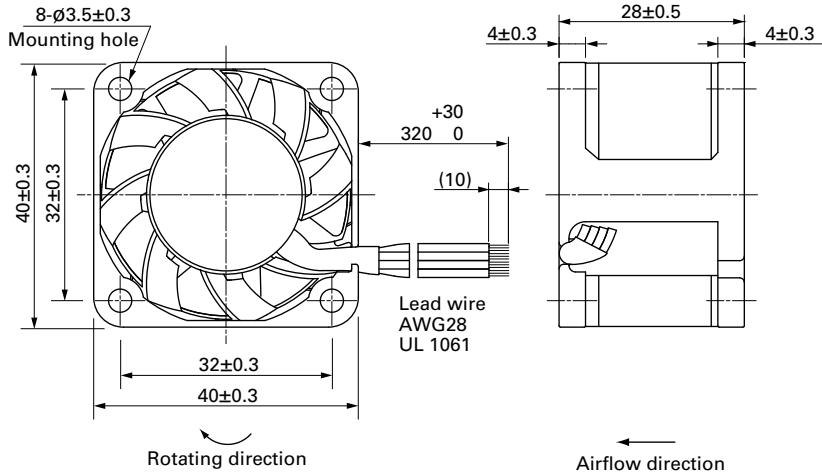
Operating voltage range

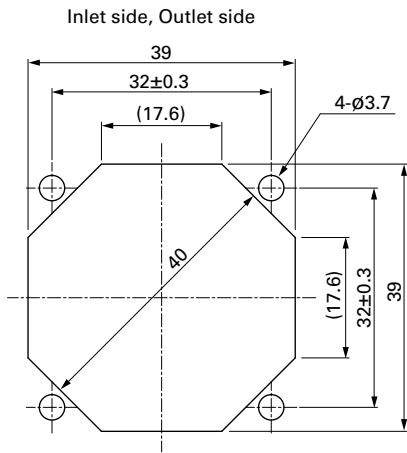


PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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

Finger guards

page: p. 584

Model no.: 109-059, 109-059H



# 40x40x28 mm

San Ace 40 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -20 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue (Sensor) Yellow
- Mass ..... 50 g

## Specifications

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

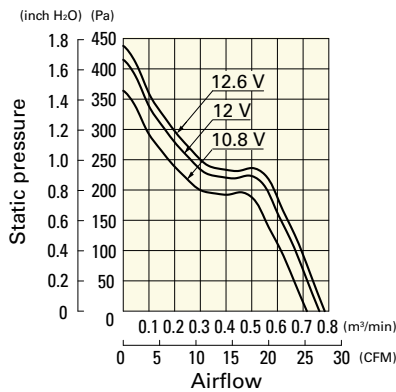
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GV0412K301	12	10.8 to 12.6	0.84	10.08	16500	0.76 26.8	415 1.668	58	-20 to +60	40000/60°C (70000/40°C)
9GV0412J301			0.6	7.2	14700	0.68 24.0	330 1.325	55		
9GV0412G301		7 to 13.2	0.47	5.64	13000	0.6 21.1	260 1.044	52		
9GV0412H301			0.31	3.72	11600	0.53 18.7	207 0.831	49		
9GV0412C301			0.15	1.8	8300	0.37 13.1	100 0.402	41		

Note: Sensor and control options are available for selection. Refer to the table on p. 632.

## Airflow - Static Pressure Characteristics

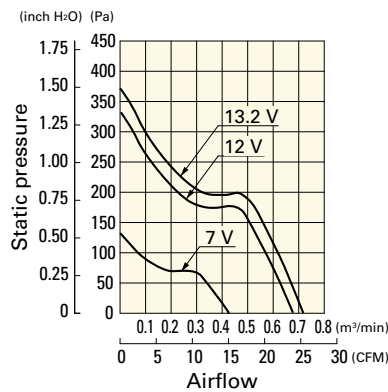
9GV0412K301 With pulse sensor

Operating voltage range



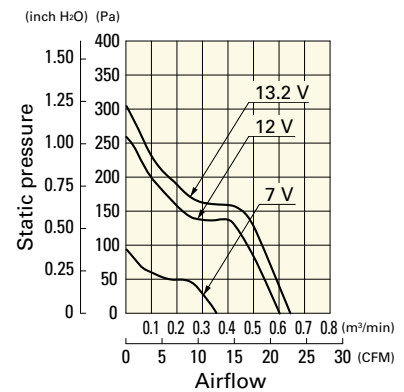
9GV0412J301 With pulse sensor

Operating voltage range



9GV0412G301 With pulse sensor

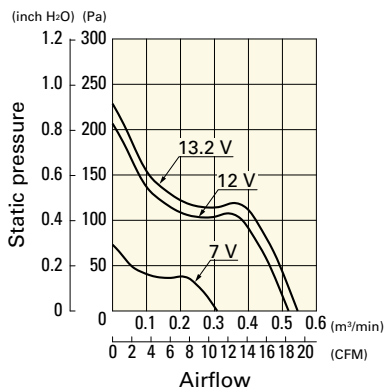
Operating voltage range



**Airflow - Static Pressure Characteristics**

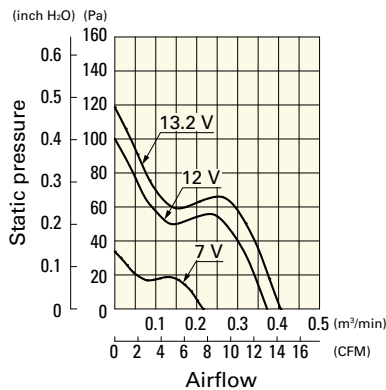
**9GV0412H301** With pulse sensor

Operating voltage range

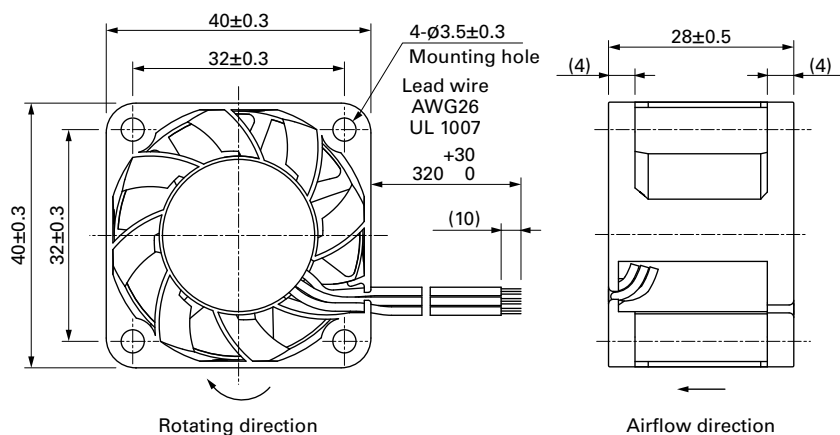


**9GV0412C301** With pulse sensor

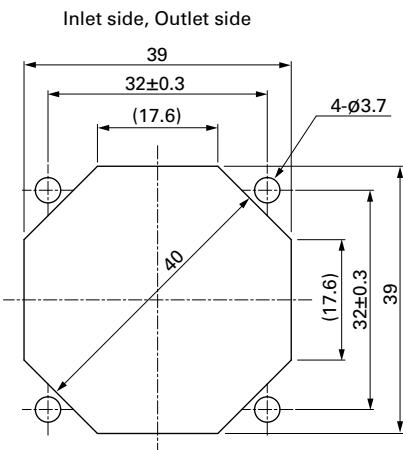
Operating voltage range



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



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



**Options**

Finger guards

page: p. 584

Model no.: 109-059, 109-059H



# 40x40x28 mm

San Ace 40 9P<sub>type</sub>

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue (Sensor) Yellow
- Mass ..... 52 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	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]
▶▶ 109P0405H3013	5	4.5 to 5.5	0.68	3.4	8700	0.32 11.3	102.9 0.414	37	-20 to +70	40000/60°C (70000/40°C)
▶▶ 109P0405F3013			0.28	1.4	6700	0.244 8.6	58.8 0.236	30		60000/60°C (90000/40°C)
▶▶ 109P0412K3013	12	8 to 13.2	0.55	6.6	15500	0.59 20.8	340 1.365	50	-20 to +60	40000/60°C (70000/40°C)
▶▶ 109P0412J3013		7 to 13.2	0.35	4.2	12500	0.46 16.2	210 0.843	44		
▶▶ 109P0412G3013			0.31	3.72	11500	0.42 14.8	179 0.719	42		
▶▶ 109P0412B3013		7 to 13.8	0.28	3.36	10300	0.38 13.4	143 0.574	40		
▶▶ 109P0412H3013			0.195	2.34	8700	0.32 11.3	102.9 0.414	37		
▶▶ 109P0412F3013		10.2 to 13.8	-20 to +70	0.105	1.26	6700	0.244 8.6	58.8 0.236	30	60000/60°C (90000/40°C)
▶▶ 109P0412M3013				0.045	0.54	4100	0.15 5.3	21.6 0.087	20	
▶▶ 109P0424R3013		24	12 to 26.4	0.25	6	14000	0.51 18.0	263.4 1.057	47	-20 to +60
▶▶ 109P0424J3013	0.18			4.32	12500	0.46 16.2	210 0.843	44		
▶▶ 109P0424G3013	0.19			4.56	11500	0.42 14.8	179 0.719	42		
▶▶ 109P0424B3013	12 to 27.6		-20 to +70	0.13	3.12	10300	0.38 13.4	143 0.574	40	
▶▶ 109P0424H3013				0.095	2.28	8700	0.32 11.3	102.9 0.414	37	
▶▶ 109P0424F3013				14 to 27.6	0.055	1.32	6700	0.244 8.6	58.8 0.236	30

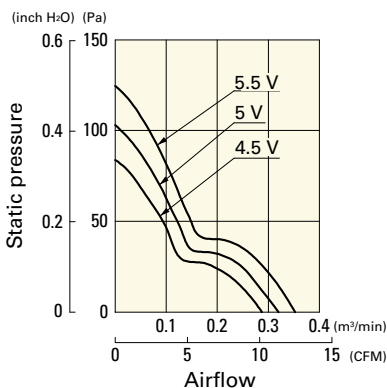
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 621 to 622.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

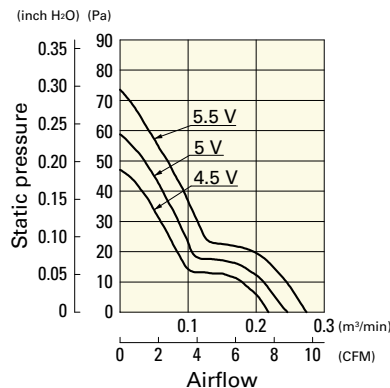
109P0405H3013 With pulse sensor

Operating voltage range



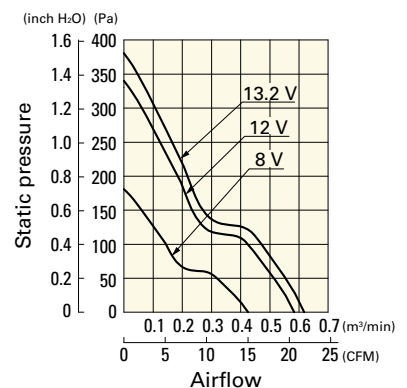
109P0405F3013 With pulse sensor

Operating voltage range



109P0412K3013 With pulse sensor

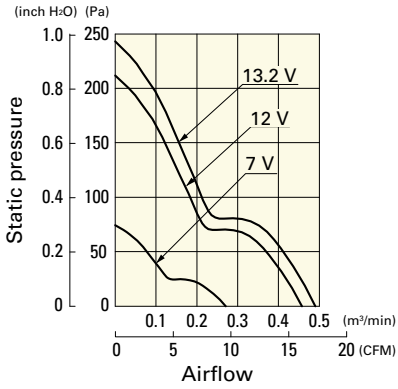
Operating voltage range



**Airflow - Static Pressure Characteristics**

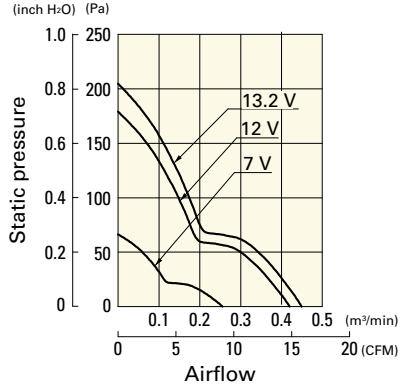
**109P0412J3013** With pulse sensor

Operating voltage range



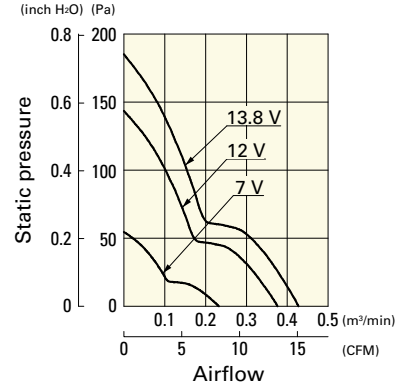
**109P0412G3013** With pulse sensor

Operating voltage range



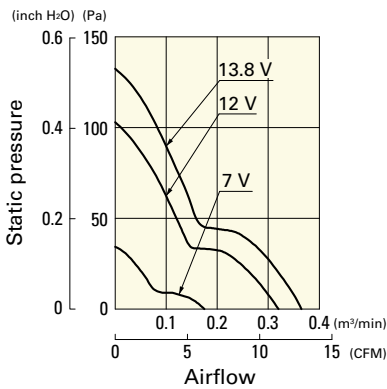
**109P0412B3013** With pulse sensor

Operating voltage range



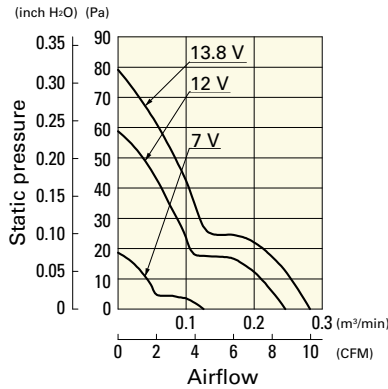
**109P0412H3013** With pulse sensor

Operating voltage range



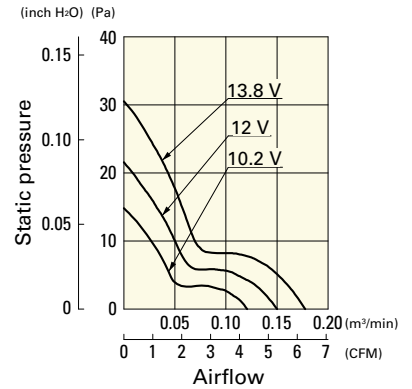
**109P0412F3013** With pulse sensor

Operating voltage range



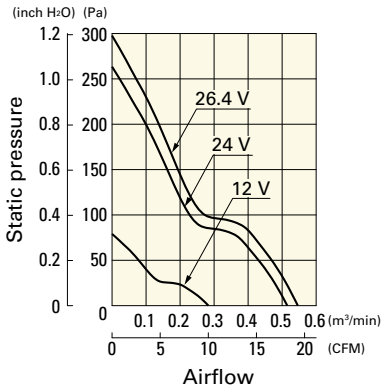
**109P0412M3013** With pulse sensor

Operating voltage range



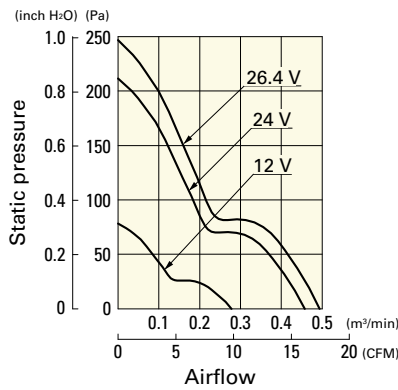
**109P0424R3013** With pulse sensor

Operating voltage range



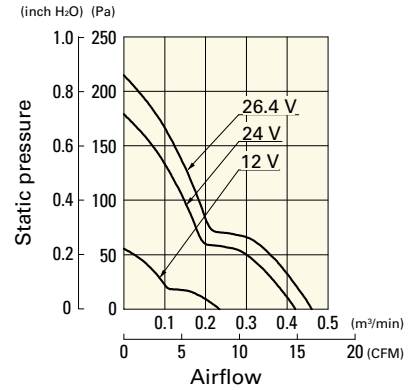
**109P0424J3013** With pulse sensor

Operating voltage range



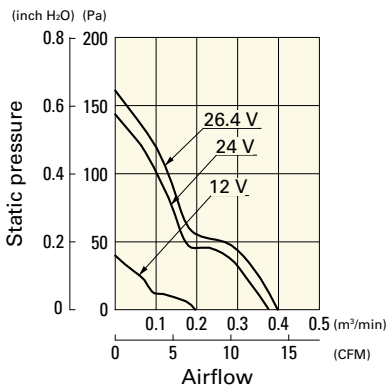
**109P0424G3013** With pulse sensor

Operating voltage range



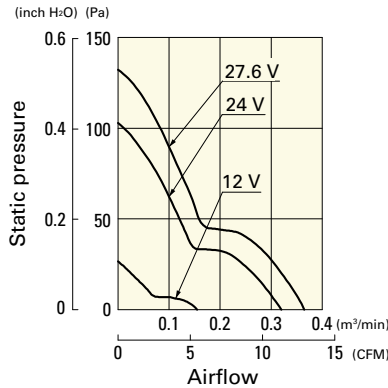
**109P0424B3013** With pulse sensor

Operating voltage range



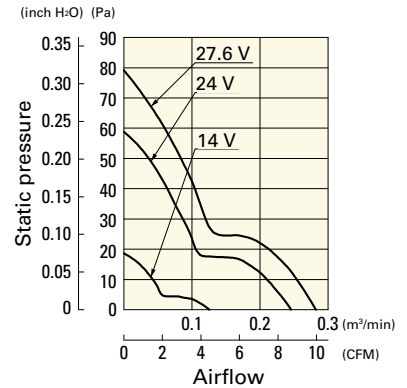
**109P0424H3013** With pulse sensor

Operating voltage range



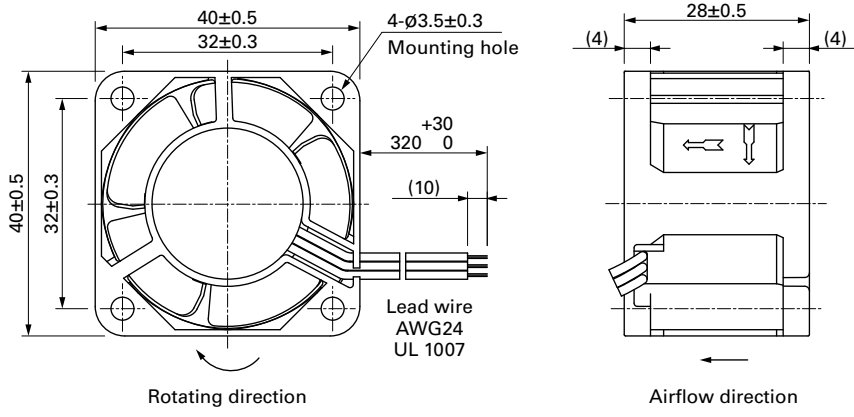
**109P0424F3013** With pulse sensor

Operating voltage range

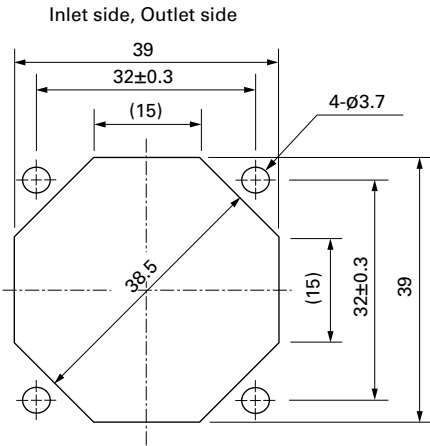




**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 584

Model no.: 109-059, 109-059H

DC Fan



# 52x52x15 mm

**San Ace 52 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow Control Brown
- Mass ..... 40 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	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]
▶▶ 9GA0512P7G001	12	10.2 to 13.8	100	0.13	1.56	7800	0.5 17.7	91.5 0.367	38	-20 to +70	40000/60°C (70000/40°C)
▶▶ 9GA0512P7A001			100	0.08	0.96	6300	0.4 14.1	59 0.237	32		
▶▶ 9GA0512P7H001			100	0.05	0.6	4300	0.275 9.7	27.5 0.11	22		
▶▶ 9GA0512P7M001			100	0.04	0.48	3400	0.215 7.6	17 0.068	16		
▶▶ 9GA0524P7G001	24	20.4 to 27.6	100	0.07	1.68	7800	0.5 17.7	91.5 0.367	38		
▶▶ 9GA0524P7A001			100	0.05	1.2	6300	0.4 14.1	59.0 0.237	32		
▶▶ 9GA0524P7H001			100	0.03	0.72	4300	0.275 9.7	27.5 0.11	22		
▶▶ 9GA0524P7M001			100	0.02	0.48	3400	0.215 7.6	17.0 0.068	16		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

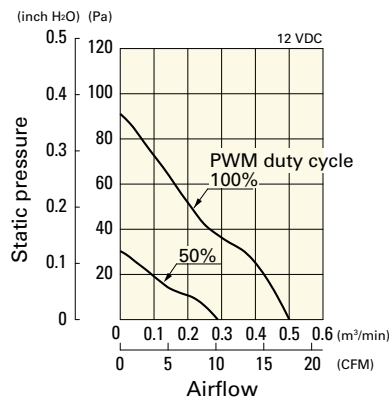
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 628 to 629.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

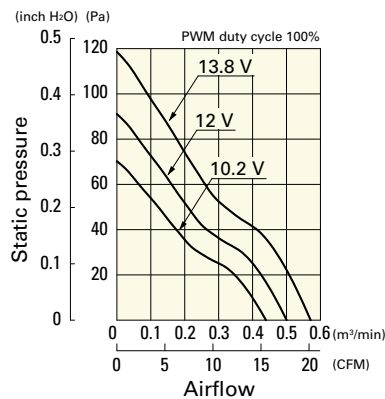
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0512P7G001** With pulse sensor with PWM control function

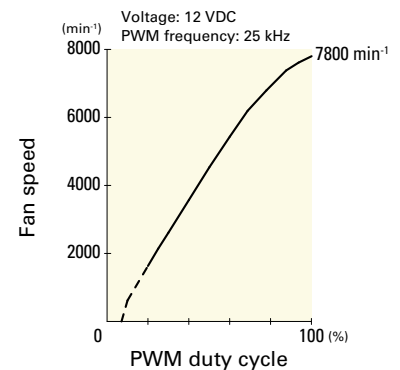
PWM duty cycle



Operating voltage range



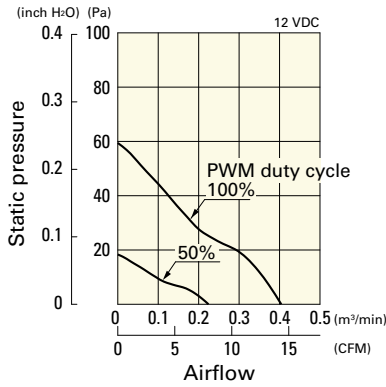
PWM duty - Speed characteristics example



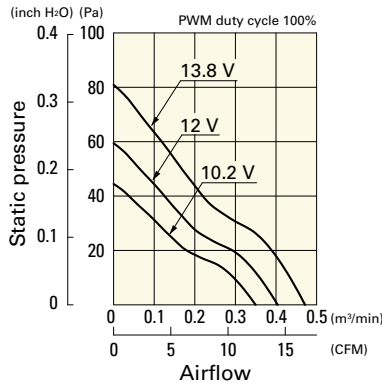
# Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0512P7A001** With pulse sensor with PWM control function

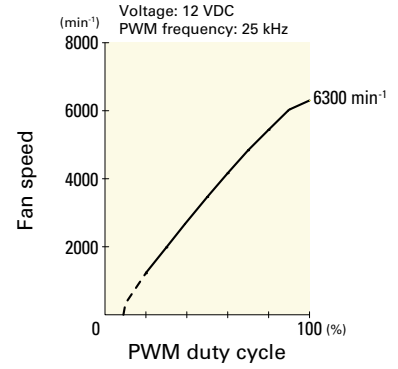
PWM duty cycle



Operating voltage range

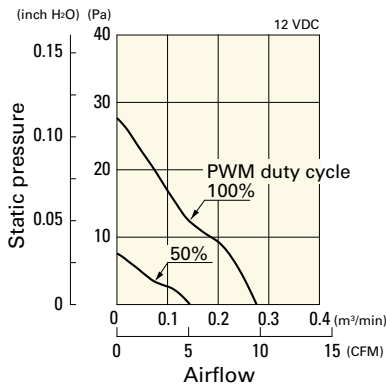


PWM duty - Speed characteristics example

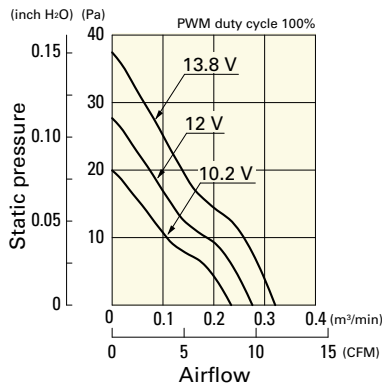


**9GA0512P7H001** With pulse sensor with PWM control function

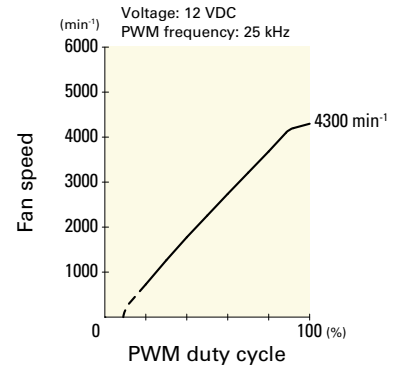
PWM duty cycle



Operating voltage range

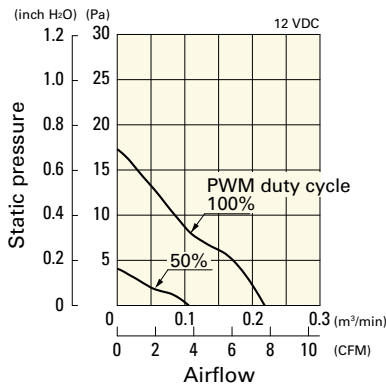


PWM duty - Speed characteristics example

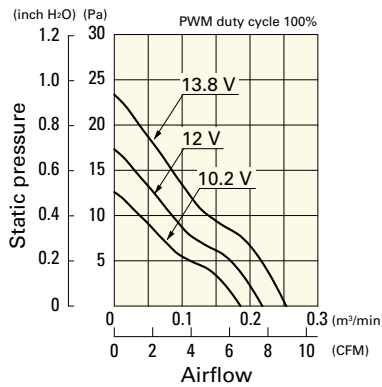


**9GA0512P7M001** With pulse sensor with PWM control function

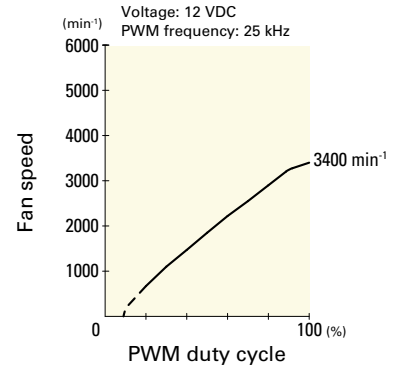
PWM duty cycle



Operating voltage range

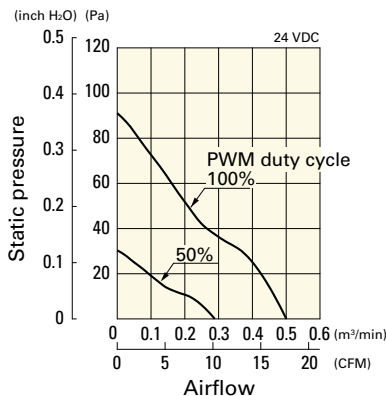


PWM duty - Speed characteristics example

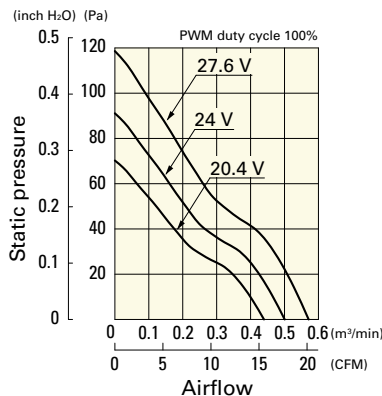


**9GA0524P7G001** With pulse sensor with PWM control function

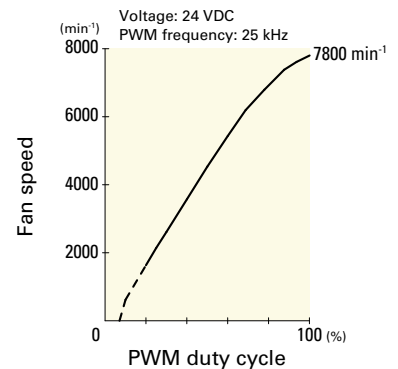
PWM duty cycle



Operating voltage range



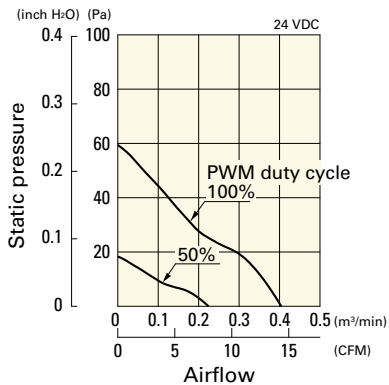
PWM duty - Speed characteristics example



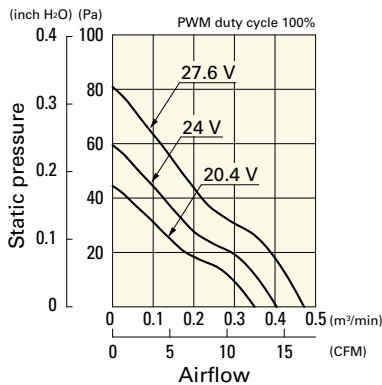
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0524P7A001** With pulse sensor with PWM control function

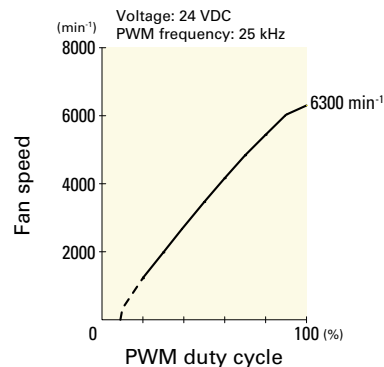
PWM duty cycle



Operating voltage range

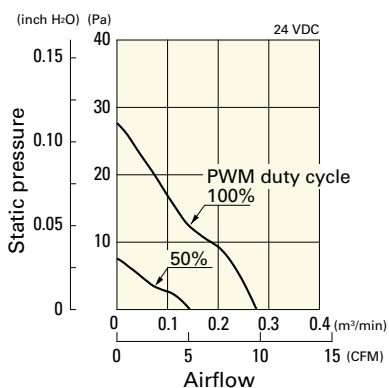


PWM duty - Speed characteristics example

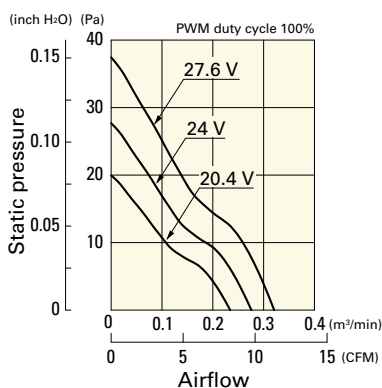


**9GA0524P7H001** With pulse sensor with PWM control function

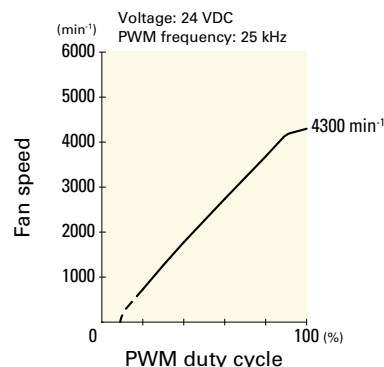
PWM duty cycle



Operating voltage range

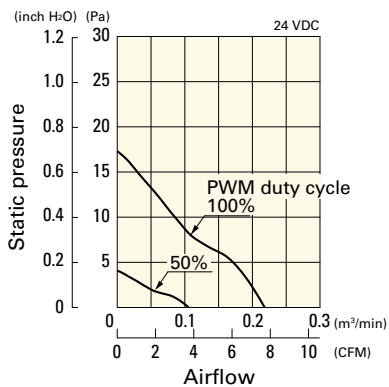


PWM duty - Speed characteristics example

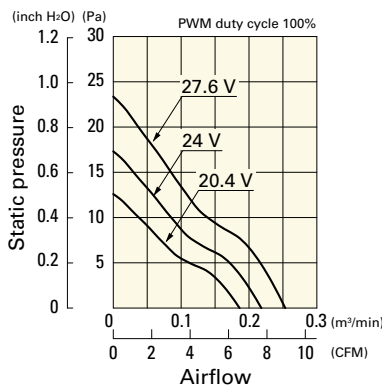


**9GA0524P7M001** With pulse sensor with PWM control function

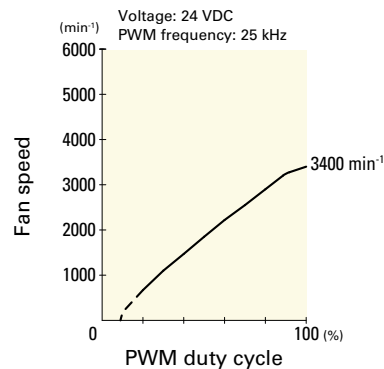
PWM duty cycle



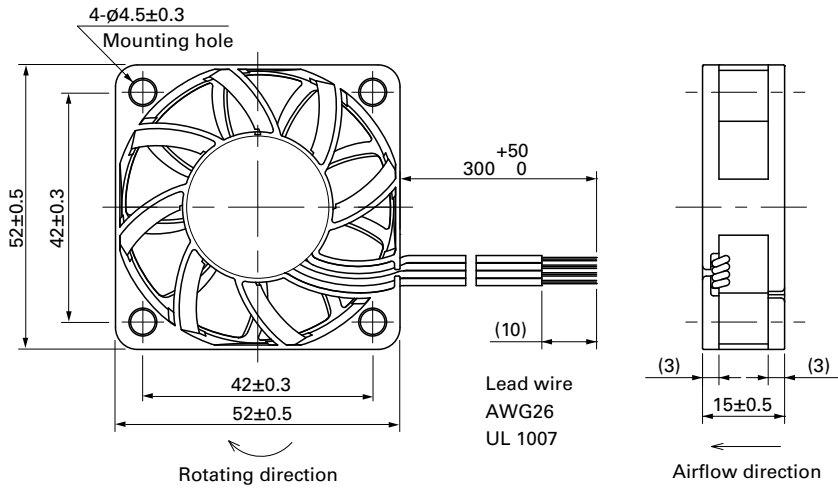
Operating voltage range



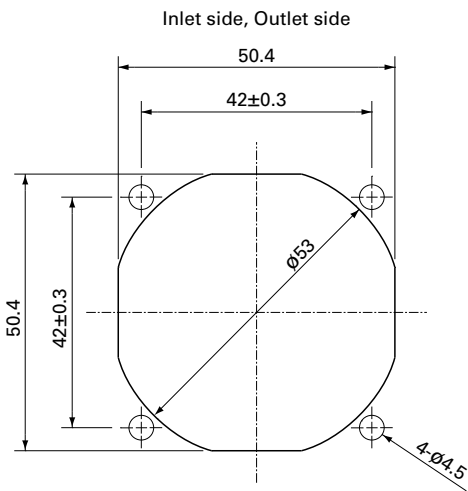
PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 584

Model no.: 109-149, 109-149E

DC Fan

# 52x52x15 mm

San Ace 52 9P<sub>type</sub>   



## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue Sensor Yellow
- Mass ..... 55 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	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]
☞ 109P0505M701	5	4.5 to 5.5	0.15	0.75	3700	0.205 7.24	21.4 0.086	22	-20 to +70	60000/60°C (90000/40°C)

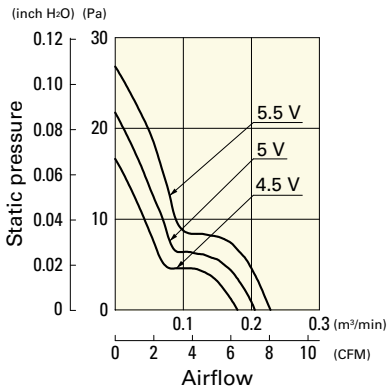
Note 1: Sensor and control options are available for selection. Refer to the table on p. 622.

Note 2: The ☞ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

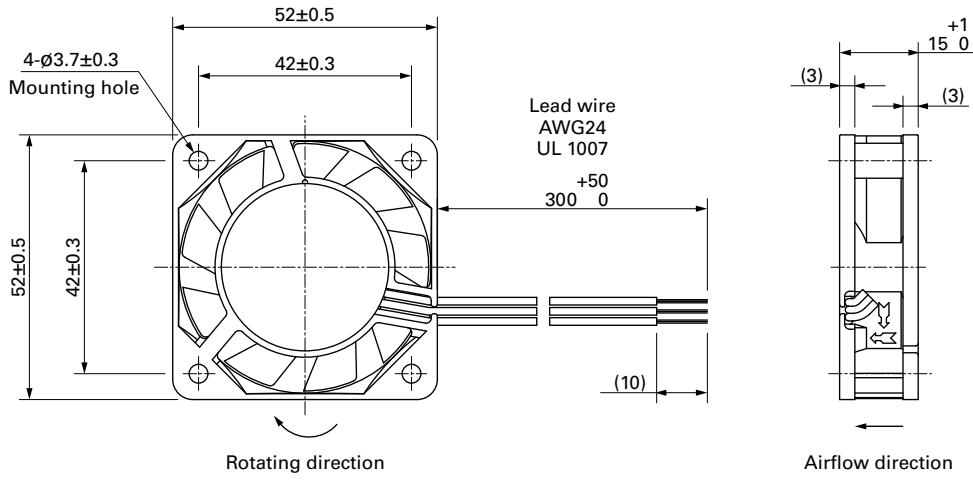
## Airflow - Static Pressure Characteristics

### 109P0505M701 With pulse sensor

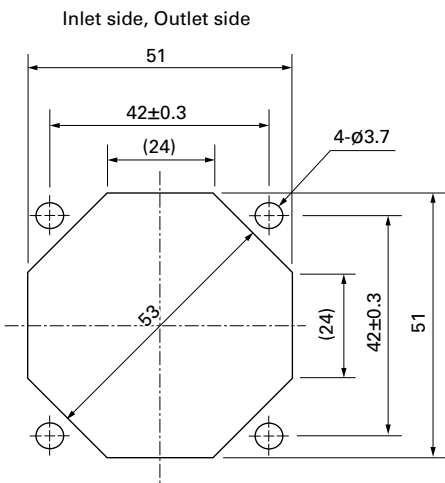
Operating voltage range



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 584

Model no.: 109-149, 109-149E



# 60×60×10 mm

**San Ace 60 9GA type** Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow
- Mass ..... 35 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	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]
▶▶ 9GA0612G9001	12	7.0 to 13.2	0.27	3.24	6200	0.62 21.9	66 0.26	43	-20 to +60	40000/60°C (70000/40°C)
▶▶ 9GA0612H9001			0.14	1.68	5000	0.5 17.6	42.9 0.17	37	-20 to +70	
▶▶ 9GA0612L9001		7.0 to 13.8	0.03	0.36	2300	0.23 8.1	9.1 0.037	17	-10 to +70	

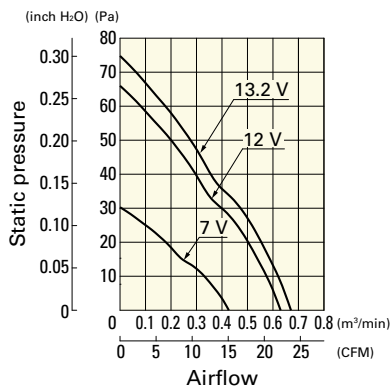
Note 1: Sensor and control options are available for selection. Refer to the table on p. 629.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

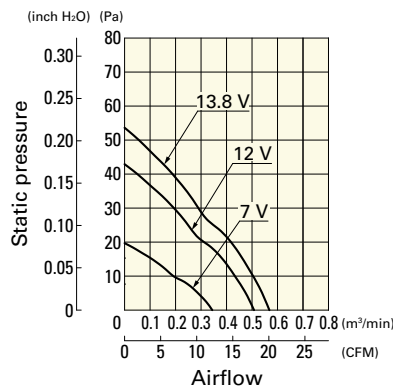
**9GA0612G9001** With pulse sensor

Operating voltage range



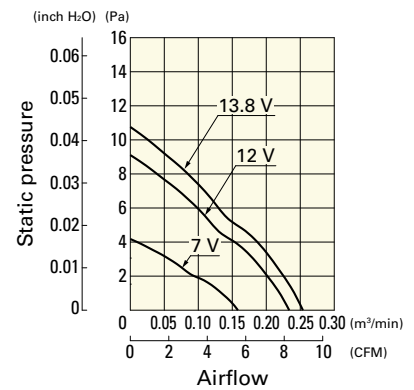
**9GA0612H9001** With pulse sensor

Operating voltage range



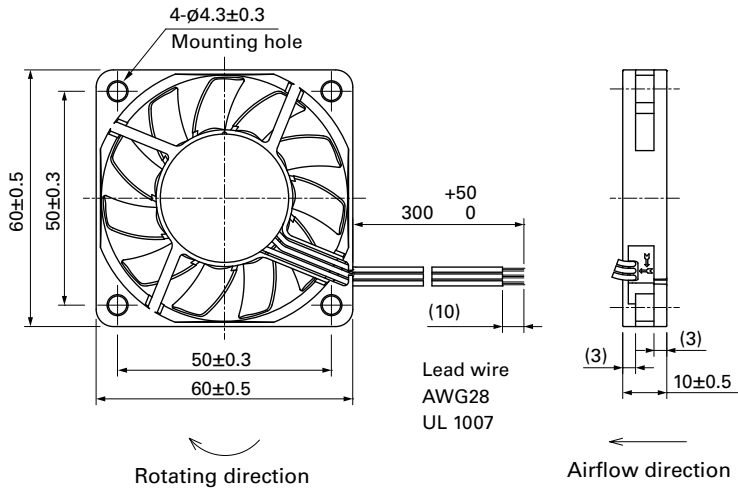
**9GA0612L9001** With pulse sensor

Operating voltage range

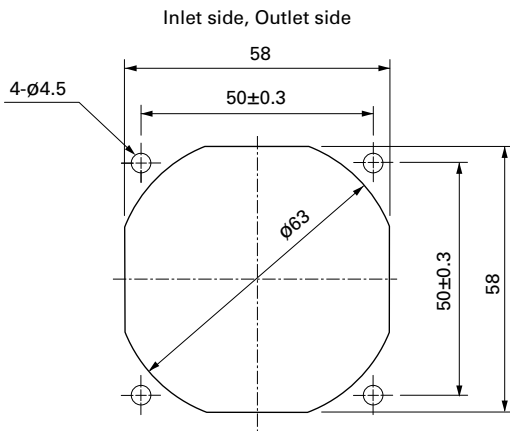




**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1003G

Resin filter kits

page: p. 592

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



# 60×60×15 mm

**San Ace 60 9GA type** Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 50 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	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>2</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GA0612P7G01	12	10.2 to 13.8	100	0.16	1.92	5900	0.68 24	80 0.32	38	-20 to +70	40000/60°C (70000/40°C)
			0	0.05	0.6	1500	0.17 6.0	5.2 0.02	10		
9GA0612P7H01	12	10.2 to 13.8	100	0.1	1.2	4900	0.56 19.7	55.6 0.223	34		
			0	0.03	0.36	1300	0.15 5.3	3.9 0.015	8		
9GA0624P7G01	24	20.4 to 27.6	100	0.08	1.92	5900	0.68 24.0	80 0.32	38		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

The models listed below **have ribs and pulse sensors.**

Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>2</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GA0612G701	12	6 to 13.8	0.16	1.92	5900	0.68 24	80 0.32	38	-20 to +70	40000/60°C (70000/40°C)
9GA0612H701			0.1	1.2	4900	0.56 19.7	55.6 0.223	34		60000/60°C (90000/40°C)
9GA0612M701			0.08	0.96	3900	0.45 15.9	35.3 0.142	28		40000/60°C (70000/40°C)
9GA0612L701			0.03	0.36	2800	0.31 10.9	18 0.072	17		
9GA0624M701	24	12 to 27.6	0.05	1.2	3900	0.45 15.9	35.3 0.142	28		

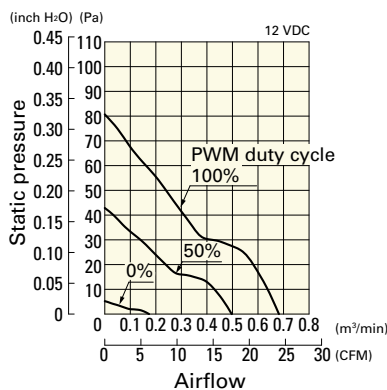
Note 1: Sensor and control options are available for selection. Refer to the table on p. 629.

Note 2: The mark indicates Short Lead Time Service applicable models. See p. 654 for details.

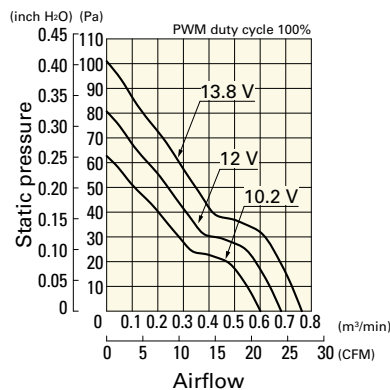
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0612P7G01** With pulse sensor with PWM control function

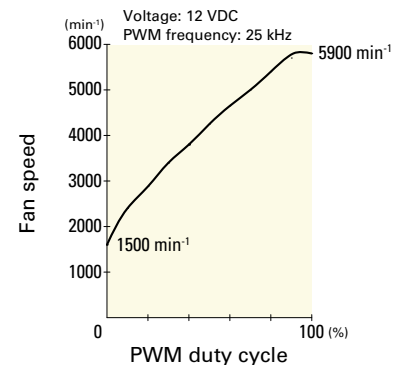
PWM duty cycle



Operating voltage range



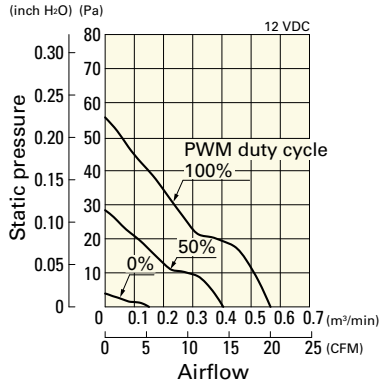
PWM duty - Speed characteristics example



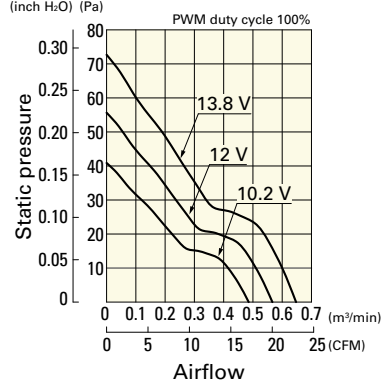
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0612P7H01** With pulse sensor with PWM control function

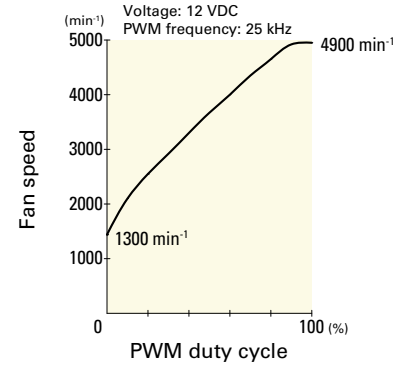
PWM duty cycle



Operating voltage range

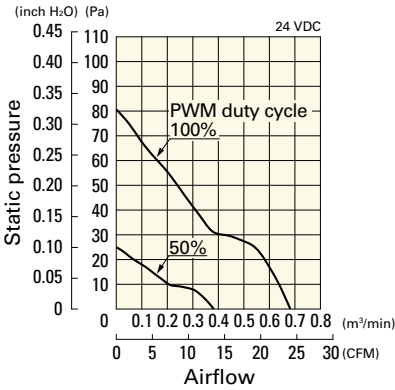


PWM duty - Speed characteristics example

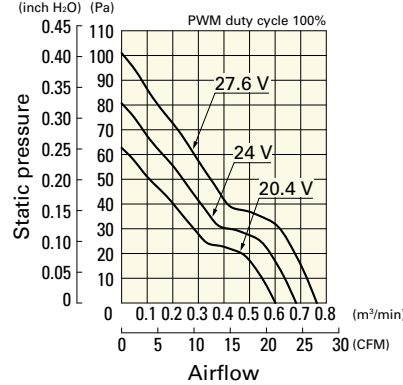


**9GA0624P7G01** With pulse sensor with PWM control function

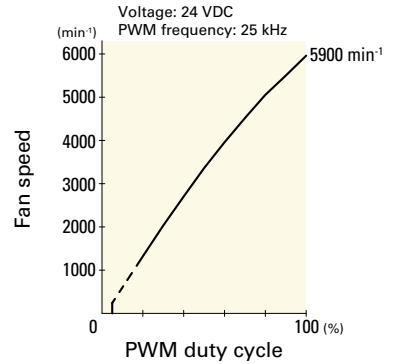
PWM duty cycle



Operating voltage range



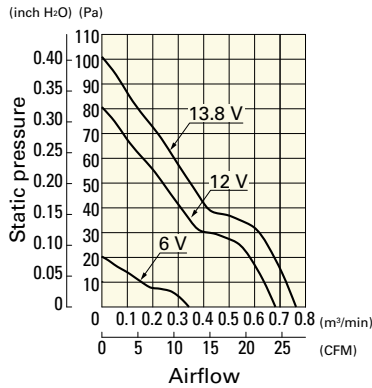
PWM duty - Speed characteristics example



**Airflow - Static Pressure Characteristics**

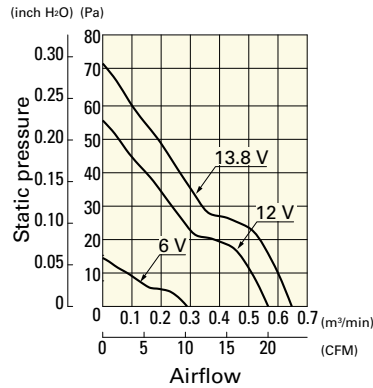
**9GA0612G701** With pulse sensor

Operating voltage range



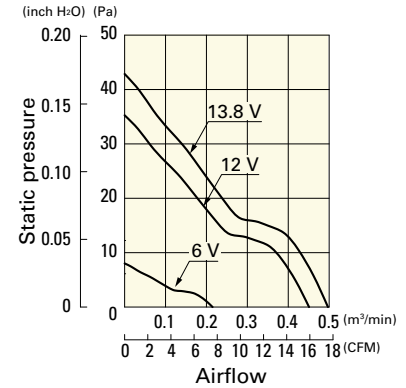
**9GA0612H701** With pulse sensor

Operating voltage range



**9GA0612M701** With pulse sensor

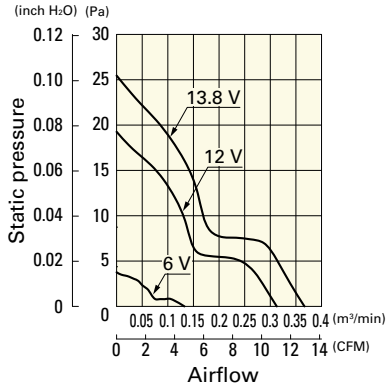
Operating voltage range



**Airflow - Static Pressure Characteristics**

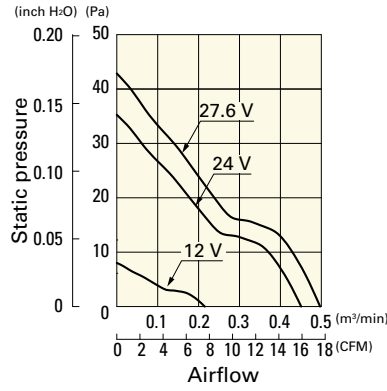
**9GA0612L701** With pulse sensor

Operating voltage range

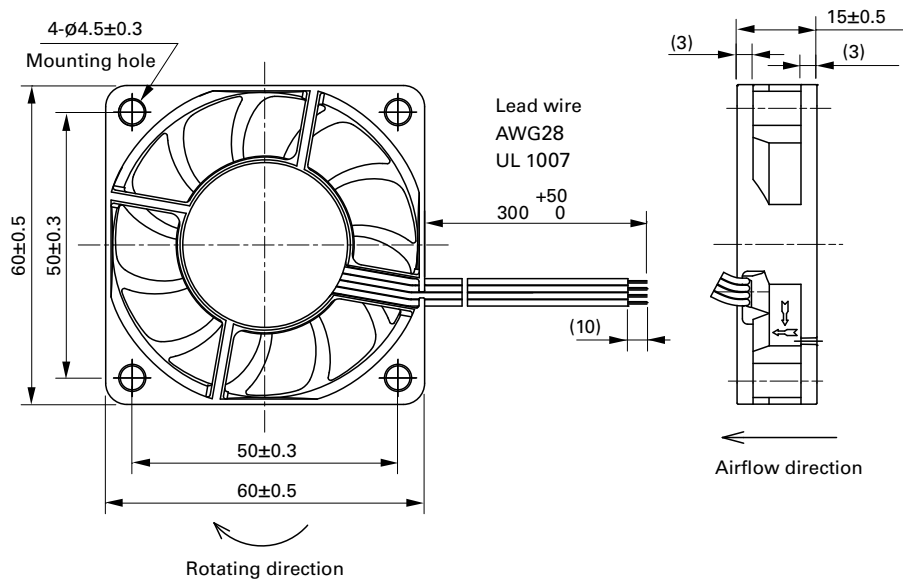


**9GA0624M701** With pulse sensor

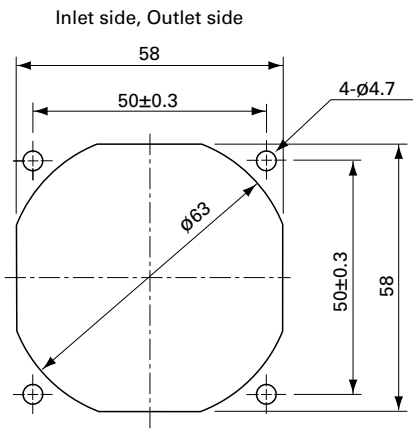
Operating voltage range



**Dimensions (unit: mm)** (With pulse sensor with PWM control function)



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



**Options**

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1003G

Resin filter kits

page: p. 592

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



# 60×60×20 mm

**San Ace 60 9GA type** Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 70 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	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]
9GA0612P6G001	12	10.8 to 13.2	100	0.26	3.12	6850	0.88 31.1	125 0.5	43	-20 to +70	40000/60°C (70000/40°C)
9GA0612P6S001			100	0.15	1.8	5500	0.7 24.7	81 0.33	36		
9GA0624P6G001	24	21.6 to 26.4	100	0.12	2.88	6850	0.88 31.1	125 0.5	43		
9GA0624P6S001			100	0.07	1.68	5500	0.7 24.7	81 0.33	36		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

The models listed below **have ribs and pulse sensors.**

Model no.	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]
9GA0612H6001	12	10.8 to 13.2	0.09	1.08	4100	0.52 18.4	45 0.18	29	-20 to +70	60000/60°C (90000/40°C)
9GA0612M6001			0.05	0.6	2700	0.34 12.0	20 0.08	18		
9GA0624H6001	24	21.6 to 26.4	0.04	0.96	4100	0.52 18.4	45 0.18	29		
9GA0624M6001			0.03	0.72	2700	0.34 12.0	20 0.08	18		

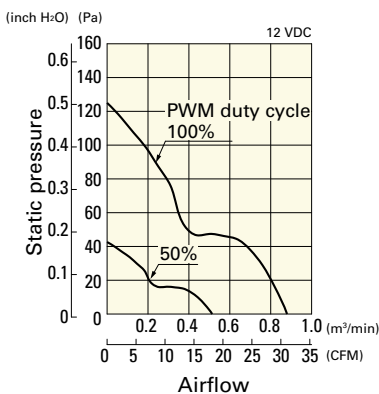
Note 1: Sensor and control options are available for selection. Refer to the table on p. 629.

Note 2: The ⓧ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

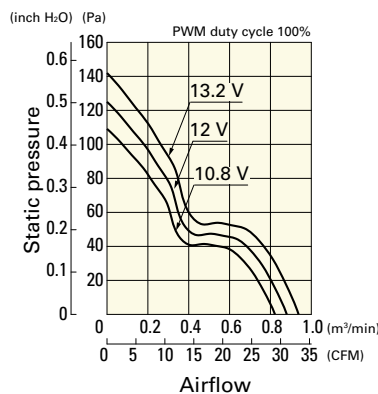
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0612P6G001** With pulse sensor with PWM control function

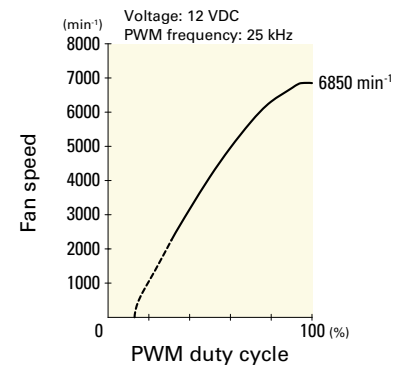
PWM duty cycle



Operating voltage range



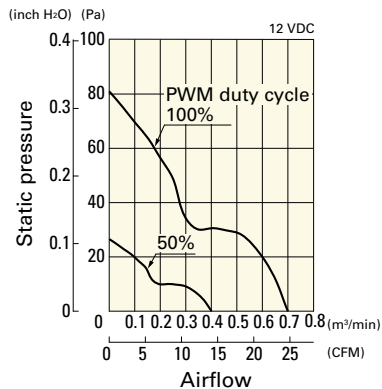
PWM duty - Speed characteristics example



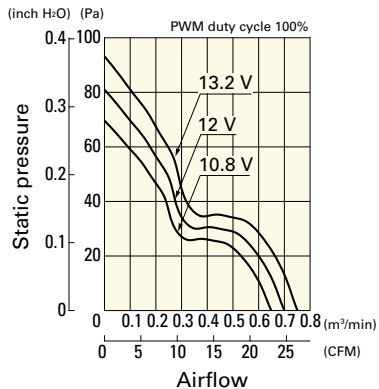
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0612P6S001** With pulse sensor with PWM control function

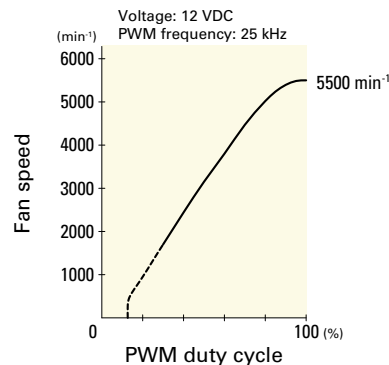
PWM duty cycle



Operating voltage range

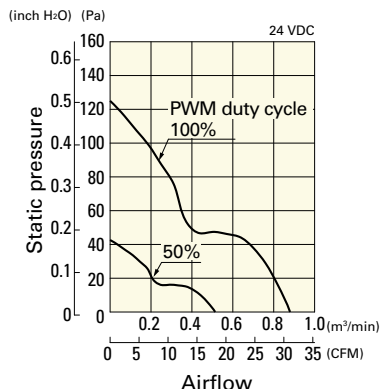


PWM duty - Speed characteristics example

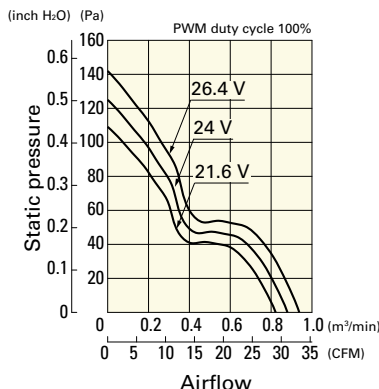


**9GA0624P6G001** With pulse sensor with PWM control function

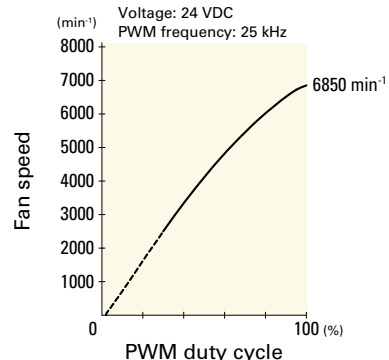
PWM duty cycle



Operating voltage range

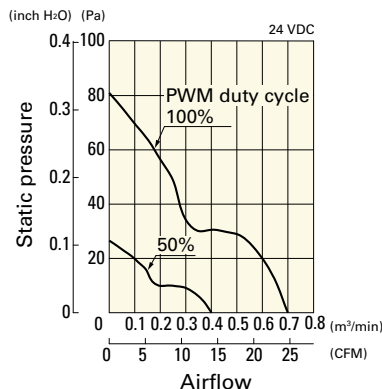


PWM duty - Speed characteristics example

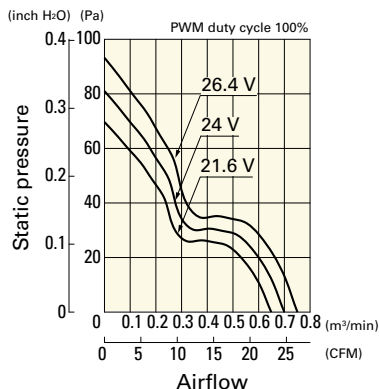


**9GA0624P6S001** With pulse sensor with PWM control function

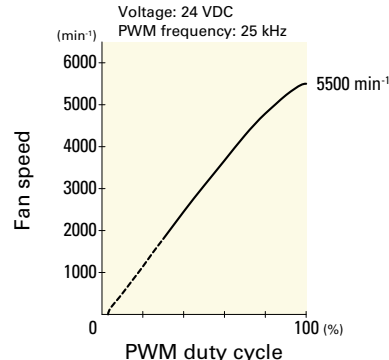
PWM duty cycle



Operating voltage range



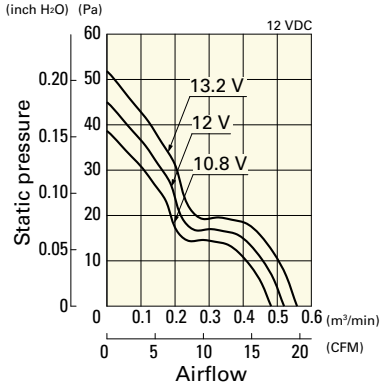
PWM duty - Speed characteristics example



**Airflow - Static Pressure Characteristics**

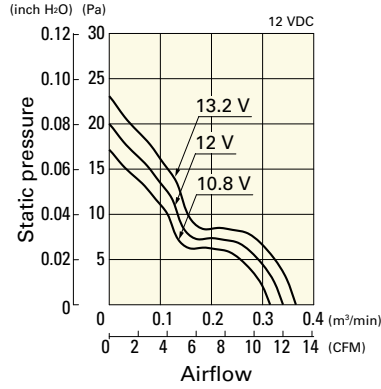
**9GA0612H6001** With pulse sensor

Operating voltage range



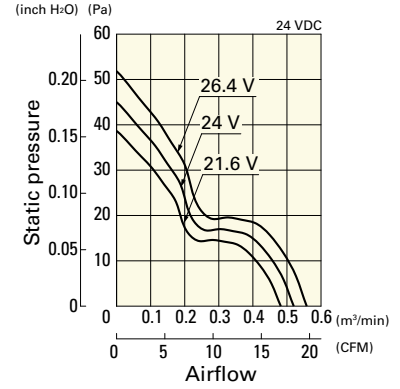
**9GA0612M6001** With pulse sensor

Operating voltage range



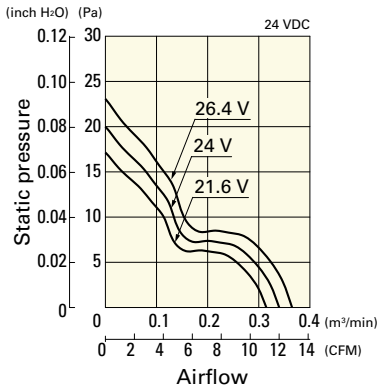
**9GA0624H6001** With pulse sensor

Operating voltage range

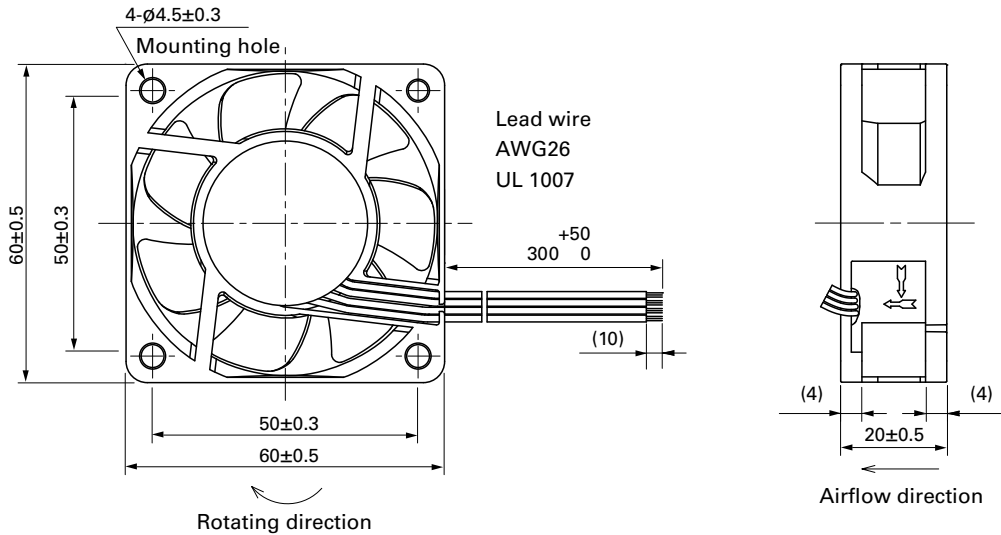


**9GA0624M6001** With pulse sensor

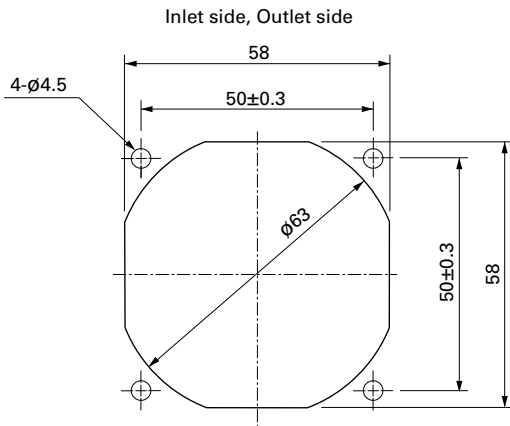
Operating voltage range



**Dimensions (unit: mm)** (With pulse sensor with PWM control function)



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



## Options

### Finger guards

page: p. 584

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

### Resin finger guards

page: p. 591

Model no.: 109-1003G

### Resin filter kits

page: p. 592

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





# 60x60x25 mm

San Ace 60 9G 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 90 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9G0612P4S001	12	10.2 to 13.8	100	0.67	8.04	11000	1.4 49.4	300 1.2	53	-20 to +70	40000/60°C (70000/40°C)
▶▶ 9G0612P4H001			0	0.07	0.84	3300	0.42 14.8	27 0.11	19		
▶▶ 9G0624P4S001	24	20.4 to 27.6	100	0.5	6.0	9500	1.21 42.7	224 0.9	49		
▶▶ 9G0624P4H001			0	0.06	0.72	2850	0.36 12.7	20.2 0.08	18		
▶▶ 9G0624P4F001	48	36 to 72	100	0.34	8.16	11000	1.4 49.4	300 1.2	53		
▶▶ 9G0648P4S001			0	0.04	0.96	3300	0.42 14.8	27 0.11	19		
			100	0.25	6.0	9500	1.21 42.7	224 0.9	49		
			0	0.04	0.96	2850	0.36 12.7	20.2 0.08	18		
			100	0.17	4.08	7800	1.0 35.3	150 0.6	43		
			20	0.03	0.72	1800	0.23 8.1	8 0.03	14		
			100	0.18	8.64	11000	1.4 49.4	305 1.22	53		
			0	0.02	0.96	3300	0.42 14.8	27.4 0.11	19		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

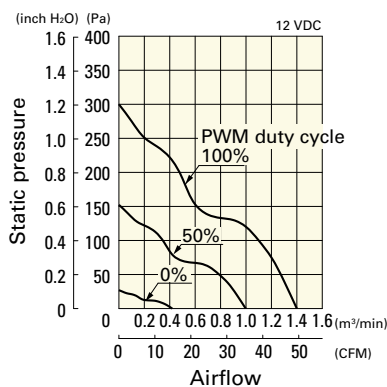
Note 1: Sensor and control options are available for selection. Refer to the table on p. 626.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

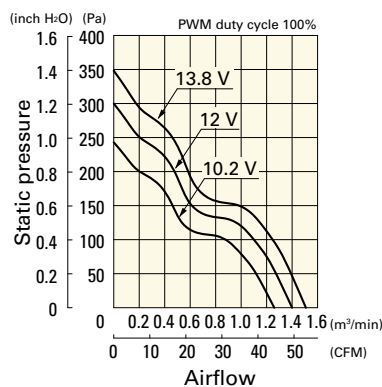
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9G0612P4S001 With pulse sensor with PWM control function

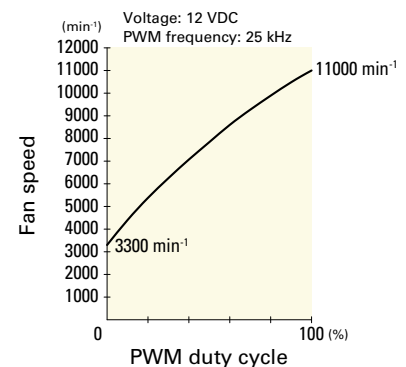
PWM duty cycle



Operating voltage range



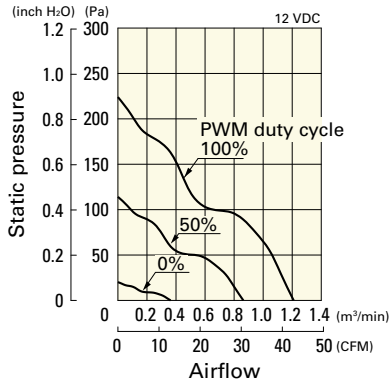
PWM duty - Speed characteristics example



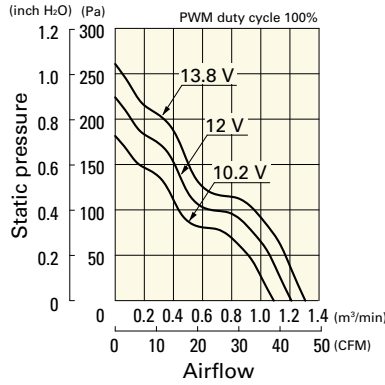
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9G0612P4H001** With pulse sensor with PWM control function

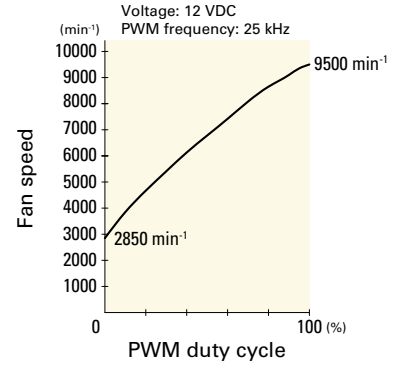
PWM duty cycle



Operating voltage range

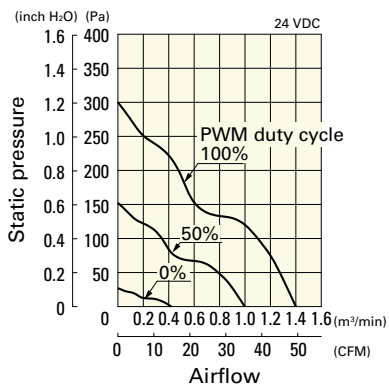


PWM duty - Speed characteristics example

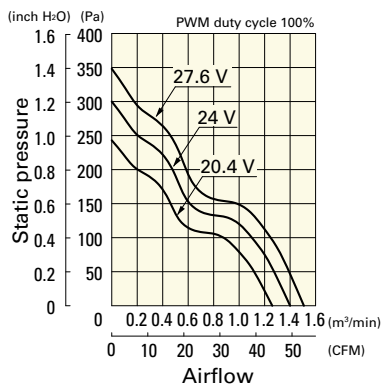


**9G0624P4S001** With pulse sensor with PWM control function

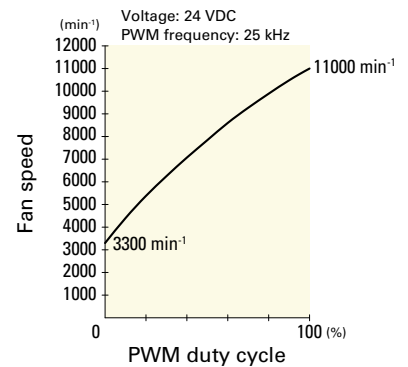
PWM duty cycle



Operating voltage range

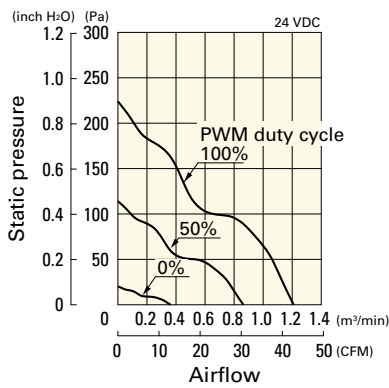


PWM duty - Speed characteristics example

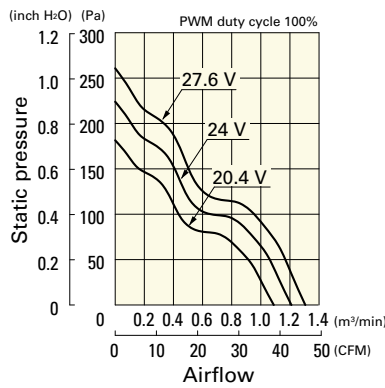


**9G0624P4H001** With pulse sensor with PWM control function

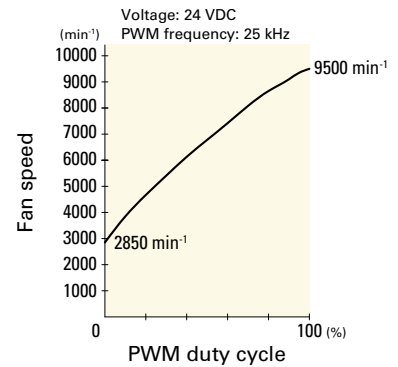
PWM duty cycle



Operating voltage range

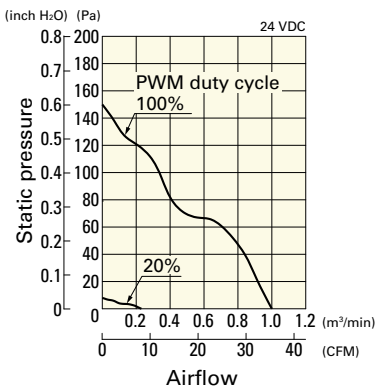


PWM duty - Speed characteristics example

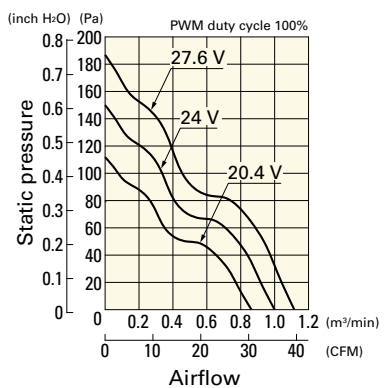


**9G0624P4F001** With pulse sensor with PWM control function

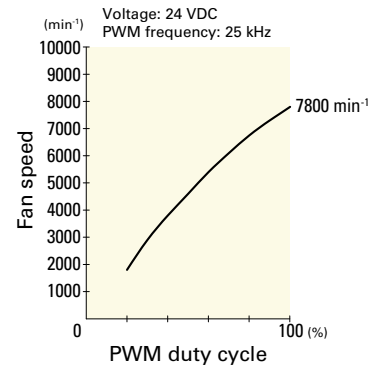
PWM duty cycle



Operating voltage range



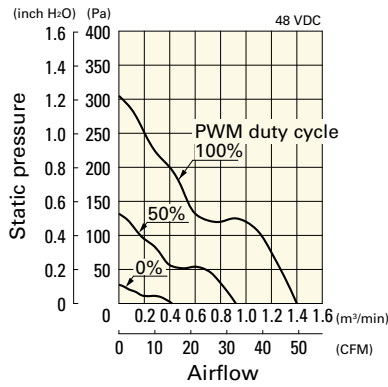
PWM duty - Speed characteristics example



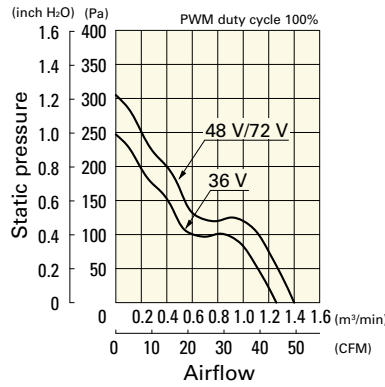
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9G0648P4S001** With pulse sensor with PWM control function

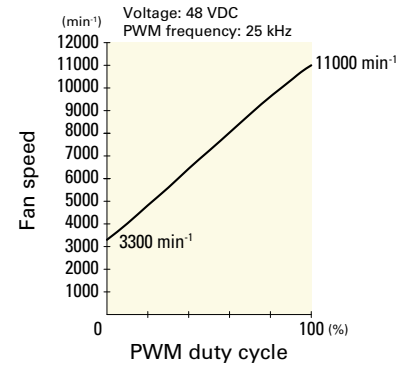
PWM duty cycle



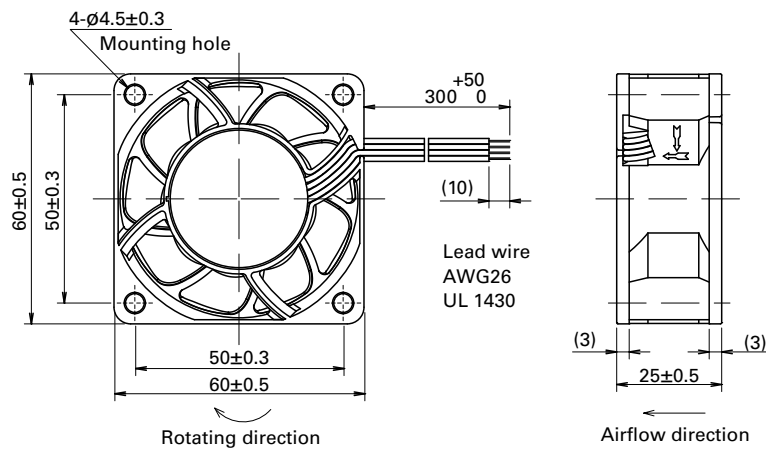
Operating voltage range



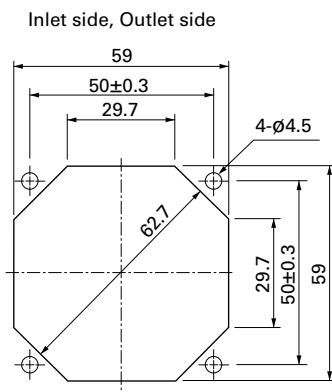
PWM duty - Speed characteristics example



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



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



## Options

### Finger guards

page: p. 584

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

### Resin finger guards

page: p. 591

Model no.: 109-1003G

### Resin filter kits

page: p. 592

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

DC Fan

# 60×60×25 mm

San Ace 60 9R 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue Sensor Yellow
- Mass ..... 90 g

## Specifications

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

Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow		Max. static pressure		SPL	Operating temperature [°C]	Expected life [h]	
						[m <sup>3</sup> /min]	[CFM]	[Pa]	[inchH <sub>2</sub> O]	[dB (A)]			
» 109R0605H401	5	4.5 to 5.5	0.34	1.7	3800	0.53	18.7	40.2	0.161	28	-20 to +70	60000/60°C (90000/40°C)	
» 109R0605F401			0.2	1.0	3200	0.44	15.5	29.4	0.118	24	-20 to +60		
» 109R0605M401			0.13	0.65	2600	0.36	12.7	19.6	0.079	20	-20 to +70		
» 109R0612J401	12	10.8 to 13.2	0.47	5.64	7600	1.06	37.1	155.0	0.622	44	-20 to +60	40000/60°C (70000/40°C)	
» 109R0612G401			0.24	2.88	5600	0.78	27.5	87.3	0.351	39	-20 to +70		
» 109R0612D401		10.2 to 13.8	0.21	2.52	5150	0.72	25.4	73.5	0.295	37			
» 109R0612S401		6 to 13.8	0.17	2.04	4600	0.65	23.0	56.8	0.228	33			
» 109R0612H401			0.11	1.32	3800	0.53	18.7	40.1	0.161	28			
» 109R0612F401			0.09	1.08	3200	0.44	15.5	29.4	0.118	24			
» 109R0612M401		7 to 13.8	0.06	0.72	2600	0.36	12.7	19.6	0.079	20			
» 109R0624J401		24	21.6 to 26.4	0.24	5.76	7600	1.06	37.1	155.0	0.622		44	-20 to +60
» 109R0624G401			20.4 to 27.6	0.13	3.12	5600	0.78	27.5	87.3	0.351	39	-20 to +70	
» 109R0624D401	12 to 27.6		0.12	2.88	5150	0.72	25.4	73.5	0.295	37			
» 109R0624S401			0.08	1.92	4600	0.65	23.0	56.8	0.228	33			
» 109R0624H401			0.06	1.44	3800	0.53	18.7	40.2	0.161	28			
» 109R0624F401	0.05		1.2	3200	0.44	15.5	29.4	0.118	24				
» 109R0624M401	14 to 27.6		0.04	0.96	2600	0.36	12.7	19.6	0.079	20			
» 109R0648J401	48		43.2 to 52.8	0.12	5.76	7600	1.06	37.1	155.0	0.622	44	-20 to +60	40000/60°C (70000/40°C)
» 109R0648G401		43 to 53	0.07	3.36	5600	0.78	27.5	87.3	0.351	39			
» 109R0648H401		40 to 53	0.04	1.92	3800	0.53	18.7	40.2	0.161	28	-20 to +70	60000/60°C (90000/40°C)	

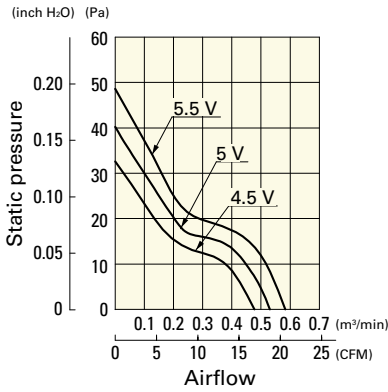
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 622 to 623.

Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

# Airflow - Static Pressure Characteristics

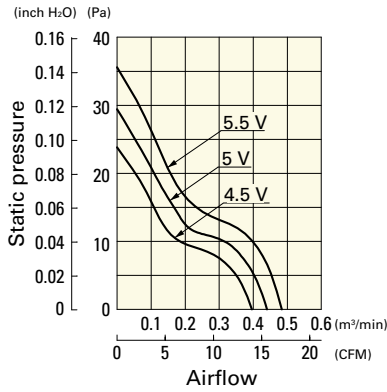
**109R0605H401** With pulse sensor

Operating voltage range



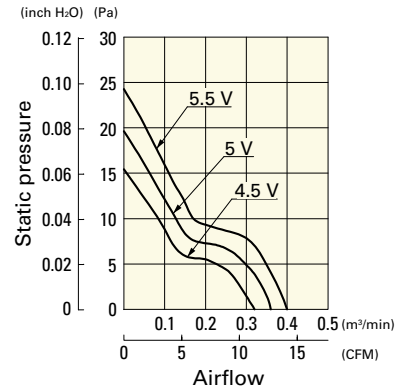
**109R0605F401** With pulse sensor

Operating voltage range



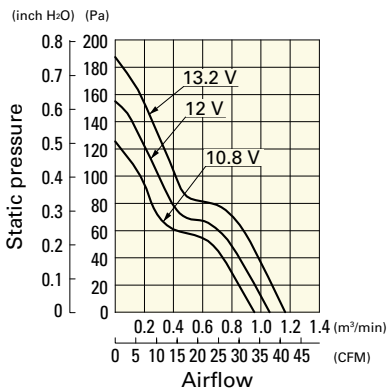
**109R0605M401** With pulse sensor

Operating voltage range



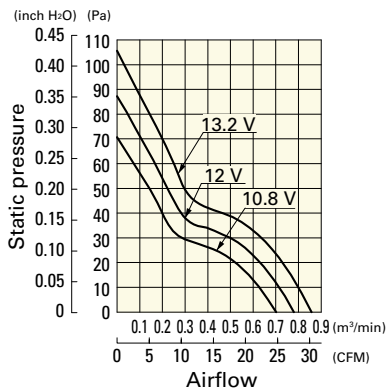
**109R0612J401** With pulse sensor

Operating voltage range



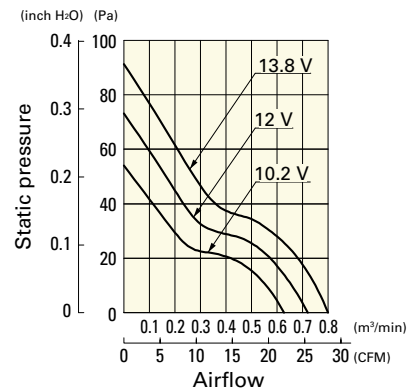
**109R0612G401** With pulse sensor

Operating voltage range



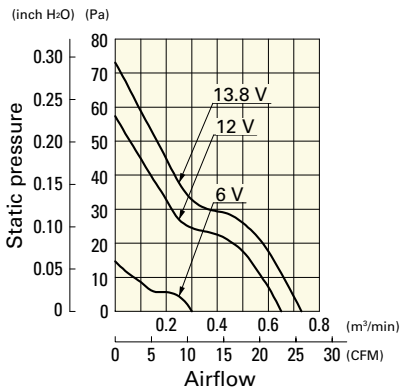
**109R0612D401** With pulse sensor

Operating voltage range



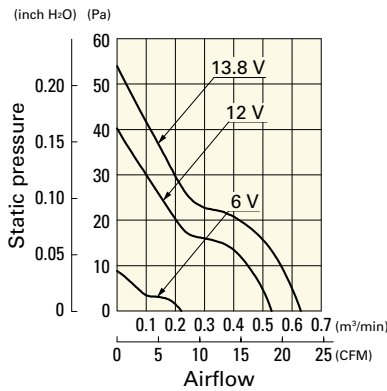
**109R0612S401** With pulse sensor

Operating voltage range



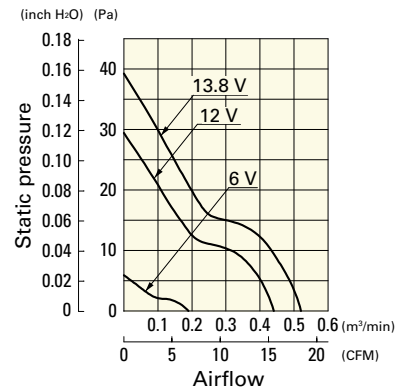
**109R0612H401** With pulse sensor

Operating voltage range



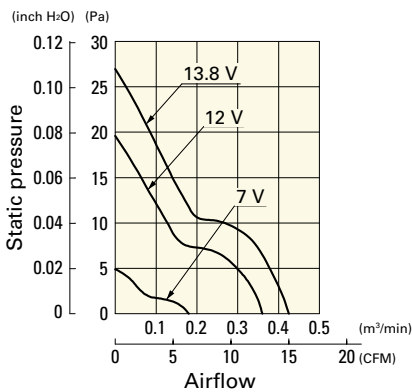
**109R0612F401** With pulse sensor

Operating voltage range



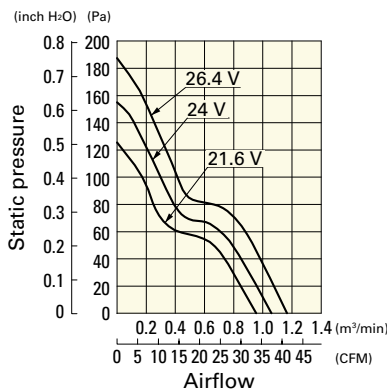
**109R0612M401** With pulse sensor

Operating voltage range



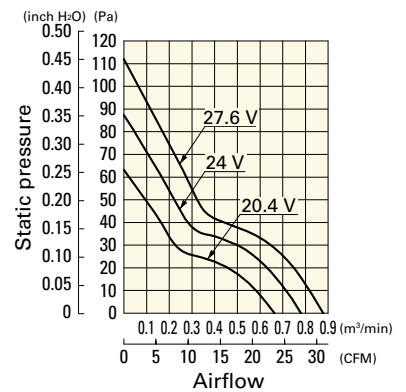
**109R0624J401** With pulse sensor

Operating voltage range



**109R0624G401** With pulse sensor

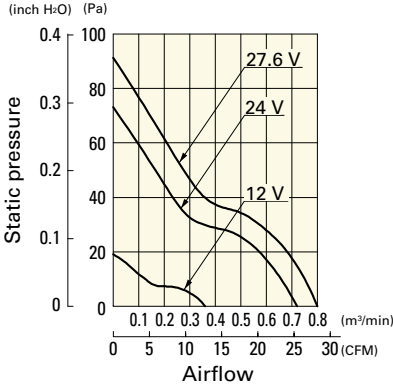
Operating voltage range



**Airflow - Static Pressure Characteristics**

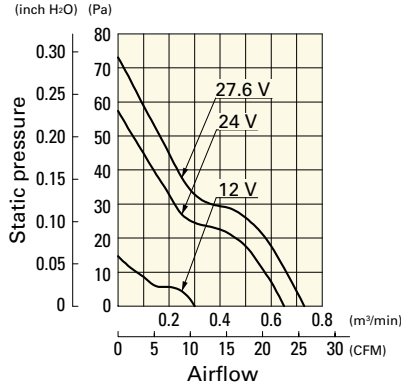
**109R0624D401** With pulse sensor

Operating voltage range



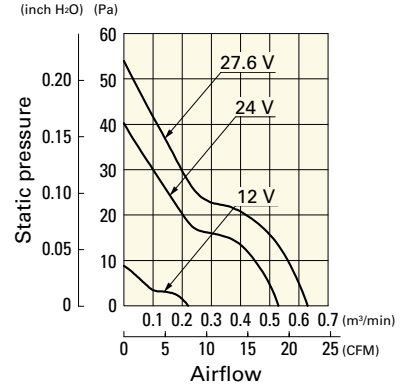
**109R0624S401** With pulse sensor

Operating voltage range



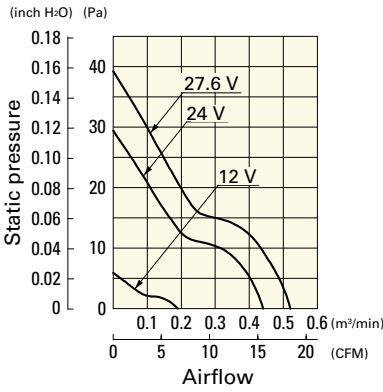
**109R0624H401** With pulse sensor

Operating voltage range



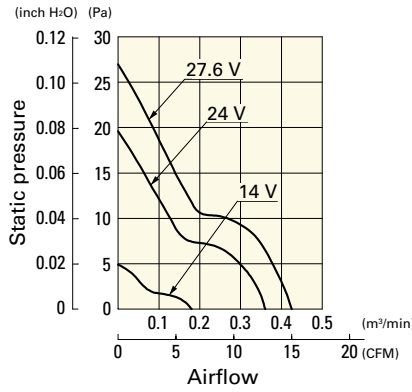
**109R0624F401** With pulse sensor

Operating voltage range



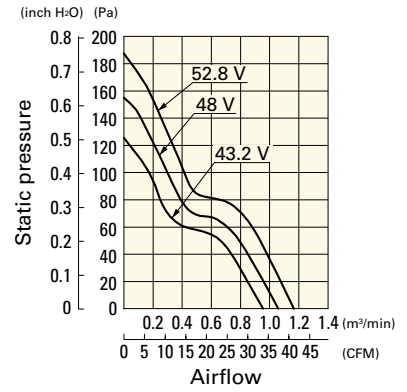
**109R0624M401** With pulse sensor

Operating voltage range



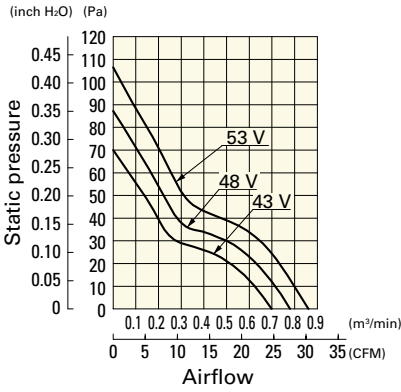
**109R0648J401** With pulse sensor

Operating voltage range



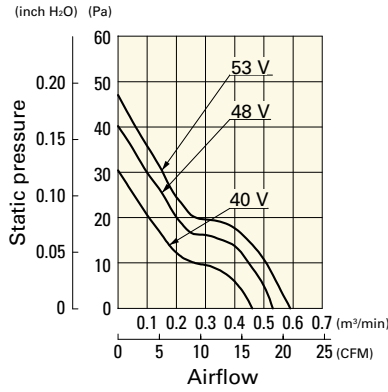
**109R0648G401** With pulse sensor

Operating voltage range

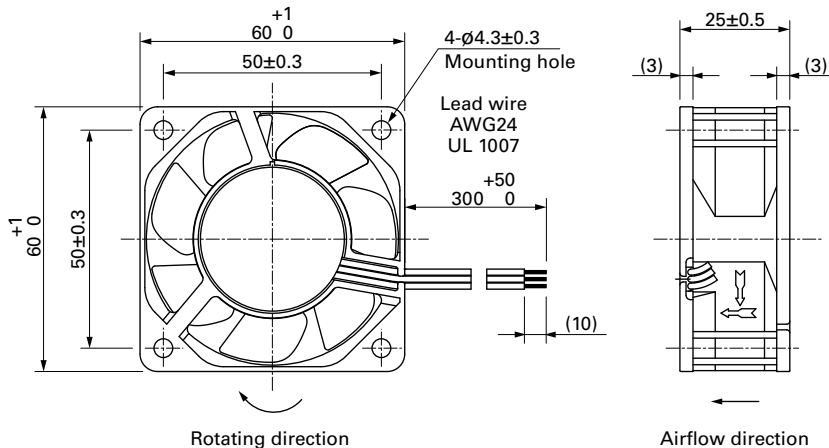


**109R0648H401** With pulse sensor

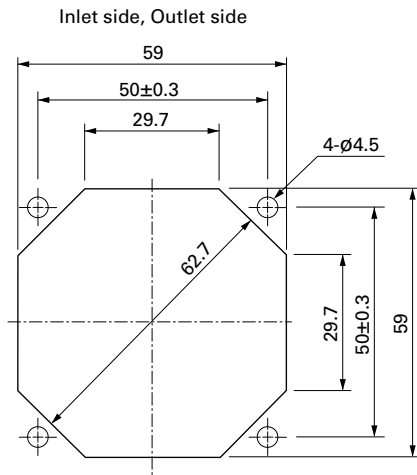
Operating voltage range



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



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



**Options**

**Finger guards**

page: p. 584

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

**Resin finger guards**

page: p. 591

Model no.: 109-1003G

**Resin filter kits**

page: p. 592

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



# 60x60x25 mm

**San Ace 60 9S** type Silent Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow
- Mass ..... 55 g

## Specifications

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

Model no.	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]
» 9S0612S401	12	5.0 to 13.8	0.2	2.4	5000	0.74 26.1	65.7 0.26	31	-10 to +70	40000/60°C (70000/40°C)
» 9S0612H401			0.11	1.32	3900	0.58 20.5	40.0 0.16	24		
» 9S0612F401		6.0 to 13.8	0.08	0.96	3300	0.49 17.3	29.3 0.12	20		
» 9S0612M401			0.07	0.84	2700	0.4 14.1	19.7 0.08	16		

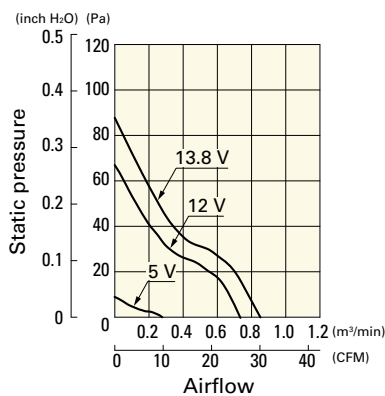
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 635 to 636.

Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

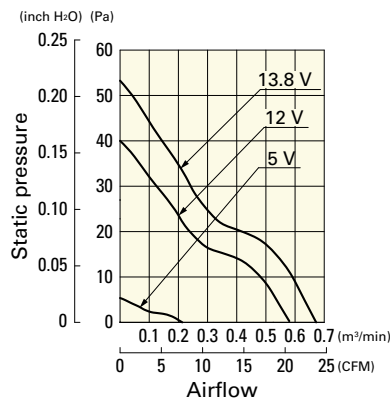
**9S0612S401** With pulse sensor

Operating voltage range



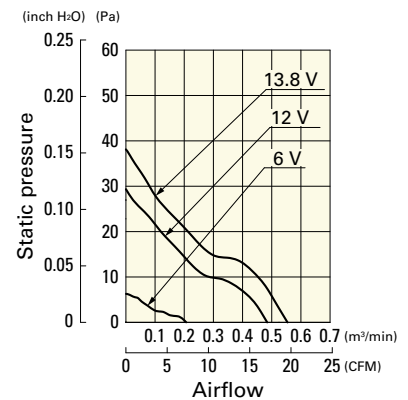
**9S0612H401** With pulse sensor

Operating voltage range



**9S0612F401** With pulse sensor

Operating voltage range

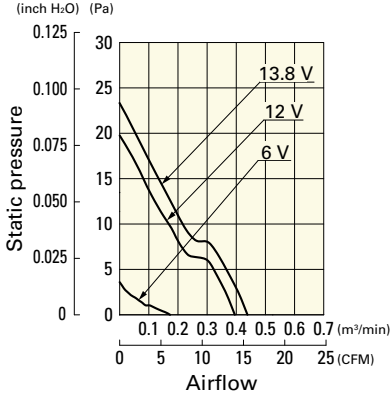




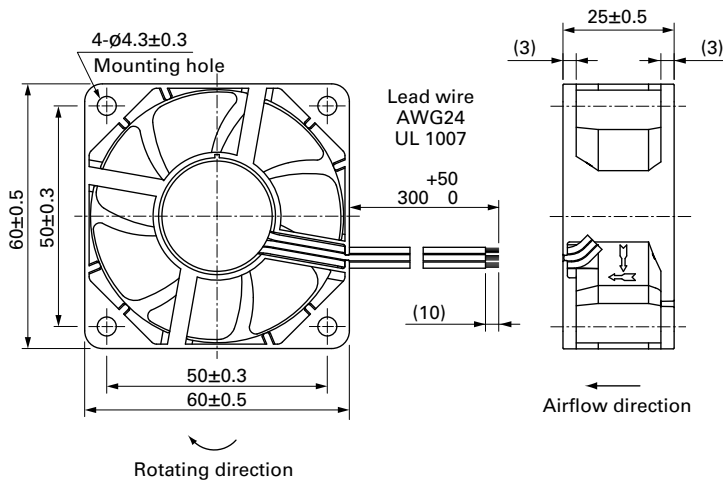
## Airflow - Static Pressure Characteristics

**9S0612M401** With pulse sensor

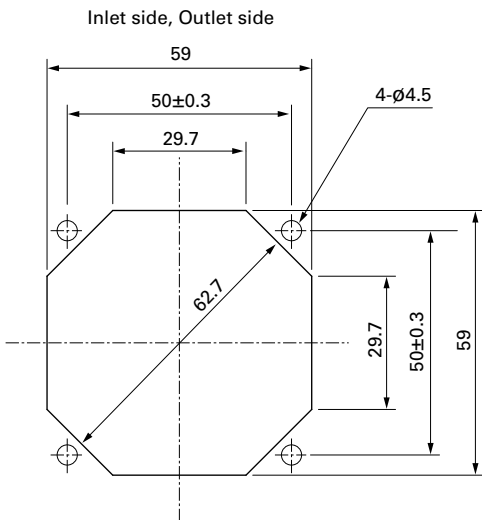
Operating voltage range



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



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



## Options

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1003G

Resin filter kits

page: p. 592

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

DC Fan

# 60x60x25 mm

San Cooler 60 9A 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue Sensor Yellow
- Mass ..... 80 g

## Specifications

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

Model no.	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]
▶▶ 9A0612G401	12	6 to 13.2	0.24	2.88	5600	0.78 27.6	87.3 0.351	39	-20 to +60	30000/60°C (53000/40°C)
▶▶ 9A0612S401			0.17	2.04	4600	0.65 23.0	56.8 0.228	33		
▶▶ 9A0612H401		6 to 13.8	0.11	1.32	3800	0.53 18.7	40.2 0.161	28	-20 to +70	40000/60°C (70000/40°C)
▶▶ 9A0612F401			0.09	1.08	3200	0.44 15.5	29.4 0.118	24		
▶▶ 9A0612M401			0.06	0.72	2600	0.36 12.7	19.6 0.079	20		
▶▶ 9A0624G401	24	12 to 27.6	0.13	3.12	5600	0.78 27.6	87.3 0.351	39	-20 to +60	30000/60°C (53000/40°C)
▶▶ 9A0624S401			0.08	1.92	4600	0.65 23.0	56.8 0.228	33		
▶▶ 9A0624H401		6 to 13.8	0.06	1.44	3800	0.53 18.7	40.2 0.161	28	-20 to +70	40000/60°C (70000/40°C)
▶▶ 9A0624F401			0.05	1.2	3200	0.44 15.5	29.4 0.118	24		
▶▶ 9A0624M401			0.04	0.96	2600	0.36 12.7	19.6 0.079	20		

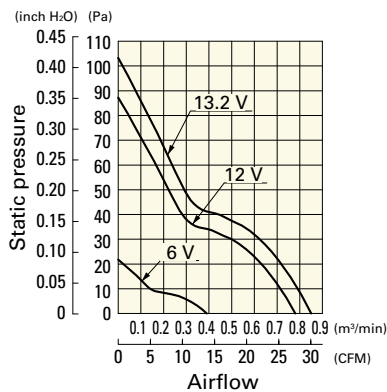
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 623 to 624.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

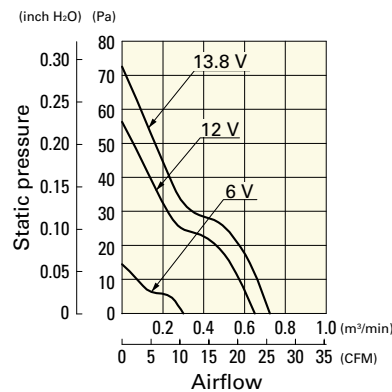
**9A0612G401** With pulse sensor

Operating voltage range



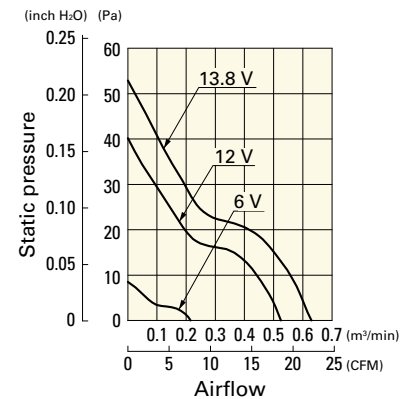
**9A0612S401** With pulse sensor

Operating voltage range



**9A0612H401** With pulse sensor

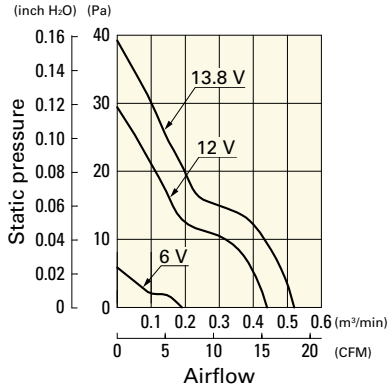
Operating voltage range



## Airflow - Static Pressure Characteristics

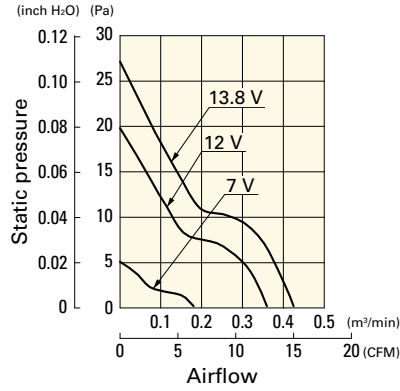
**9A0612F401** With pulse sensor

Operating voltage range



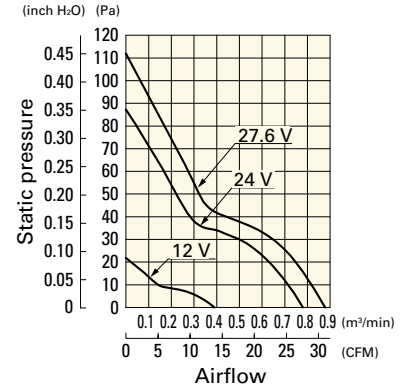
**9A0612M401** With pulse sensor

Operating voltage range



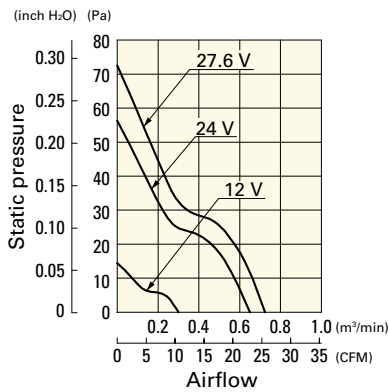
**9A0624G401** With pulse sensor

Operating voltage range



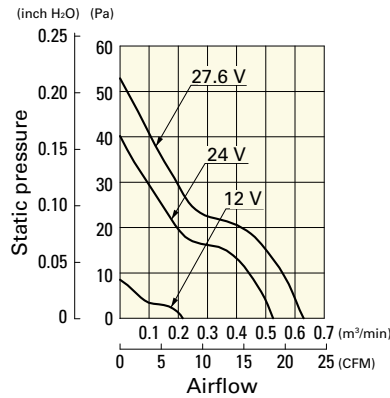
**9A0624S401** With pulse sensor

Operating voltage range



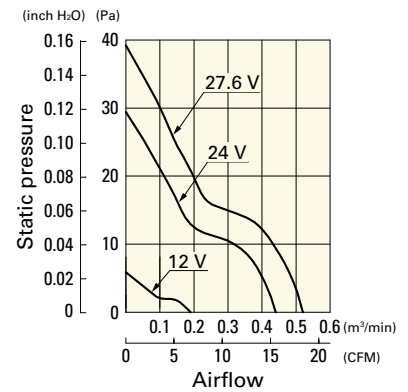
**9A0624H401** With pulse sensor

Operating voltage range



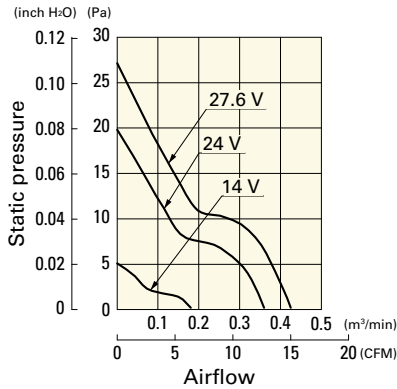
**9A0624F401** With pulse sensor

Operating voltage range

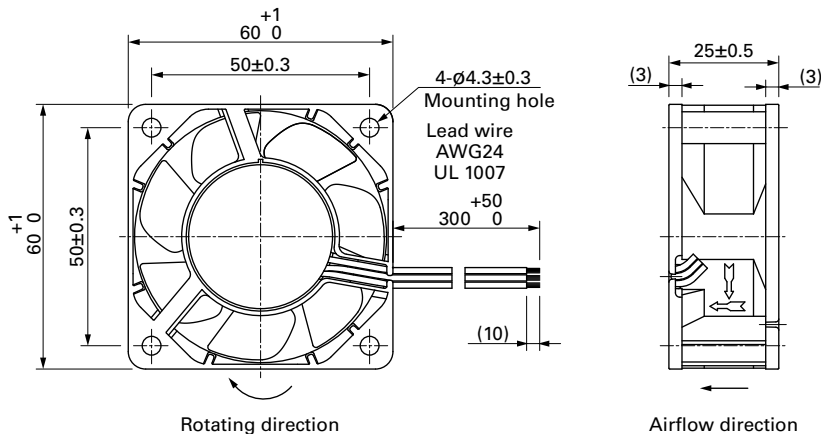


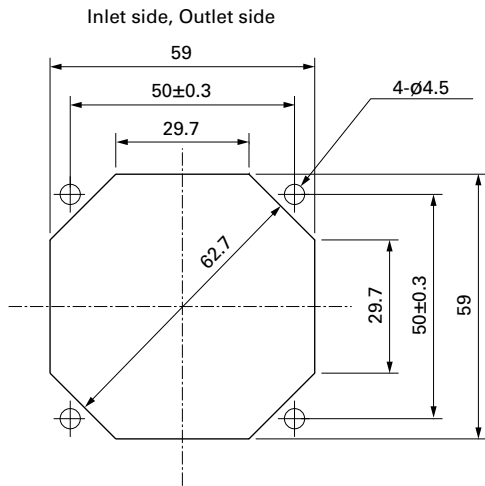
**9A0624M401** With pulse sensor

Operating voltage range



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



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

page: p. 584

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

**Resin finger guards**

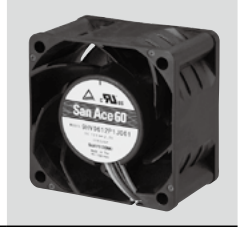
page: p. 591

Model no.: 109-1003G

**Resin filter kits**

page: p. 592

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



# 60x60x38 mm

San Ace 60 9HV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 135 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9HV0612P1J001	12	10.8 to 12.6	100	2.7	32.4	21700	1.88 66.4	1750 7.0	68	-20 to +70	40000/60°C (70000/40°C)
			20	0.17	2.04	5300	0.43 15.2	102 0.41	34		

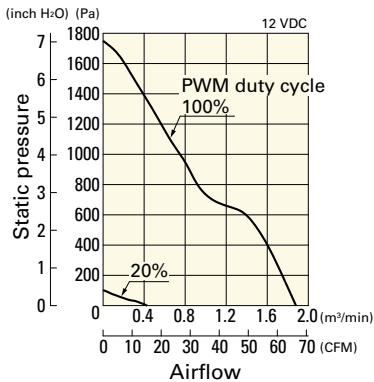
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

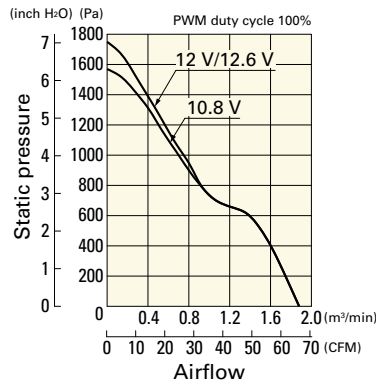
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0612P1J001 With pulse sensor with PWM control function

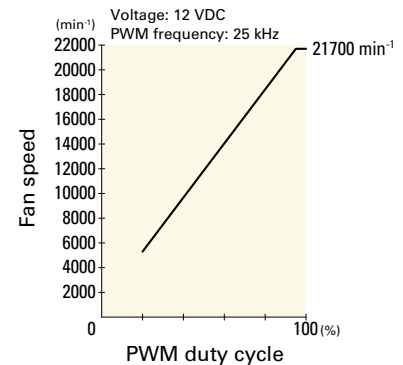
PWM duty cycle



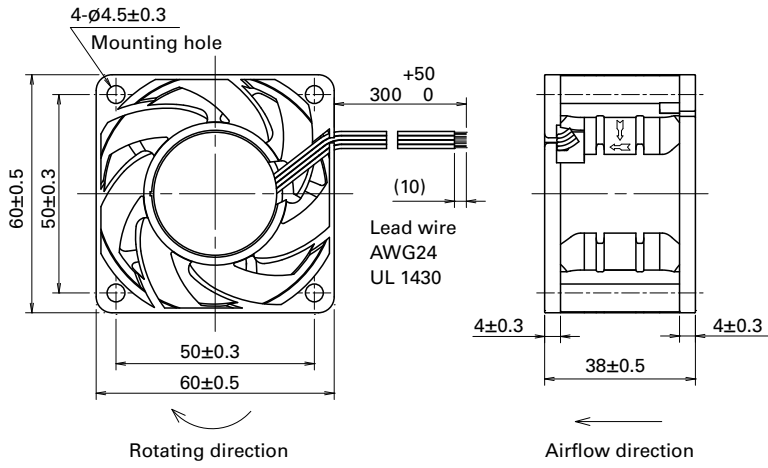
Operating voltage range



PWM duty - Speed characteristics example

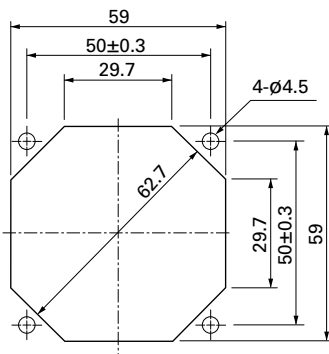


**Dimensions (unit: mm) (With ribs)**



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

Inlet side, Outlet side



**Options**

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1003G

Resin filter kits

page: p. 592

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



# 60×60×38 mm

**San Ace 60 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 130 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]	
▶▶ 9GA0612P1J03	12	10.8 to 12.6	100	1.5	18.0	17500	1.75 62	820 3.3	63	-20 to +60	40000/60°C (70000/40°C)	
			20	0.1	1.2	4000	0.4 14	43 0.17	24			
▶▶ 9GA0612P1K03		10.8 to 13.2	100	0.95	11.4	14800	1.5 53	600 2.4	59	-20 to +70		
			20	0.1	1.2	4000	0.4 14	43 0.17	24			
▶▶ 9GA0612P1K60		10.8 to 13.2	100	0.95	11.4	14800	1.5 53	675 2.7	59	-20 to +60		
			0	0.05	0.6	1480	0.134 4.7	8.3 0.03	16			
▶▶ 9GA0612P1H03		10.8 to 13.2	100	0.55	6.6	11500	1.15 40	375 1.5	52	-20 to +70		
			20	0.06	0.72	2600	0.27 9.5	20 0.08	19			
▶▶ 9GA0624P1J03		24	21.6 to 25.2	100	0.75	18.0	17500	1.75 62	820 3.3	63		-20 to +60
				20	0.1	2.4	6200	0.63 22	104 0.42	35		
▶▶ 9GA0624P1K03			21.6 to 26.4	100	0.5	12	14800	1.5 53.0	600 2.4	59		-20 to +70
				20	0.06	1.44	5000	0.5 17.7	70 0.28	28		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

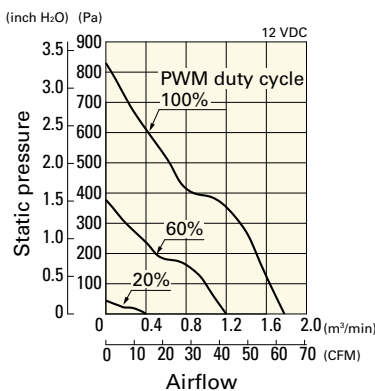
Note 1: Sensor and control options are available for selection. Refer to the table on p. 629.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

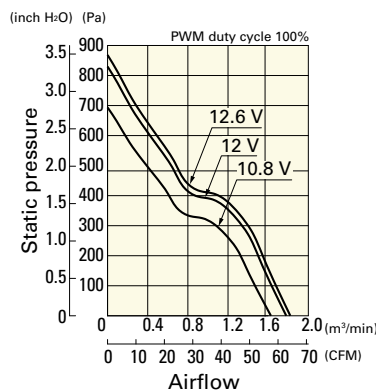
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0612P1J03** With pulse sensor with PWM control function

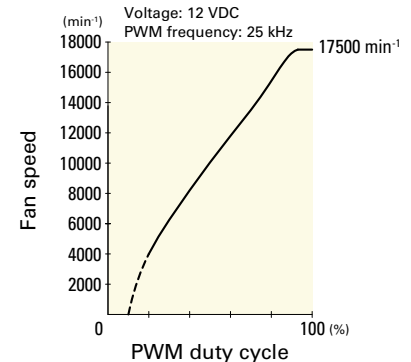
PWM duty cycle



Operating voltage range



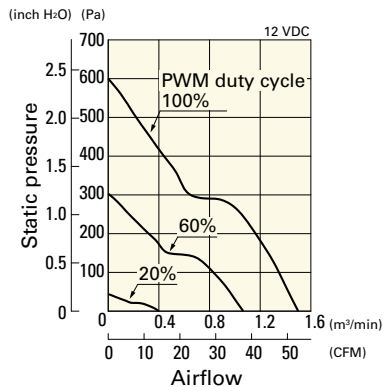
PWM duty - Speed characteristics example



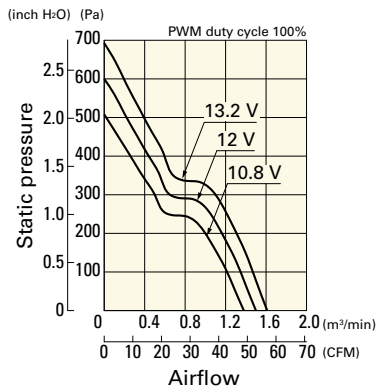
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0612P1K03** With pulse sensor with PWM control function

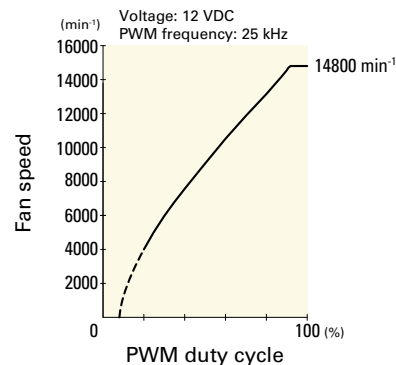
PWM duty cycle



Operating voltage range

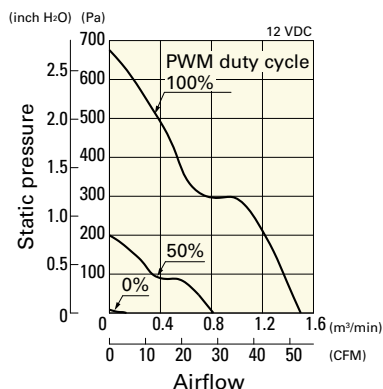


PWM duty - Speed characteristics example

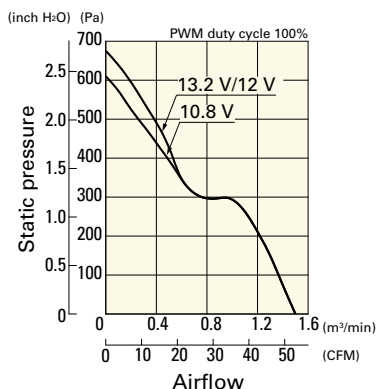


**9GA0612P1K60** With pulse sensor with PWM control function

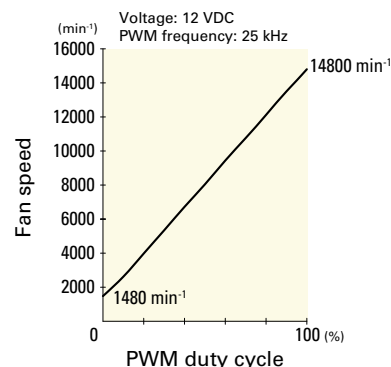
PWM duty cycle



Operating voltage range

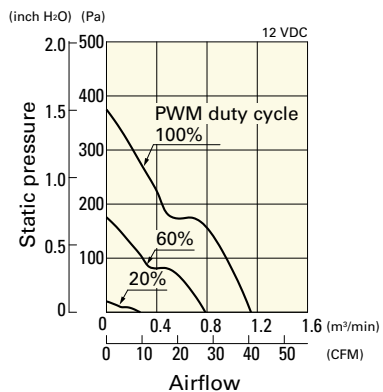


PWM duty - Speed characteristics example

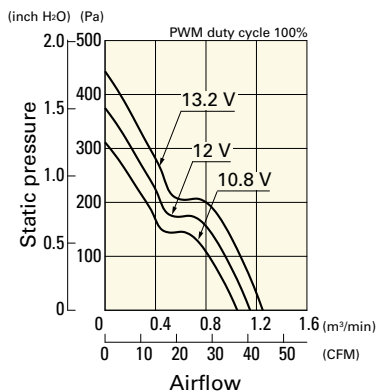


**9GA0612P1H03** With pulse sensor with PWM control function

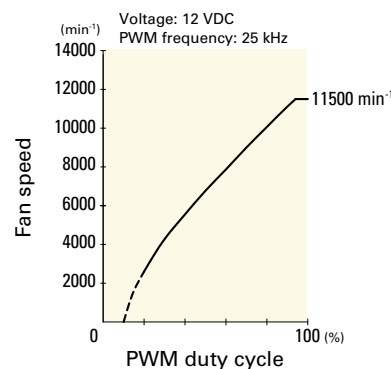
PWM duty cycle



Operating voltage range

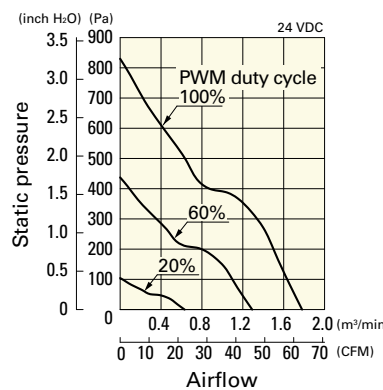


PWM duty - Speed characteristics example

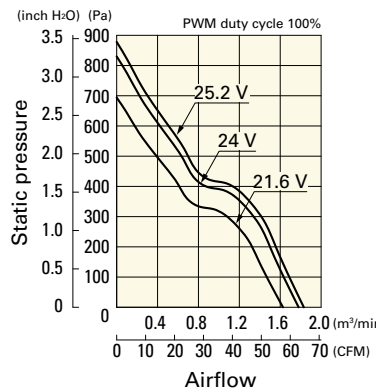


**9GA0624P1J03** With pulse sensor with PWM control function

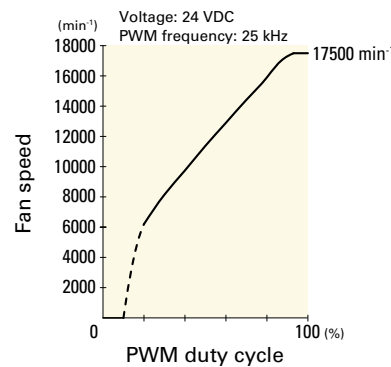
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

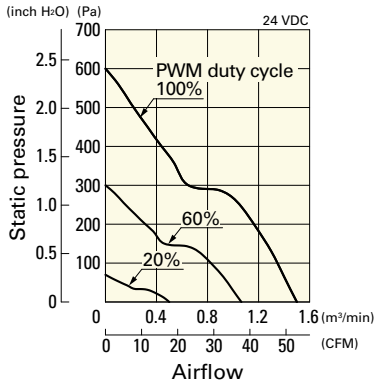




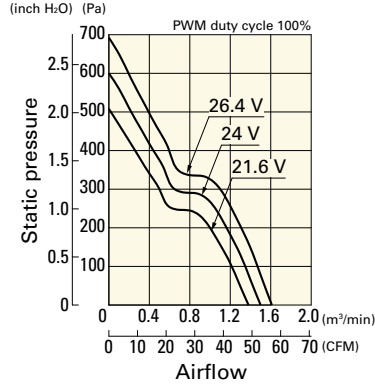
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0624P1K03** With pulse sensor with PWM control function

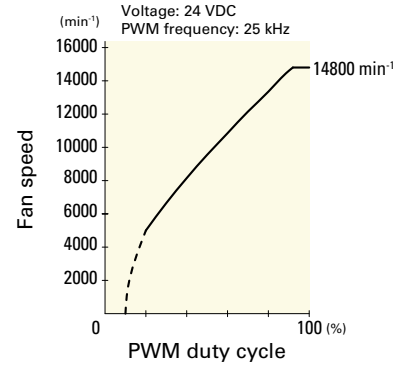
PWM duty cycle



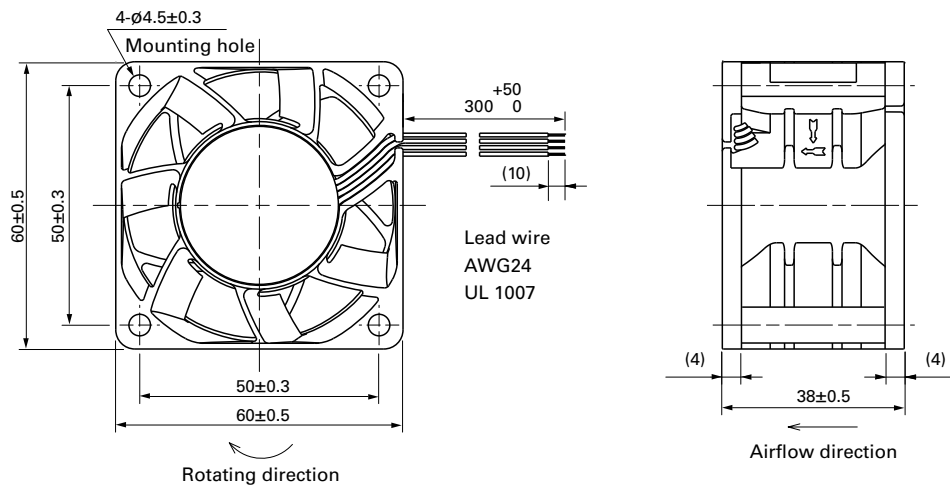
Operating voltage range



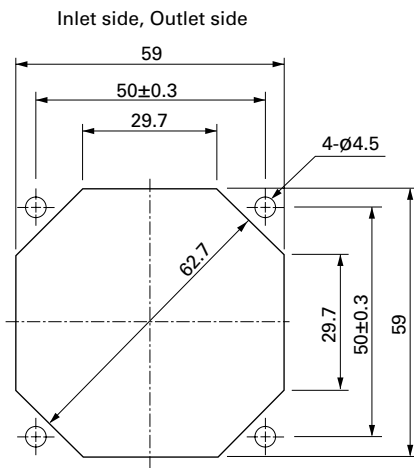
PWM duty - Speed characteristics example



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



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



## Options

### Finger guards

page: p. 584

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

### Resin finger guards

page: p. 591

Model no.: 109-1003G

### Resin filter kits

page: p. 592

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

DC Fan



# 60×60×38 mm

San Ace 60 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 130 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

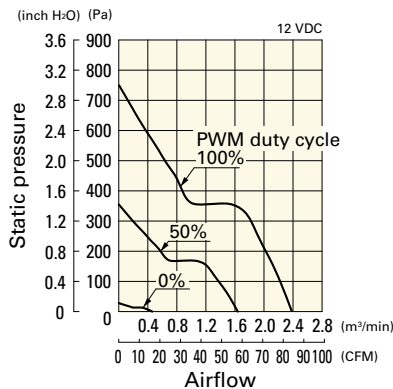
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GV0612P1G03	12	8.0 to 13.8	100	2.8	33.6	16000	2.37 84	751 3.02	66	-20 to +70	40000/60°C (70000/40°C)
			0	0.12	1.5	3100	0.44 15	26 0.10	25		
9GV0624P1G03	24	20.4 to 27.6	100	1.4	33.6	16000	2.37 84	751 3.02	66		
			0	0.12	2.88	6000	0.89 31	105 0.42	38		
9GV0648P1H03	48	38 to 57	100	0.5	24	14500	2.15 76	617 2.48	63		
			0	0.08	3.84	6000	0.89 31	105 0.42	38		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

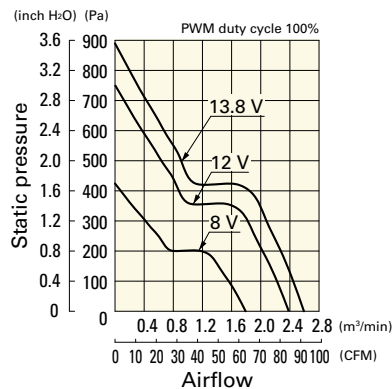
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GV0612P1G03** With pulse sensor with PWM control function

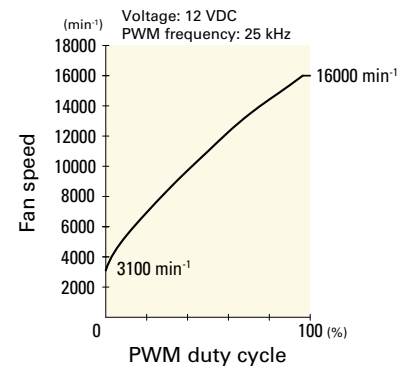
PWM duty cycle



Operating voltage range



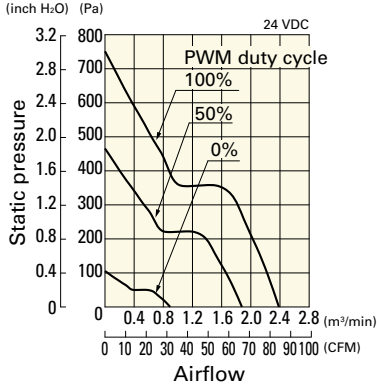
PWM duty - Speed characteristics example



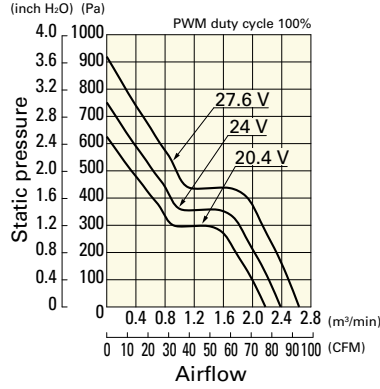
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GV0624P1G03** With pulse sensor with PWM control function

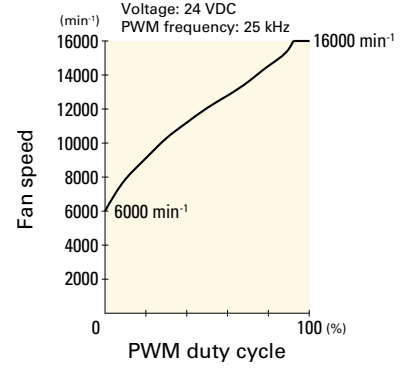
PWM duty cycle



Operating voltage range

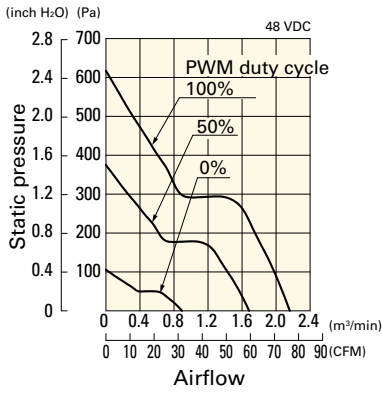


PWM duty - Speed characteristics example

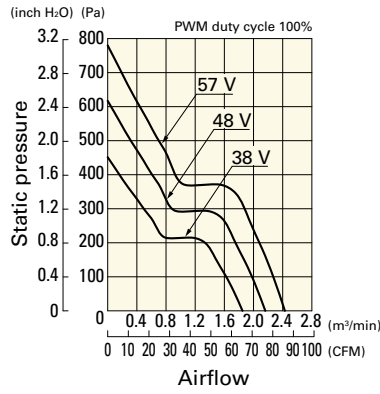


**9GV0648P1H03** With pulse sensor with PWM control function

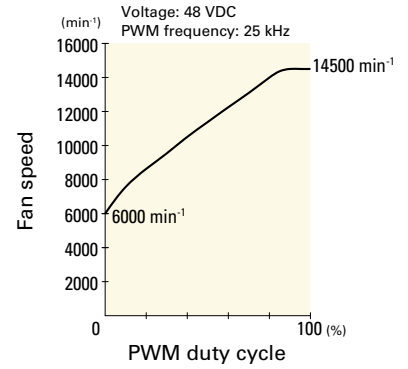
PWM duty cycle



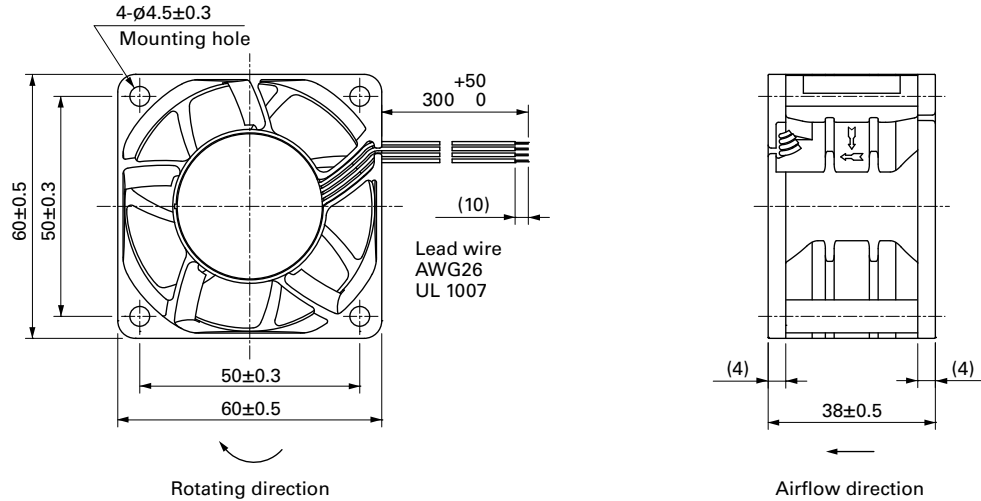
Operating voltage range



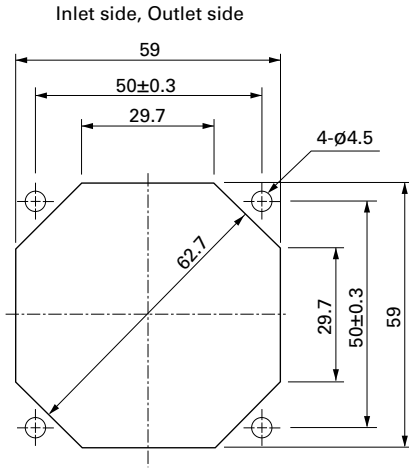
PWM duty - Speed characteristics example



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



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



Options

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1003G

Resin filter kits

page: p. 592

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



# 70x70x38 mm

**San Ace 70 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 170 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9GA0712P1G001	12	10.8 to 13.2	100	2.6	31.2	16500	2.65 93.6	860 3.45	65	-20 to +70	40000/60°C (70000/40°C)
0			0.16	1.92	4400	0.7 24.7	61 0.24	30			
▶▶ 9GA0712P1H001			100	1.1	13.2	12000	1.92 67.8	455 1.83	57		
0			0.07	0.84	2500	0.4 14.1	20 0.08	19			

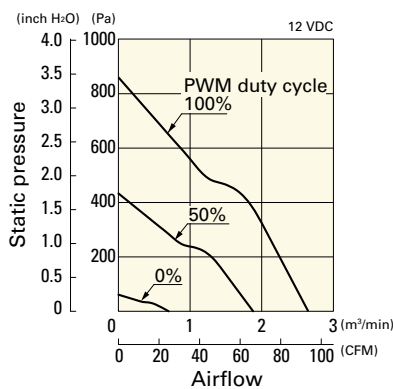
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

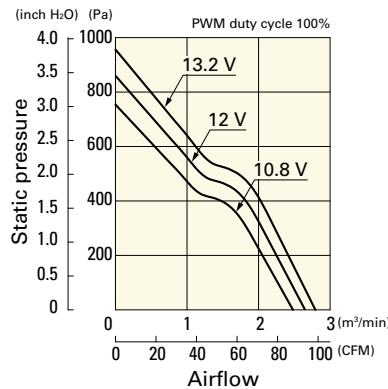
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0712P1G001** With pulse sensor with PWM control function

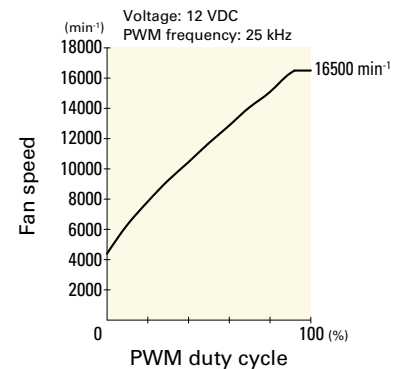
PWM duty cycle



Operating voltage range



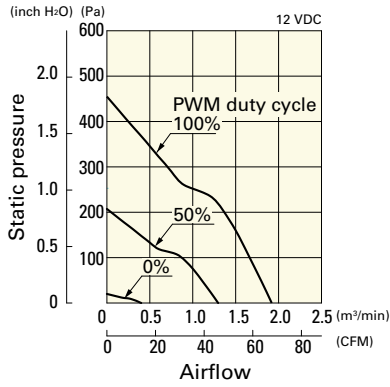
PWM duty - Speed characteristics example



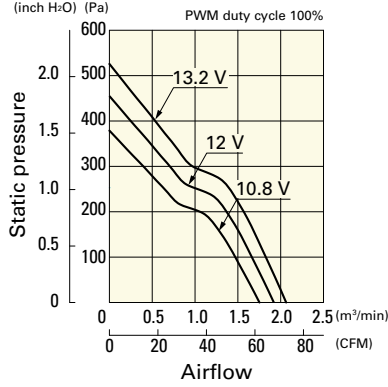
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0712P1H001** With pulse sensor with PWM control function

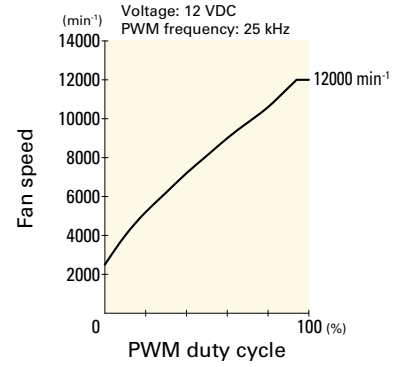
PWM duty cycle



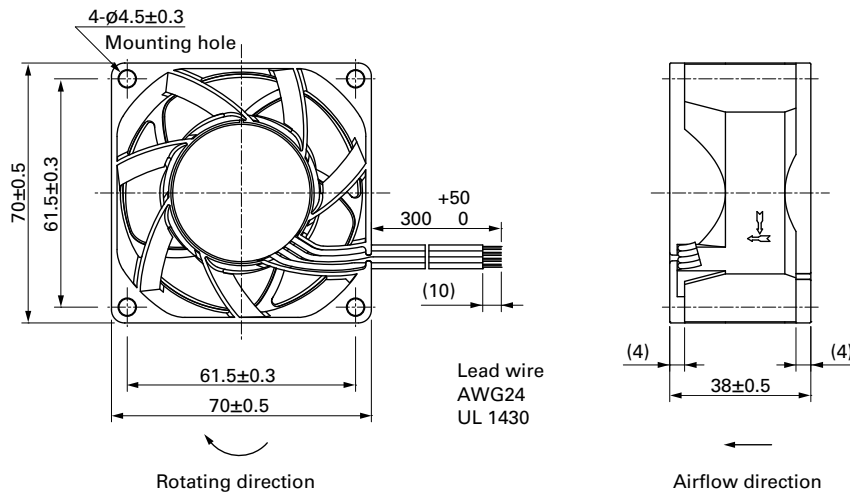
Operating voltage range



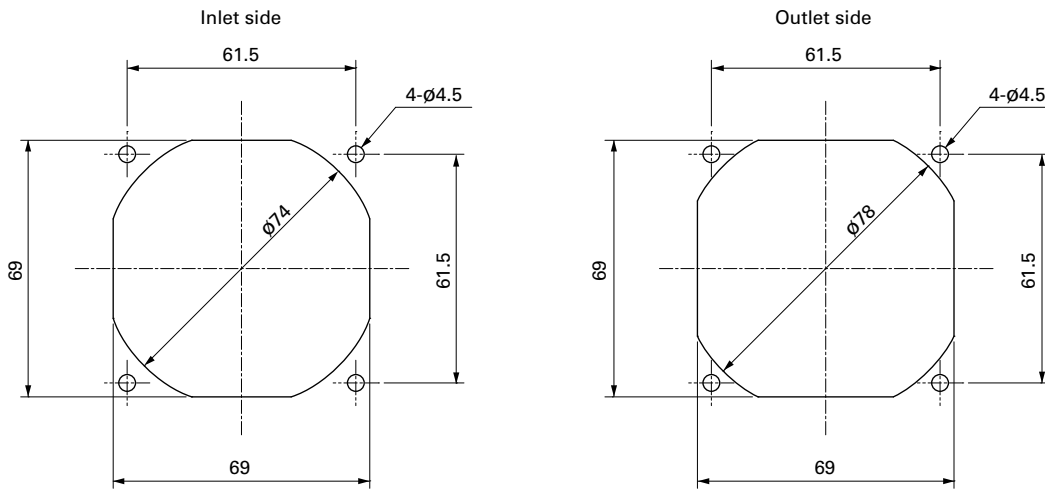
PWM duty - Speed characteristics example



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



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



**Options**

Finger guards

page: p. 584

Model no.: 109-1128

# 80x80x15 mm

**San Ace 80 9GA** type Low Power Consumption Fan 



## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 65 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**


Model no.	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]
9GA0812P7G001	12	10.2 to 13.8	100	0.29	3.48	6100	1.44 50.9	84.0 0.34	41	-20 to +70	40000/60°C (70000/40°C)
9GA0812P7S001			100	0.17	2.04	5000	1.18 41.7	56.4 0.23	37		
9GA0824P7G001	24	20.4 to 27.6	100	0.13	3.12	6100	1.44 50.9	84.0 0.34	41		
9GA0824P7S001			100	0.08	1.92	5000	1.18 41.7	56.4 0.23	37		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

The models listed below **have ribs and pulse sensors.**

Model no.	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]
9GA0812H7001	12	6 to 13.2	0.09	1.08	3800	0.89 31.4	32.6 0.13	29	-20 to +70	40000/60°C (70000/40°C)
9GA0824H7001	24	12 to 26.4	0.05	1.2	3800	0.89 31.4	32.6 0.13	29		

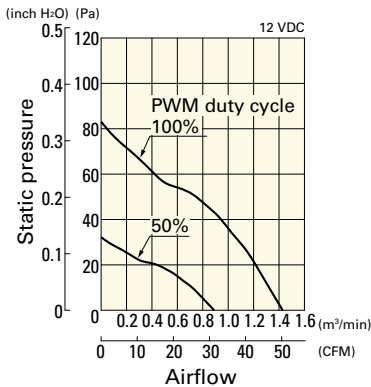
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 629 to 630.

Note 2: The  mark indicates Short LeadTime Service applicable models. See p. 654 for details.

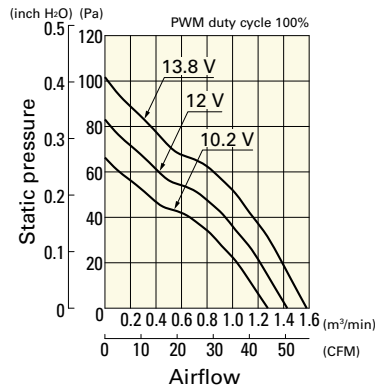
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0812P7G001** With pulse sensor with PWM control function

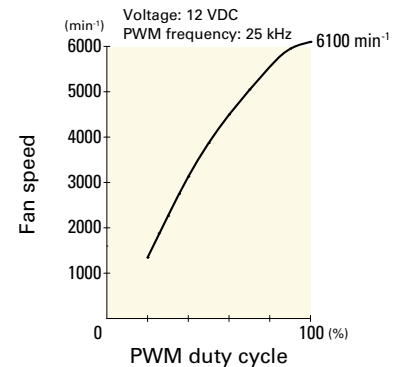
PWM duty cycle



Operating voltage range



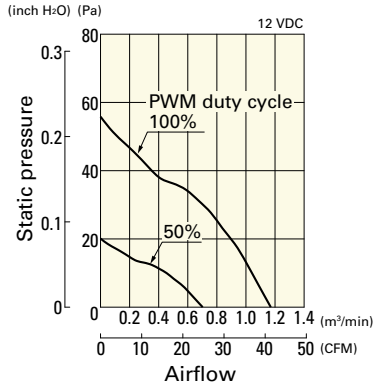
PWM duty - Speed characteristics example



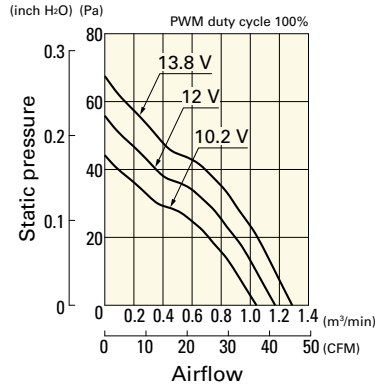
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0812P7S001** With pulse sensor with PWM control function

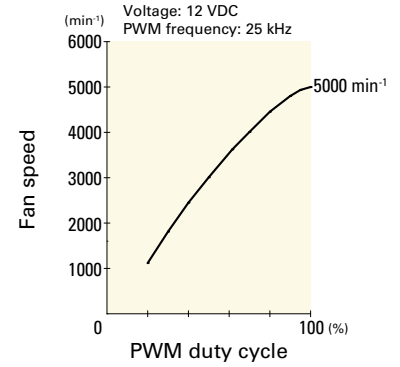
PWM duty cycle



Operating voltage range

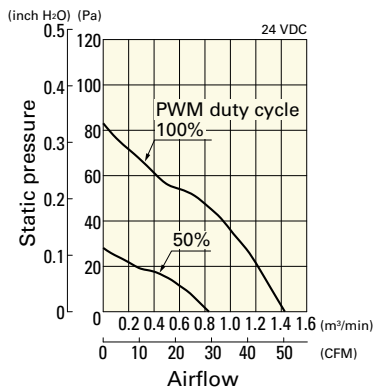


PWM duty - Speed characteristics example

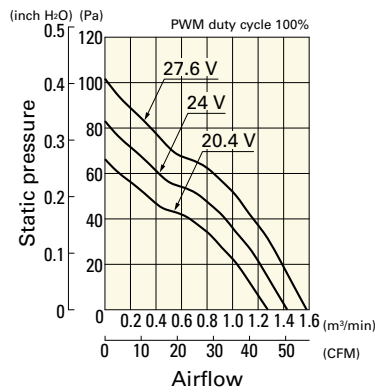


**9GA0824P7G001** With pulse sensor with PWM control function

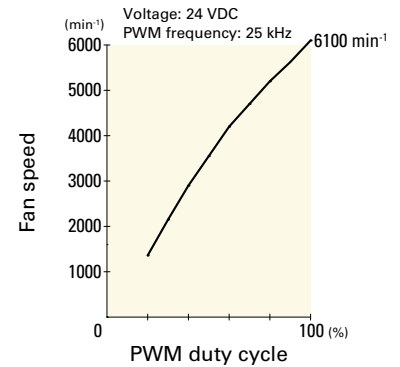
PWM duty cycle



Operating voltage range

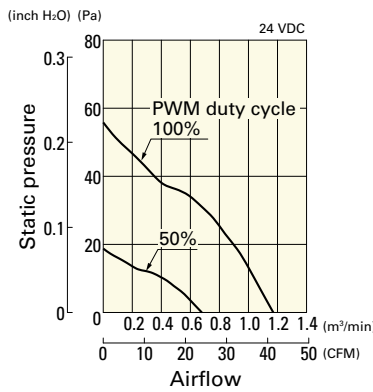


PWM duty - Speed characteristics example

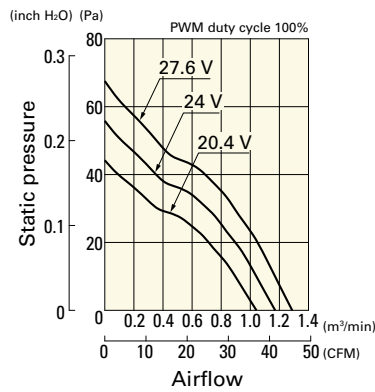


**9GA0824P7S001** With pulse sensor with PWM control function

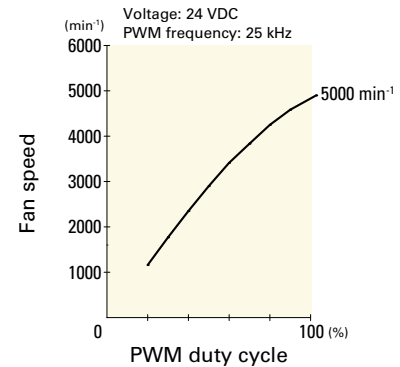
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

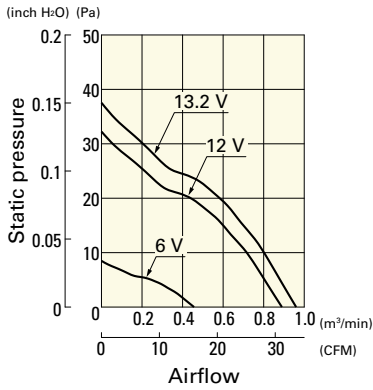




## Airflow - Static Pressure Characteristics

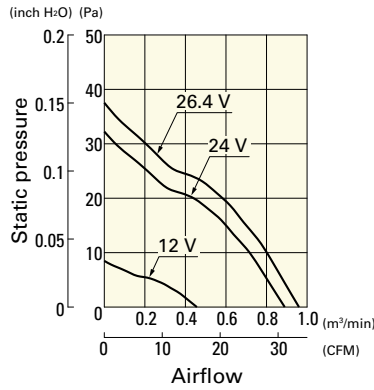
**9GA0812H7001** With pulse sensor

Operating voltage range

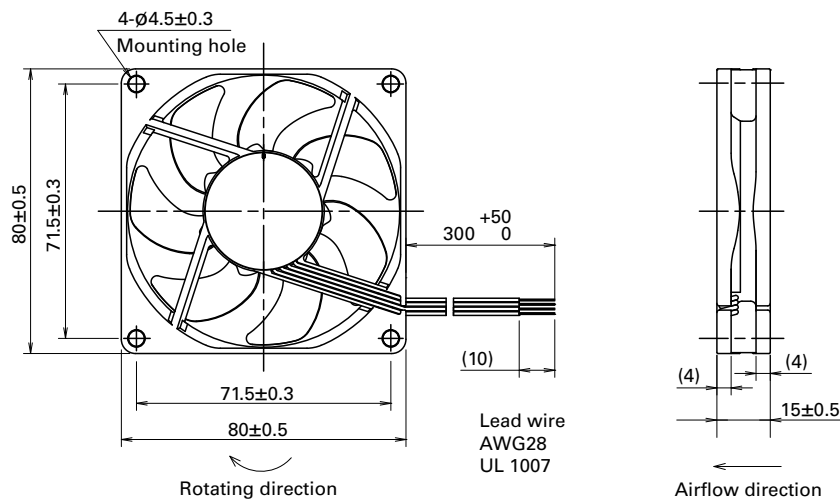


**9GA0824H7001** With pulse sensor

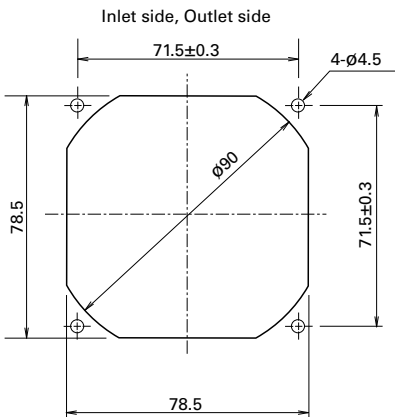
Operating voltage range



## Dimensions (unit: mm) (With pulse sensor with PWM control function)



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



## Options

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1002G

Resin filter kits

page: p. 592

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

# 80x80x15 mm

San Ace 80 9P 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue Sensor Yellow
- Mass ..... 68 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	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]
➤ 109P0812H701	12	7 to 13.8	0.2	2.4	3100	0.91 32.1	29.4 0.118	31	-20 to +70	40000/60°C (70000/40°C)
➤ 109P0812M701			0.09	1.08	2000	0.57 20.1	12.6 0.051	21		60000/60°C (90000/40°C)
➤ 109P0824H701	24	14 to 27.6	0.1	2.4	3100	0.91 32.1	29.4 0.118	31		40000/60°C (70000/40°C)
➤ 109P0824M701			0.05	1.2	2000	0.57 20.1	12.6 0.051	21		60000/60°C (90000/40°C)

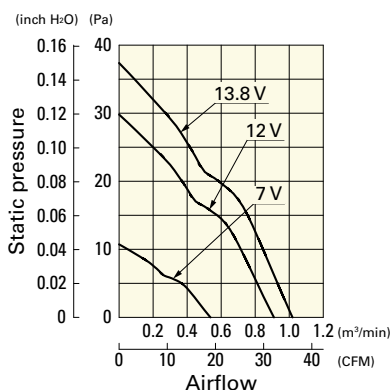
Note 1: Sensor and control options are available for selection. Refer to the table on p. 622.

Note 2: The ➤ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

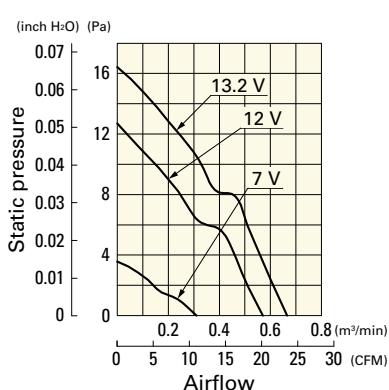
**109P0812H701** With pulse sensor

Operating voltage range



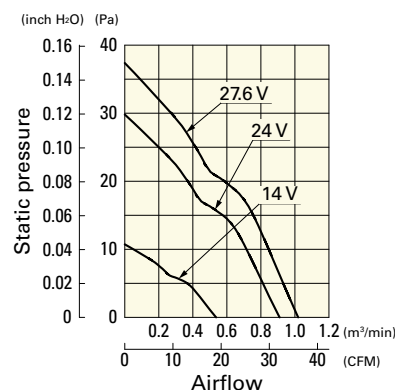
**109P0812M701** With pulse sensor

Operating voltage range



**109P0824H701** With pulse sensor

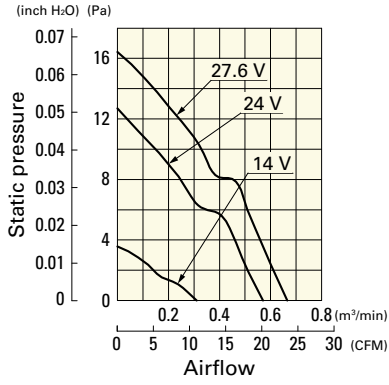
Operating voltage range



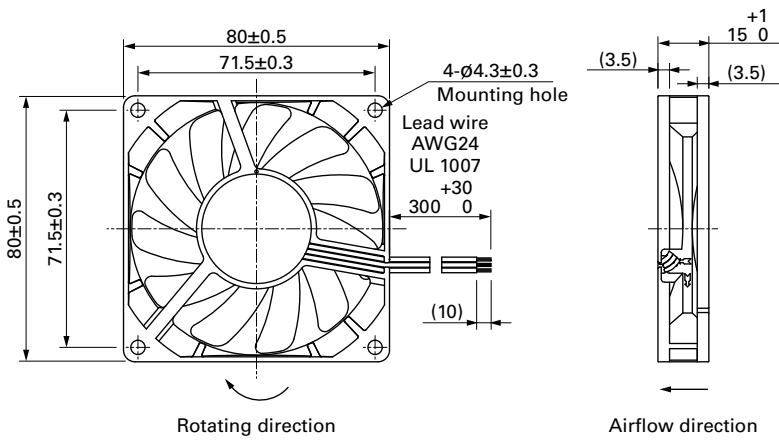
## Airflow - Static Pressure Characteristics

**109P0824M701** With pulse sensor

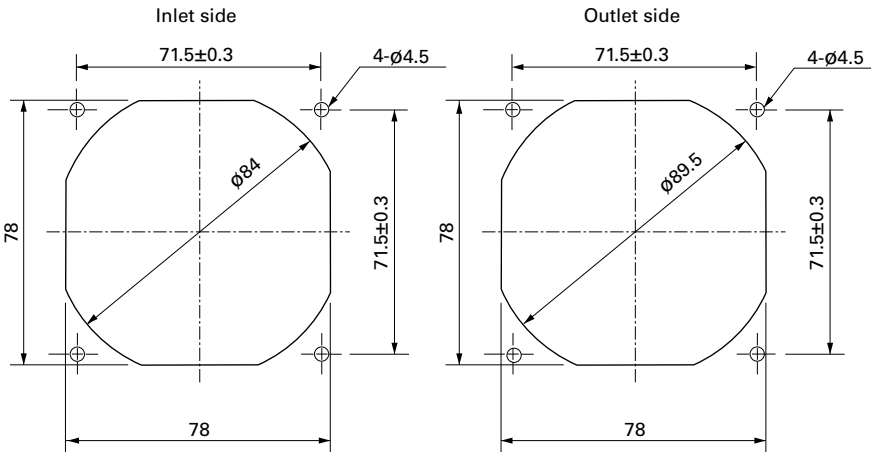
Operating voltage range



## Dimensions (unit: mm)



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



## Options

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1002G

Resin filter kits

page: p. 592

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

DC Fan



# 80x80x20 mm

**San Ace 80 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow Control Brown
- Mass ..... 80 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	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]
☞ 9GA0812P6G001	12	10.2 to 13.8	100	0.3	3.6	5850	1.72 60.78	110 0.44	45	-20 to +70	40000/60°C (70000/40°C)
☞ 9GA0812P6M001			100	0.06	0.72	2900	0.84 29.68	27 0.11	26.5		60000/60°C (90000/40°C)
☞ 9GA0824P6G001	24	20.4 to 27.6	100	0.15	3.6	5850	1.72 60.78	110 0.44	45		40000/60°C (70000/40°C)
☞ 9GA0824P6M001			100	0.03	0.72	2900	0.84 29.68	27 0.11	26.5		60000/60°C (90000/40°C)

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

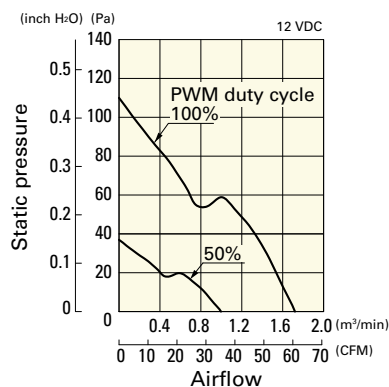
Note 1: Sensor and control options are available for selection. Refer to the table on p. 630.

Note 2: The ☞ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

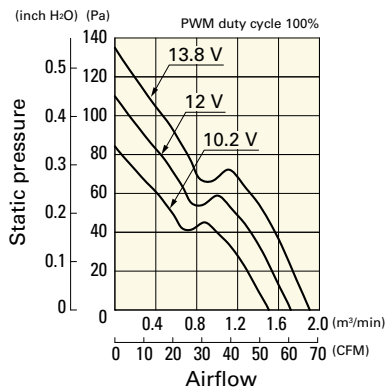
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0812P6G001** With pulse sensor with PWM control function

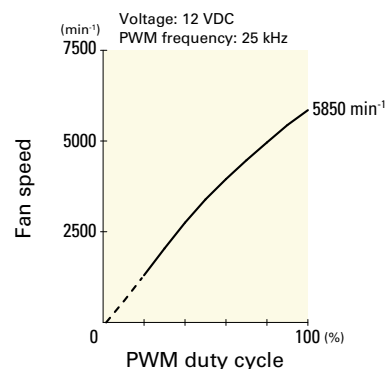
PWM duty cycle



Operating voltage range



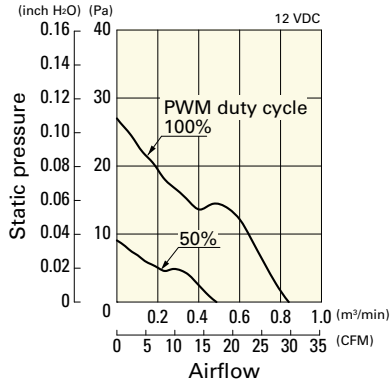
PWM duty - Speed characteristics example



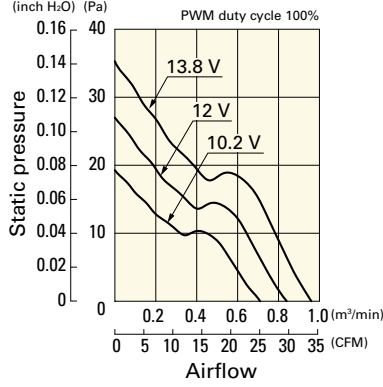
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0812P6M001** With pulse sensor with PWM control function

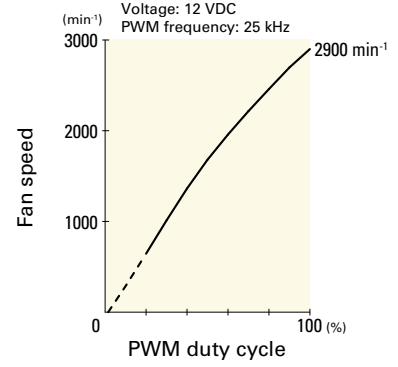
PWM duty cycle



Operating voltage range

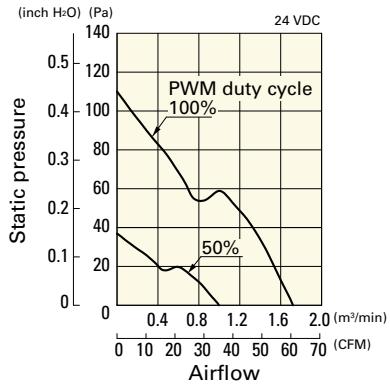


PWM duty - Speed characteristics example

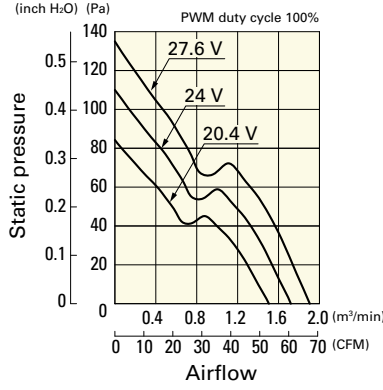


**9GA0824P6G001** With pulse sensor with PWM control function

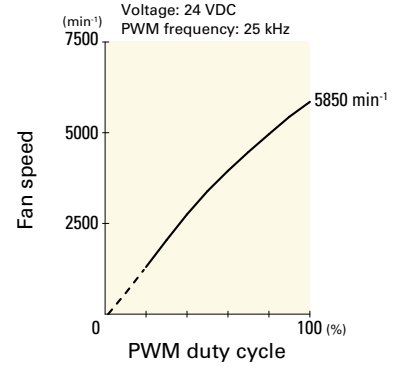
PWM duty cycle



Operating voltage range

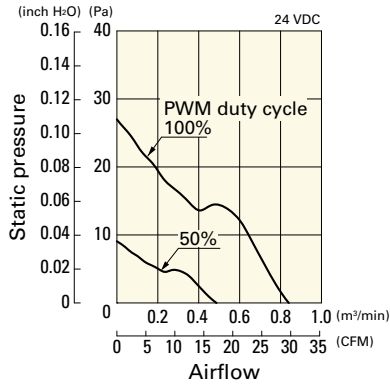


PWM duty - Speed characteristics example

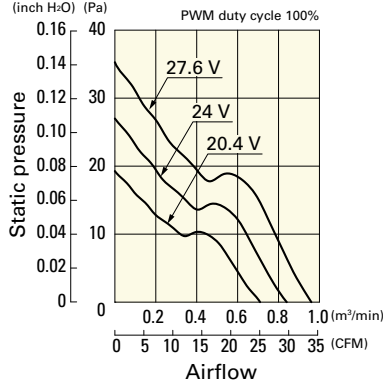


**9GA0824P6M001** With pulse sensor with PWM control function

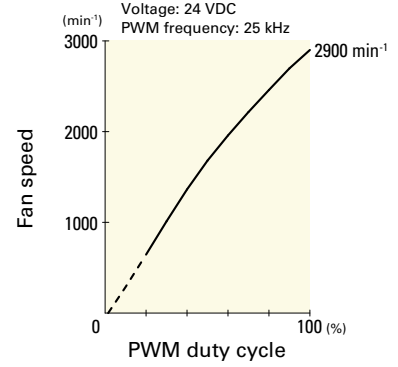
PWM duty cycle



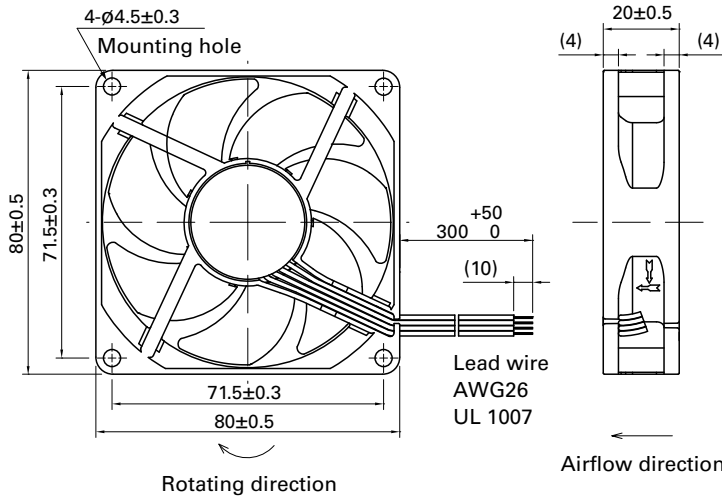
Operating voltage range



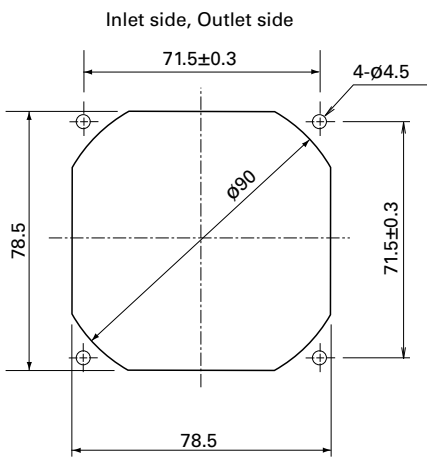
PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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



**Options**

Finger guards page: p. 584  
 Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591  
 Model no.: 109-1002G

Resin filter kits page: p. 592  
 Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),  
 109-1002F30 (30PPI), 109-1002F40 (40PPI)

# 80x80x20 mm

San Ace 80 9P<sub>type</sub>   



## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor  Yellow
- Mass ..... 100 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	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]
109P0812C601	12	10.2 to 13.8	0.29	3.48	3700	1.07 37.8	46 0.185	39	-20 to +60	60000/60°C (90000/40°C)
109P0812H601			0.21	2.52	2900	0.84 29.7	29.4 0.118	31		
109P0812M601			0.13	1.56	2300	0.67 23.7	18.6 0.075	25		
109P0824H601	24	20.4 to 27.6	0.12	2.88	2900	0.84 29.7	29.4 0.118	31		
109P0824M601			0.07	1.68	2300	0.67 23.7	18.6 0.075	25		
109P0848C601	48	38 to 57.6	0.08	3.84	3700	1.07 37.8	46 0.185	39		
109P0848H601			0.05	2.4	2900	0.84 29.7	29.4 0.118	31		

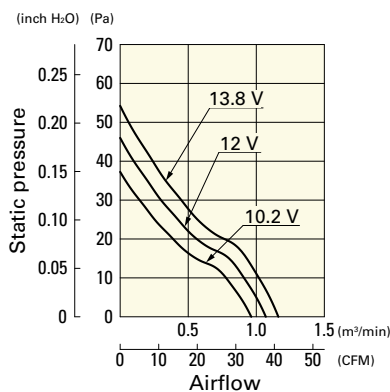
Note 1: Sensor and control options are available for selection. Refer to the table on p. 622.

Note 2: The  mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

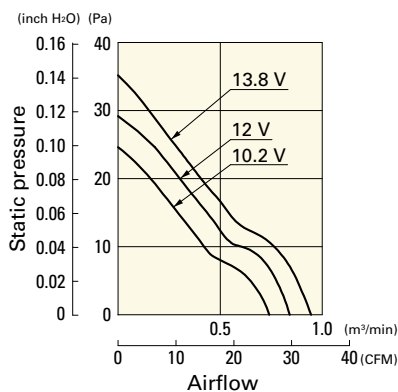
**109P0812C601** With pulse sensor

Operating voltage range



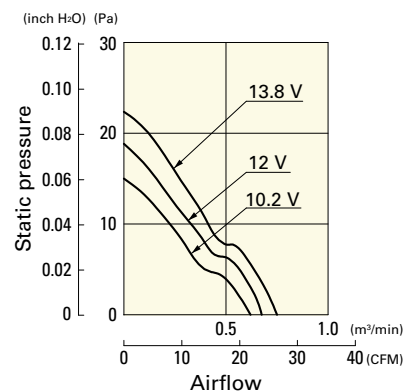
**109P0812H601** With pulse sensor

Operating voltage range



**109P0812M601** With pulse sensor

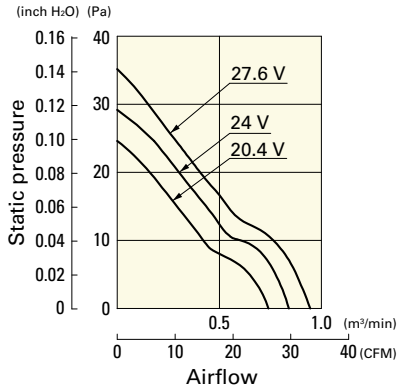
Operating voltage range



## Airflow - Static Pressure Characteristics

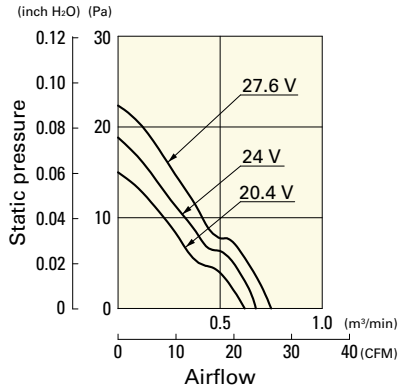
**109P0824H601** With pulse sensor

Operating voltage range



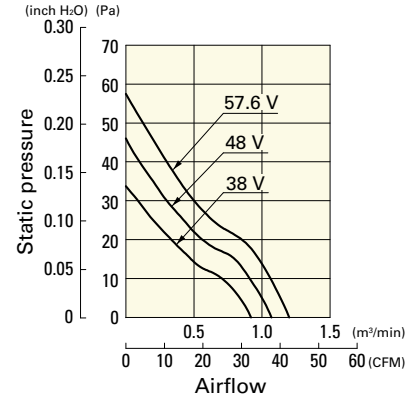
**109P0824M601** With pulse sensor

Operating voltage range



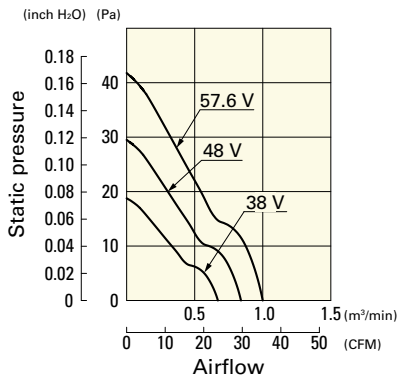
**109P0848C601** With pulse sensor

Operating voltage range

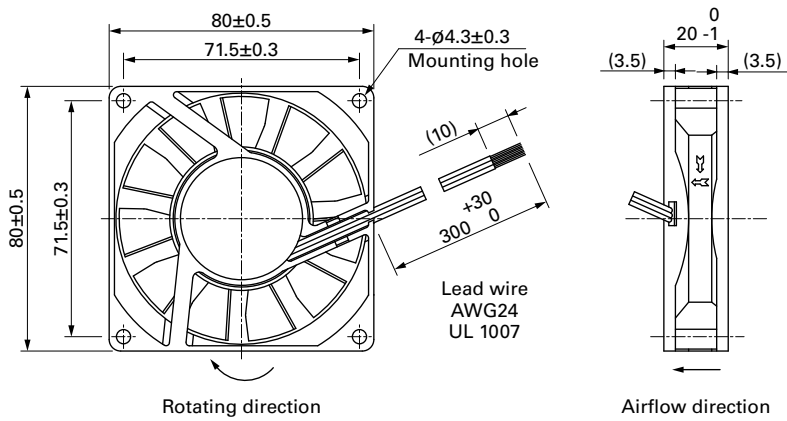


**109P0848H601** With pulse sensor

Operating voltage range

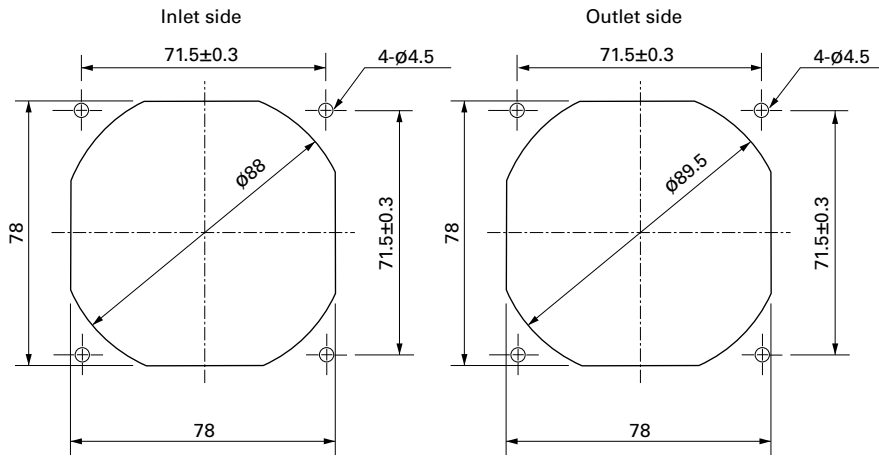


## Dimensions (unit: mm)





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



**Options**

**Finger guards**

page: p. 584

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

**Resin finger guards**

page: p. 591

Model no.: 109-1002G

**Resin filter kits**

page: p. 592

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



# 80x80x25 mm

**San Ace 80 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 110 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9GA0812P4J001	12	10.8 to 13.2	100	0.6	7.2	7400	2.07 73.0	177.6 0.7	48	-20 to +70	40000/60°C (70000/40°C)
▶▶ 9GA0812P4G001			25	0.08	0.96	2500	0.69 24.3	20.2 0.08	21		
▶▶ 9GA0812P4H001			100	0.48	5.76	6800	1.91 67.4	150 0.6	45		
▶▶ 9GA0824P4J001			25	0.06	0.72	1500	0.42 14.8	7.2 0.02	17		
▶▶ 9GA0824P4G001	24	21.6 to 26.4	100	0.22	2.64	5200	1.46 51.5	87.7 0.35	37		
▶▶ 9GA0824P4H001			25	0.06	0.72	1600	0.44 15.5	8.3 0.03	17		
▶▶ 9GA0824P4J001			100	0.28	6.72	7400	2.07 73.0	177.6 0.7	48		
▶▶ 9GA0824P4G001			25	0.06	1.44	2800	0.78 27.5	25.4 0.1	23		
▶▶ 9GA0824P4H001	24	21.6 to 26.4	100	0.21	5.04	6800	1.91 67.4	150 0.6	45		
▶▶ 9GA0824P4G001			25	0.04	0.96	2100	0.58 20.4	14.3 0.05	19		
▶▶ 9GA0824P4H001	24	21.6 to 26.4	100	0.1	2.4	5200	1.46 51.5	87.7 0.35	37		
▶▶ 9GA0824P4G001			25	0.02	0.48	1500	0.42 14.8	7.2 0.02	17		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

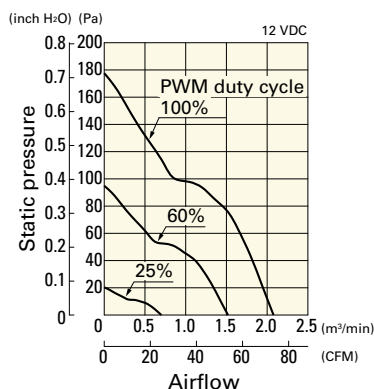
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 629 to 630.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

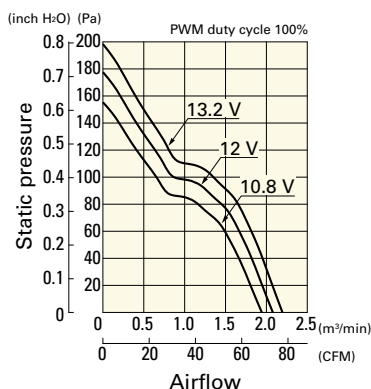
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0812P4J001** With pulse sensor with PWM control function

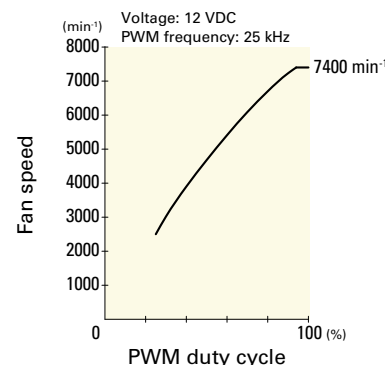
PWM duty cycle



Operating voltage range



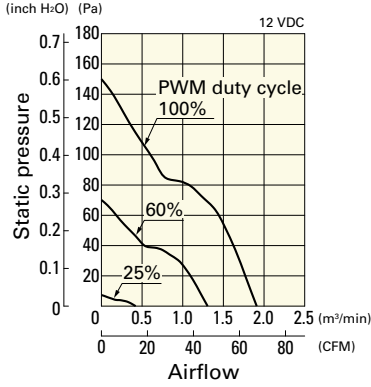
PWM duty - Speed characteristics example



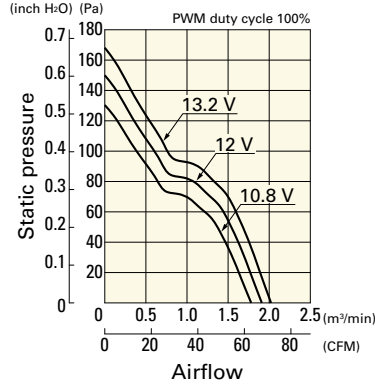
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0812P4G001** With pulse sensor with PWM control function

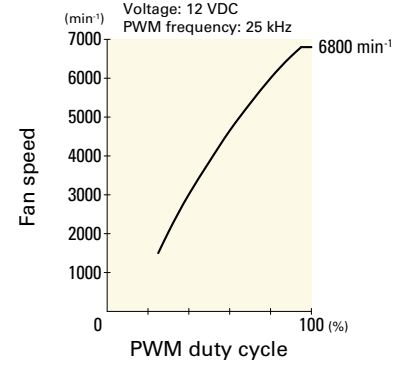
PWM duty cycle



Operating voltage range

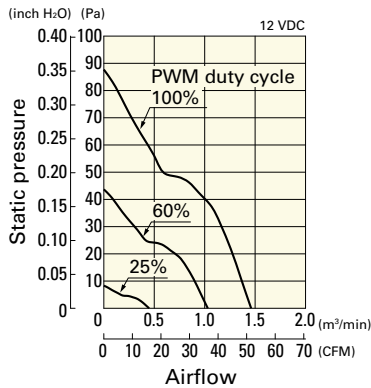


PWM duty - Speed characteristics example

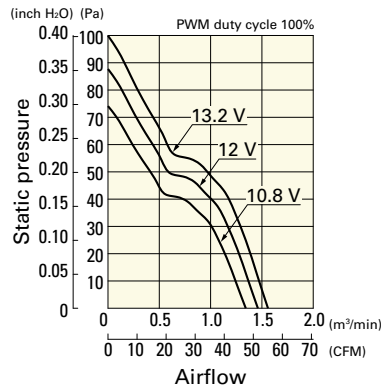


**9GA0812P4H001** With pulse sensor with PWM control function

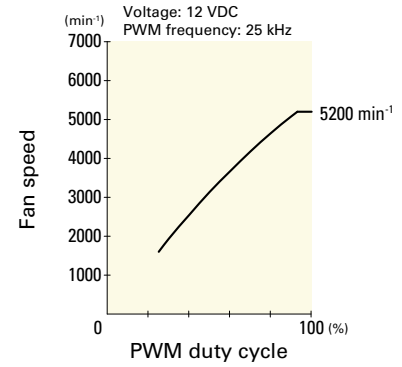
PWM duty cycle



Operating voltage range

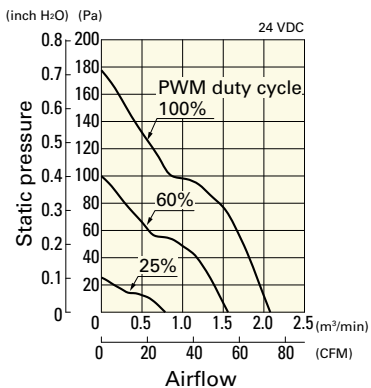


PWM duty - Speed characteristics example

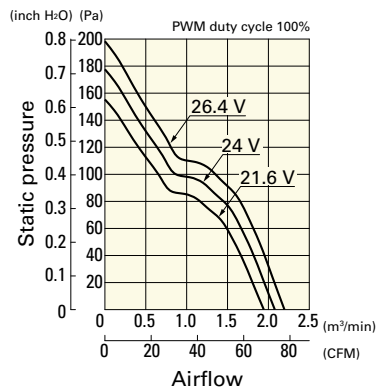


**9GA0824P4J001** With pulse sensor with PWM control function

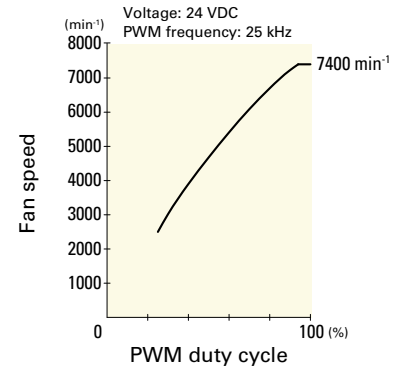
PWM duty cycle



Operating voltage range

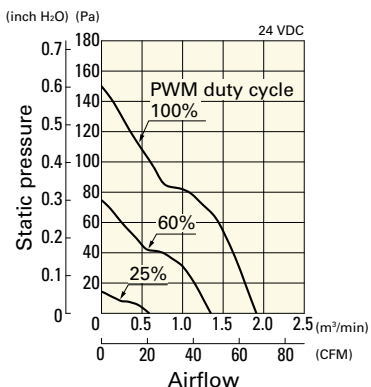


PWM duty - Speed characteristics example

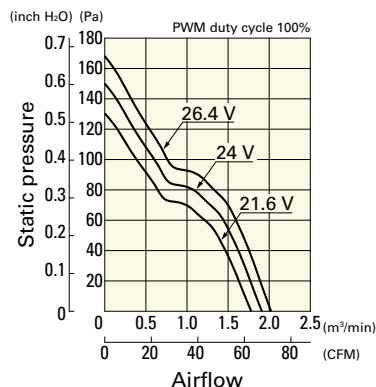


**9GA0824P4G001** With pulse sensor with PWM control function

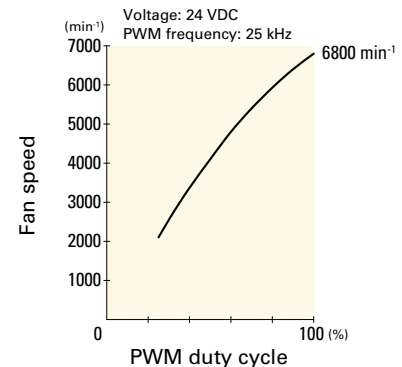
PWM duty cycle



Operating voltage range



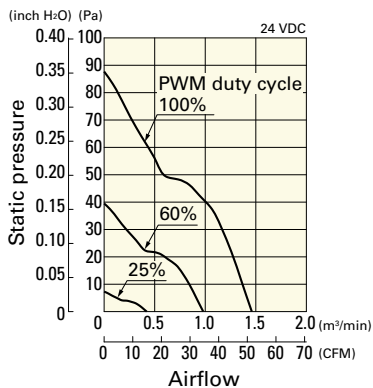
PWM duty - Speed characteristics example



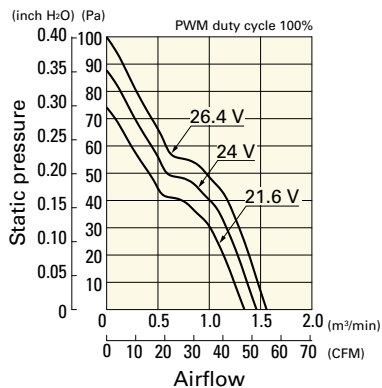
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0824P4H001** With pulse sensor with PWM control function

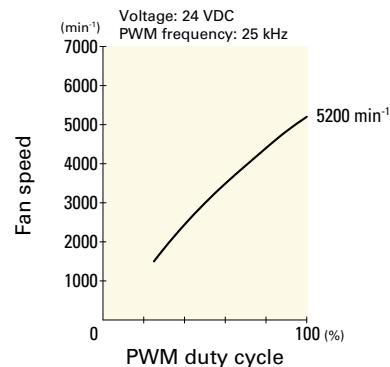
PWM duty cycle



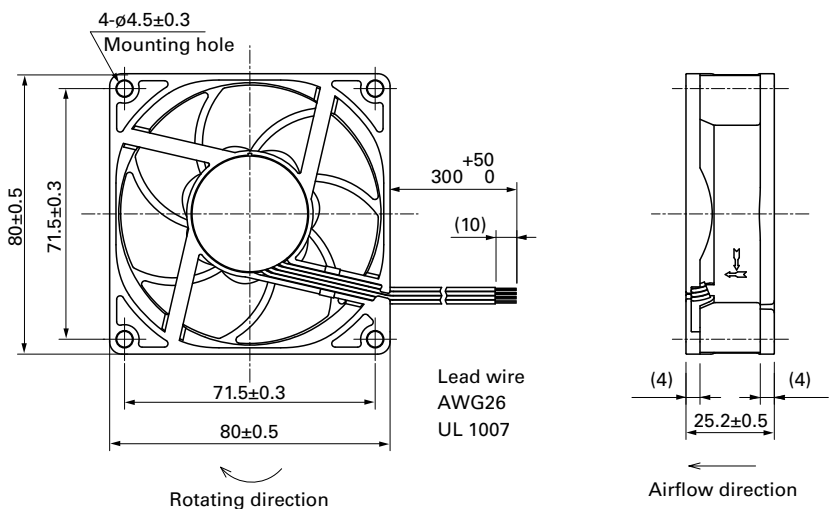
Operating voltage range



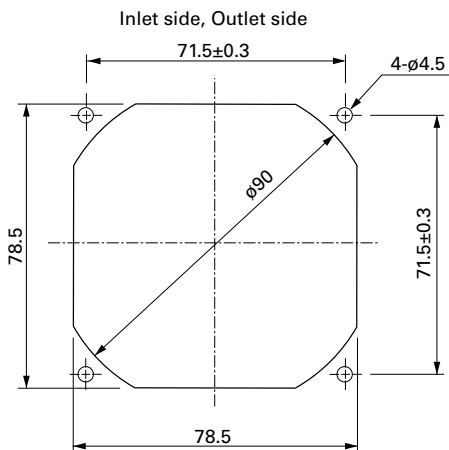
PWM duty - Speed characteristics example



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



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



**Options**

**Finger guards** page: p. 584

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

**Resin finger guards** page: p. 591

Model no.: 109-1002G

**Resin filter kits** page: p. 592

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



# 80x80x25 mm

San Ace 80 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 125 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9GV0848P4K03	48	43 to 53	100	0.22	10.56	5600	2.12 74.8	173.0 0.69	52	-20 to +70	40000/60°C (70000/40°C)
			0	0.04	1.92	1500	0.57 20.1	12.4 0.05	19		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

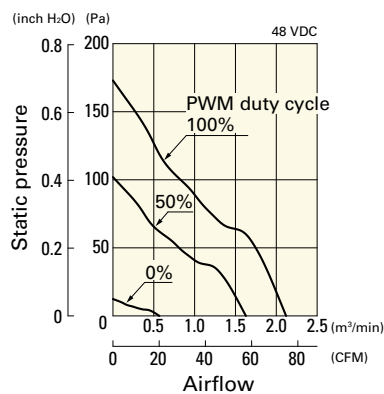
Note 1: Sensor and control options are available for selection. Refer to the table on p. 632.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

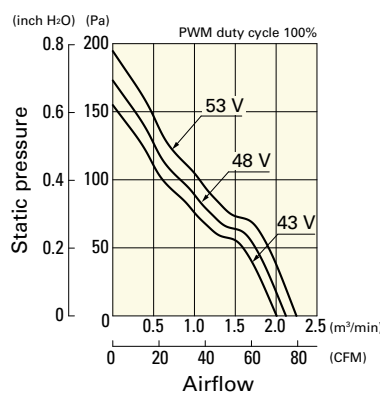
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0848P4K03 With pulse sensor with PWM control function

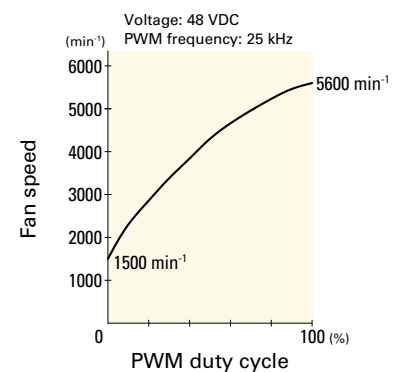
PWM duty cycle



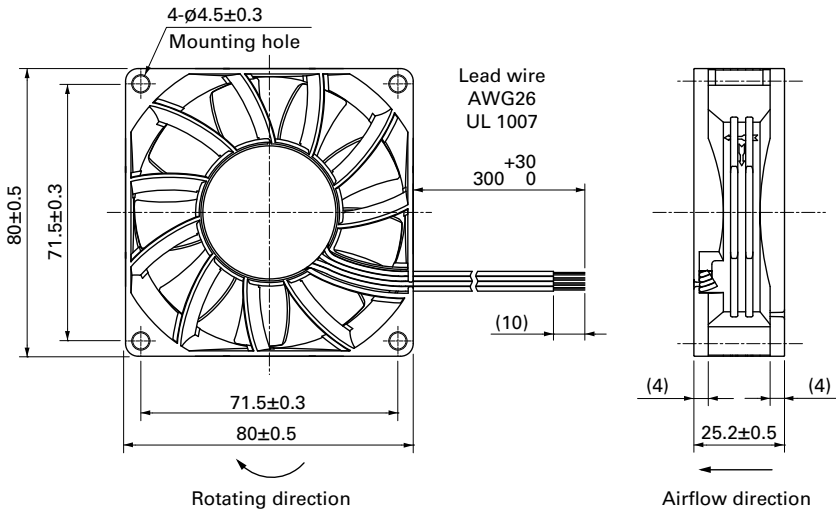
Operating voltage range



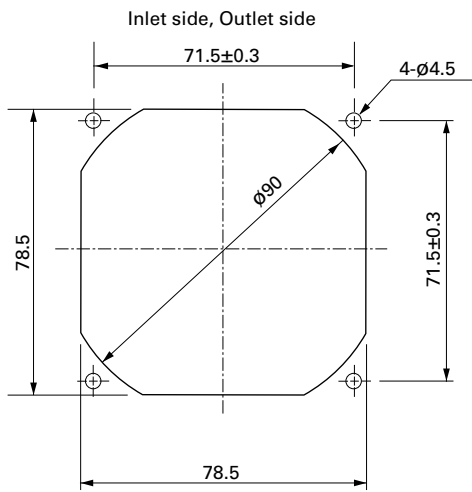
PWM duty - Speed characteristics example



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



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



**Options**

**Finger guards** page: p. 584  
 Model no.: 109-049E, 109-049H, 109-049C

**Resin finger guards** page: p. 591  
 Model no.: 109-1002G

**Resin filter kits** page: p. 592  
 Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),  
 109-1002F30 (30PPI), 109-1002F40 (40PPI)

# 80x80x25 mm

San Ace 80 9R type    Model 109R0812E401 is not certified.



## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 110 g

## Specifications

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

Model no.	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]
▶▶▶ 109R0805F401	5	4.5 to 5.5	0.25	1.25	2600	0.92 32.5	28.4 0.114	26	-20 to +70	60000/60°C (90000/40°C)
▶▶▶ 109R0805M401			0.17	0.85	2350	0.83 29.3	22.5 0.09	23		
▶▶▶ 109R0812G401	12	10.8 to 13.2	0.37	4.44	4500	1.5 53.0	80.4 0.323	40	-20 to +60	40000/60°C (70000/40°C)
▶▶▶ 109R0812E401			0.24	2.88	3700	1.31 46.3	57.8 0.232	35		
▶▶▶ 109R0812S401		6 to 13.8	0.18	2.16	3400	1.2 42.4	48.0 0.193	34	-20 to +70	60000/60°C (90000/40°C)
▶▶▶ 109R0812H401			0.13	1.56	2900	1.03 36.4	35.3 0.142	29		
▶▶▶ 109R0812F401			0.11	1.32	2600	0.92 32.5	28.4 0.114	26		
▶▶▶ 109R0812M401			0.09	1.08	2350	0.83 29.3	22.5 0.09	23		
▶▶▶ 109R0812L401	7 to 13.8	0.06	0.72	1850	0.65 23.0	14.7 0.059	20			
▶▶▶ 109R0824G401	24	20.4 to 26.4	0.2	4.8	4500	1.5 53.0	80.4 0.323	40	-20 to +60	40000/60°C (70000/40°C)
▶▶▶ 109R0824S401			12 to 27.6	0.1	2.4	3400	1.2 42.4	48.0 0.193		
▶▶▶ 109R0824H401		0.07		1.68	2900	1.03 36.4	35.3 0.142	29		
▶▶▶ 109R0824F401		0.06		1.44	2600	0.92 32.5	28.4 0.114	26		
▶▶▶ 109R0824M401		0.05		1.2	2350	0.83 29.3	22.5 0.09	23		
▶▶▶ 109R0824L401		14 to 27.6	0.04	0.96	1850	0.65 23.0	14.7 0.059	20		
▶▶▶ 109R0848K401	48	40.8 to 55.2	0.1	4.8	4600	1.56 55.1	88.4 0.355	41	-20 to +60	40000/60°C (70000/40°C)
▶▶▶ 109R0848S401			0.06	2.88	3400	1.2 42.4	48.0 0.193	34	-20 to +70	60000/60°C (90000/40°C)

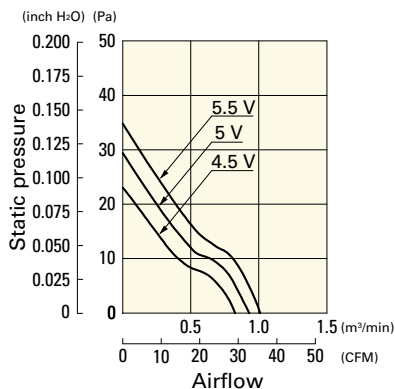
Note 1: Sensor and control options are available for selection. Refer to the table on p. 623.

Note 2: The ▶▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

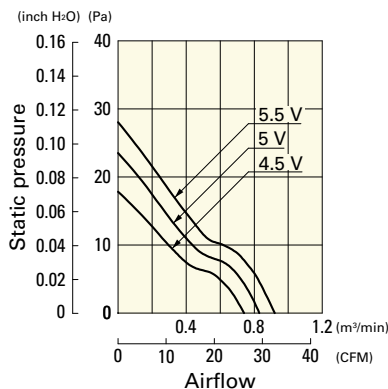
109R0805F401 With pulse sensor

Operating voltage range



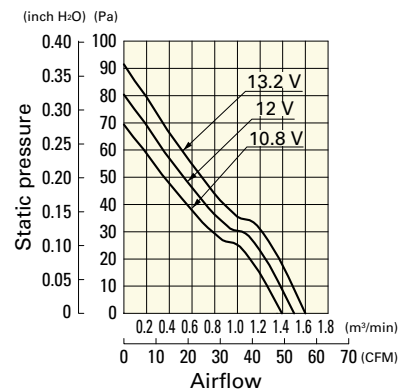
109R0805M401 With pulse sensor

Operating voltage range



109R0812G401 With pulse sensor

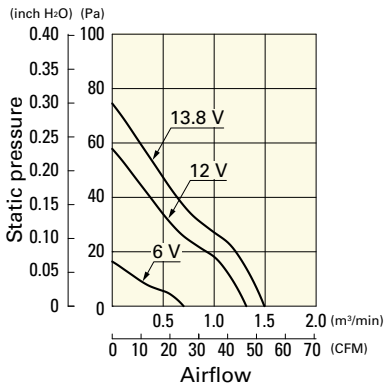
Operating voltage range



**Airflow - Static Pressure Characteristics**

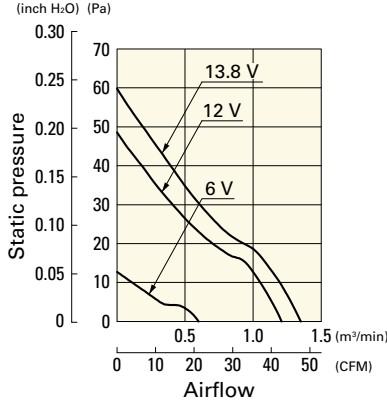
**109R0812E401** With pulse sensor

Operating voltage range



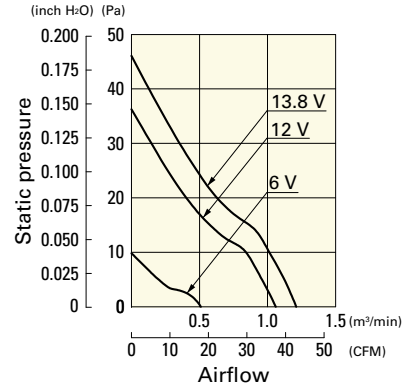
**109R0812S401** With pulse sensor

Operating voltage range



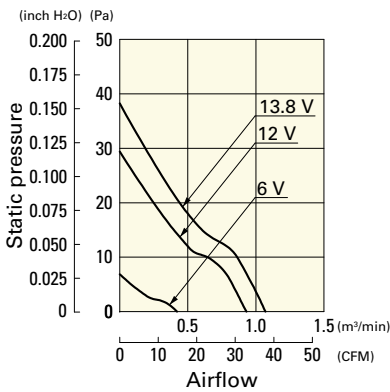
**109R0812H401** With pulse sensor

Operating voltage range



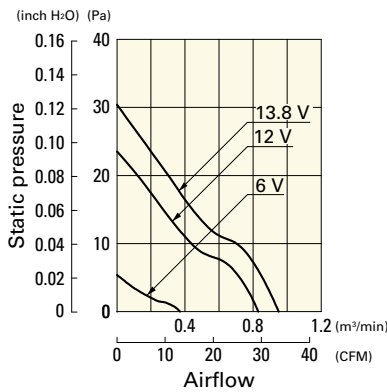
**109R0812F401** With pulse sensor

Operating voltage range



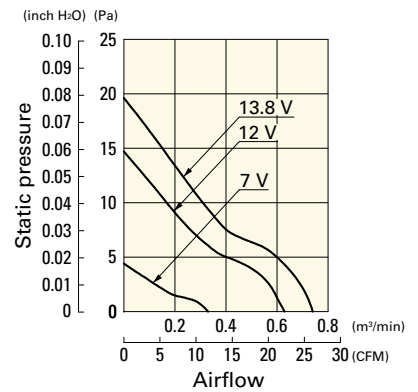
**109R0812M401** With pulse sensor

Operating voltage range



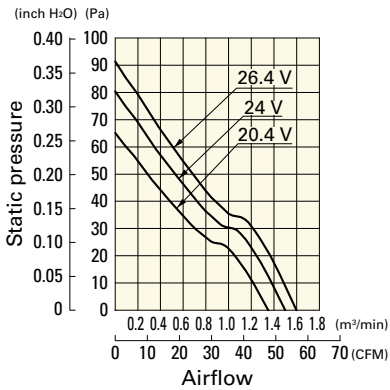
**109R0812L401** With pulse sensor

Operating voltage range



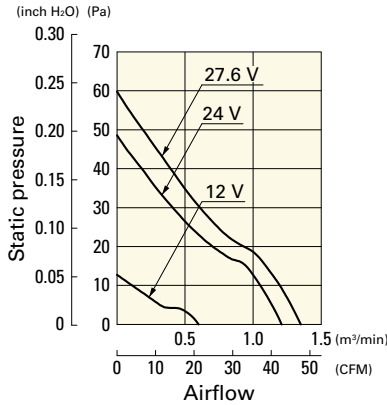
**109R0824G401** With pulse sensor

Operating voltage range



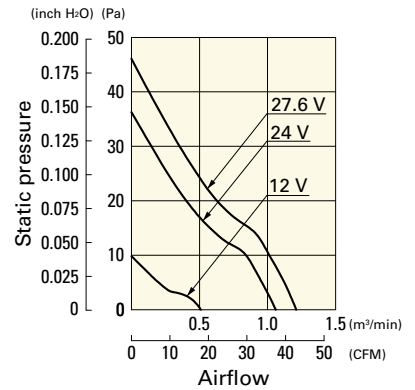
**109R0824S401** With pulse sensor

Operating voltage range



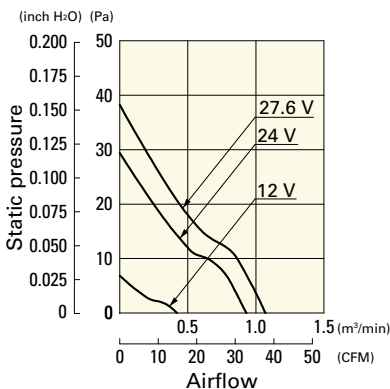
**109R0824H401** With pulse sensor

Operating voltage range



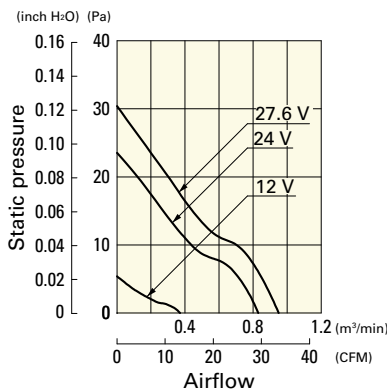
**109R0824F401** With pulse sensor

Operating voltage range



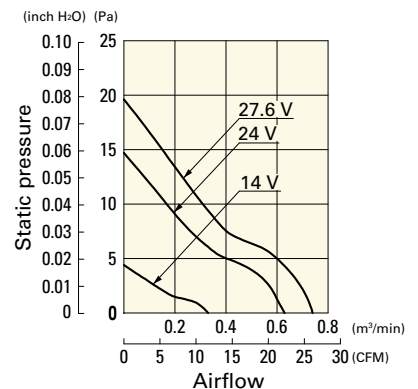
**109R0824M401** With pulse sensor

Operating voltage range



**109R0824L401** With pulse sensor

Operating voltage range

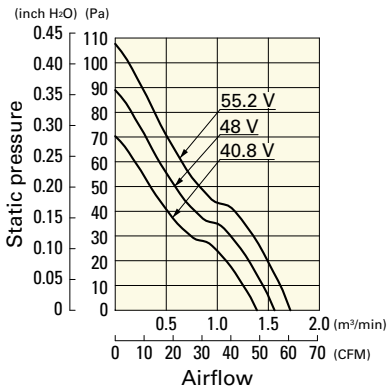




## Airflow - Static Pressure Characteristics

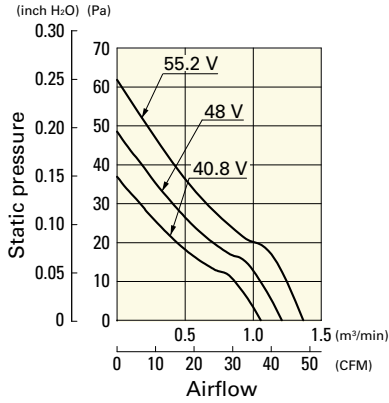
**109R0848K401** With pulse sensor

Operating voltage range

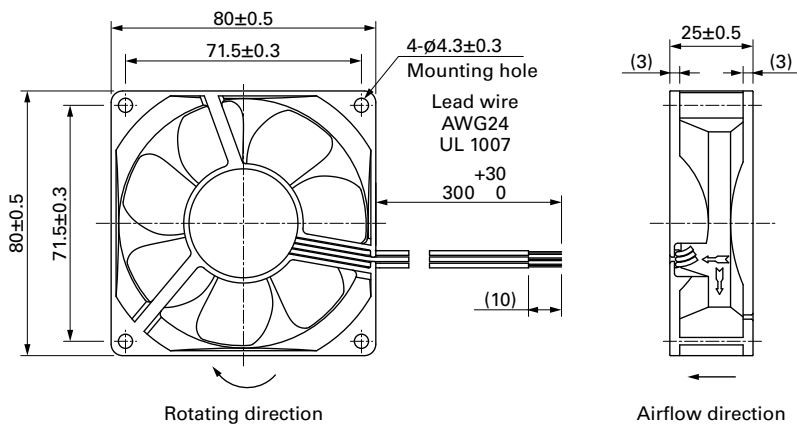


**109R0848S401** With pulse sensor

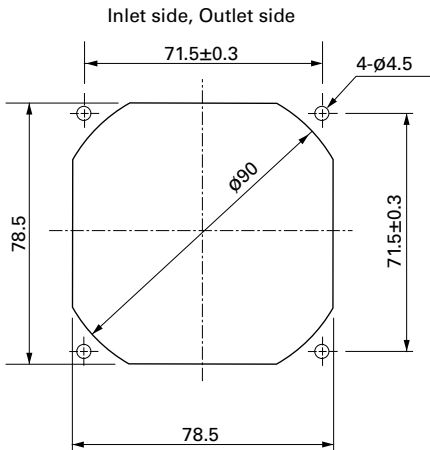
Operating voltage range



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



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



## Options

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1002G

Resin filter kits

page: p. 592

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

DC Fan

# 80x80x25 mm



**San Ace 80 9S** type Silent Fan Model 9S0812H401 is not TÜV certified.

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow
- Mass ..... 75 g

## Specifications

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

Model no.	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]
» 9S0812H401	12	5.0 to 13.2	0.23	2.76	3400	1.12 39.5	52.15 0.2	31	-10 to +70	40000/60°C (70000/40°C)
» 9S0812F401		5.0 to 13.8	0.11	1.32	2800	0.93 32.8	35.5 0.143	24		
» 9S0812M401		6.0 to 13.8	0.08	0.96	2500	0.83 29.3	27.5 0.11	22		
» 9S0812L401			0.05	0.6	2000	0.66 23.3	18.1 0.073	16		
» 9S0824M401	24	10 to 26.4	0.06	1.44	2500	0.83 29.3	27.5 0.11	22		
» 9S0824L401			0.04	0.96	2000	0.66 23.3	18.1 0.073	16		

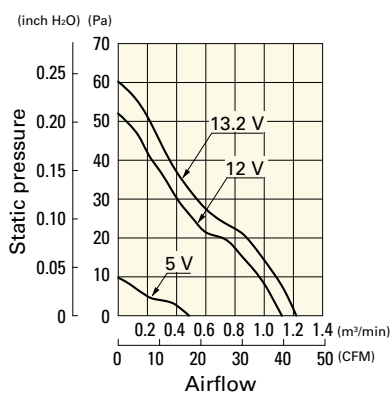
Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.

Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

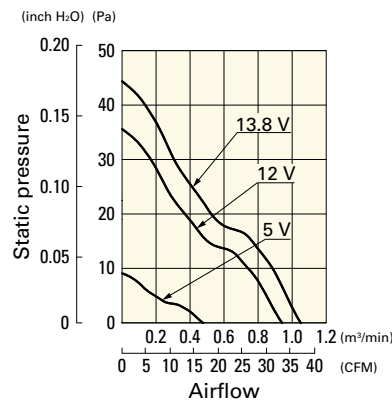
**9S0812H401** With pulse sensor

Operating voltage range



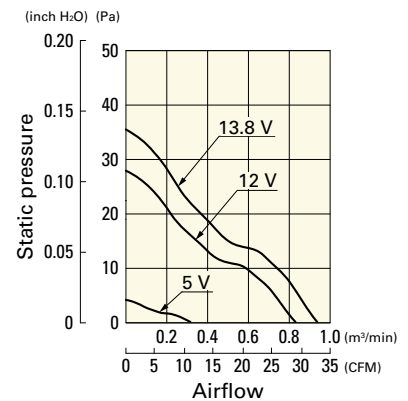
**9S0812F401** With pulse sensor

Operating voltage range



**9S0812M401** With pulse sensor

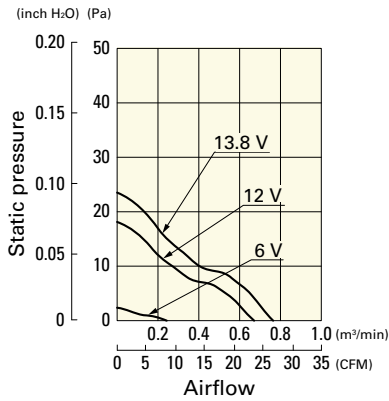
Operating voltage range



## Airflow - Static Pressure Characteristics

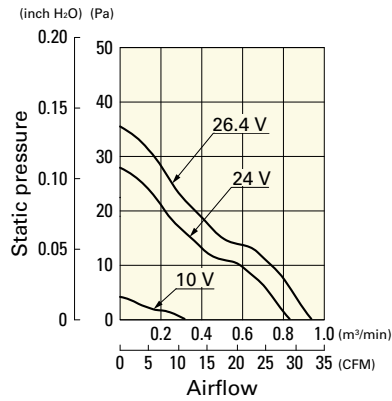
**9S0812L401** With pulse sensor

Operating voltage range



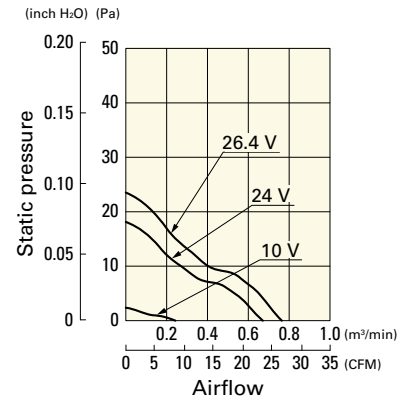
**9S0824M401** With pulse sensor

Operating voltage range

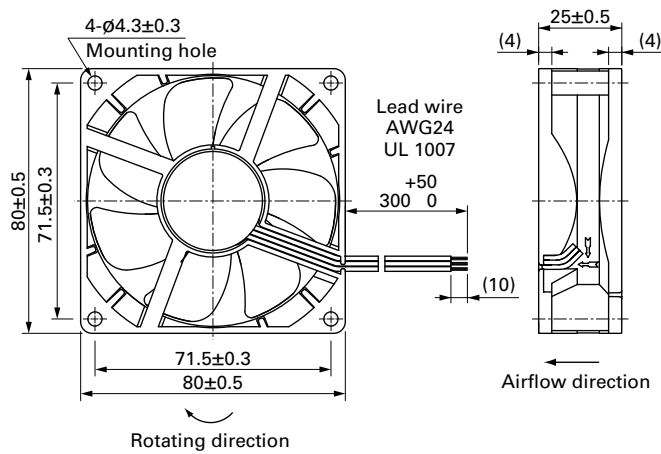


**9S0824L401** With pulse sensor

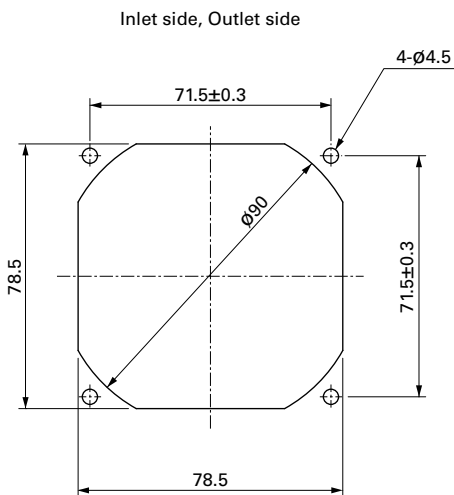
Operating voltage range



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



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



## Options

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1002G




Resin filter kits

page: p. 592

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

DC Fan

# 80x80x25 mm

San Cooler 80 9A 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue Sensor Yellow
- Mass ..... 90 g

## Specifications

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

Model no.	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]		
9A0812G401	12	6 to 13.2	0.38	4.56	4500	1.5 53.0	80.3 0.323	40	-20 to +60	30000/60°C (53000/40°C)		
9A0812S401			0.18	2.16	3400	1.2 42.4	48 0.193	34				
9A0812H401		6 to 13.8	0.13	1.56	2900	1.03 36.4	35.3 0.142	29			-20 to +70	40000/60°C (70000/40°C)
9A0812F401			0.11	1.32	2600	0.92 32.5	28.4 0.114	26				
9A0812M401			0.09	1.08	2350	0.83 29.3	22.5 0.09	23				
9A0812L401			0.06	0.72	1850	0.65 23.0	14.7 0.059	20				
9A0824G401	24	12 to 26.4	0.21	5.04	4500	1.5 53.0	80.3 0.323	40	-20 to +60	30000/60°C (53000/40°C)		
9A0824S401		12 to 27.6	0.1	2.4	3400	1.2 42.4	48 0.193	34			-20 to +70	40000/60°C (70000/40°C)
9A0824H401			0.07	1.68	2900	1.03 36.4	35.3 0.142	29				
9A0824F401			0.06	1.44	2600	0.92 32.5	28.4 0.114	26				
9A0824M401			0.05	1.2	2350	0.83 29.3	22.5 0.09	23				
9A0824L401		14 to 27.6	0.04	0.96	1850	0.65 23.0	14.7 0.059	20				

Note 1: Sensor and control options are available for selection. Refer to the table on p. 624.  
 Note 2: The  mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

**9A0812G401** With pulse sensor

Operating voltage range

**9A0812S401** With pulse sensor

Operating voltage range

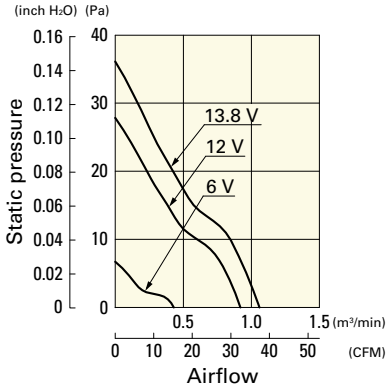
**9A0812H401** With pulse sensor

Operating voltage range

**Airflow - Static Pressure Characteristics**

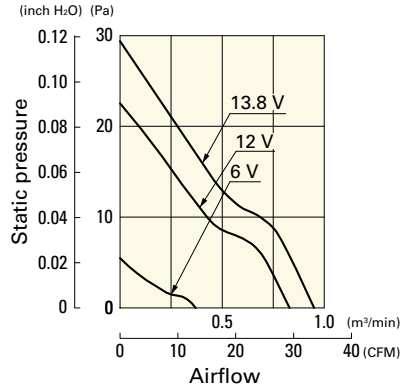
**9A0812F401** With pulse sensor

Operating voltage range



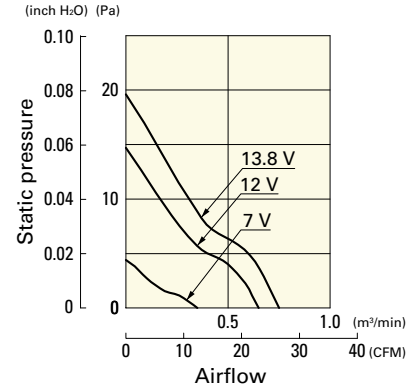
**9A0812M401** With pulse sensor

Operating voltage range



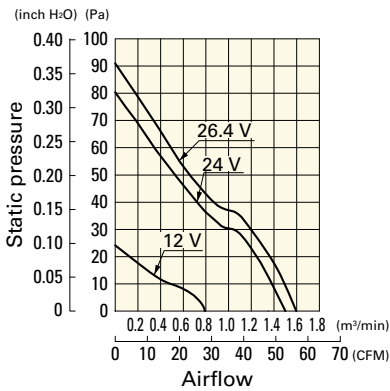
**9A0812L401** With pulse sensor

Operating voltage range



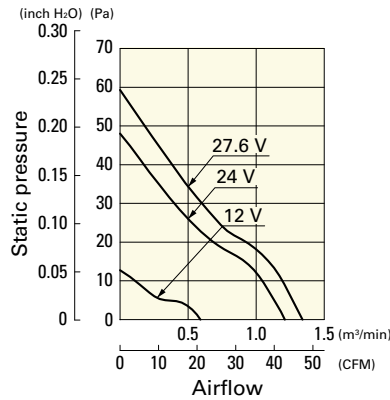
**9A0824G401** With pulse sensor

Operating voltage range



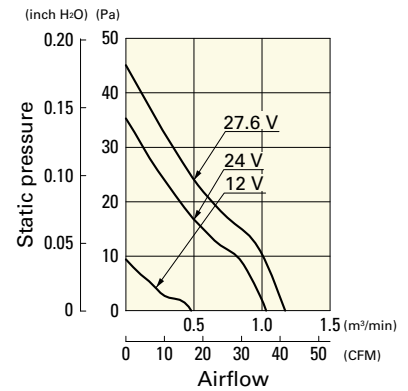
**9A0824S401** With pulse sensor

Operating voltage range



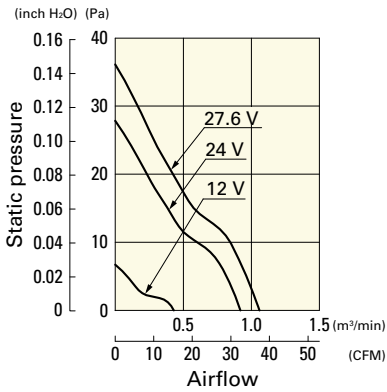
**9A0824H401** With pulse sensor

Operating voltage range



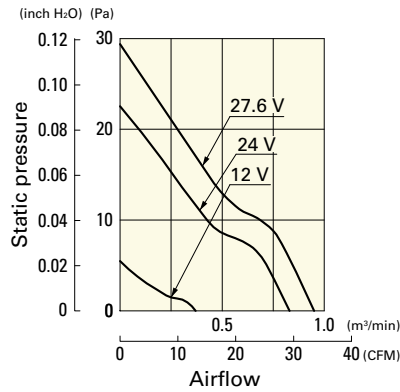
**9A0824F401** With pulse sensor

Operating voltage range



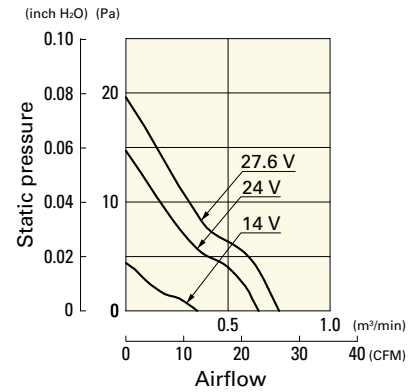
**9A0824M401** With pulse sensor

Operating voltage range

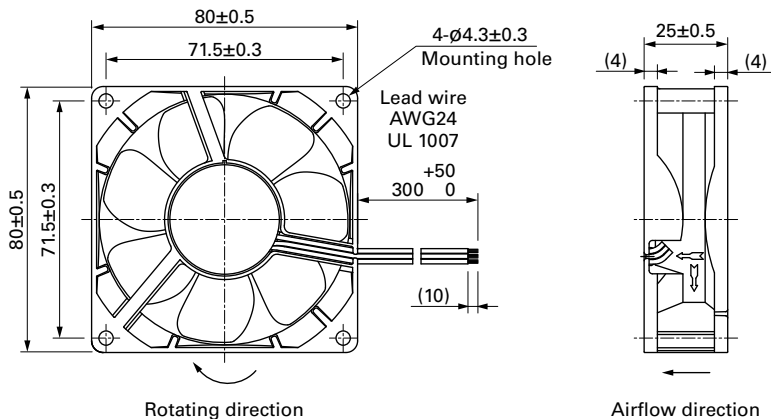


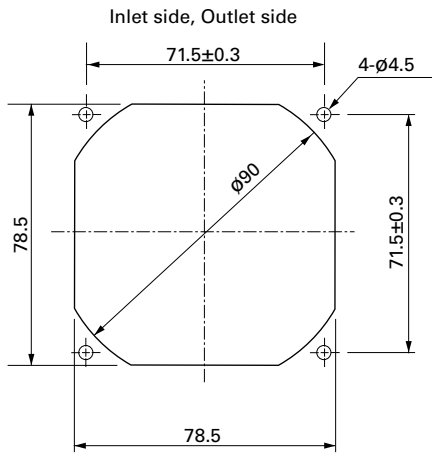
**9A0824L401** With pulse sensor

Operating voltage range



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



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

page: p. 584

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

**Resin finger guards**

page: p. 591

Model no.: 109-1002G

**Resin filter kits**

page: p. 592

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



# 80×80×32 mm

## San Ace 80 9GA type Low Power Consumption Fan

### 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 130 g

### Specifications

The models listed below **have ribs and pulse sensors with PWM control function.** For models without ribs, append "1" to the end of model numbers.

Model no.	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]
» 9GA0812P2S001	12	10.2 to 13.8	100	0.83	9.96	9700	2.45	86.5	360	1.45	57	-20 to +70	40000/60°C (70000/40°C)
» 9GA0812P2H001			0	0.08	0.96	2800	0.71	25.1	30	0.12	24		
» 9GA0812P2M001			100	0.59	7.08	8700	2.2	77.7	294	1.18	54		
» 9GA0812P2M001			0	0.05	0.6	2600	0.66	23.3	26	0.105	21		
» 9GA0824P2S001	24	20.4 to 27.6	100	0.35	4.2	6700	1.69	59.6	171	0.68	47	-20 to +55	
» 9GA0824P2S001			0	0.04	0.48	1400	0.35	12.3	7.5	0.03	10		
» 9GA0848P2S001	48	40.8 to 55.2	100	0.42	10.1	9700	2.45	86.5	360	1.45	57	-20 to +70	
» 9GA0848P2S001			0	0.05	1.2	2800	0.71	25.1	30	0.12	24		
» 9GA0848P2S001	48	40.8 to 55.2	100	0.22	10.56	9700	2.45	86.5	360	1.45	57	-10 to +70	
» 9GA0848P2S001			0	0.04	1.92	2800	0.71	25.1	30	0.12	24		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

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

Model no.	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]
» 9GA0812A2001	12	6 to 13.2	0.31	3.72	6000	1.51	53.4	137.7	0.55	44	-20 to +70	40000/60°C (70000/40°C)
» 9GA0812B2001		6 to 13.8	0.13	1.56	4000	1.01	35.7	61.2	0.25	33		
» 9GA0812L2001		7 to 13.8	0.08	0.96	2600	0.66	23.3	26	0.1	21		
» 9GA0824A2001	24	12 to 26.4	0.15	3.6	6000	1.51	53.4	137.7	0.55	44		
» 9GA0824B2001		12 to 27.6	0.08	1.92	4000	1.01	35.7	61.2	0.25	33		
» 9GA0824L2001		14 to 27.6	0.05	1.2	2600	0.66	23.3	26	0.1	21		

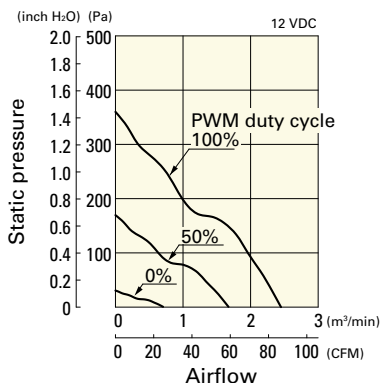
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 629 to 630.

Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

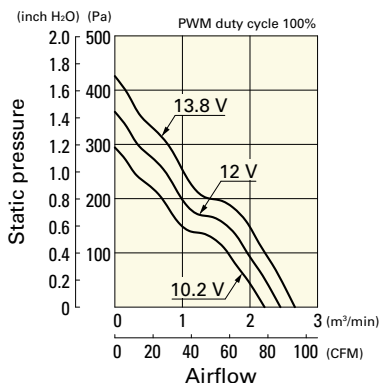
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0812P2S001** With pulse sensor with PWM control function

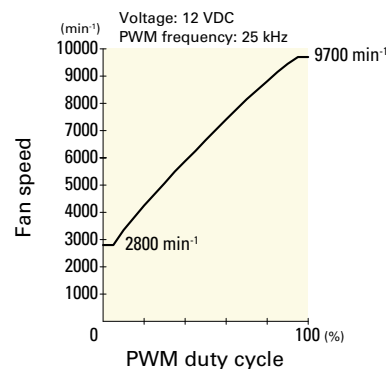
PWM duty cycle



Operating voltage range

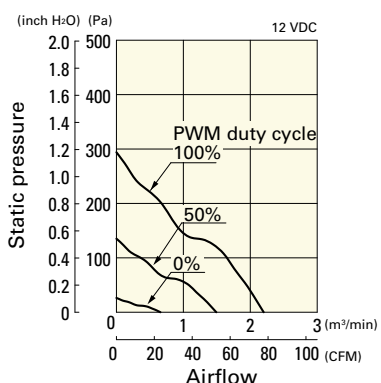


PWM duty - Speed characteristics example

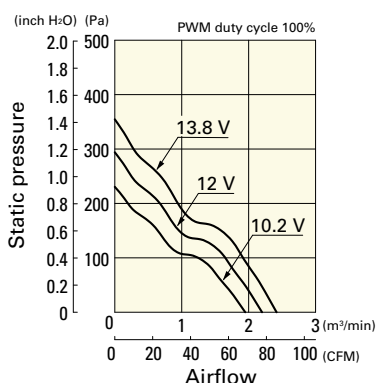


**9GA0812P2H001** With pulse sensor with PWM control function

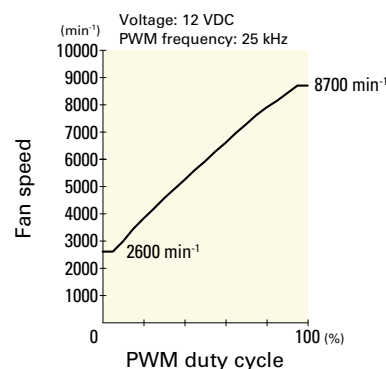
PWM duty cycle



Operating voltage range

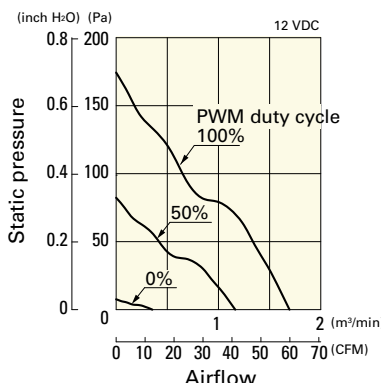


PWM duty - Speed characteristics example

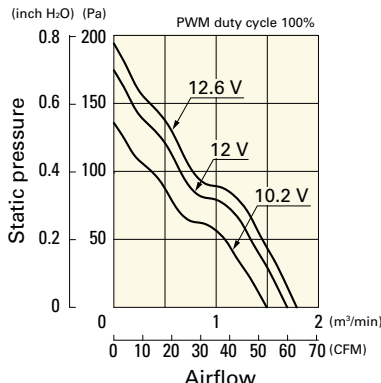


**9GA0812P2M001** With pulse sensor with PWM control function

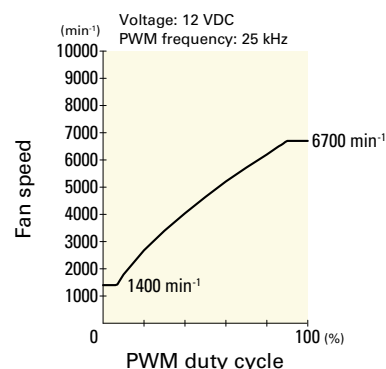
PWM duty cycle



Operating voltage range

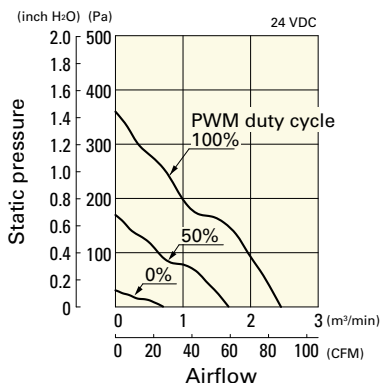


PWM duty - Speed characteristics example

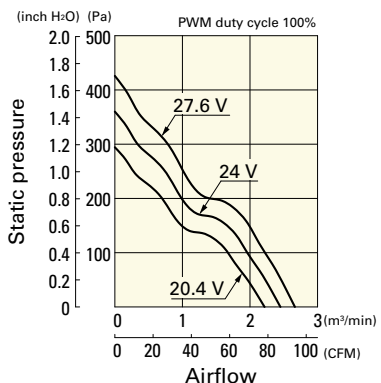


**9GA0824P2S001** With pulse sensor with PWM control function

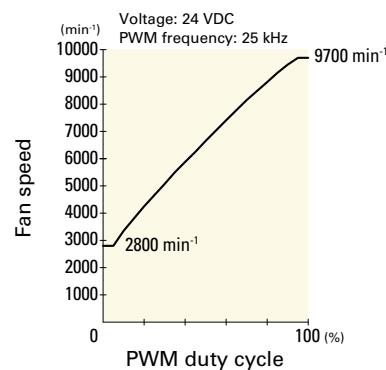
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

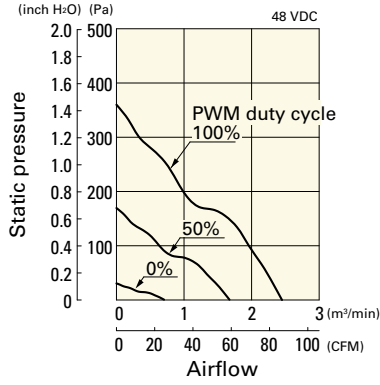




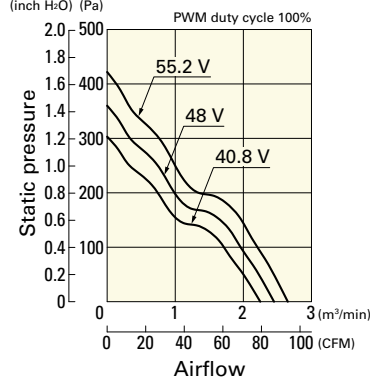
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0848P2S001** With pulse sensor with PWM control function

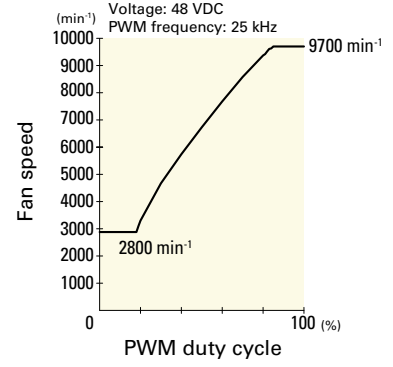
PWM duty cycle



Operating voltage range



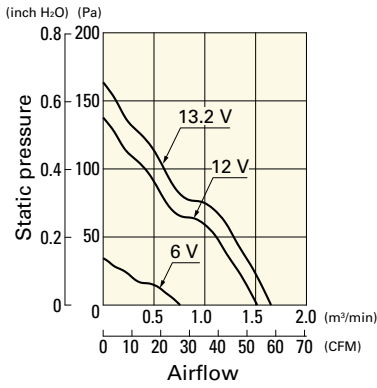
PWM duty - Speed characteristics example



**Airflow - Static Pressure Characteristics**

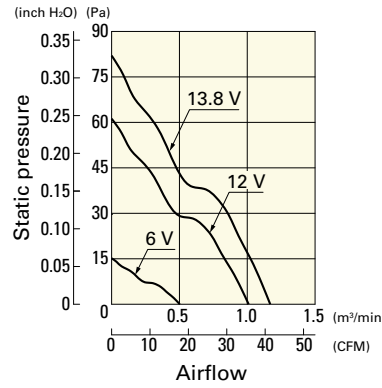
**9GA0812A2001** With pulse sensor

Operating voltage range



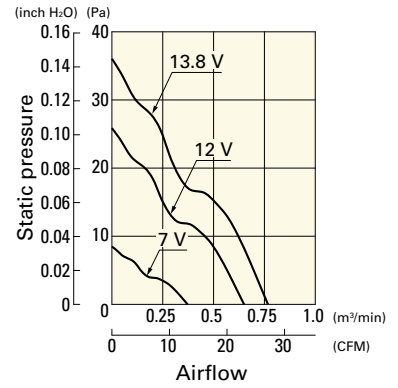
**9GA0812B2001** With pulse sensor

Operating voltage range



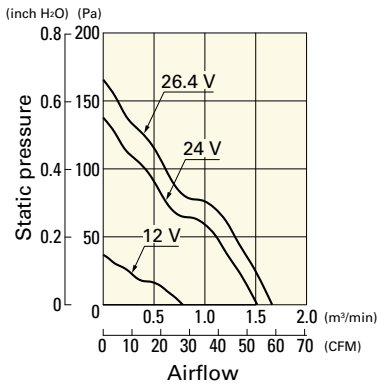
**9GA0812L2001** With pulse sensor

Operating voltage range



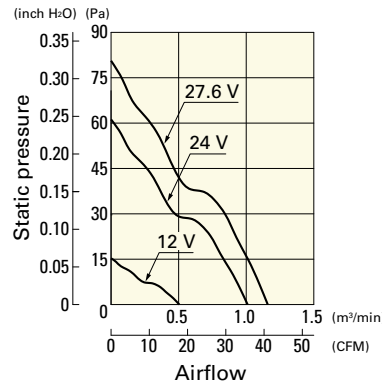
**9GA0824A2001** With pulse sensor

Operating voltage range



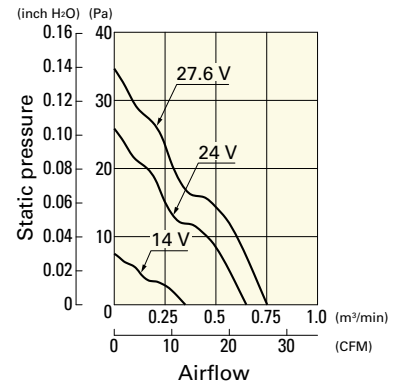
**9GA0824B2001** With pulse sensor

Operating voltage range

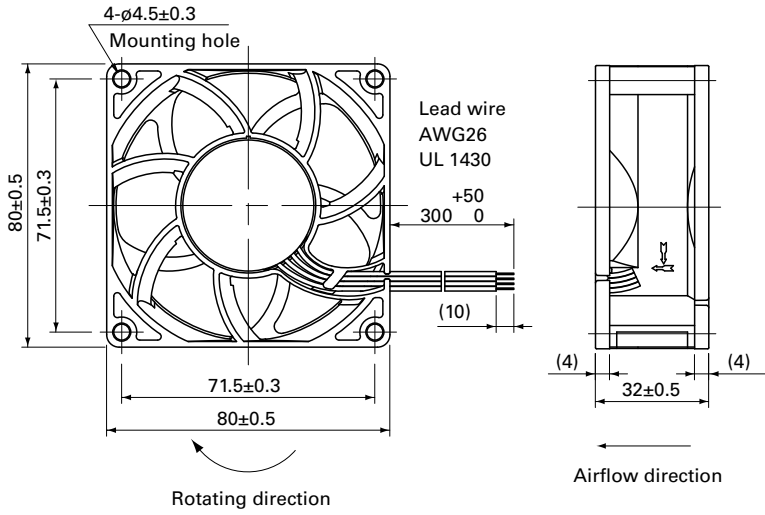


**9GA0824L2001** With pulse sensor

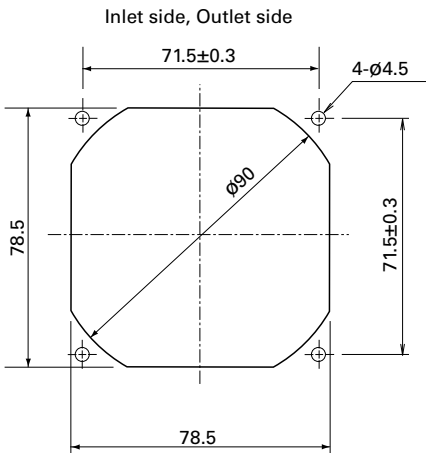
Operating voltage range



**Dimensions (unit: mm)** (Ribbed frame with pulse sensor with PWM control function)



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



**Options**

**Finger guards** page: p. 584  
 Model no.: 109-049E, 109-049H, 109-049C

**Resin finger guards** page: p. 591  
 Model no.: 109-1002G

**Resin filter kits** page: p. 592  
 Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),  
 109-1002F30 (30PPI), 109-1002F40 (40PPI)



# 80×80×38 mm

San Ace 80 9HVB type US

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 230 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
<b>9HVB0812P1G001</b>	12	10.8 to 12.6	100	4.8	57.6	18300	4.0 141.3	1600 6.42	75	-20 to +70	40000/60°C (70000/40°C)
			20	0.17	2.0	4300	0.94 33.2	105 0.42	40		

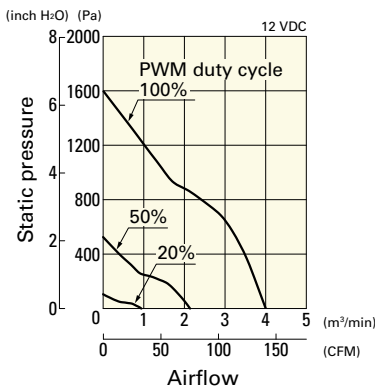
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 634.

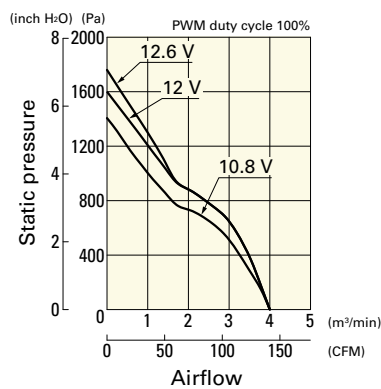
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9HVB0812P1G001** With pulse sensor with PWM control function

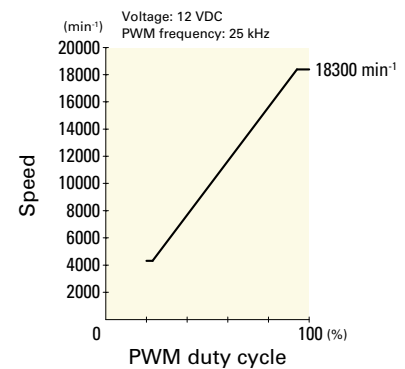
PWM duty cycle



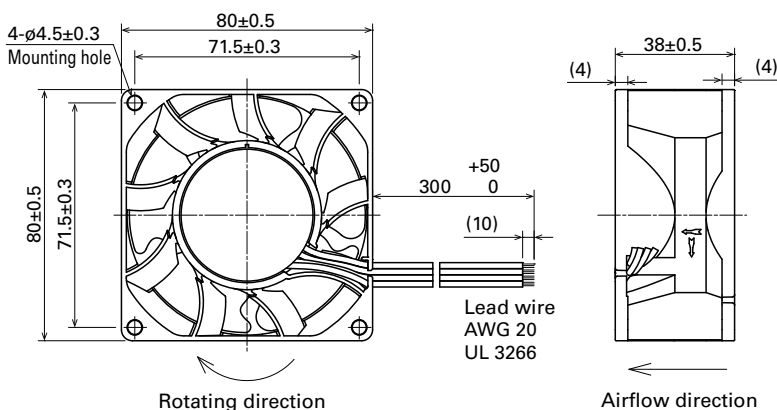
Operating voltage range



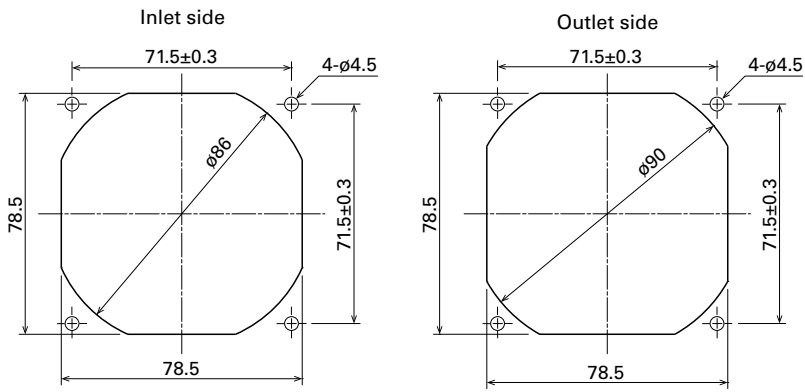
PWM duty - Speed characteristics example



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



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



## Options

### Finger guards

page: p. 584

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

### Resin finger guards

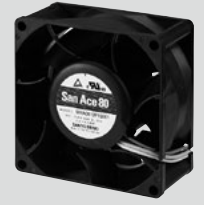
page: p. 591

Model no.: 109-1002G

### Resin filter kits

page: p. 592

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



# 80x80x38 mm

San Ace 80 9HVA type US

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 220 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶ 9HVA0812P1G001	12	10.8 to 13.2	100	3.5	42	16100	3.75 132	1350 5.4	73	-20 to +70	40000/60°C (70000/40°C)
			20	0.2	2.4	4200	0.96 33.9	105 0.42	44		
9HVA0848P1G601	48	36 to 57	100	0.9	43.2	16100	3.75 132	1250 5.0	73		
			20	0.07	3.36	4200	0.96 33.9	105 0.42	44		

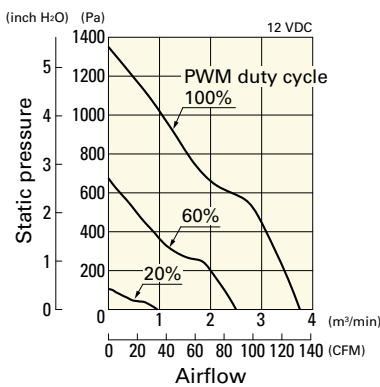
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The ▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

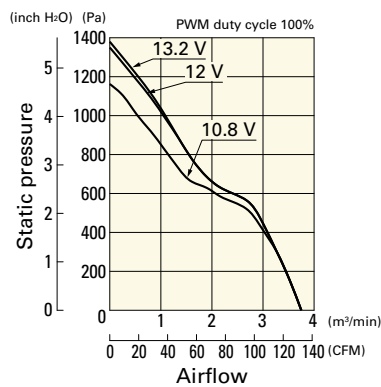
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9HVA0812P1G001** With pulse sensor with PWM control function

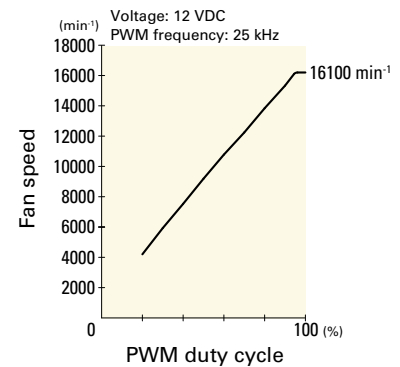
PWM duty cycle



Operating voltage range



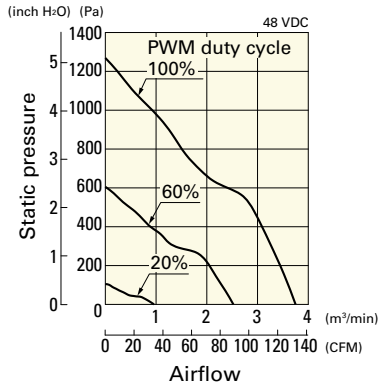
PWM duty - Speed characteristics example



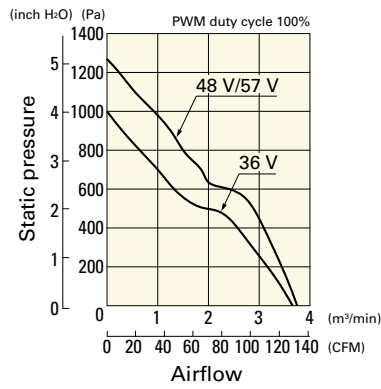
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9HVA0848P1G601** With pulse sensor with PWM control function

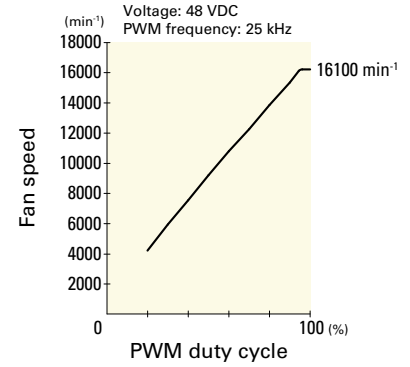
PWM duty cycle



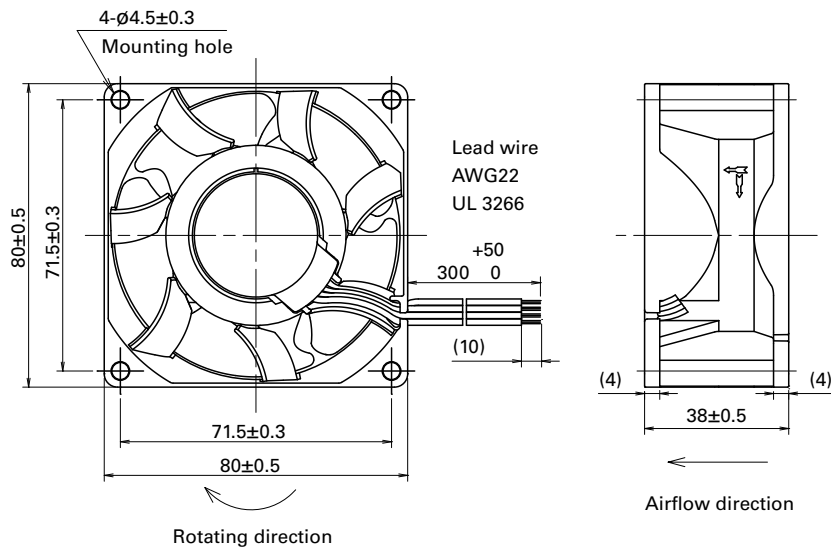
Operating voltage range



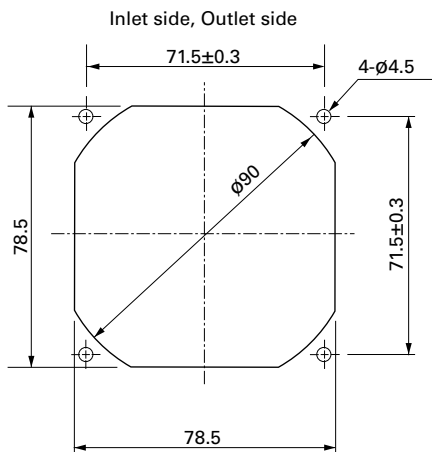
PWM duty - Speed characteristics example



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



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



**Options**

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1002G

Resin filter kits

page: p. 592

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



# 80x80x38 mm

San Ace 80 9HV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 230 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9HV0812P1G601	12	10.8 to 13.2	100	3.4	40.8	14900	3.7 130.7	1000 4.0	69	-20 to +70	40000/60°C (70000/40°C)
			0	0.25	3	4400	1.06 37.5	87.2 0.35	40		
▶▶ 9HV0824P1G003	24	21.6 to 26.4	100	1.7	40.8	14900	3.7 130.7	1000 4.0	69		
			100	0.85	40.8	14900	3.7 130.7	1000 4.0	69		
▶▶ 9HV0848P1G001	48	36 to 57	0	0.13	6.24	4400	1.06 37.5	87.2 0.35	40	-10 to +70	

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: The model number of the ribless model for 9HV0824P1G003 is 9HV0824P1G0011.

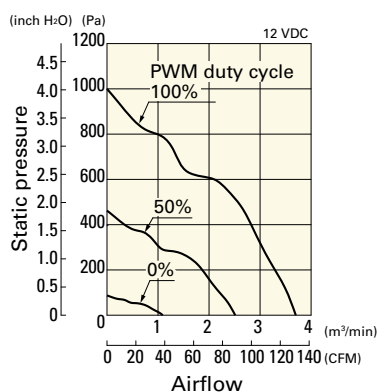
Note 2: Sensor and control options are available for selection. Refer to the table on p. 633.

Note 3: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

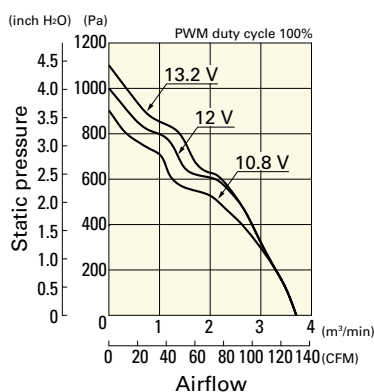
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9HV0812P1G601** With pulse sensor with PWM control function

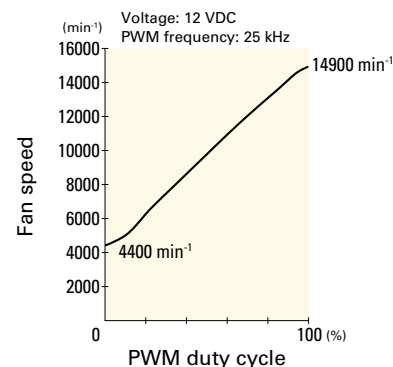
PWM duty cycle



Operating voltage range



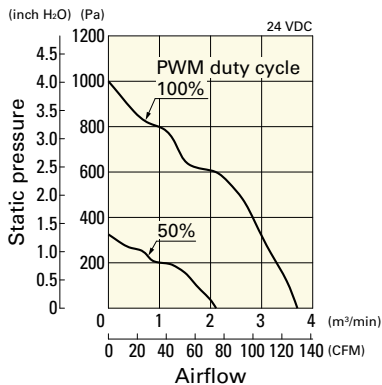
PWM duty - Speed characteristics example



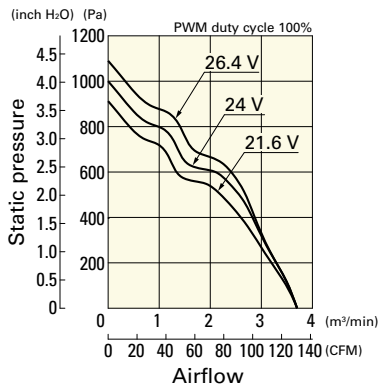
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9HV0824P1G003** With pulse sensor with PWM control function

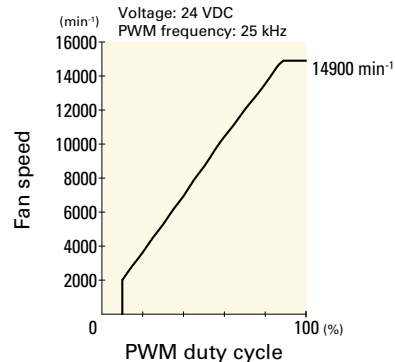
PWM duty cycle



Operating voltage range

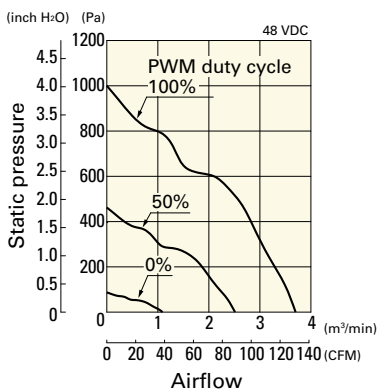


PWM duty - Speed characteristics example

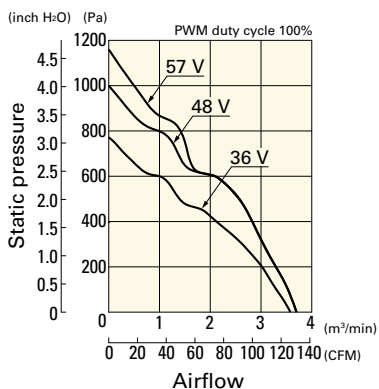


**9HV0848P1G001** With pulse sensor with PWM control function

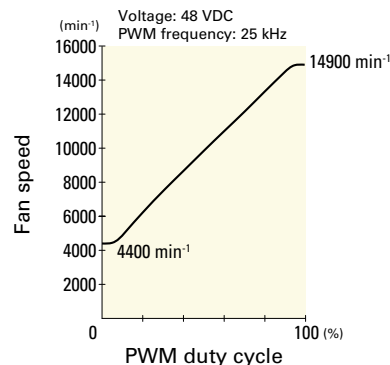
PWM duty cycle



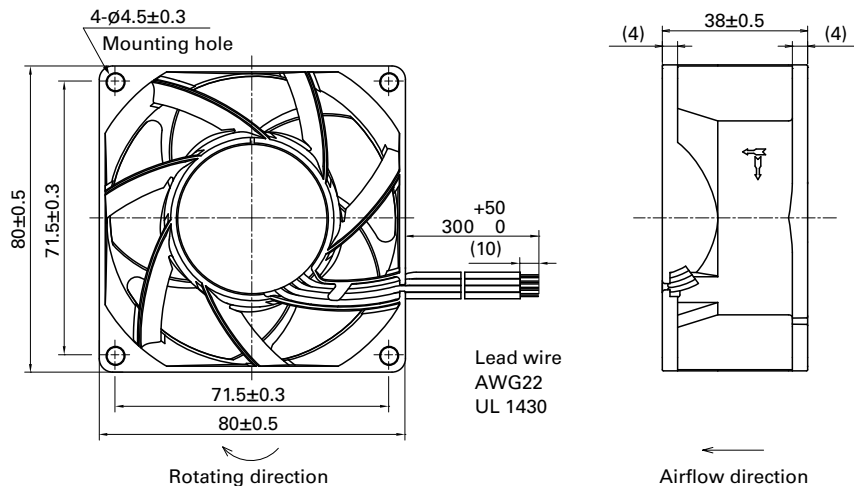
Operating voltage range



PWM duty - Speed characteristics example

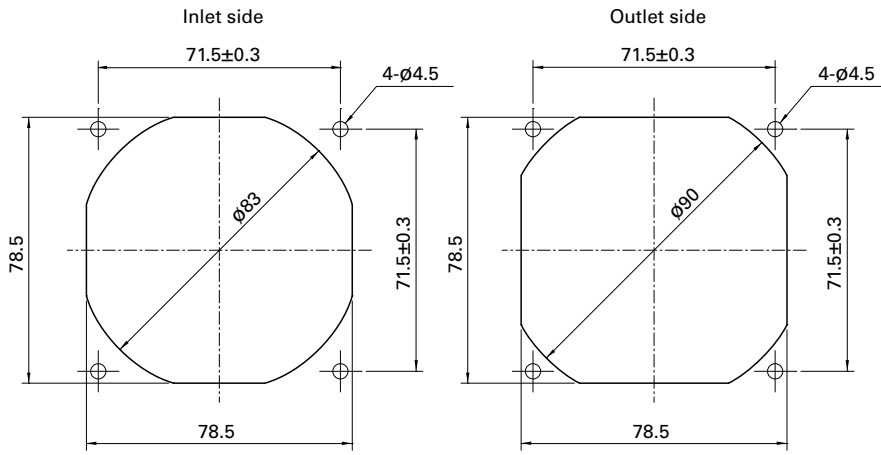


**Dimensions (unit: mm)** (With ribs)





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



**Options**

**Finger guards**

page: p. 584

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

**Resin finger guards**

page: p. 591

Model no.: 109-1002G

**Resin filter kits**

page: p. 592

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



# 80×80×38 mm

**San Ace 80 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 160 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9GA0812P1G61	12	10.8 to 13.2	100	1.2	14.4	10500	2.85 100.6	480 1.93	60	-20 to +70	40000/60°C (70000/40°C)
▶▶ 9GA0812P1S61			0	0.04	0.48	2000	0.51 18.0	28.7 0.11	21		
▶▶ 9GA0812P1H61			100	0.94	11.28	9550	2.6 91.8	480 1.93	59		
▶▶ 9GA0812P1H61			0	0.1	1.2	2900	0.74 26.1	60 0.24	27		
▶▶ 9GA0824P1S61	24	20.4 to 27.6	100	0.6	7.2	8250	2.25 79.4	380 1.53	55		
▶▶ 9GA0824P1S61			0	0.08	0.96	2500	0.64 22.6	45 0.18	24		
▶▶ 9GA0824P1H61			100	0.47	11.28	9550	2.6 91.8	480 1.93	59		
▶▶ 9GA0824P1H61			0	0.06	1.44	2900	0.74 26.1	60 0.24	27		
▶▶ 9GA0824P1H61	48	40.8 to 55.2	100	0.3	7.2	8250	2.25 79.4	380 1.53	55		
▶▶ 9GA0824P1H61			0	0.05	1.2	2500	0.64 22.6	45 0.18	24		
▶▶ 9GA0848P1S61	48	40.8 to 55.2	100	0.25	12	9550	2.6 91.8	480 1.93	59		
▶▶ 9GA0848P1S61			0	0.04	1.92	2900	0.74 26.1	60 0.24	27		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

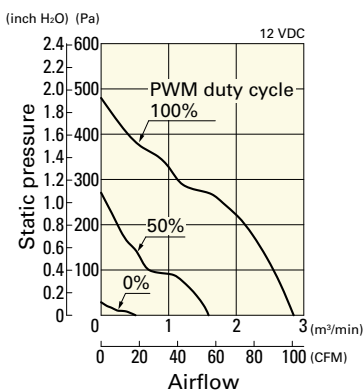
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 629 to 630.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

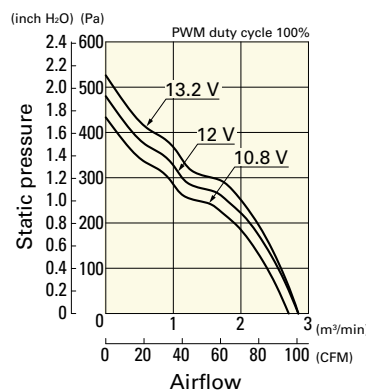
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0812P1G61** With pulse sensor with PWM control function

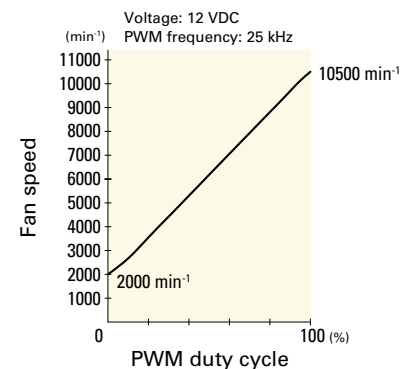
PWM duty cycle



Operating voltage range



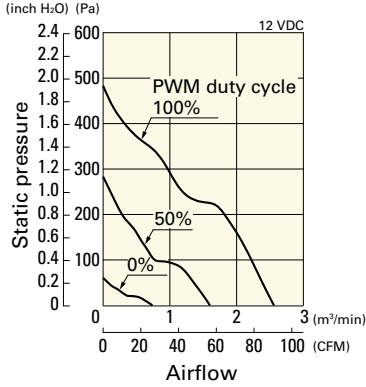
PWM duty - Speed characteristics example



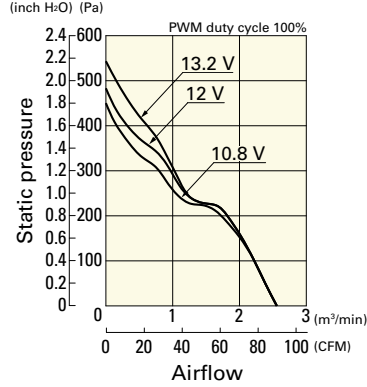
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0812P1S61** With pulse sensor with PWM control function

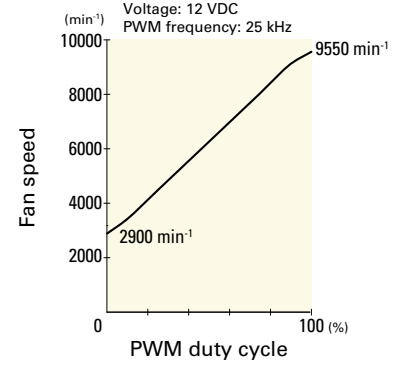
PWM duty cycle



Operating voltage range

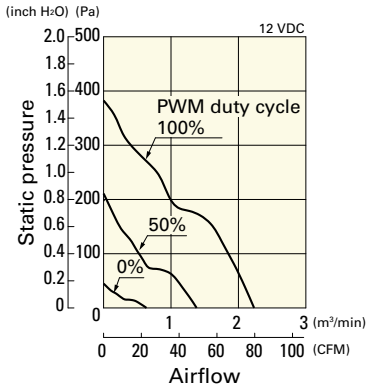


PWM duty - Speed characteristics example

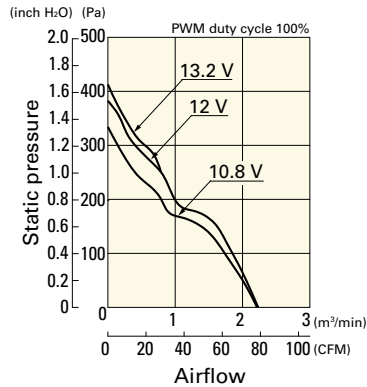


**9GA0812P1H61** With pulse sensor with PWM control function

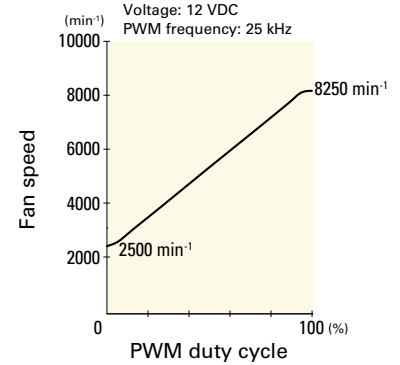
PWM duty cycle



Operating voltage range

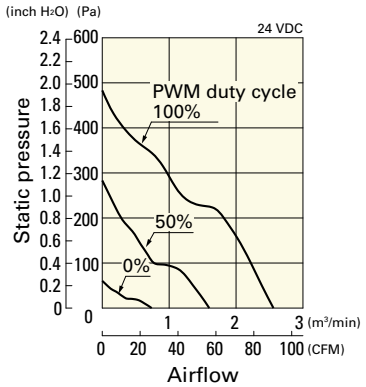


PWM duty - Speed characteristics example

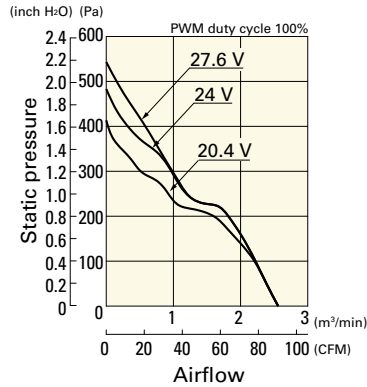


**9GA0824P1S61** With pulse sensor with PWM control function

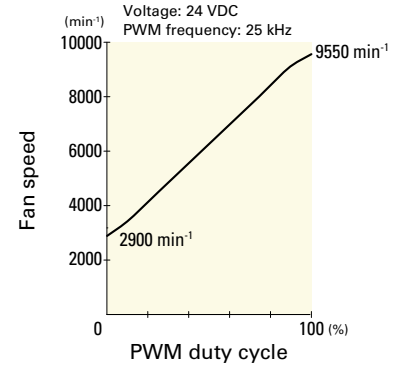
PWM duty cycle



Operating voltage range

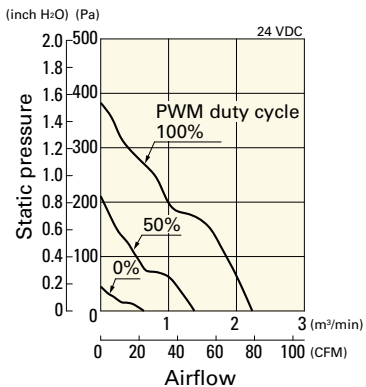


PWM duty - Speed characteristics example

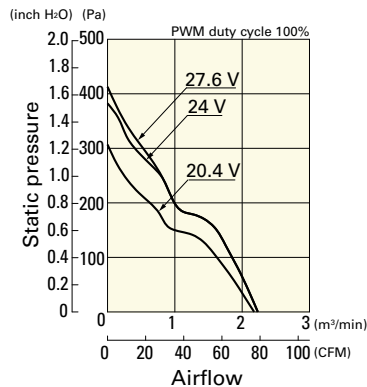


**9GA0824P1H61** With pulse sensor with PWM control function

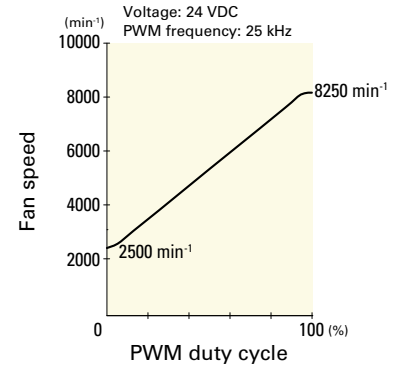
PWM duty cycle



Operating voltage range



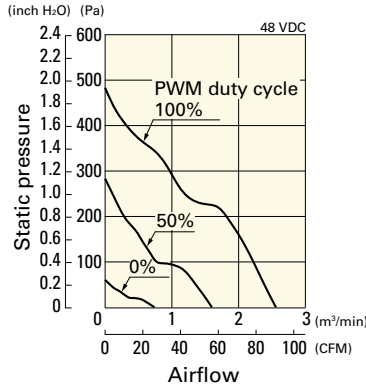
PWM duty - Speed characteristics example



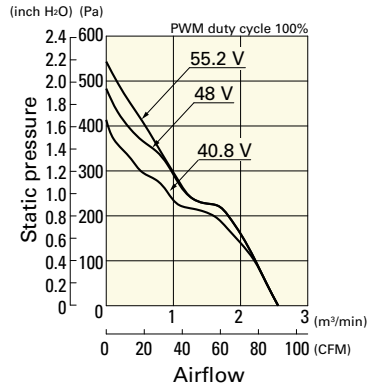
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0848P1S61** With pulse sensor with PWM control function

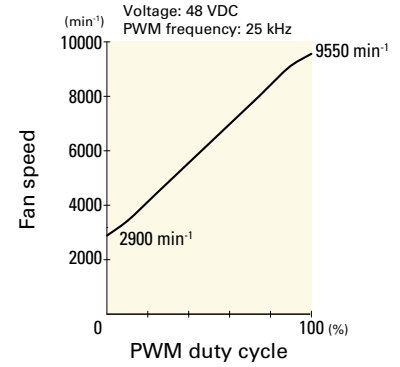
PWM duty cycle



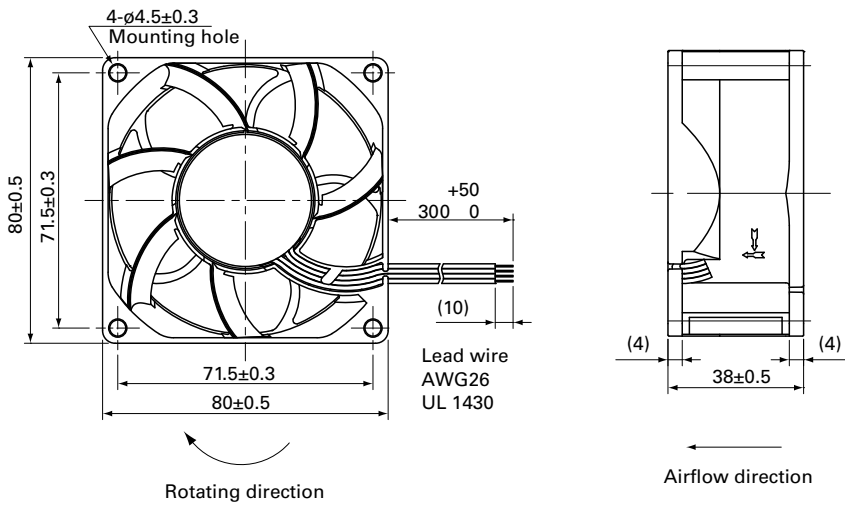
Operating voltage range



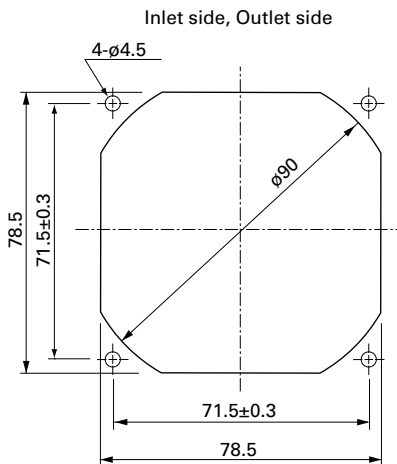
PWM duty - Speed characteristics example



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



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



**Options**

**Finger guards** page: p. 584  
Model no.: 109-049E, 109-049H, 109-049C

**Resin finger guards** page: p. 591  
Model no.: 109-1002G

**Resin filter kits** page: p. 592  
Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),  
109-1002F30 (30PPI), 109-1002F40 (40PPI)



# 80x80x38 mm

San Ace 80 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 220 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
9GV0812P1G03	12	10.8 to 13.2	100	3.8	45.6	10200	3.9 138.0	490.0 1.97	65	-20 to +70	40000/60°C (70000/40°C)
			0	0.32	3.84	3000	1.15 40.6	42.4 0.17	34		
9GV0812P1H03	12	10.8 to 13.2	100	3.0	36.0	9700	3.7 131.0	440.0 1.77	63		
			0	0.2	2.4	2900	1.11 39.2	39.0 0.16	34		
9GV0812P1F03	12	10.2 to 13.8	100	1.5	18	8000	3.05 108.0	301.0 1.21	58		
			0	0.12	1.44	2400	0.92 32.0	27.1 0.11	26		
9GV0812P1M03	12	10.2 to 13.8	100	0.75	9	6000	2.29 81.0	169.0 0.68	51		
			0	0.09	1.08	1700	0.65 23.0	13.6 0.05	19		
9GV0824P1G03	24	20.4 to 27.6	100	1.6	38.4	10200	3.9 138.0	490.0 1.97	65		
			0	0.3	7.2	4700	1.79 63.2	104.0 0.41	44		
9GV0848P1G03	48	40.8 to 55.2	100	0.84	40.32	10200	3.9 138.0	490.0 1.97	65		
			0	0.15	7.2	4700	1.79 63.2	104.0 0.41	44		

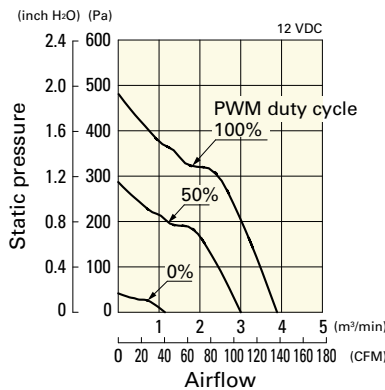
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 632.

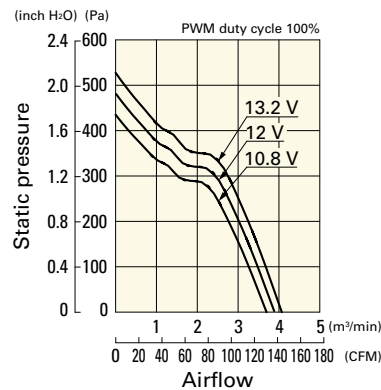
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GV0812P1G03** With pulse sensor with PWM control function

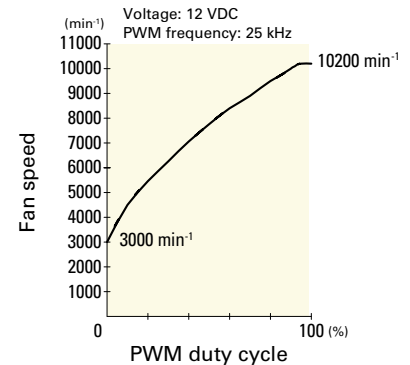
PWM duty cycle



Operating voltage range



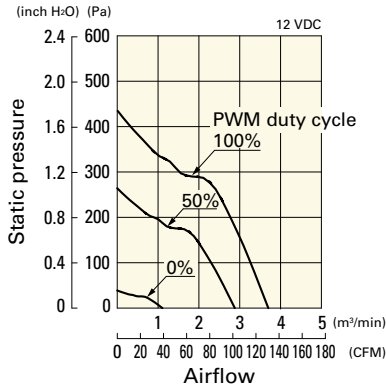
PWM duty - Speed characteristics example



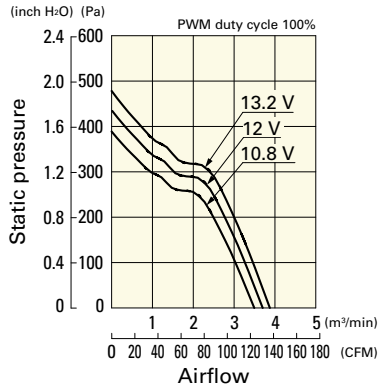
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GV0812P1H03** With pulse sensor with PWM control function

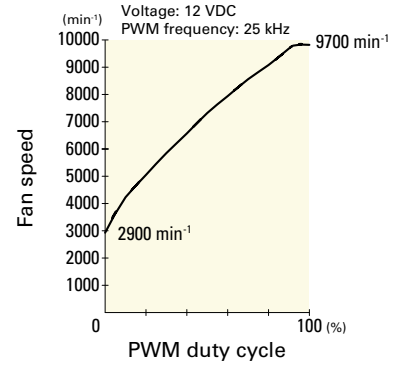
PWM duty cycle



Operating voltage range

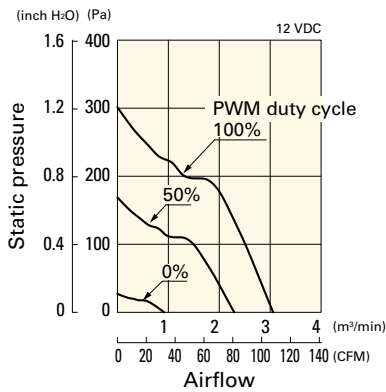


PWM duty - Speed characteristics example

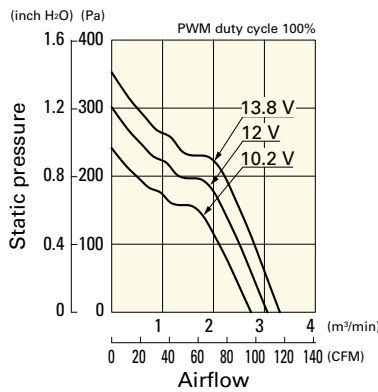


**9GV0812P1F03** With pulse sensor with PWM control function

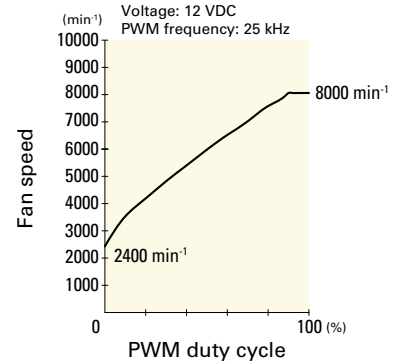
PWM duty cycle



Operating voltage range

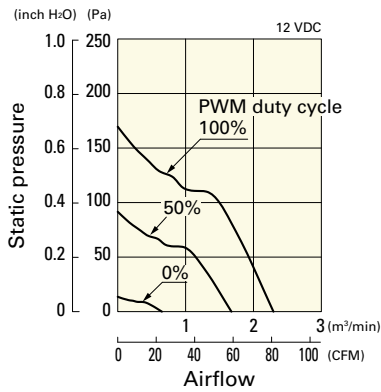


PWM duty - Speed characteristics example

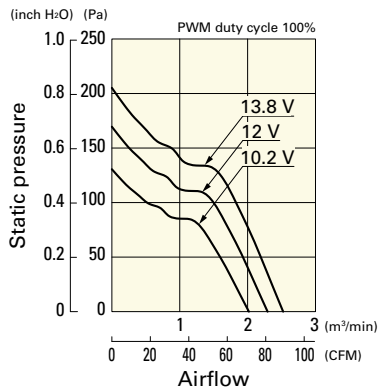


**9GV0812P1M03** With pulse sensor with PWM control function

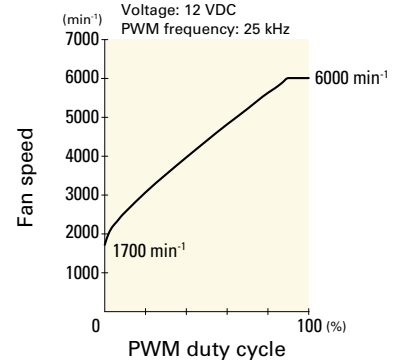
PWM duty cycle



Operating voltage range

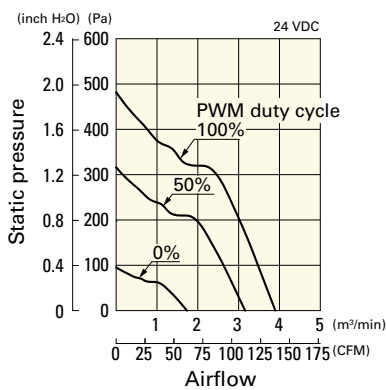


PWM duty - Speed characteristics example

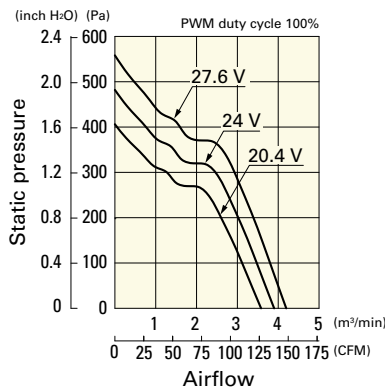


**9GV0824P1G03** With pulse sensor with PWM control function

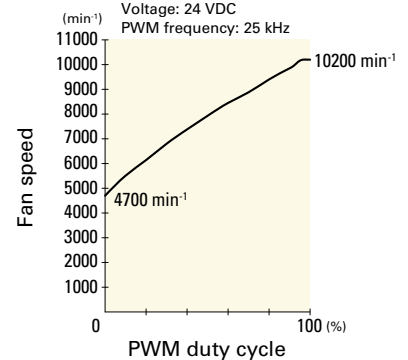
PWM duty cycle



Operating voltage range



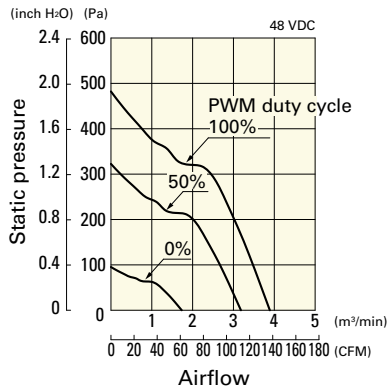
PWM duty - Speed characteristics example



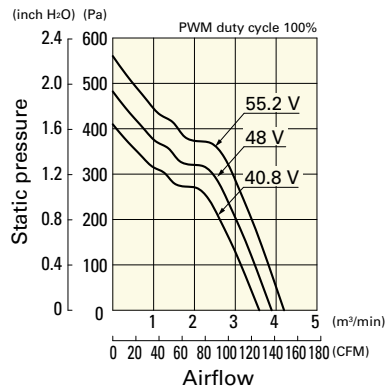
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GV0848P1G03** With pulse sensor with PWM control function

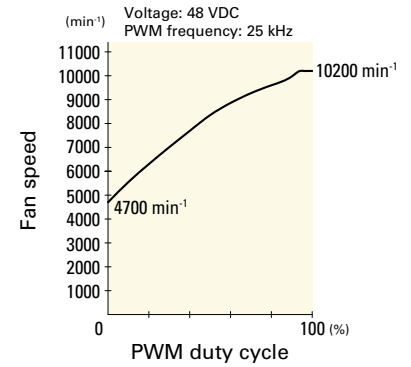
PWM duty cycle



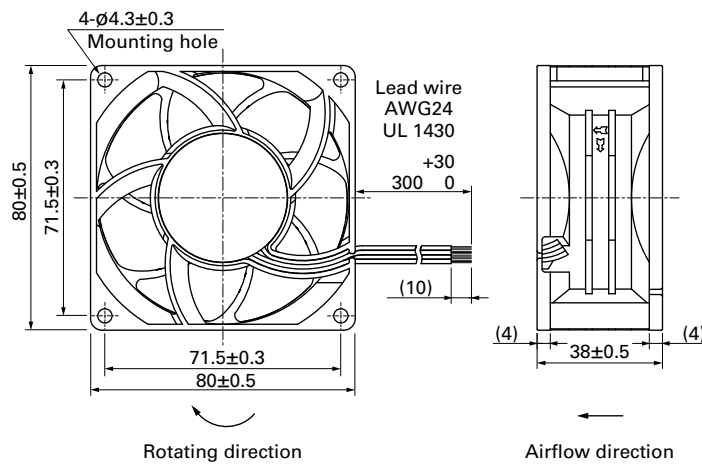
Operating voltage range



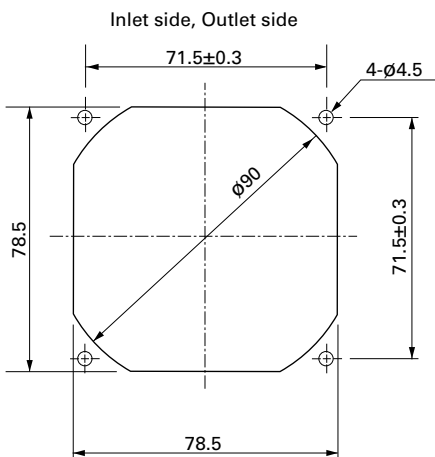
PWM duty - Speed characteristics example



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



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



## Options

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1002G

Resin filter kits

page: p. 592

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

DC Fan



# 80×80×38 mm

San Ace 80 9G 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow
- Mass ..... 170 g

## Specifications

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

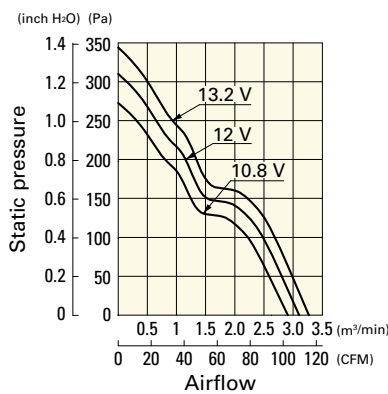
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>9G0812K101</b>	12	10.8 to 13.2	1.8	21.6	7800	3.1 107.3	310 1.285	58	-20 to +60	40000/60°C (70000/40°C)
<b>9G0812G101</b>		7 to 13.8	1.1	13.2	6300	2.55 90	211 0.847	51		
<b>9G0812H101</b>			0.9	10.8	5700	2.28 80	171 0.687	49		
<b>9G0824G101</b>	24	20.4 to 27.6	0.56	13.4	6300	2.55 90	211 0.847	51		
<b>9G0824H101</b>			0.42	10.1	5700	2.28 80	171 0.687	49		
<b>9G0848G101</b>	48	40.8 to 55.2	0.27	13.0	6300	2.55 90	211 0.847	51		
<b>9G0848H101</b>			0.2	9.6	5700	2.28 80	171 0.687	49		

Note: Sensor and control options are available for selection. Refer to the table on p. 626.

## Airflow - Static Pressure Characteristics

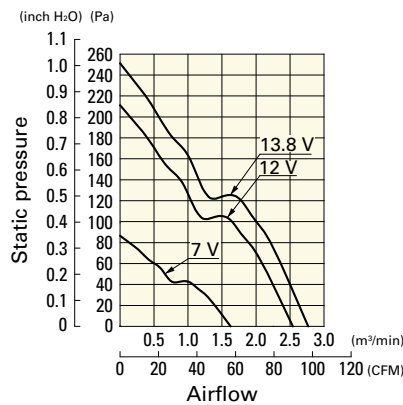
**9G0812K101** With pulse sensor

Operating voltage range



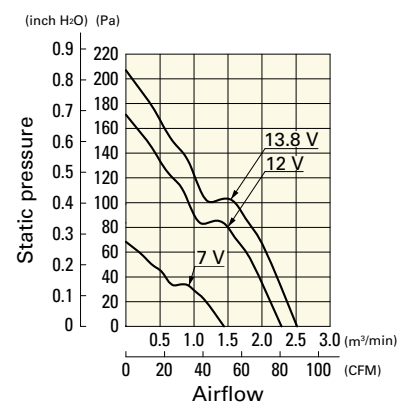
**9G0812G101** With pulse sensor

Operating voltage range



**9G0812H101** With pulse sensor

Operating voltage range

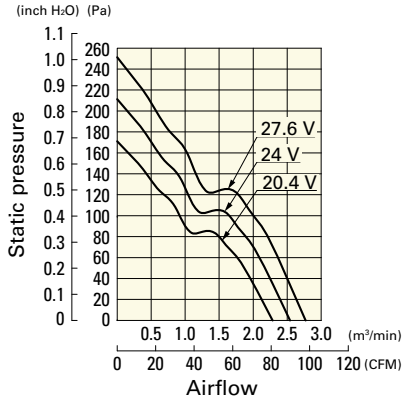




## Airflow - Static Pressure Characteristics

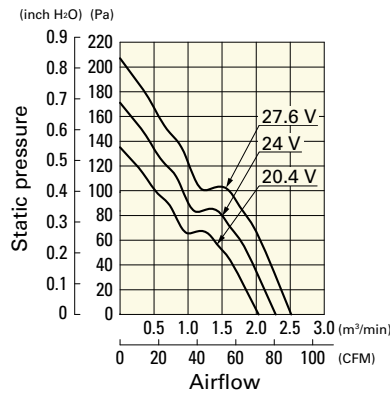
**9G0824G101** With pulse sensor

Operating voltage range



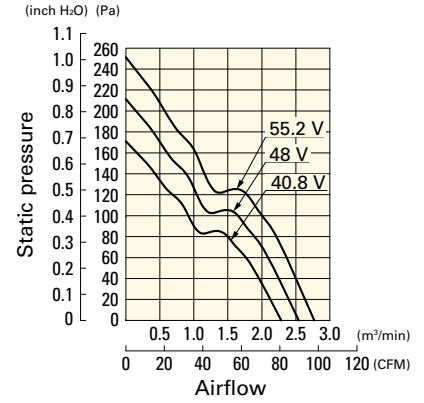
**9G0824H101** With pulse sensor

Operating voltage range



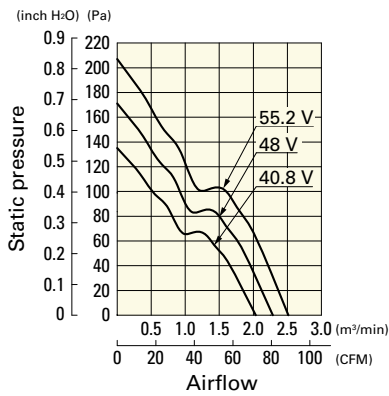
**9G0848G101** With pulse sensor

Operating voltage range

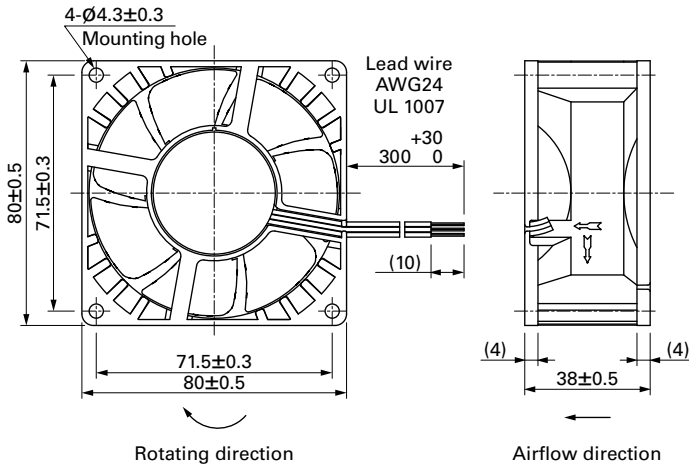


**9G0848H101** With pulse sensor

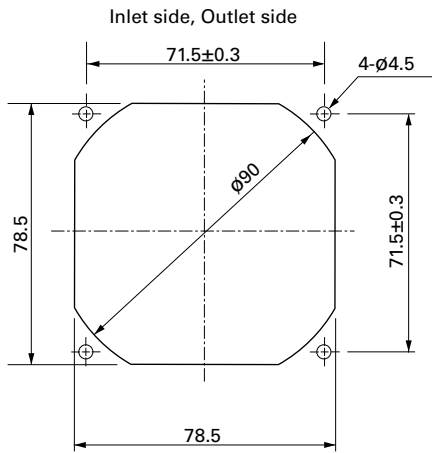
Operating voltage range



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



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



## Options

### Finger guards

page: p. 584

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

### Resin finger guards

page: p. 591


Model no.: 109-1002G

### Resin filter kits

page: p. 592

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

# 92x92x25 mm

San Ace 92 9HV type    us



## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 150 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
9HV0912P4G001	12	10.2 to 13.8	100	1.23	14.76	7350	3.35 118	280 1.12	56	-20 to +70	40000/60°C (70000/40°C)
			20	0.12	1.44	2200	1.0 35.3	25 0.1	26		
9HV0912P4H001			100	0.71	8.52	6050	2.75 97.1	190 0.76	52		
			20	0.07	0.84	1700	0.77 27.2	15 0.06	20		
9HV0924P4G001	24	20.4 to 27.6	100	0.61	14.64	7350	3.35 118	280 1.12	56		
			20	0.06	1.44	2200	1.0 35.3	25 0.1	26		
9HV0924P4H001			100	0.38	9.12	6050	2.75 97.1	190 0.76	52		
			20	0.05	1.2	1700	0.77 27.2	15 0.06	20		

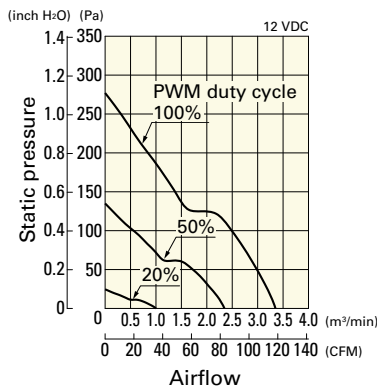
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 634.

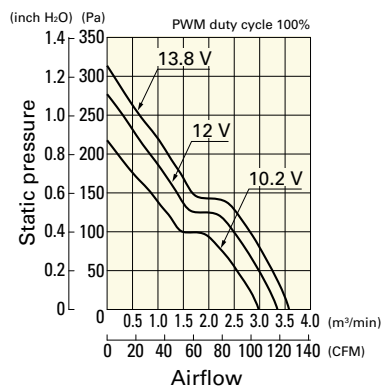
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9HV0912P4G001** With pulse sensor with PWM control function

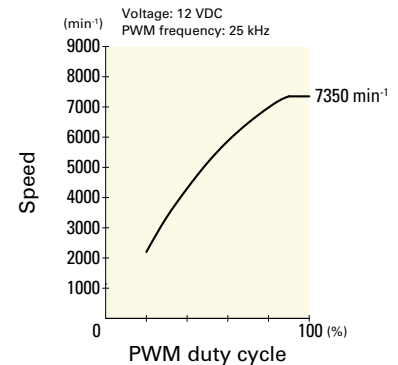
PWM duty cycle



Operating voltage range



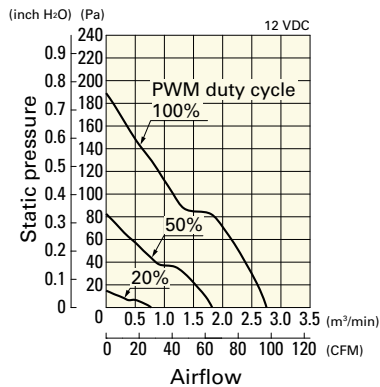
PWM duty - Speed characteristics example



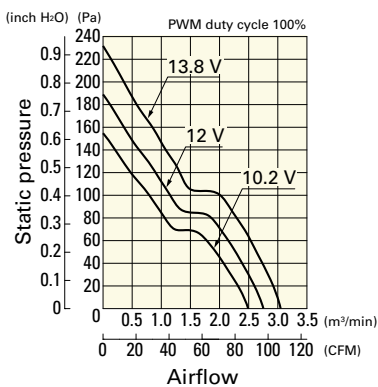
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9HV0912P4H001** With pulse sensor with PWM control function

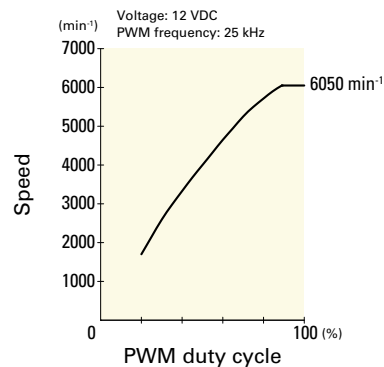
PWM duty cycle



Operating voltage range

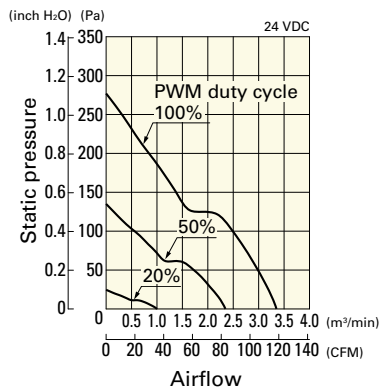


PWM duty - Speed characteristics example

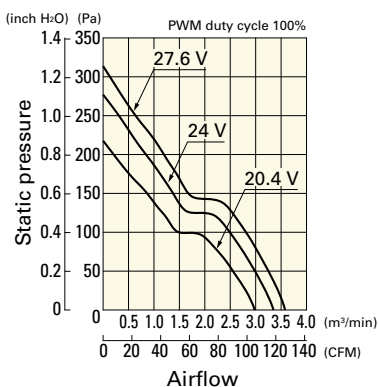


**9HV0924P4G001** With pulse sensor with PWM control function

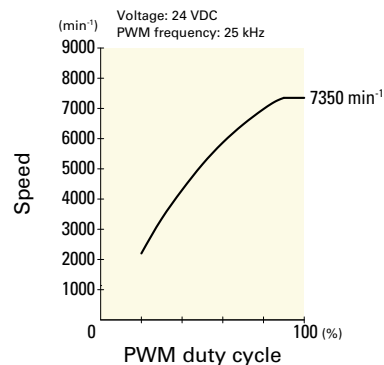
PWM duty cycle



Operating voltage range

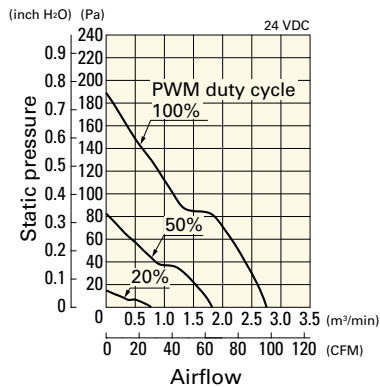


PWM duty - Speed characteristics example

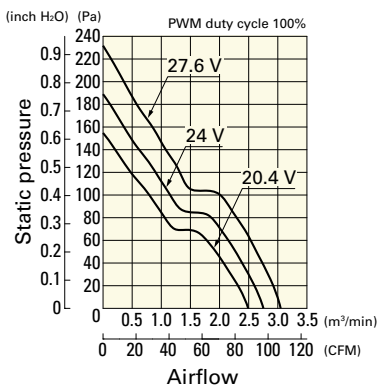


**9HV0924P4H001** With pulse sensor with PWM control function

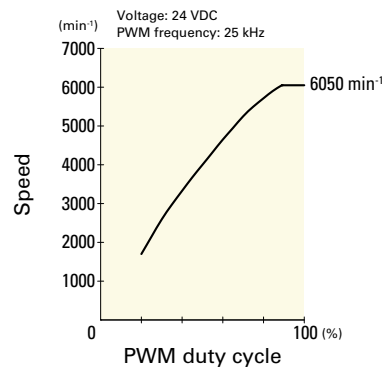
PWM duty cycle



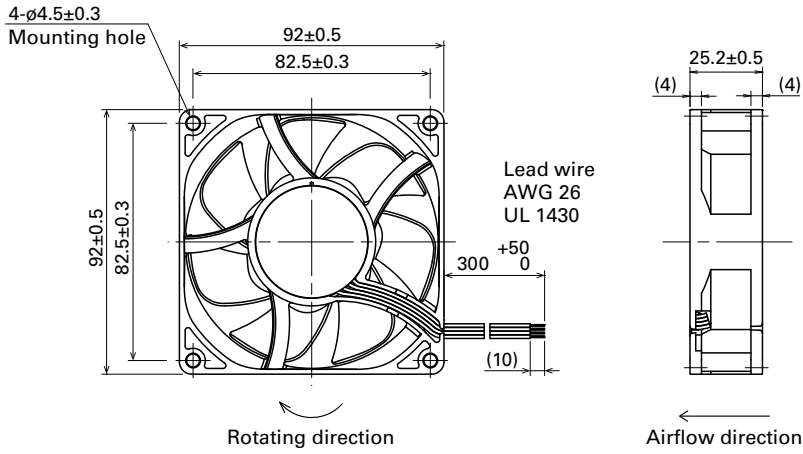
Operating voltage range



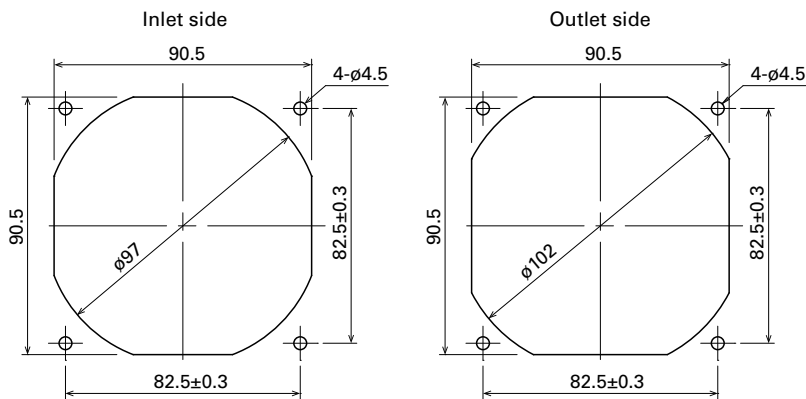
PWM duty - Speed characteristics example



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



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



**Options**

**Finger guards**

page: p. 584

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

**Resin finger guards**

page: p. 591

Model no.: 109-1001G

**Resin filter kits**

page: p. 592

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

DC Fan



# 92x92x25 mm

**San Ace 92 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 125 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.** For models without ribs, append "1" to the end of model numbers.

Model no.	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]				
» 9GA0912P4J03	12	10.2 to 13.8	100	0.39	4.68	5000	2.2	77.7	105	0.42	43	-20 to +70	60000/60°C (90000/40°C)				
			0	0.06	0.72	1500	0.65	23.3	9.4	0.04	14						
» 9GA0912P4G03			100	0.28	3.36	4400	1.93	68.2	81	0.33	39						
			0	0.06	0.72	1500	0.65	23.3	9.4	0.04	14						
» 9GA0912P4S03			100	0.2	2.4	3800	1.67	59.0	60.6	0.24	35						
			0	0.06	0.72	1500	0.65	23.3	9.4	0.04	14						
» 9GA0924P4J03			24	20.4 to 27.6	100	0.2	4.8	5000	2.2	77.7	105			0.42	43	-20 to +70	60000/60°C (90000/40°C)
					0	0.04	0.96	1500	0.65	23.3	9.4			0.04	14		
» 9GA0924P4G03					100	0.15	3.6	4400	1.93	68.2	81			0.33	39		
					0	0.04	0.96	1500	0.65	23.3	9.4			0.04	14		
» 9GA0924P4S03	100	0.12			2.88	3800	1.67	59.0	60.6	0.24	35						
	0	0.04			0.96	1500	0.65	23.3	9.4	0.04	14						

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

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

Model no.	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]		
» 9GA0912H401	12	10.2 to 13.8	0.19	2.28	3300	1.45	51.2	45.6	0.18	31	-20 to +70	60000/60°C (90000/40°C)		
» 9GA0912W401		7 to 16	0.19	2.28	3300	1.45	51.2	45.6	0.18	31				
» 9GA0912F401		10.2 to 13.8	0.14	1.68	2800	1.23	43.5	32.9	0.13	28				
» 9GA0912M401														
» 9GA0912L401		24	10.2 to 13.8	0.11	1.32	2400	1.05	37.1	24	0.096			24	
» 9GA0924H401				20.4 to 27.6	0.09	2.16	3300	1.45	51.2	45.6			0.18	31
» 9GA0924W401				12 to 28.8	0.09	2.16	3300	1.45	51.2	45.6			0.18	31
» 9GA0924F401				16 to 27.6	0.08	1.92	2800	1.23	43.5	32.9			0.13	28
» 9GA0924M401				14 to 27.6	0.05	1.2	2400	1.05	37.1	24			0.096	24
» 9GA0924L401														

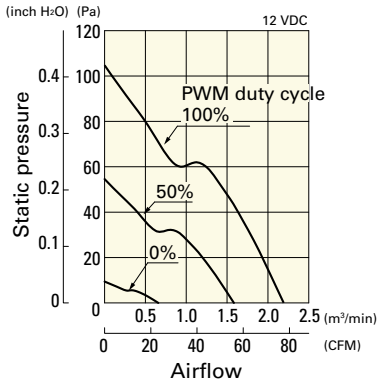
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 630 to 631.

Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

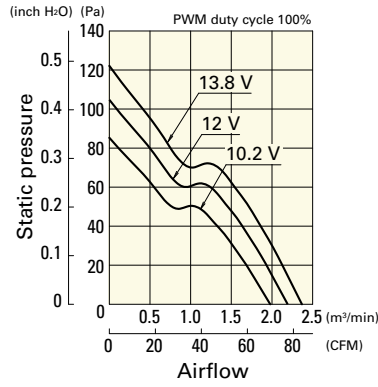
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0912P4J03** With pulse sensor with PWM control function

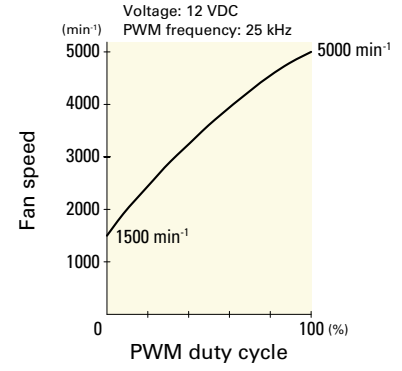
PWM duty cycle



Operating voltage range

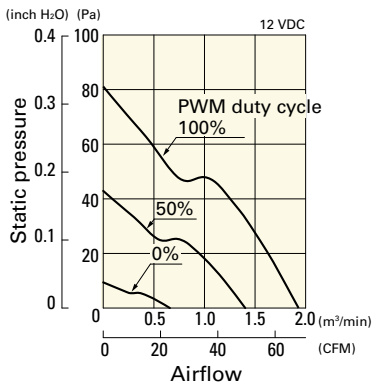


PWM duty - Speed characteristics example

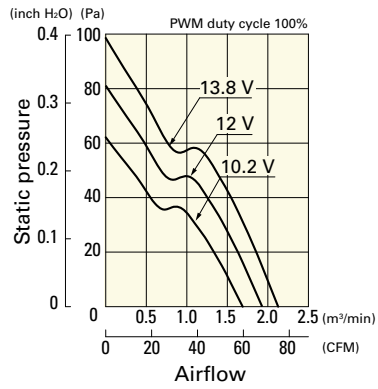


**9GA0912P4G03** With pulse sensor with PWM control function

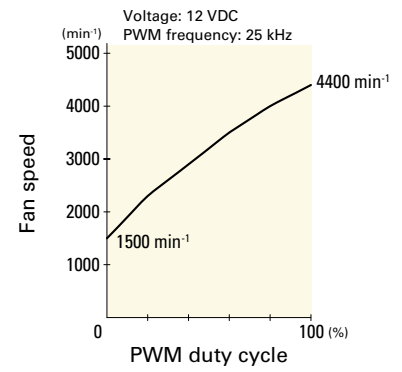
PWM duty cycle



Operating voltage range

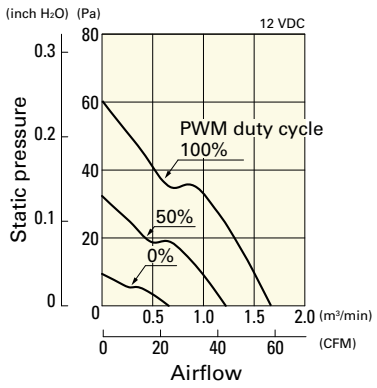


PWM duty - Speed characteristics example

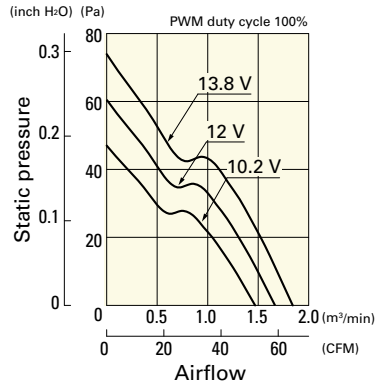


**9GA0912P4S03** With pulse sensor with PWM control function

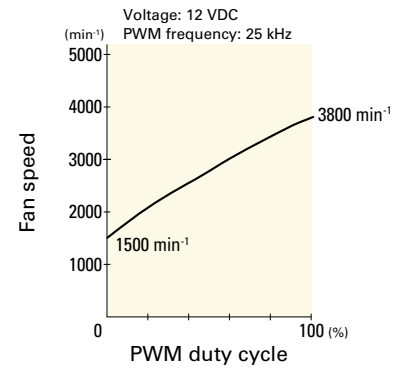
PWM duty cycle



Operating voltage range

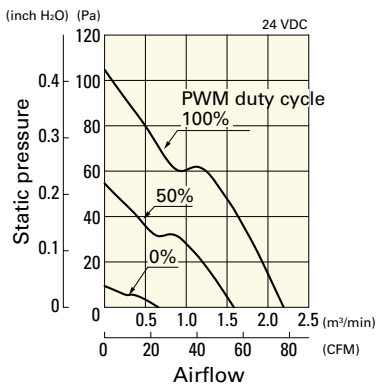


PWM duty - Speed characteristics example

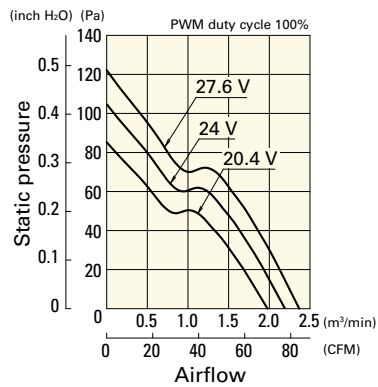


**9GA0924P4J03** With pulse sensor with PWM control function

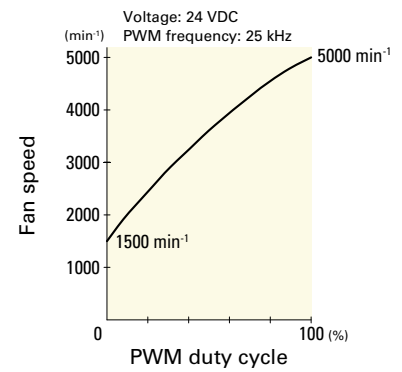
PWM duty cycle



Operating voltage range



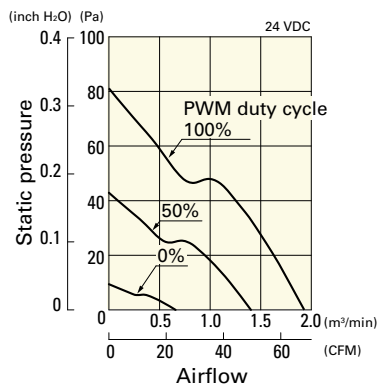
PWM duty - Speed characteristics example



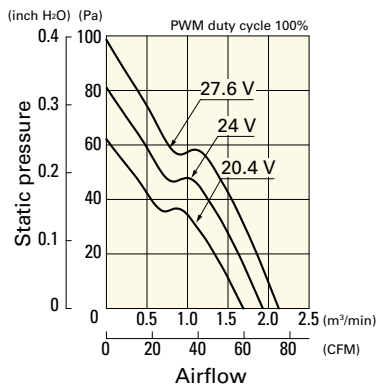
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0924P4G03** With pulse sensor with PWM control function

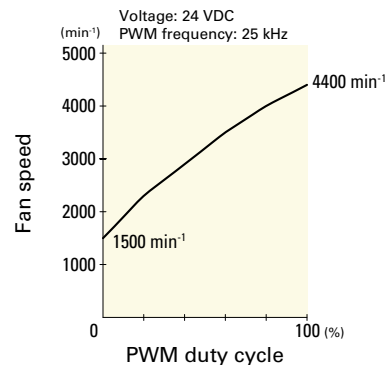
PWM duty cycle



Operating voltage range

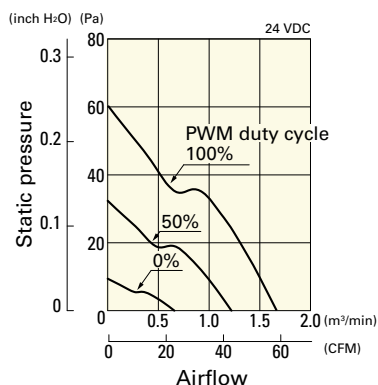


PWM duty - Speed characteristics example

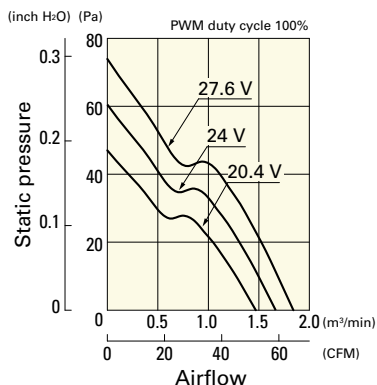


**9GA0924P4S03** With pulse sensor with PWM control function

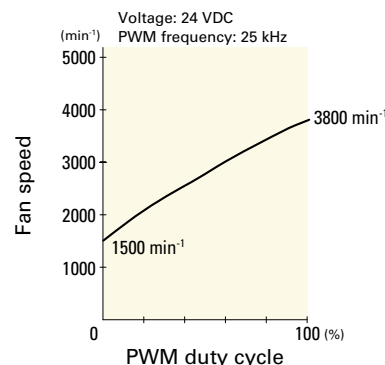
PWM duty cycle



Operating voltage range



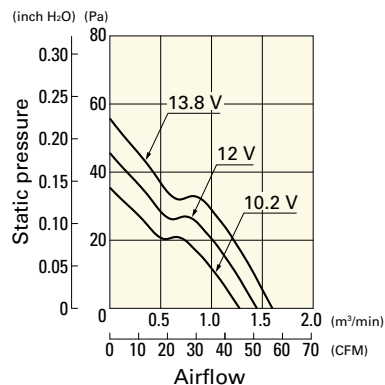
PWM duty - Speed characteristics example



**Airflow - Static Pressure Characteristics**

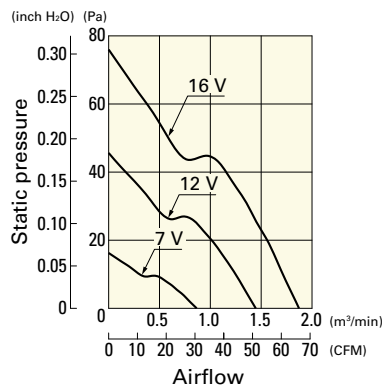
**9GA0912H401** With pulse sensor

Operating voltage range



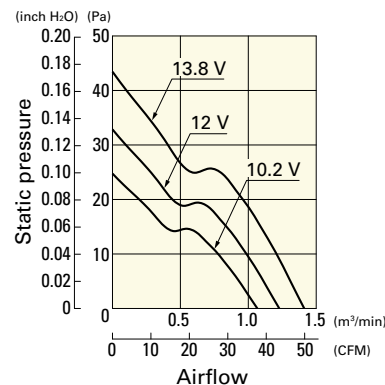
**9GA0912W401** With pulse sensor

Operating voltage range



**9GA0912F401** With pulse sensor

Operating voltage range

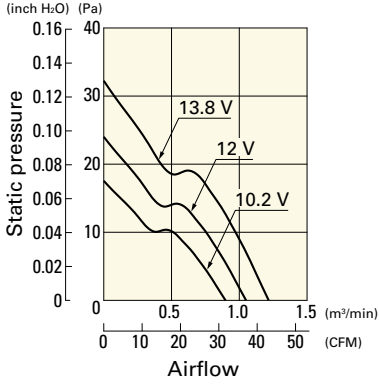




## Airflow - Static Pressure Characteristics

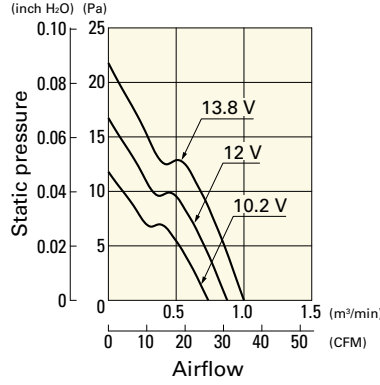
**9GA0912M401** With pulse sensor

Operating voltage range



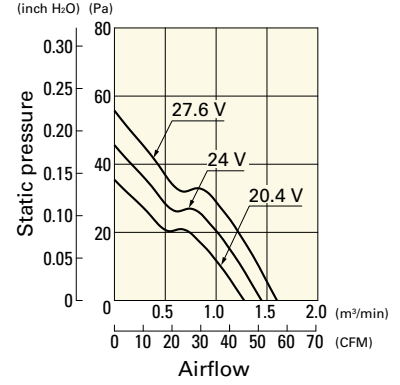
**9GA0912L401** With pulse sensor

Operating voltage range



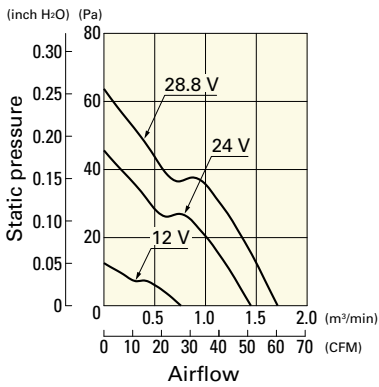
**9GA0924H401** With pulse sensor

Operating voltage range



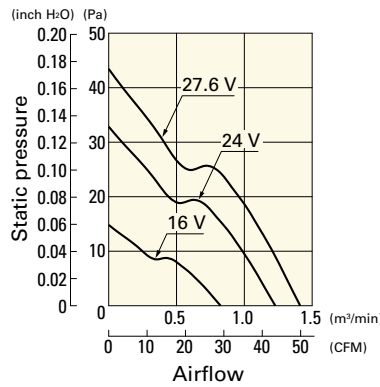
**9GA0924W401** With pulse sensor

Operating voltage range



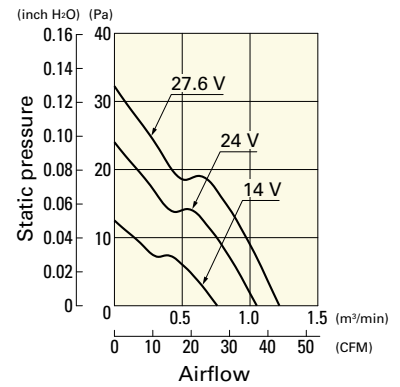
**9GA0924F401** With pulse sensor

Operating voltage range



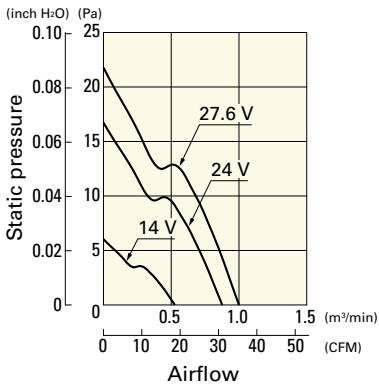
**9GA0924M401** With pulse sensor

Operating voltage range

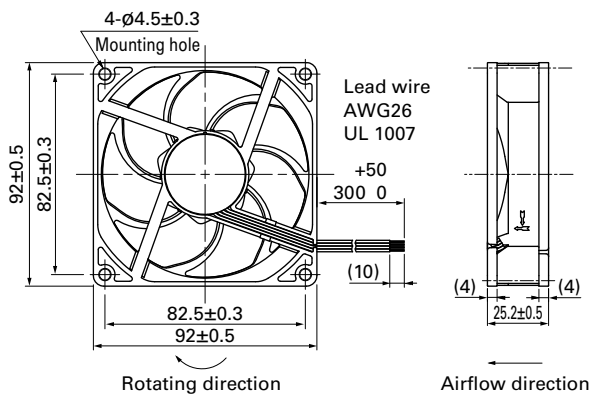


**9GA0924L401** With pulse sensor

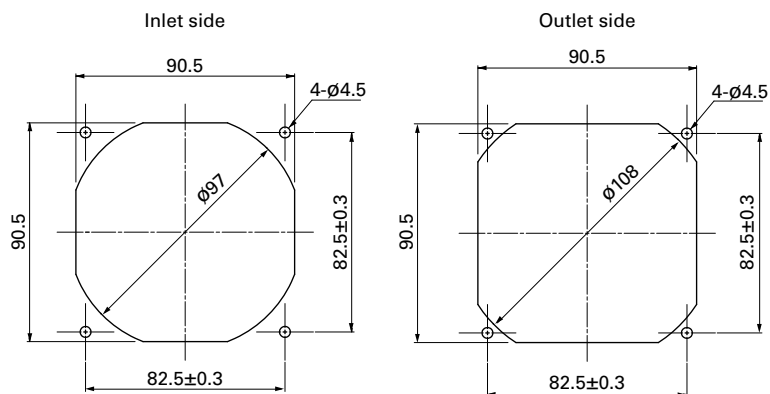
Operating voltage range



## Dimensions (unit: mm) (Ribbed frame with pulse sensor with PWM control function)



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



## Options

### Finger guards

page: p. 584

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

### Resin finger guards

page: p. 591

Model no.: 109-1001G

### Resin filter kits

page: p. 592

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

# 92x92x25 mm

San Ace 92 9S type Silent Fan 



## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow
- Mass ..... 100 g

## Specifications

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

Model no.	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]
» 9S0912F401	12	5.0 to 13.8	0.14	1.68	2650	1.26 44.5	30.0 0.12	27	-10 to +70	40000/60°C (70000/40°C)
» 9S0912M401			0.11	1.32	2250	1.07 37.8	21.6 0.087	22		
» 9S0912L401		6.0 to 13.8	0.07	0.84	1750	0.83 29.3	13.1 0.053	17		
» 9S0924F401	24	14 to 26.4	0.09	2.16	2650	1.26 44.5	30.0 0.12	27		
» 9S0924M401			0.07	1.68	2250	1.07 37.8	21.6 0.087	22		
» 9S0924L401			0.04	0.96	1750	0.83 29.3	13.1 0.053	17		

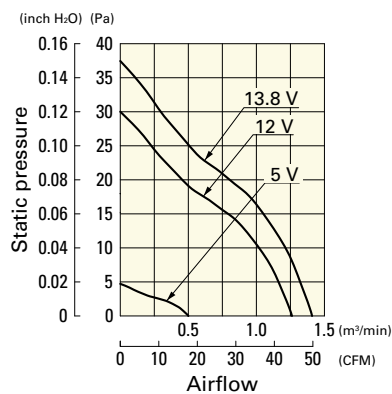
Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.

Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

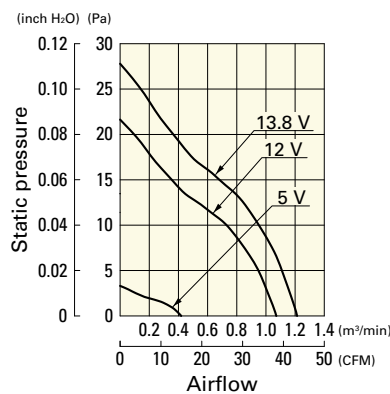
9S0912F401 With pulse sensor

Operating voltage range



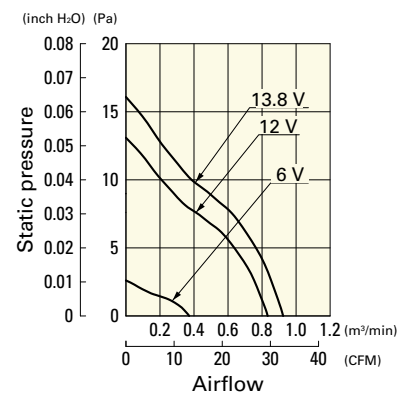
9S0912M401 With pulse sensor

Operating voltage range



9S0912L401 With pulse sensor

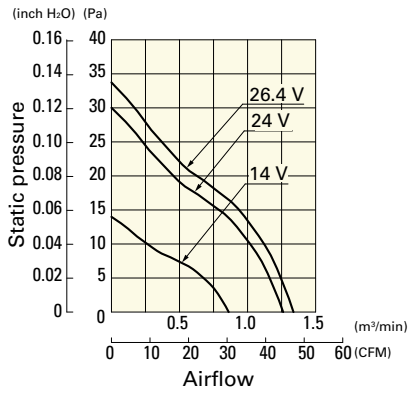
Operating voltage range



**Airflow - Static Pressure Characteristics**

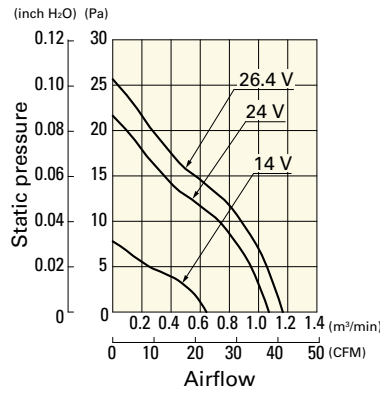
**9S0924F401** With pulse sensor

Operating voltage range



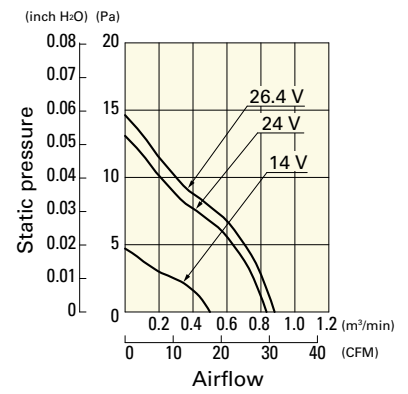
**9S0924M401** With pulse sensor

Operating voltage range

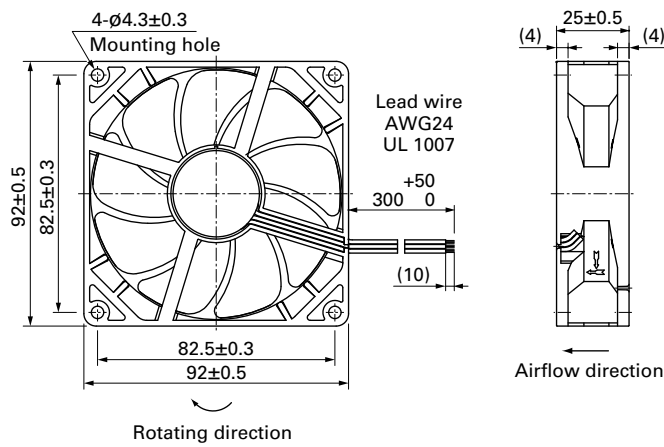


**9S0924L401** With pulse sensor

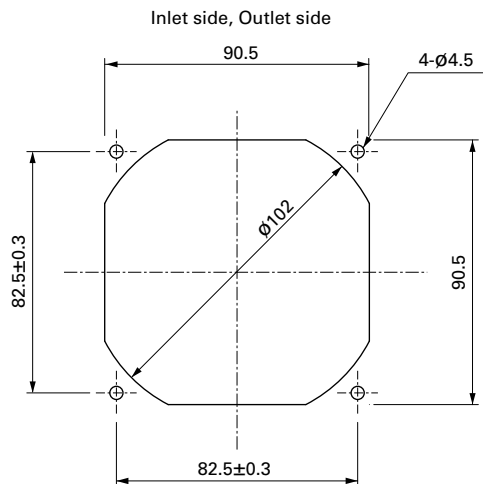
Operating voltage range



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



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



**Options**

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591




Model no.: 109-1001G

Resin filter kits

page: p. 592

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

# 92x92x25 mm

San Cooler 92 9A 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue (Sensor) Yellow
- Mass ..... 100 g

## Specifications

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

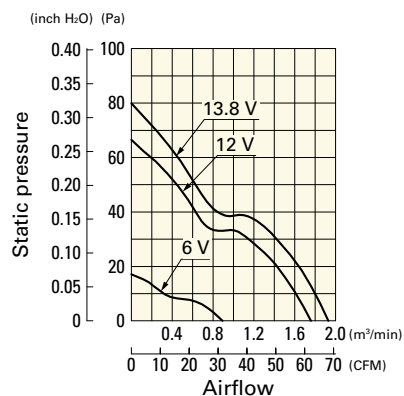
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9A0912G401	12	6 to 13.8	0.39	4.68	3900	1.76 62.1	66.5 0.267	43	-20 to +60	30000/60°C (53000/40°C)
9A0912S401			0.27	3.24	3550	1.66 58.6	56.1 0.225	39		
9A0912H401			0.21	2.52	3150	1.45 51.2	44 0.177	33		
9A0912F401			0.14	1.68	2650	1.24 43.8	32.2 0.129	30		
9A0912M401			0.12	1.44	2250	1.04 36.7	22.6 0.091	27		
9A0912L401			0.07	0.84	1750	0.8 28.2	13.4 0.054	23		
9A0924G401	24	12 to 27.6	0.19	4.56	3900	1.76 62.1	66.5 0.267	43	-20 to +60	30000/60°C (53000/40°C)
9A0924S401			0.15	3.6	3550	1.66 58.6	56.1 0.225	39		
9A0924H401			0.1	2.4	3150	1.45 51.2	44 0.177	33		
9A0924F401			0.08	1.92	2650	1.24 43.8	32.2 0.129	30		
9A0924M401			0.05	1.2	2250	1.04 36.7	22.6 0.091	27		
9A0924L401			0.04	0.96	1750	0.8 28.2	13.4 0.054	23		
9A0948S401	48	40.5 to 53	0.08	3.84	3550	1.66 58.6	56.1 0.225	39	-20 to +60	40000/60°C (70000/40°C)

Note 1: Sensor and control options are available for selection. Refer to the table on p. 624.  
 Note 2: The  mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

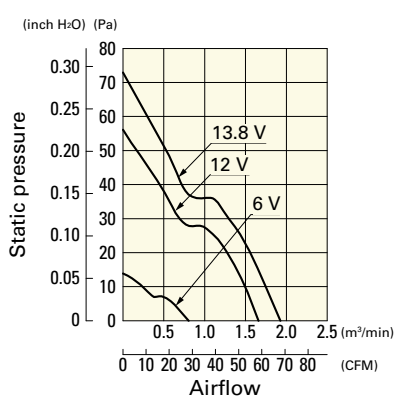
9A0912G401 With pulse sensor

Operating voltage range



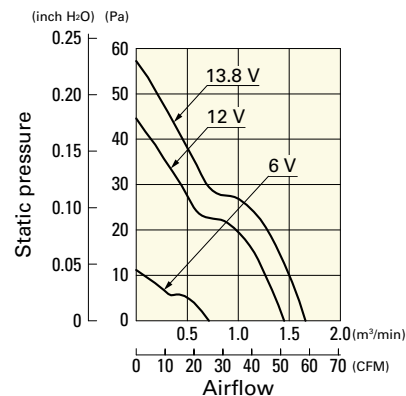
9A0912S401 With pulse sensor

Operating voltage range



9A0912H401 With pulse sensor

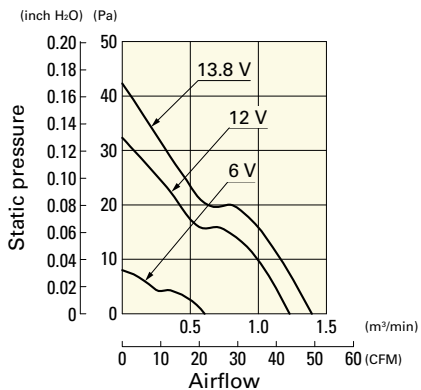
Operating voltage range



**Airflow - Static Pressure Characteristics**

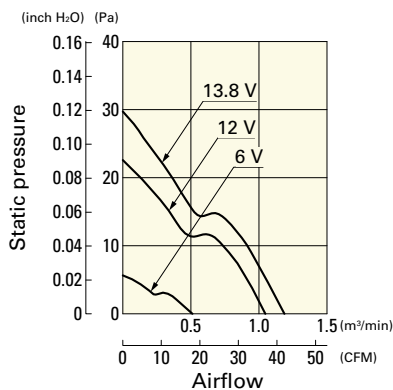
**9A0912F401** With pulse sensor

Operating voltage range



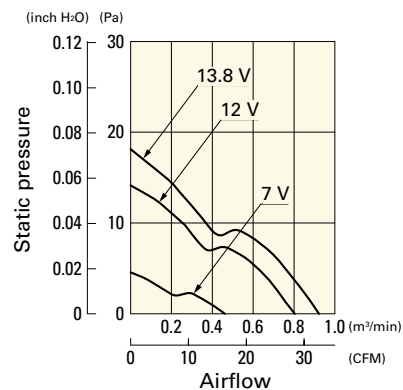
**9A0912M401** With pulse sensor

Operating voltage range



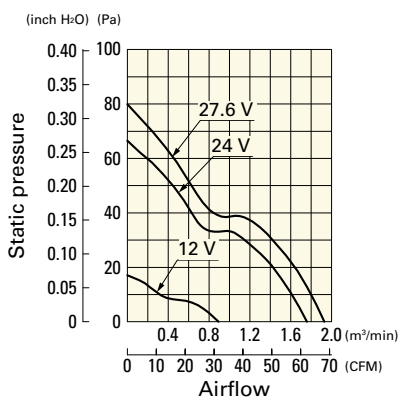
**9A0912L401** With pulse sensor

Operating voltage range



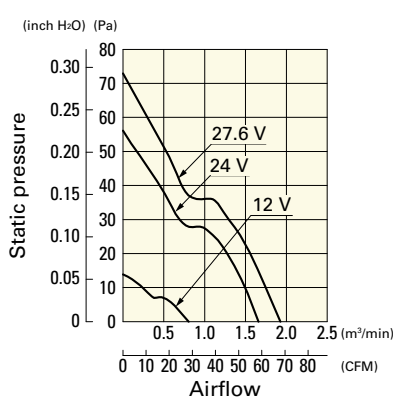
**9A0924G401** With pulse sensor

Operating voltage range



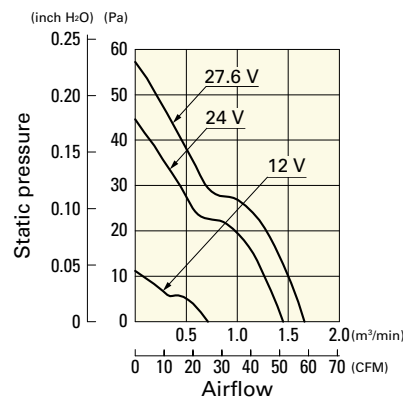
**9A0924S401** With pulse sensor

Operating voltage range



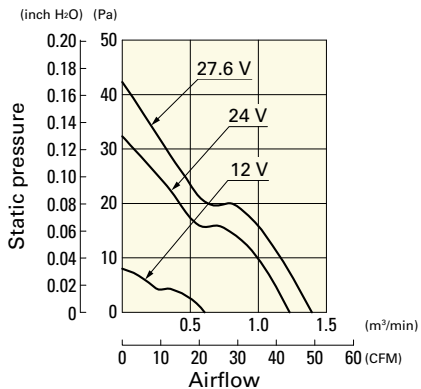
**9A0924H401** With pulse sensor

Operating voltage range



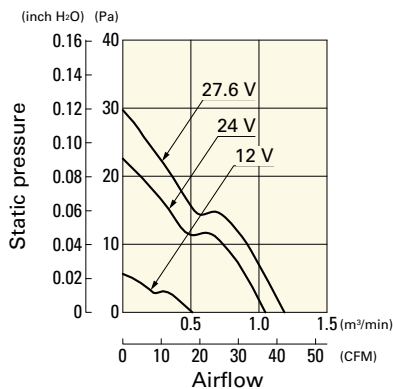
**9A0924F401** With pulse sensor

Operating voltage range



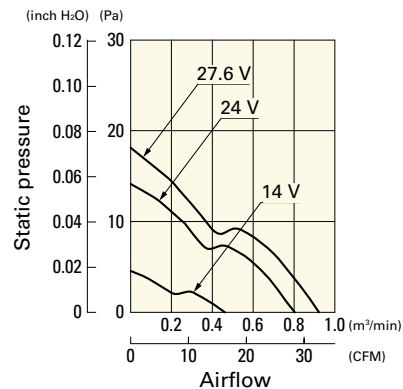
**9A0924M401** With pulse sensor

Operating voltage range



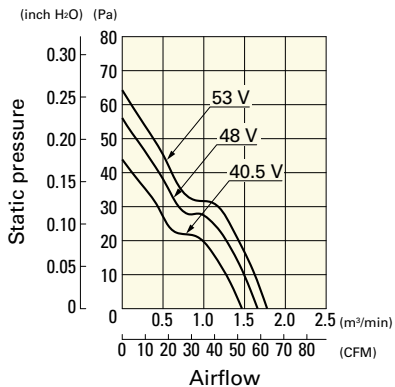
**9A0924L401** With pulse sensor

Operating voltage range

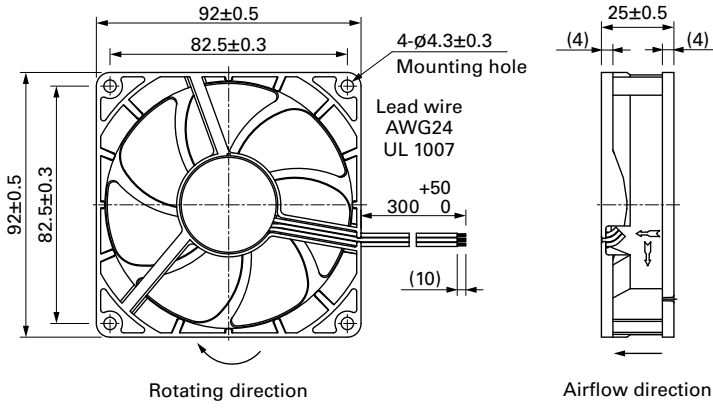


**9A0948S401** With pulse sensor

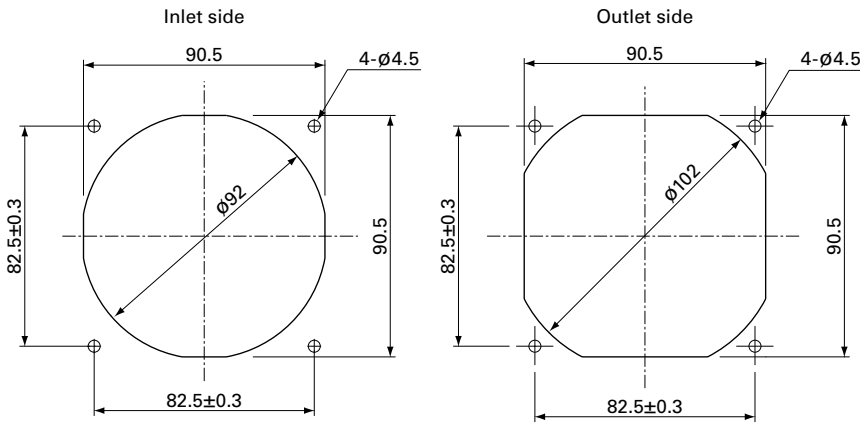
Operating voltage range



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



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



**Options**

**Finger guards** page: p. 584  
 Model no.: 109-099E, 109-099H, 109-099C

**Resin finger guards** page: p. 591  
 Model no.: 109-1001G

**Resin filter kits** page: p. 592  
 Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),  
 109-1001F30 (30PPI), 109-1001F40 (40PPI)



# 92x92x32 mm

San Ace 92 9G 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 170 g

## Specifications

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

Model no.	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]
9G0912A201	12	10.2 to 13.8	0.58	6.96	4300	2.5 88.3	115 0.462	44	-20 to +70	40000/60°C (70000/40°C)
9G0912S201			0.38	4.56	3500	2.0 70.7	77 0.309	38		
9G0912H201			0.23	2.76	2850	1.59 56.2	51 0.205	32		
9G0912M201			0.13	1.56	2100	1.2 42.4	27 0.108	25		
9G0924A201	24	20.4 to 27.6	0.3	7.2	4300	2.5 88.3	115 0.462	44	-20 to +60	
9G0924S201			0.19	4.56	3500	2.0 70.7	77 0.309	38		
9G0924H201			0.12	2.88	2850	1.59 56.2	51 0.205	32		
9G0924M201			0.08	1.92	2100	1.2 42.4	27 0.108	25		
9G0948A201	48	40.8 to 55.2	0.16	7.68	4300	2.5 88.3	115 0.462	44	-20 to +70	
9G0948S201			0.11	5.28	3500	2.0 70.7	77 0.309	38		
9G0948H201			0.08	3.84	2850	1.59 56.2	51 0.205	32		
9G0948M201			0.05	2.4	2100	1.2 42.4	27 0.108	25		

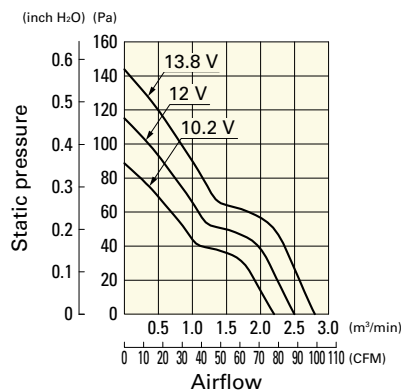
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 626 to 627.

Note 2: The mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

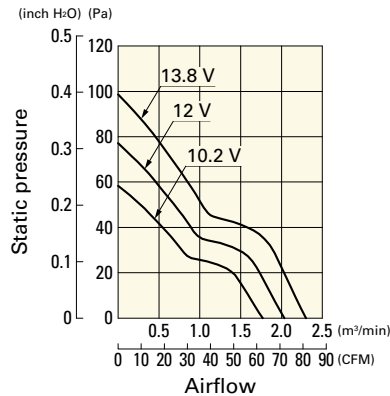
**9G0912A201** With pulse sensor

Operating voltage range



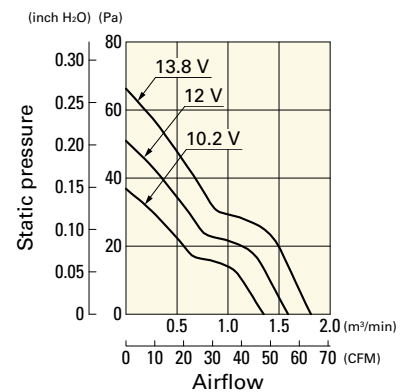
**9G0912S201** With pulse sensor

Operating voltage range



**9G0912H201** With pulse sensor

Operating voltage range

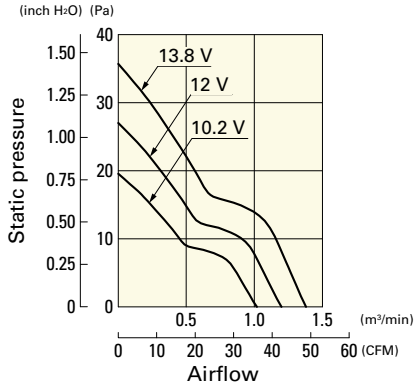




## Airflow - Static Pressure Characteristics

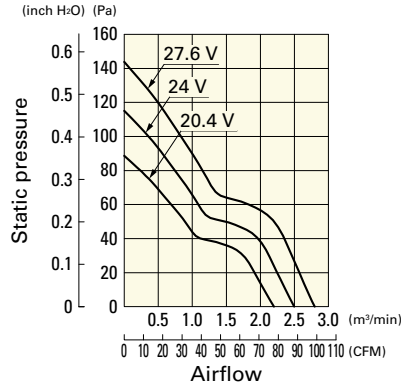
**9G0912M201** With pulse sensor

Operating voltage range



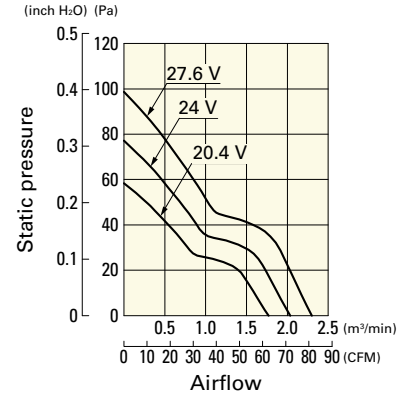
**9G0924A201** With pulse sensor

Operating voltage range



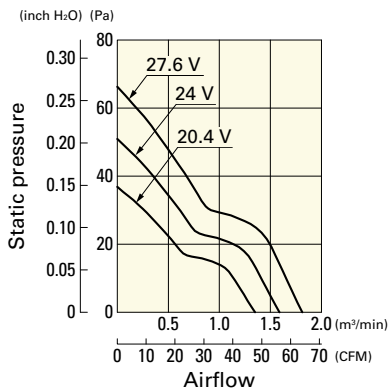
**9G0924S201** With pulse sensor

Operating voltage range



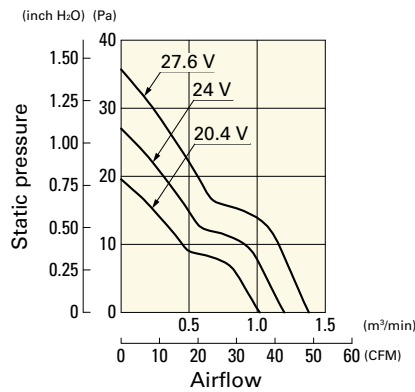
**9G0924H201** With pulse sensor

Operating voltage range



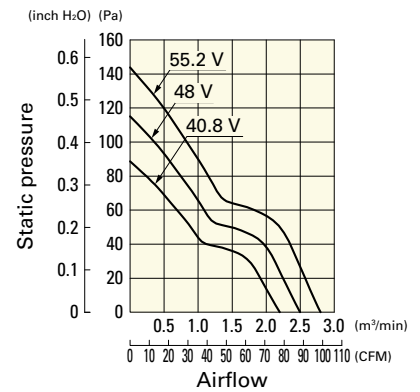
**9G0924M201** With pulse sensor

Operating voltage range



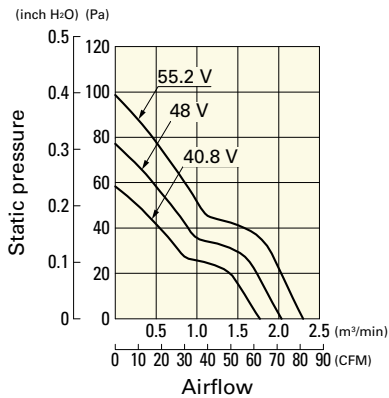
**9G0948A201** With pulse sensor

Operating voltage range



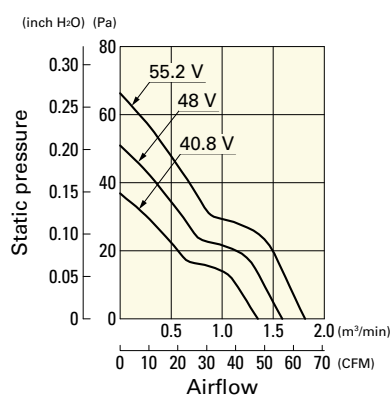
**9G0948S201** With pulse sensor

Operating voltage range



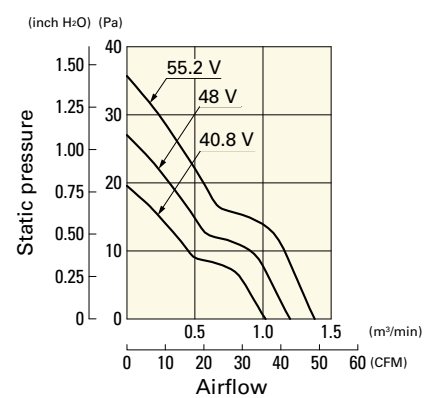
**9G0948H201** With pulse sensor

Operating voltage range

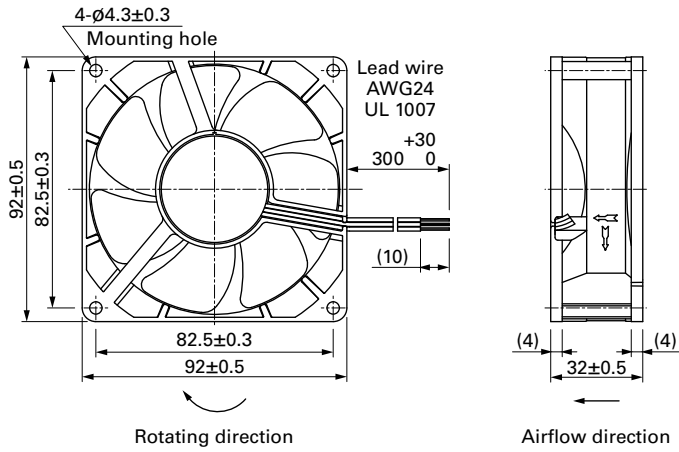


**9G0948M201** With pulse sensor

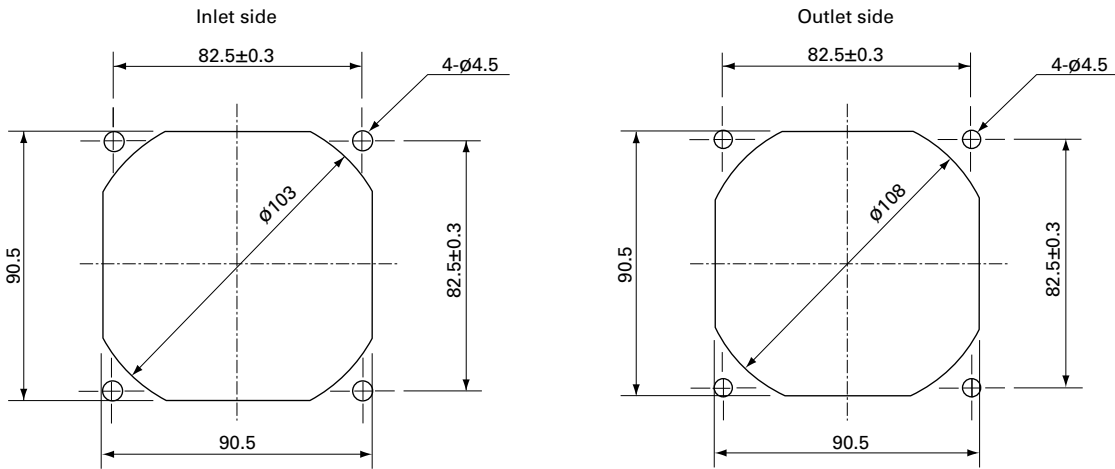
Operating voltage range



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



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



**Options**

**Finger guards** page: p. 584  
 Model no.: 109-099E, 109-099H, 109-099C

**Resin finger guards** page: p. 591  
 Model no.: 109-1001G

**Resin filter kits** page: p. 592  
 Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),  
 109-1001F30 (30PPI), 109-1001F40 (40PPI)



# 92x92x38 mm

San Ace 92 9HV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 250 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9HV0912P1G001	12	8 to 12.6	100	5.2	62.4	14900	5.1 180	1100 4.42	72	-20 to +70	40000/60°C (70000/40°C)
			0	0.8	9.6	4500	1.54 54.4	160 0.64	44		
▶▶ 9HV0924P1G001	24	20.4 to 27.6	100	2.50	60.0	14900	5.1 180	1100 4.42	72		
			0	0.34	8.16	4500	1.54 54.4	160 0.64	44		
▶▶ 9HV0948P1G001	48	36 to 60	100	1.2	57.6	14900	5.1 180	1100 4.42	72		
			0	0.15	7.2	4500	1.54 54.4	160 0.64	44		

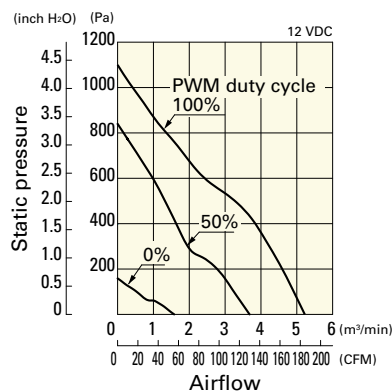
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

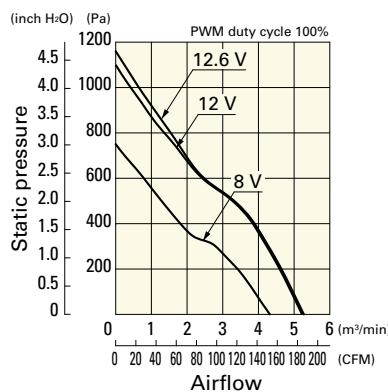
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9HV0912P1G001** With pulse sensor with PWM control function

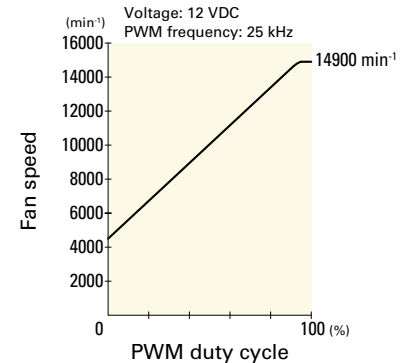
PWM duty cycle



Operating voltage range



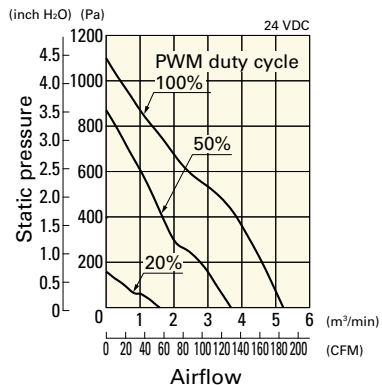
PWM duty - Speed characteristics example



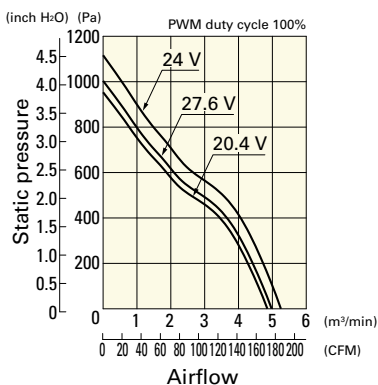
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9HV0924P1G001** With pulse sensor with PWM control function

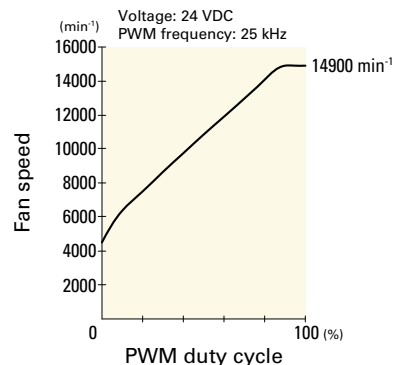
PWM duty cycle



Operating voltage range

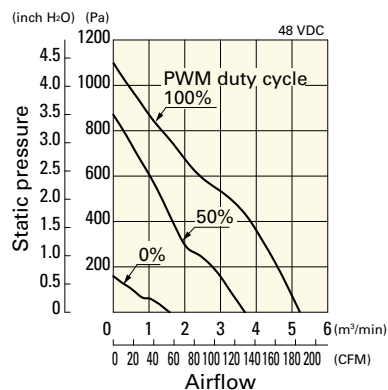


PWM duty - Speed characteristics example

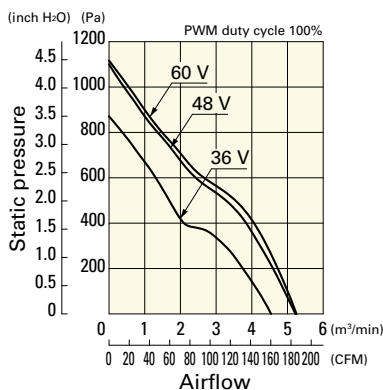


**9HV0948P1G001** With pulse sensor with PWM control function

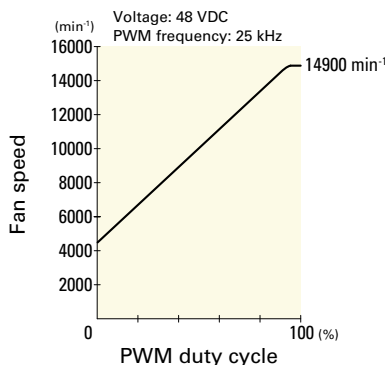
PWM duty cycle



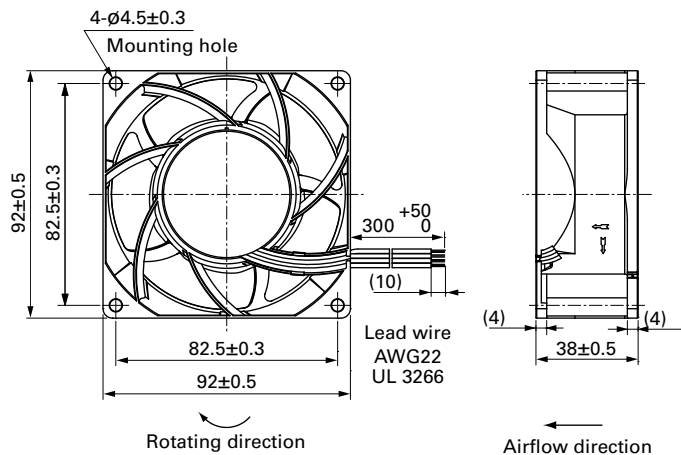
Operating voltage range



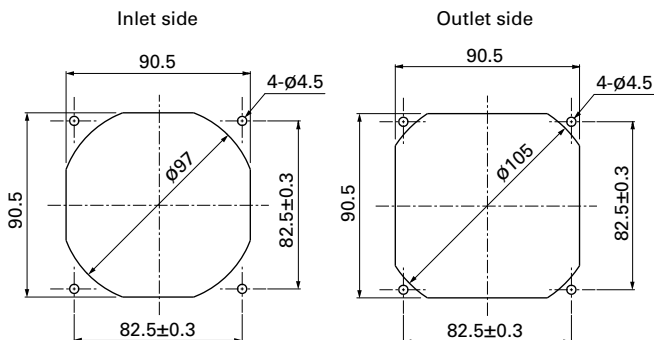
PWM duty - Speed characteristics example



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



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



## Options

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### Finger guards

page: p. 584

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

### Resin finger guards

page: p. 591

Model no.: 109-1001G

### Resin filter kits

page: p. 592

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

DC Fan



# 92x92x38 mm

**San Ace 92 9GA** type Low Power Consumption Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 240 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
9GA0912P1H03	12	10.2 to 13.8	100	2.1	25.2	9700	4.0 141	500 2.01	63	-20 to +70	40000/60°C (70000/40°C)
			0	0.16	1.92	2500	0.97 34.3	33 0.13	29		
9GA0924P1H01	24	20.4 to 27.6	100	1.1	26.4	9700	4.0 141	500 2.01	63	-10 to +70	
			0	0.07	1.68	2500	0.97 34.3	33 0.13	29		
9GA0948P1H03	48	40.8 to 55.2	100	0.55	26.4	9700	4.0 141	500 2.01	63	-20 to +70	

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

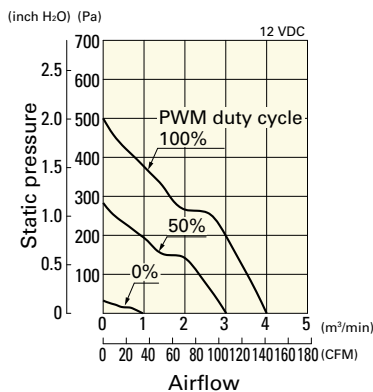
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 630 to 631.

Note 2: The mark indicates Short LeadTime Service applicable models. See p. 654 for details.

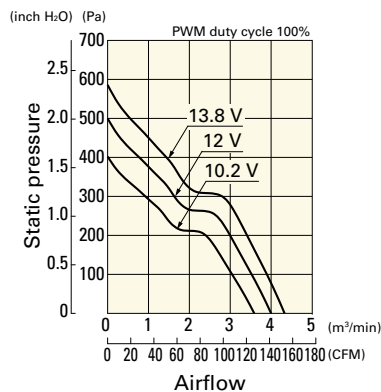
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0912P1H03** With pulse sensor with PWM control function

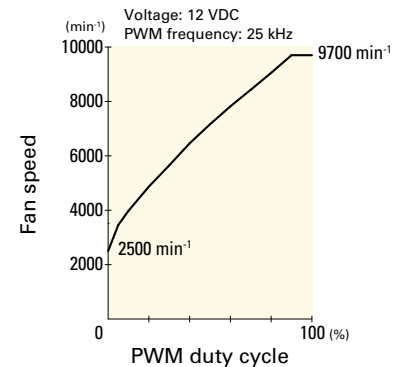
PWM duty cycle



Operating voltage range



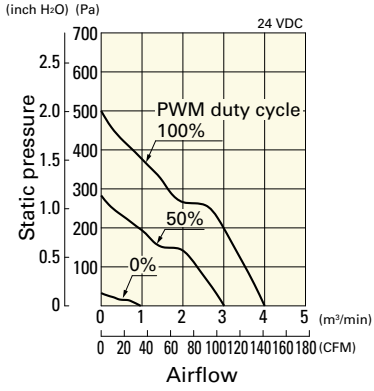
PWM duty - Speed characteristics example



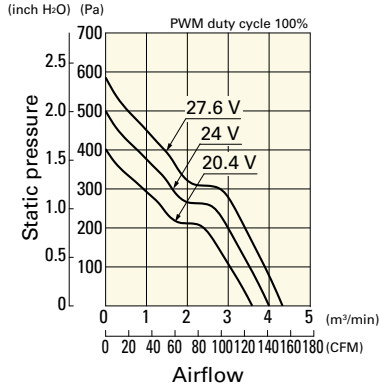
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0924P1H01** With pulse sensor with PWM control function

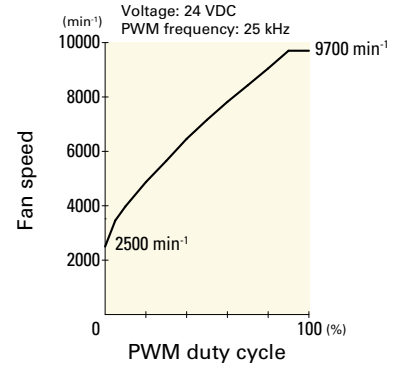
PWM duty cycle



Operating voltage range

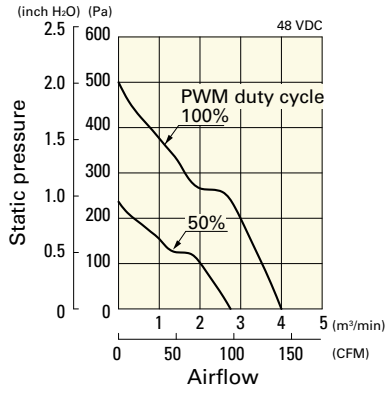


PWM duty - Speed characteristics example

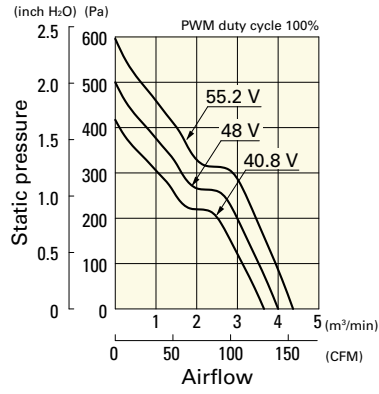


**9GA0948P1H03** With pulse sensor with PWM control function

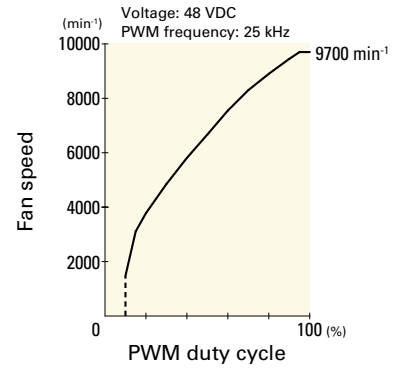
PWM duty cycle



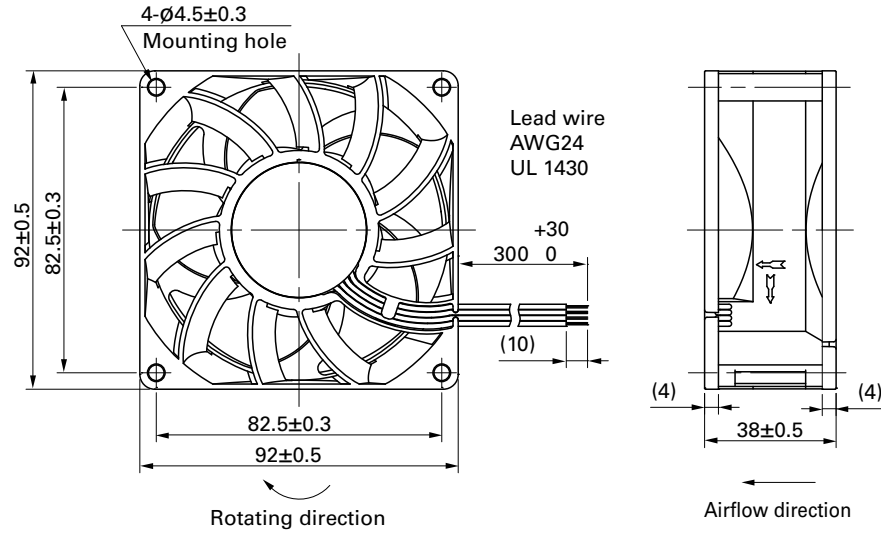
Operating voltage range



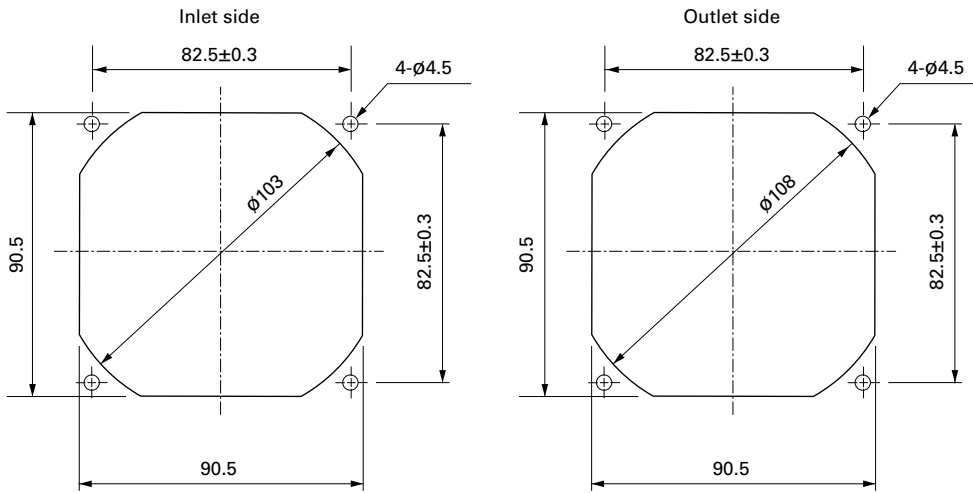
PWM duty - Speed characteristics example



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



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



## Options

### Finger guards

page: p. 584

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

### Resin finger guards

page: p. 591

Model no.: 109-1001G

### Resin filter kits

page: p. 592

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





# 92x92x38 mm

San Ace 92 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 250 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]		
9GV0912P1G03	12	10.8 to 13.2	100	4.1	49.2	9000	5.35 189.0	430.0 1.73	68	-20 to +70	40000/60°C (70000/40°C)		
			0	0.33	4.0	2900	1.72 60.8	44.6 0.18	37				
9GV0912P1H03		10.2 to 13.8	100	3.5	42.0	8500	5.05 178.0	385.0 1.55	64				
			0	0.29	3.5	2700	1.6 56.5	38.8 0.16	34				
9GV0912P1F03		48	40.8 to 55.2	100	1.9	22.8	7000	4.15 146.6	261 1.05			59	-10 to +70
				0	0.16	1.92	2200	1.3 45.9	25.7 0.1			31	
9GV0948P1H03	100		0.82	39.4	8500	5.05 178.0	385.0 1.55	64	-20 to +70				
			0	0.14	6.7	4000	2.37 83.7	85.2 0.34		45			
9GV0948P1F03	100		0.48	23.04	7000	4.15 146.6	261 1.05	59	-10 to +70				
			0	0.12	5.76	3500	2.07 73.1	65.2 0.26		42			

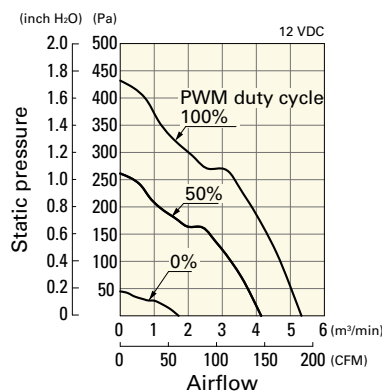
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on pp. 632 to 633.

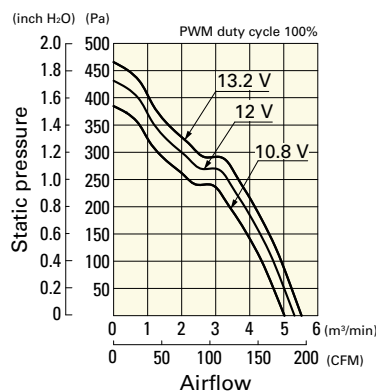
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GV0912P1G03** With pulse sensor with PWM control function

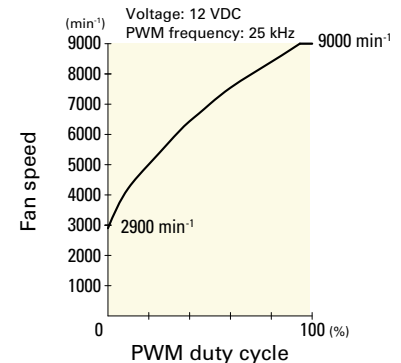
PWM duty cycle



Operating voltage range



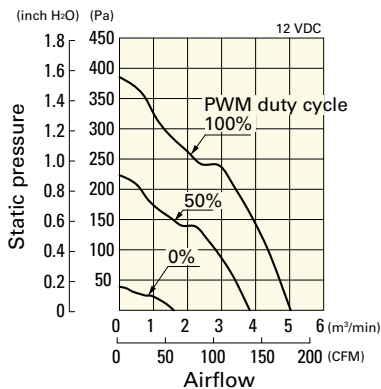
PWM duty - Speed characteristics example



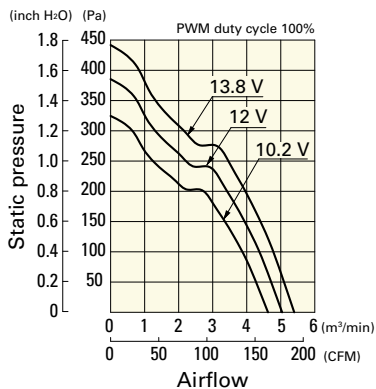
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GV0912P1H03** With pulse sensor with PWM control function

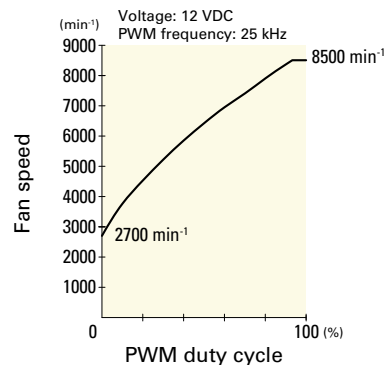
PWM duty cycle



Operating voltage range

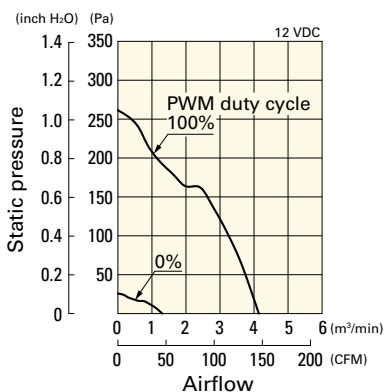


PWM duty - Speed characteristics example

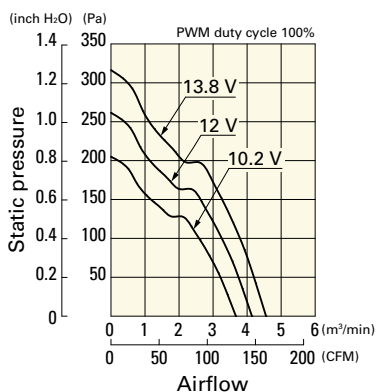


**9GV0912P1F03** With pulse sensor with PWM control function

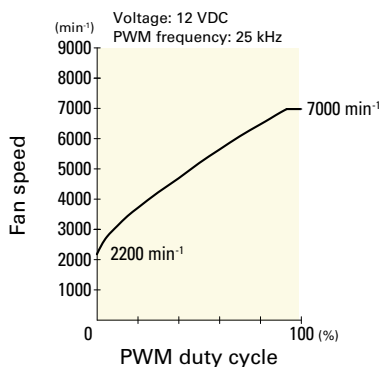
PWM duty cycle



Operating voltage range

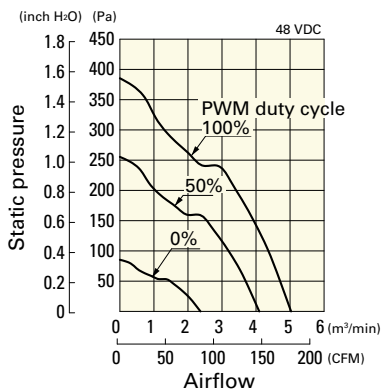


PWM duty - Speed characteristics example

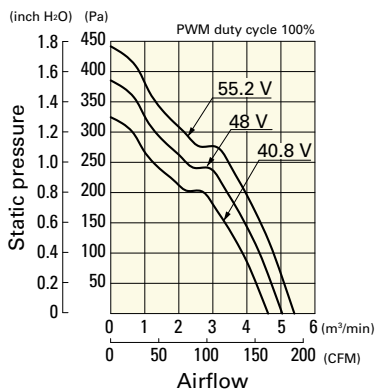


**9GV0948P1H03** With pulse sensor with PWM control function

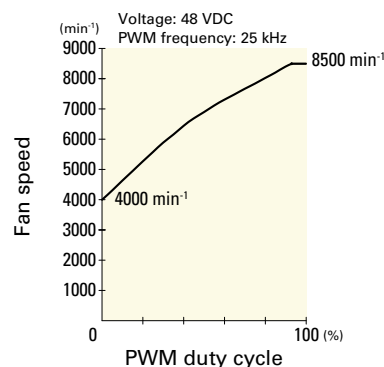
PWM duty cycle



Operating voltage range

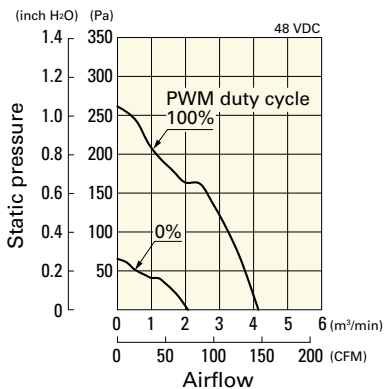


PWM duty - Speed characteristics example

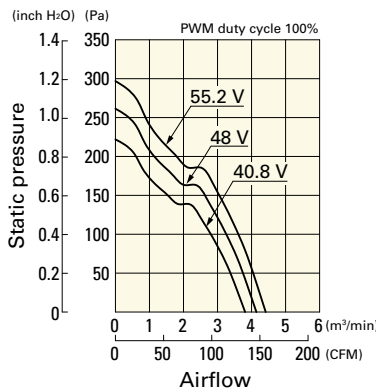


**9GV0948P1F03** With pulse sensor with PWM control function

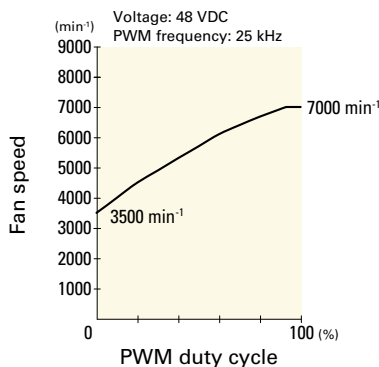
PWM duty cycle



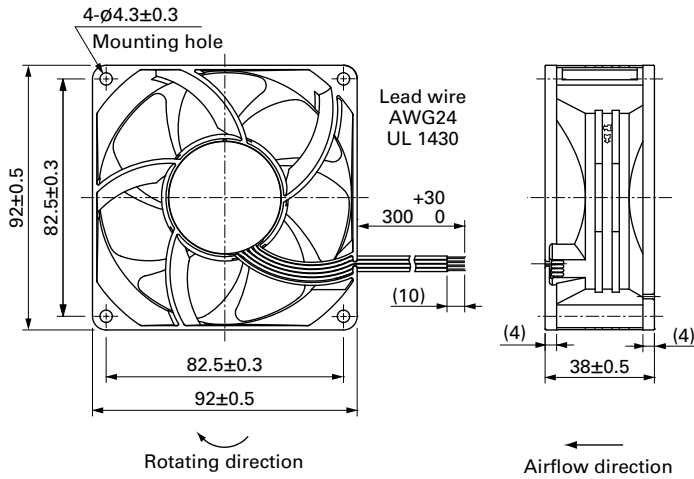
Operating voltage range



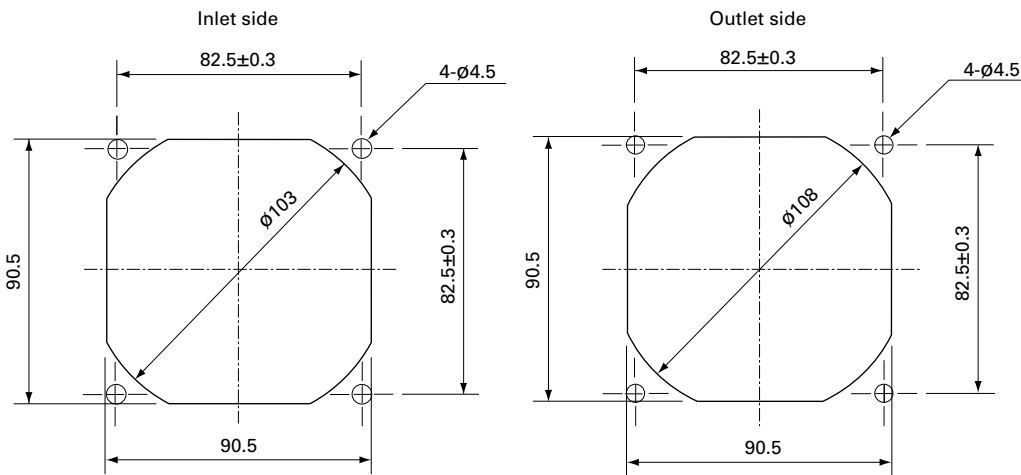
PWM duty - Speed characteristics example



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



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



**Options**

Finger guards

page: p. 584

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

Resin finger guards

page: p. 591

Model no.: 109-1001G

Resin filter kits

page: p. 592

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

DC Fan



# 92x92x38 mm

San Ace 92 9G 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow
- Mass ..... 180 g

## Specifications

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

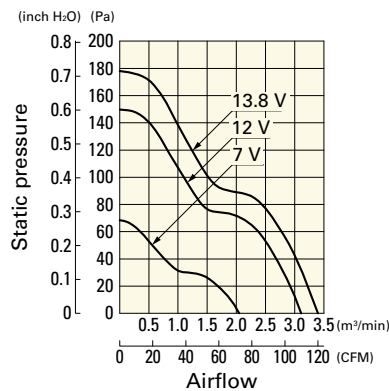
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]	
9G0912G101	12	7.0 to 13.8	1.1	13.2	5000	3.1 110	150 0.602	50	-20 to +60	40000/60°C (70000/40°C)	
9G0912H101			0.58	6.96	4000	2.54 90	100 0.402	43			
9G0924G101	24	20.4 to 27.6	0.55	13.2	5000	3.1 110	150 0.602	50			
9G0924H101			0.3	7.2	4000	2.54 90	100 0.402	43			
9G0948J101	48	40.8 to 55.2	0.32	15.36	5500	3.41 120.49	178 0.715	55			-20 to +70
9G0948G101			0.27	12.96	5000	3.1 110	150 0.602	50			-20 to +60
9G0948H101			0.16	7.68	4000	2.54 90	100 0.402	43			

Note: Sensor and control options are available for selection. Refer to the table on pp. 626 to 627.

## Airflow - Static Pressure Characteristics

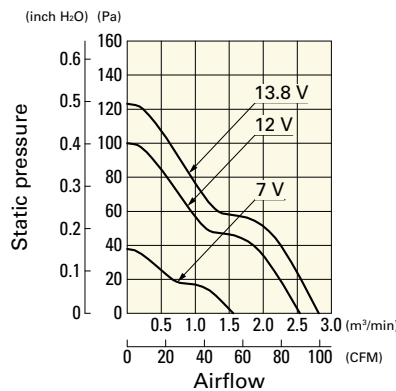
**9G0912G101** With pulse sensor

Operating voltage range



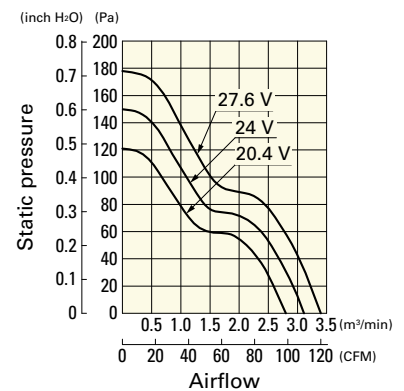
**9G0912H101** With pulse sensor

Operating voltage range



**9G0924G101** With pulse sensor

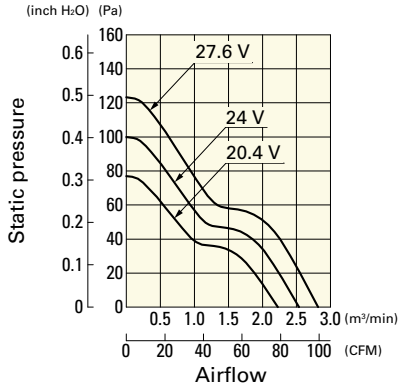
Operating voltage range



## Airflow - Static Pressure Characteristics

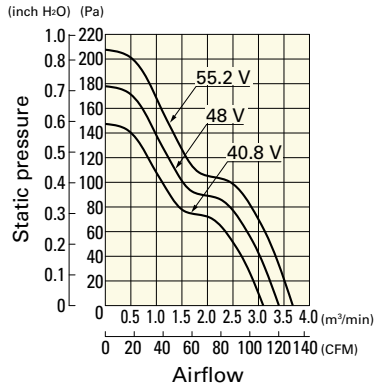
**9G0924H101** With pulse sensor

Operating voltage range



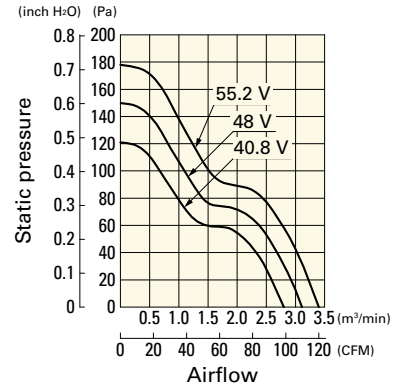
**9G0948J101** With pulse sensor

Operating voltage range



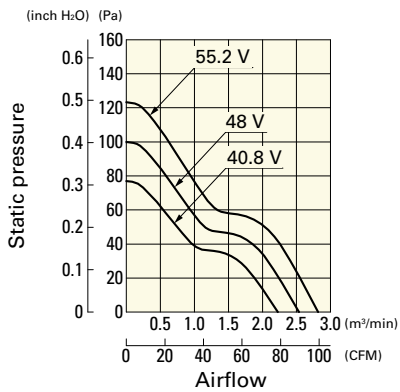
**9G0948G101** With pulse sensor

Operating voltage range

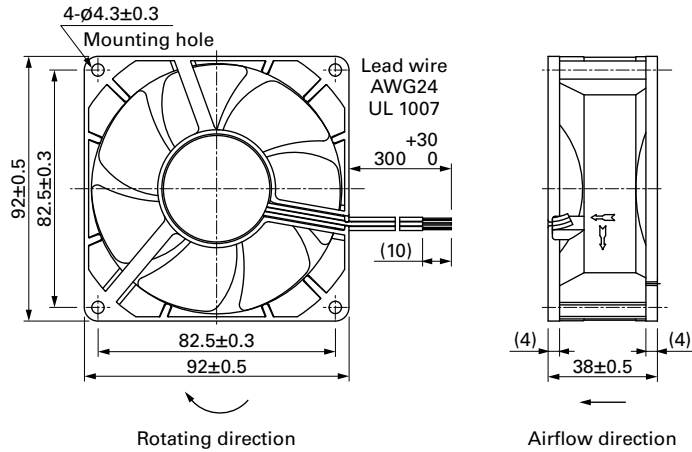


**9G0948H101** With pulse sensor

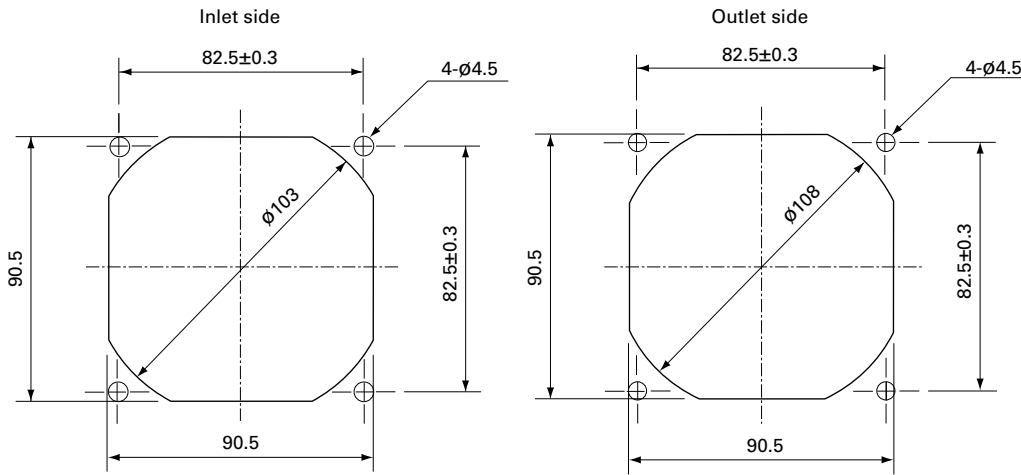
Operating voltage range



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



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



## Options

### Finger guards

page: p. 584

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

### Resin finger guards

page: p. 591

Model no.: 109-1001G


### Resin filter kits

page: p. 592

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



# 120×120×25 mm

**San Ace 120 9GA** type Low Power Consumption Fan  **UL** **US**

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 280 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.** For models without ribs, append "1" to the end of model numbers.

Model no.	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]
▶▶ 9GA1212P4G001	12	10.2 to 13.8	100	0.93	11.16	6400	3.8	134	365	1.47	57	-20 to +70	40000/60°C (70000/40°C)
▶▶ 9GA1212P4S001			25	0.16	1.92	2550	1.5	53	60	0.24	34		
▶▶ 9GA1224P4G001	24	20.4 to 27.6	100	0.47	11.28	6400	3.8	134	365	1.47	57		
▶▶ 9GA1224P4S001			25	0.1	2.4	2550	1.5	53	60	0.24	34		
▶▶ 9GA1248P4G001			100	0.31	7.44	5400	3.2	113	260	1.04	54		
▶▶ 9GA1248P4S001	48	40.8 to 53	25	0.1	2.4	2550	1.5	53	60	0.24	34		
▶▶ 9GA1248P4G001			100	0.24	11.52	6400	3.8	134	365	1.47	57		
▶▶ 9GA1248P4S001			25	0.08	3.84	2550	1.5	53	60	0.24	34		
▶▶ 9GA1248P4G001			100	0.16	7.68	5400	3.2	113	260	1.04	54		
▶▶ 9GA1248P4S001	25	0.08	3.84	2550	1.5	53	60	0.24	34				

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

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

Model no.	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]
▶▶ 9GA1212G4001	12	7 to 13.8	0.93	11.16	6400	3.8	134	365	1.47	57	-20 to +70	40000/60°C (70000/40°C)
▶▶ 9GA1212S4001			0.61	7.32	5400	3.2	113	260	1.04	54		
▶▶ 9GA1224G4001	24	14 to 27.6	0.47	11.28	6400	3.8	134	365	1.47	57		
▶▶ 9GA1224S4001			0.31	7.44	5400	3.2	113	260	1.04	54		
▶▶ 9GA1248G4001	48	36 to 53	0.24	11.52	6400	3.8	134	365	1.47	57		
▶▶ 9GA1248S4001			0.16	7.68	5400	3.2	113	260	1.04	54		

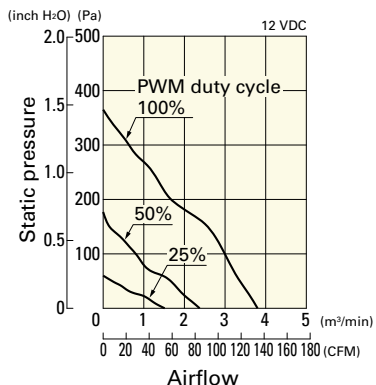
Note 1: Sensor and control options are available for selection. Refer to the table on p. 631.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

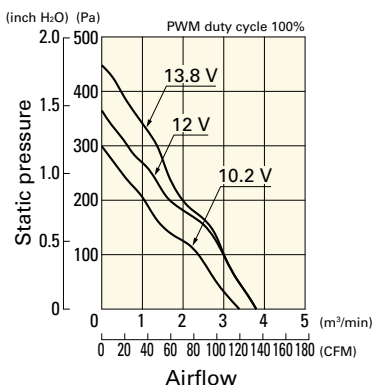
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA1212P4G001** With pulse sensor with PWM control function

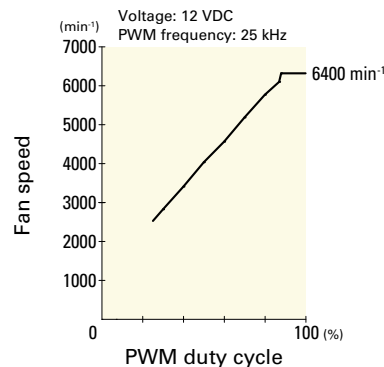
PWM duty cycle



Operating voltage range

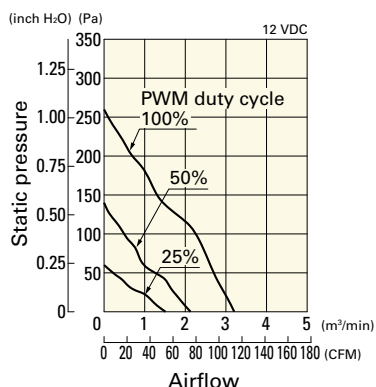


PWM duty - Speed characteristics example

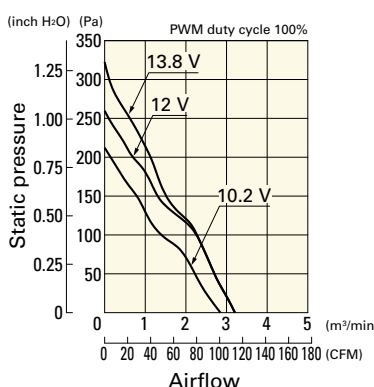


**9GA1212P4S001** With pulse sensor with PWM control function

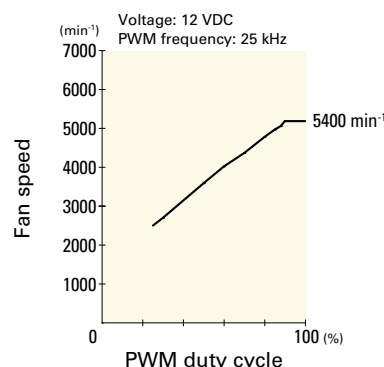
PWM duty cycle



Operating voltage range

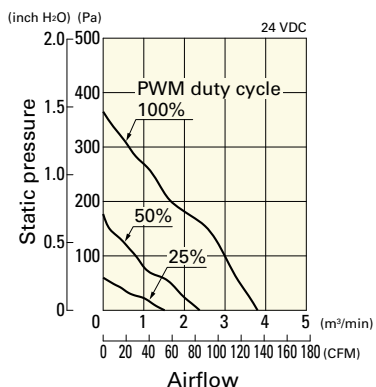


PWM duty - Speed characteristics example

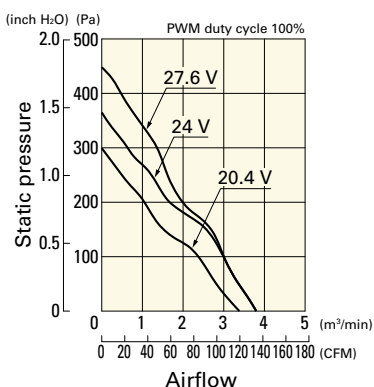


**9GA1224P4G001** With pulse sensor with PWM control function

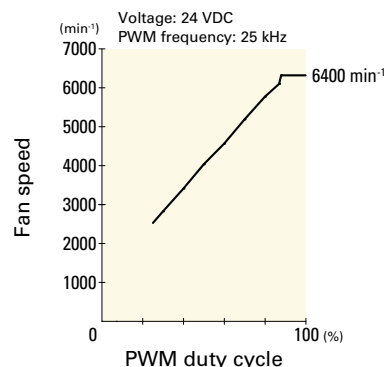
PWM duty cycle



Operating voltage range

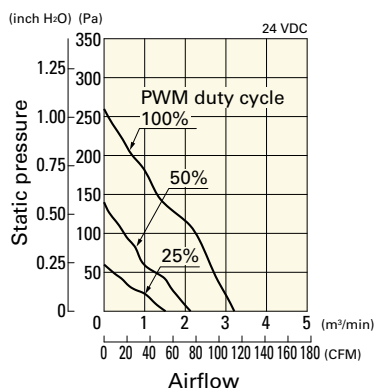


PWM duty - Speed characteristics example

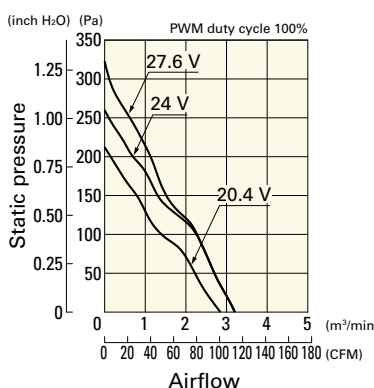


**9GA1224P4S001** With pulse sensor with PWM control function

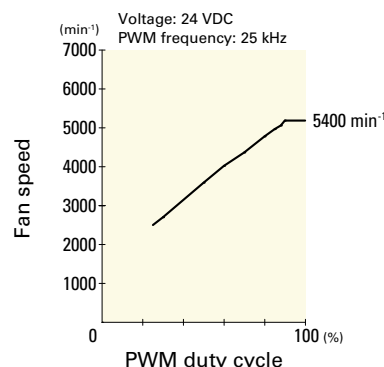
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

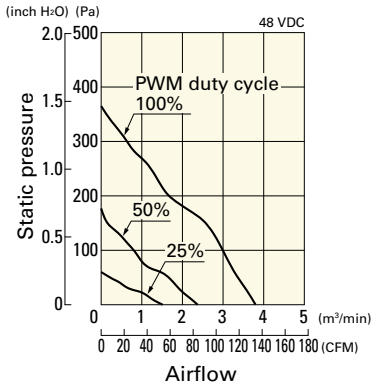




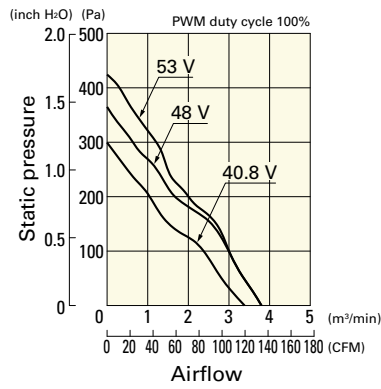
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA1248P4G001** With pulse sensor with PWM control function

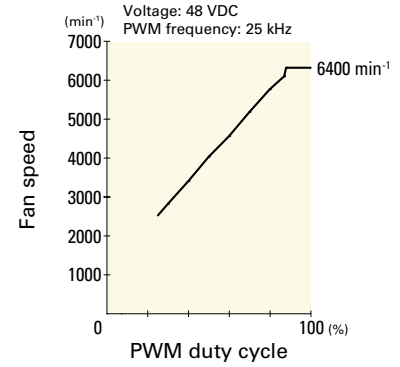
PWM duty cycle



Operating voltage range

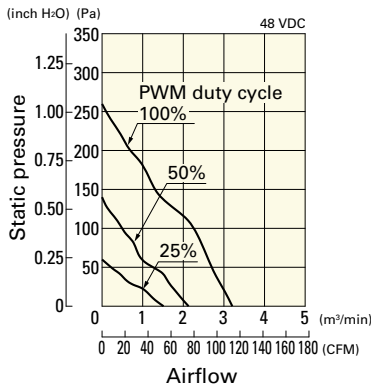


PWM duty - Speed characteristics example

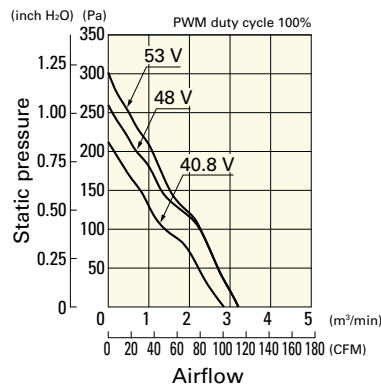


**9GA1248P4S001** With pulse sensor with PWM control function

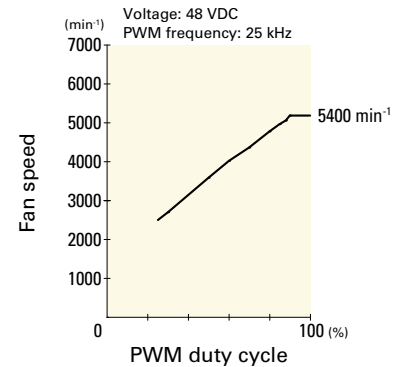
PWM duty cycle



Operating voltage range



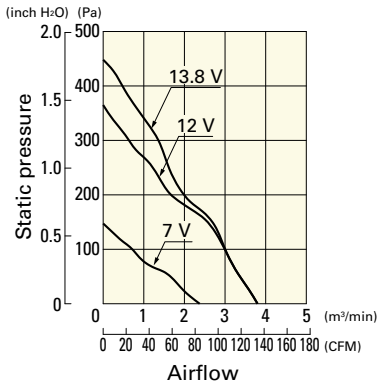
PWM duty - Speed characteristics example



**Airflow - Static Pressure Characteristics**

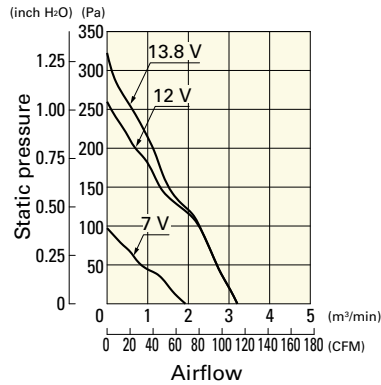
**9GA1212G4001** With pulse sensor

Operating voltage range



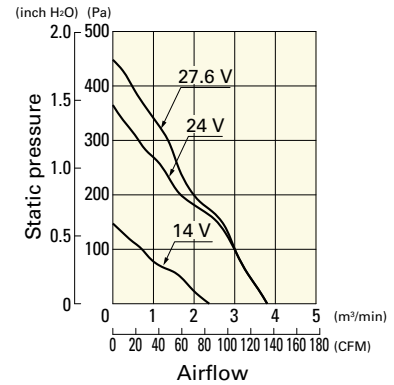
**9GA1212S4001** With pulse sensor

Operating voltage range



**9GA1224G4001** With pulse sensor

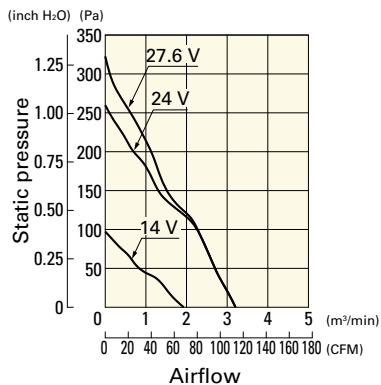
Operating voltage range



**Airflow - Static Pressure Characteristics**

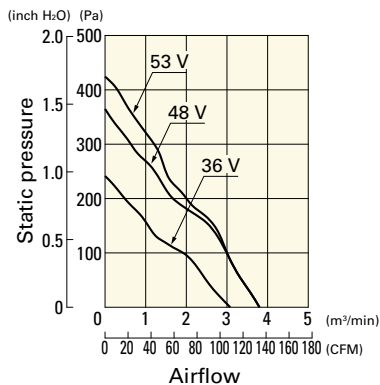
**9GA1224S4001** With pulse sensor

Operating voltage range



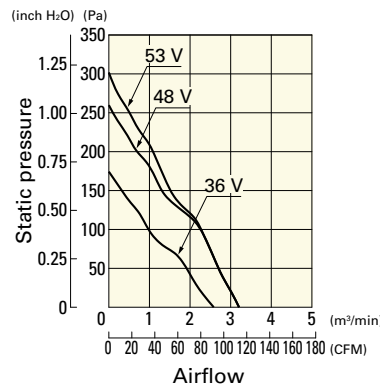
**9GA1248G4001** With pulse sensor

Operating voltage range

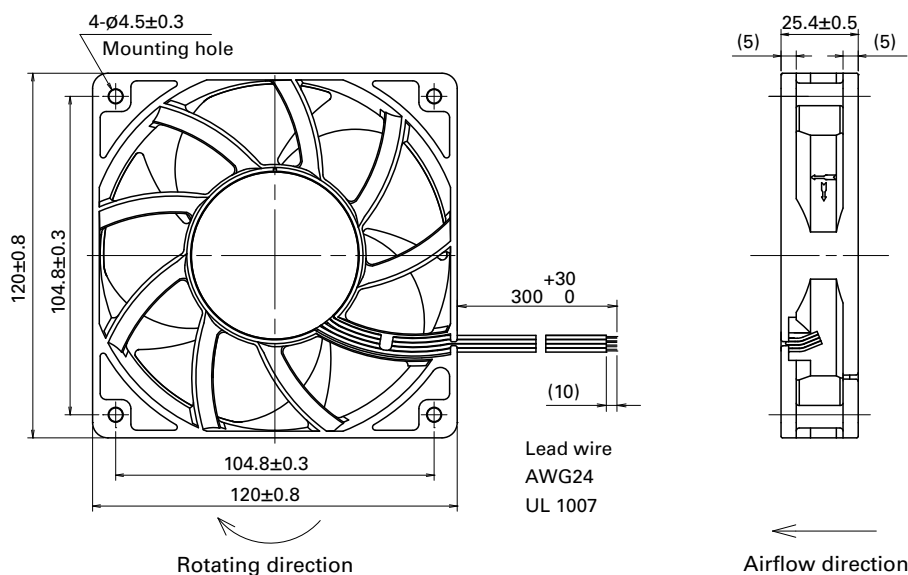


**9GA1248S4001** With pulse sensor

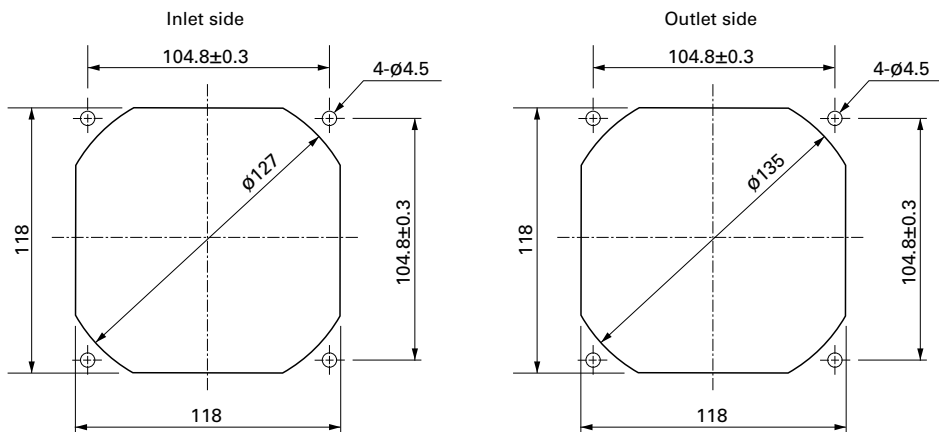
Operating voltage range



**Dimensions (unit: mm)** (Ribbed frame with pulse sensor with PWM control function)



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



**Options**

Finger guards

page: p. 585

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

Resin finger guards

page: p. 591

Model no.: 109-1000G

Resin filter kits

page: p. 592

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



# 120x120x25 mm

San Ace 120 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 260 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
9GV1212P4G01	12	10.2 to 13.8	100	1.68	20.16	5100	4.83 171	224 0.9	58	-20 to +70	40000/60°C (70000/40°C)
			0	0.18	2.16	1650	1.56 55.1	23.5 0.09	30		
9GV1224P4G01	24	20.4 to 27.6	100	0.84	20.16	5100	4.83 171	224 0.9	58		
			0	0.13	3.12	1650	1.56 55.1	23.5 0.09	30		
9GV1248P4J01	48	40.8 to 55.2	100	0.5	24.0	5400	5.11 180	251 1.01	59		
			0	0.15	7.2	3000	2.84 100	77.5 0.31	47		
9GV1248P4G01	48	40.8 to 60.0	100	0.42	20.16	5100	4.83 171	224 0.9	58		
			0	0.07	3.36	1650	1.56 55.1	23.5 0.09	30		
9GV1248P4H01	48	40.8 to 60.0	100	0.33	15.84	4600	4.35 154	182 0.73	55		
			0	0.07	3.36	1650	1.56 55.1	23.5 0.09	30		

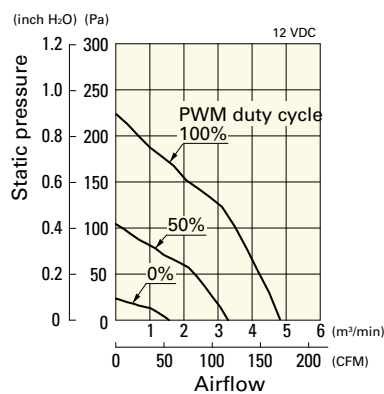
\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

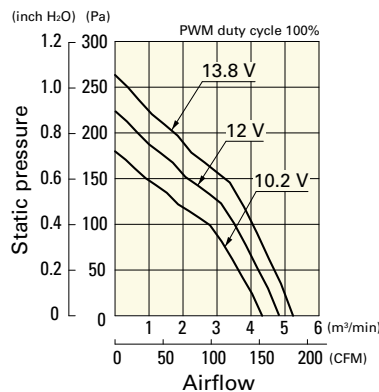
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GV1212P4G01** With pulse sensor with PWM control function

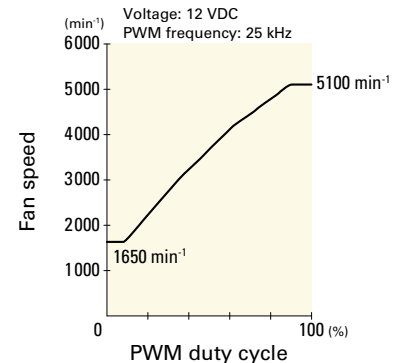
PWM duty cycle



Operating voltage range



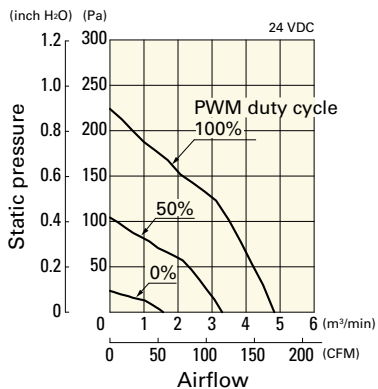
PWM duty - Speed characteristics example



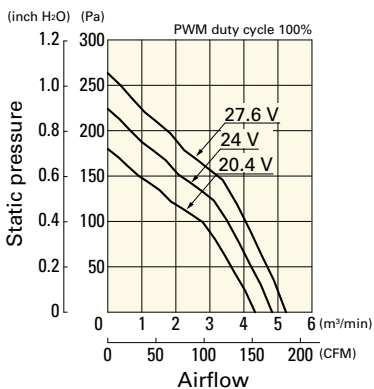
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GV1224P4G01** With pulse sensor with PWM control function

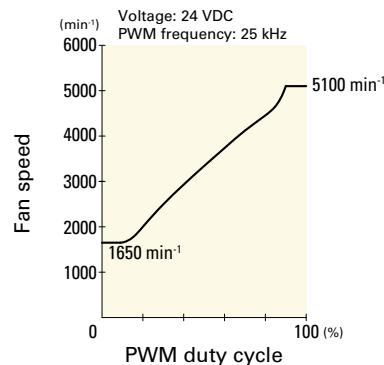
PWM duty cycle



Operating voltage range

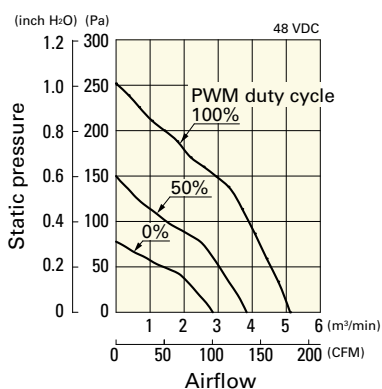


PWM duty - Speed characteristics example

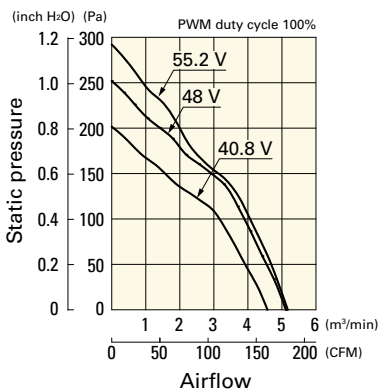


**9GV1248P4J01** With pulse sensor with PWM control function

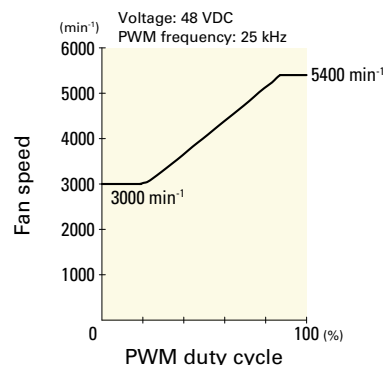
PWM duty cycle



Operating voltage range

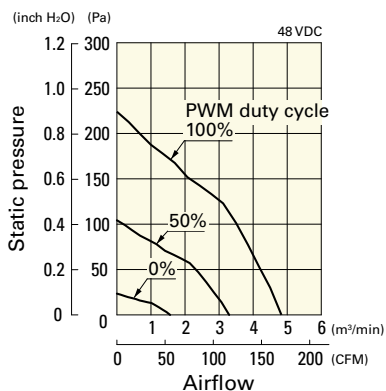


PWM duty - Speed characteristics example

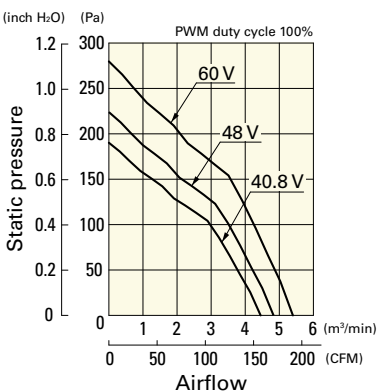


**9GV1248P4G01** With pulse sensor with PWM control function

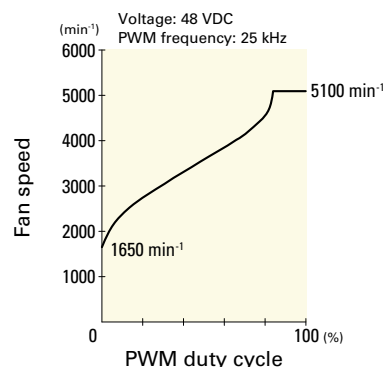
PWM duty cycle



Operating voltage range

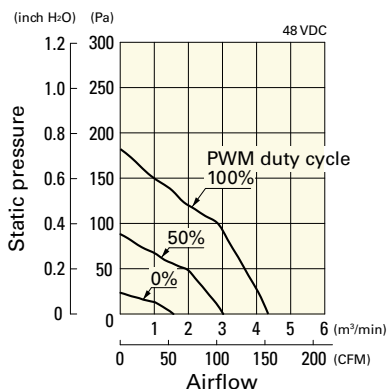


PWM duty - Speed characteristics example

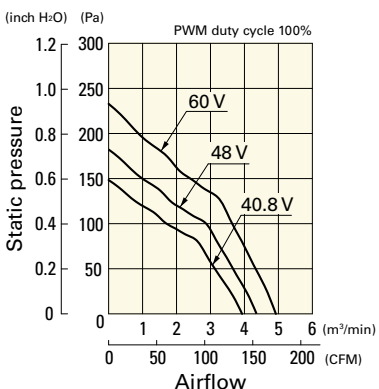


**9GV1248P4H01** With pulse sensor with PWM control function

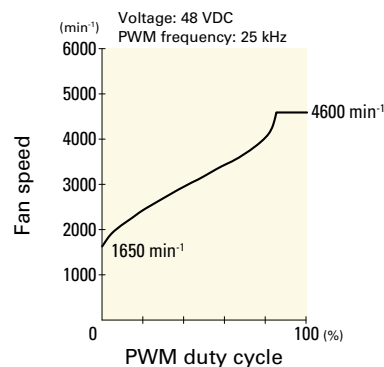
PWM duty cycle



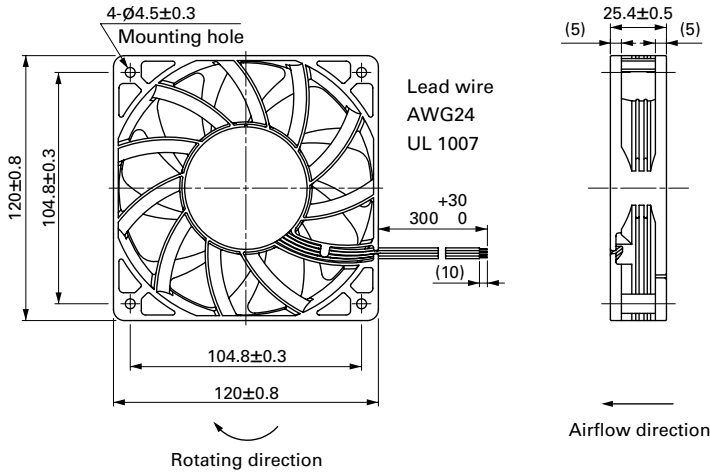
Operating voltage range



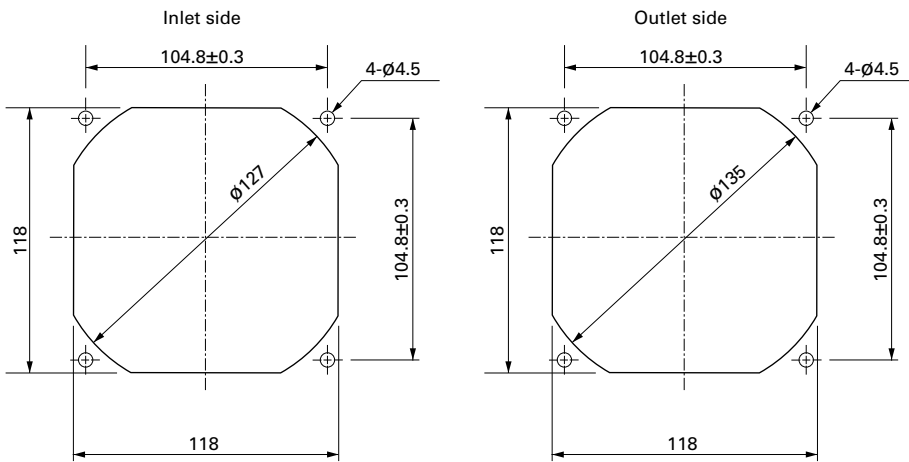
PWM duty - Speed characteristics example



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



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



**Options**

**Finger guards**

page: p. 585

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

**Resin finger guards**

page: p. 591

Model no.: 109-1000G

**Resin filter kits**

page: p. 592

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

DC Fan



# 120x120x25 mm

**San Ace 120 9G type** Model 9G1212B401 is not certified.

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 240 g

## Specifications

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

Model no.	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]
9G1212G401	12	10.2 to 13.8	0.9	10.8	4100	3.68 130	120 0.482	51	-20 to +70	40000/60°C (70000/40°C)
9G1212E401			0.58	6.96	3650	3.25 115	98 0.394	48		
9G1212A401			0.4	4.8	3150	2.83 100	77 0.309	44		
9G1212H401		6 to 13.8	0.31	3.72	2850	2.5 88	64 0.257	40		
9G1212F401			7 to 13.8	0.19	2.28	2250	1.98 70	42 0.169		
9G1212M401		0.14		1.68	1950	1.66 59	31 0.124	29		
9G1212B401	10.2 to 13.8	0.06	0.72	1000	0.88 31	9.6 0.039	18			
9G1224G401	24	20.4 to 27.6	0.47	11.28	4100	3.68 130	120 0.482	51		
9G1224E401			0.37	8.88	3650	3.25 115	98 0.394	48		
9G1224A401			0.21	5.04	3150	2.83 100	77 0.309	44		
9G1224H401		12 to 27.6	0.17	4.08	2850	2.5 88	64 0.257	40		
9G1224F401			20.4 to 27.6	0.1	2.4	2250	1.98 70	42 0.169		
9G1224M401		0.08		1.92	1950	1.66 59	31 0.124	29		
9G1248G401	48	40.8 to 55.2	0.23	11.04	4100	3.68 130	120 0.482	51		
9G1248E401			0.16	7.68	3650	3.25 115	98 0.394	48		
9G1248A401			0.13	6.24	3150	2.83 100	77 0.309	44		
9G1248H401			0.1	4.8	2850	2.5 88	64 0.257	40		
9G1248F401			0.06	2.88	2250	1.98 70	42 0.169	35		
9G1248M401			0.05	2.4	1950	1.66 59	31 0.124	29		

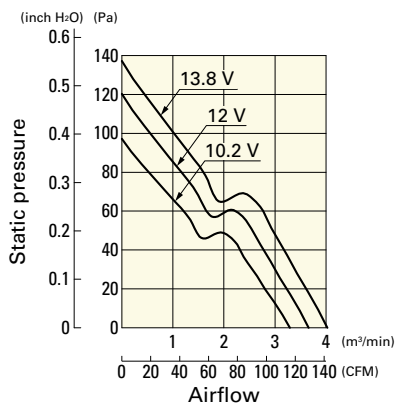
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 627 to 628.

Note 2: The mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

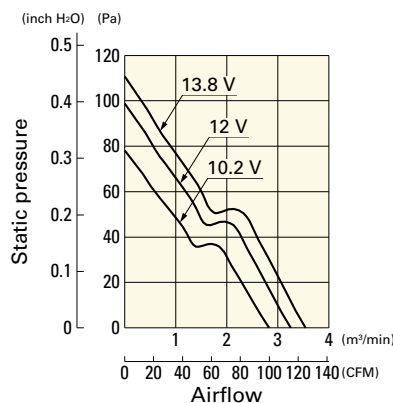
**9G1212G401** With pulse sensor

Operating voltage range



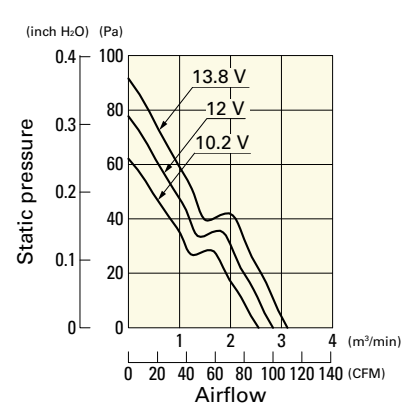
**9G1212E401** With pulse sensor

Operating voltage range



**9G1212A401** With pulse sensor

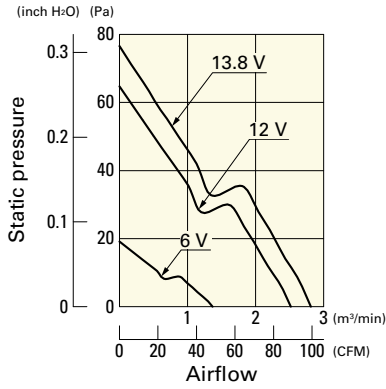
Operating voltage range



# Airflow - Static Pressure Characteristics

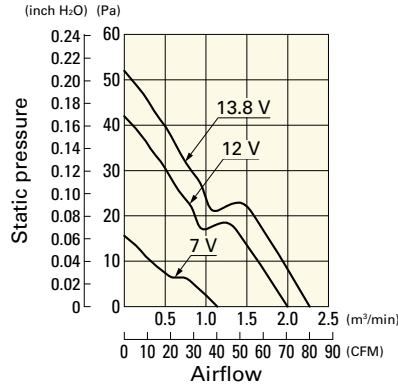
**9G1212H401** With pulse sensor

Operating voltage range



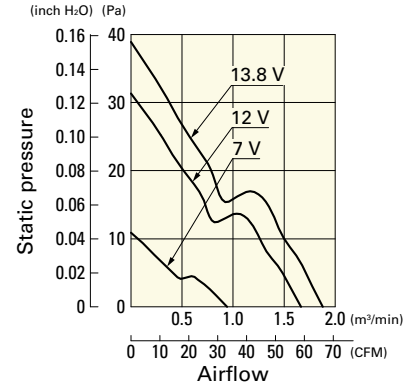
**9G1212F401** With pulse sensor

Operating voltage range



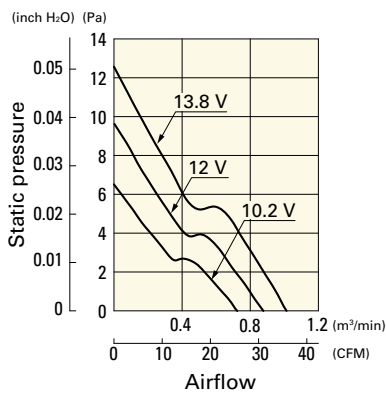
**9G1212M401** With pulse sensor

Operating voltage range



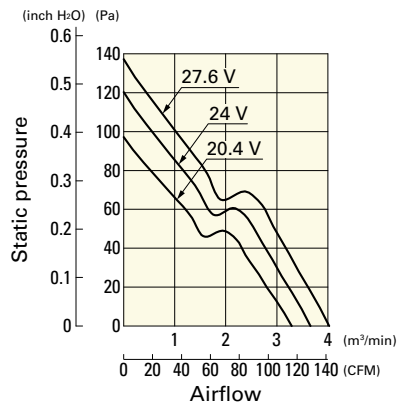
**9G1212B401** With pulse sensor

Operating voltage range



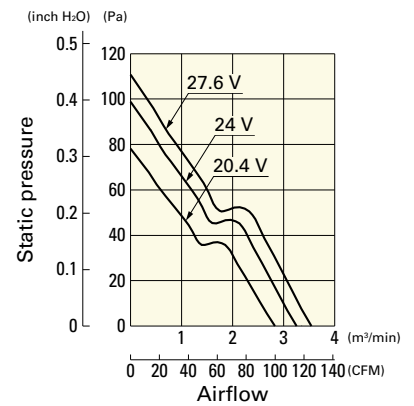
**9G1224G401** With pulse sensor

Operating voltage range



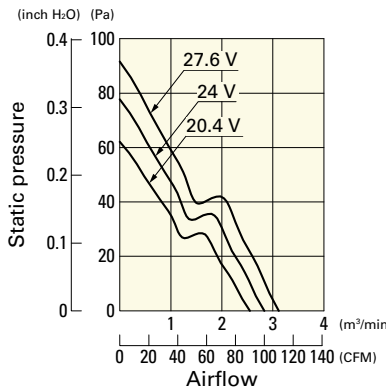
**9G1224E401** With pulse sensor

Operating voltage range



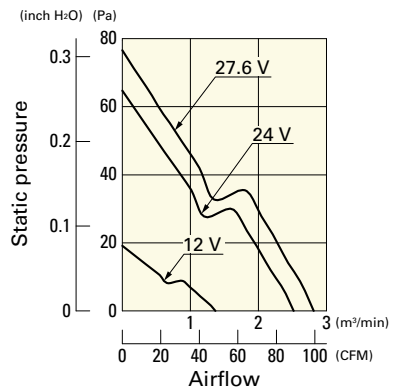
**9G1224A401** With pulse sensor

Operating voltage range



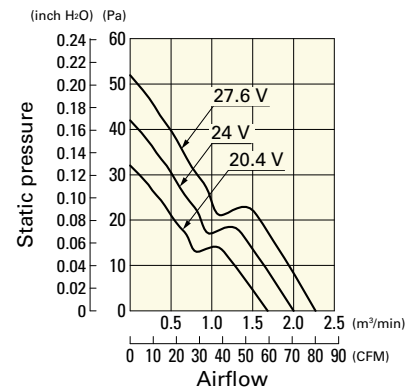
**9G1224H401** With pulse sensor

Operating voltage range



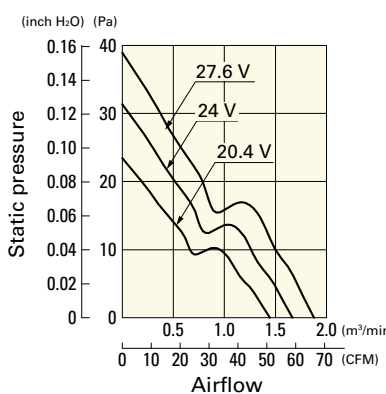
**9G1224F401** With pulse sensor

Operating voltage range



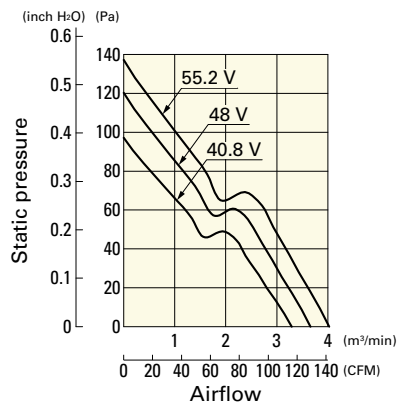
**9G1224M401** With pulse sensor

Operating voltage range



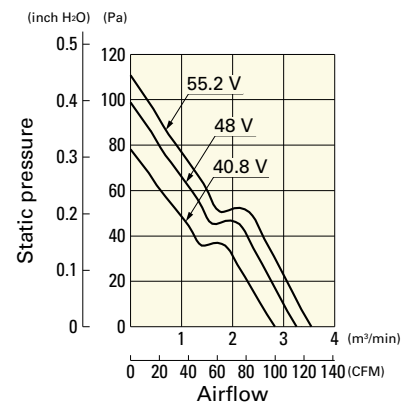
**9G1248G401** With pulse sensor

Operating voltage range



**9G1248E401** With pulse sensor

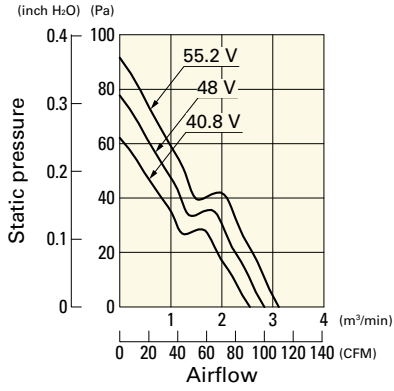
Operating voltage range



**Airflow - Static Pressure Characteristics**

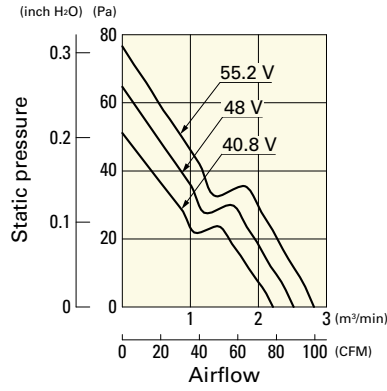
**9G1248A401** With pulse sensor

Operating voltage range



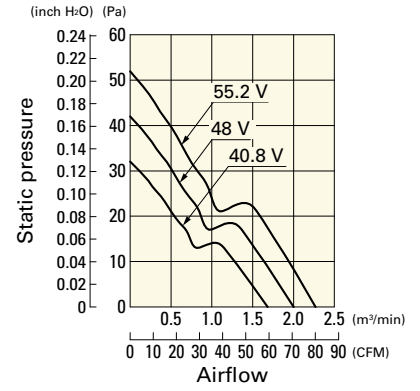
**9G1248H401** With pulse sensor

Operating voltage range



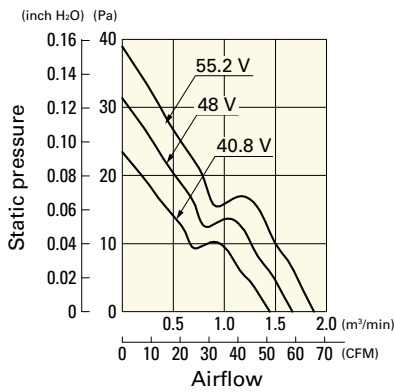
**9G1248F401** With pulse sensor

Operating voltage range

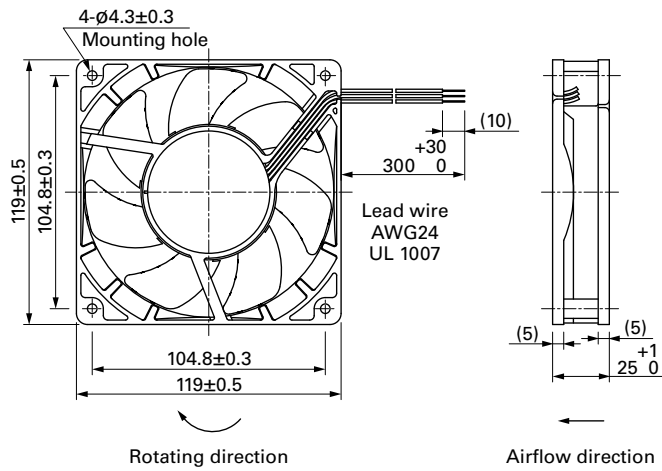


**9G1248M401** With pulse sensor

Operating voltage range

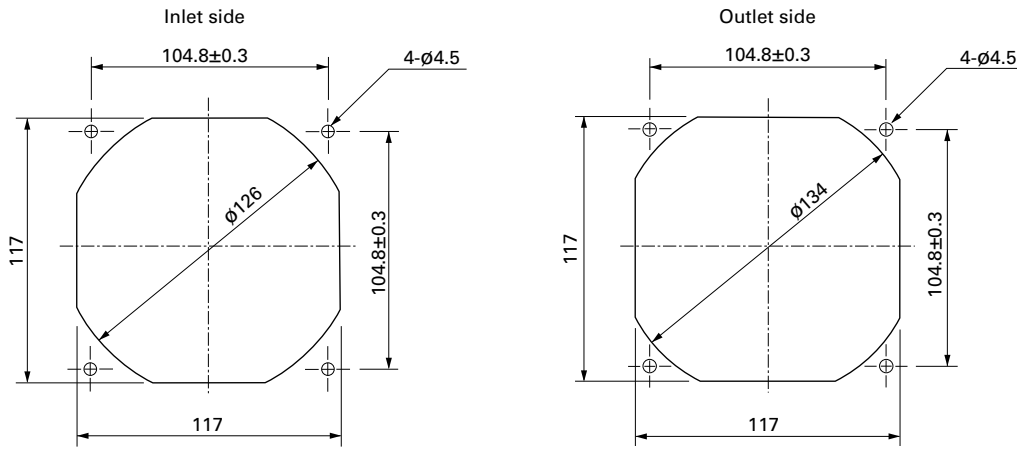


**Dimensions (unit: mm) (With ribs)**





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



■ Options

Finger guards

page: p. 585

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

Resin finger guards

page: p. 591

Model no.: 109-1000G

Resin filter kits

page: p. 592

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

DC Fan

# 120x120x25 mm



**San Ace 120 9S** type Silent Fan

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow
- Mass ..... 140 g

## Specifications

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

Model no.	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]
» 9S1212H401	12	5.0 to 13.2	0.39	4.68	2700	2.45 86.5	45.2 0.18	36	-10 to +60	40000/60°C (70000/40°C)
» 9S1212F401		5.0 to 13.8	0.19	2.28	2200	2.0 70.6	30.0 0.12	30		
» 9S1212M401		6.0 to 13.8	0.13	1.56	1850	1.66 58.6	22.7 0.09	24		
» 9S1212L401		7.0 to 13.8	0.08	0.96	1500	1.36 48.1	14.9 0.06	17		
» 9S1224M401	24	14 to 26.4	0.06	1.44	1850	1.66 58.6	22.7 0.09	24		

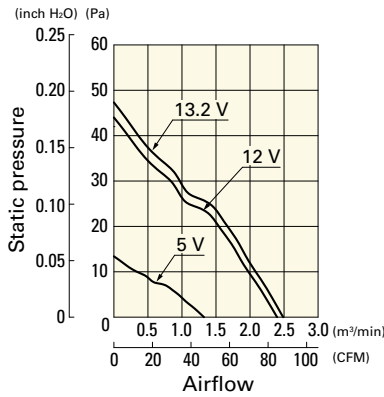
Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.

Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

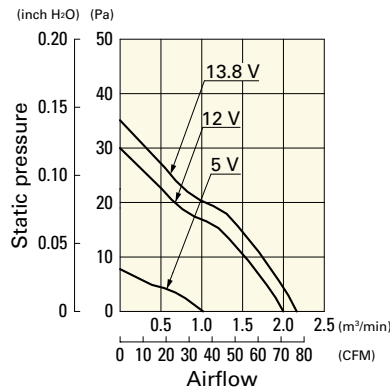
**9S1212H401** With pulse sensor

Operating voltage range



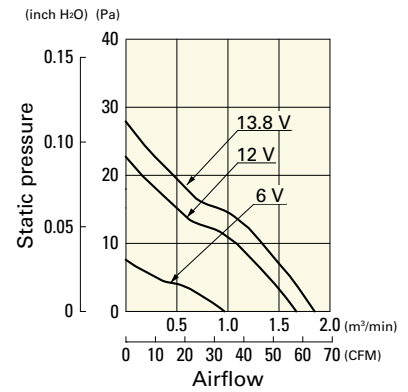
**9S1212F401** With pulse sensor

Operating voltage range



**9S1212M401** With pulse sensor

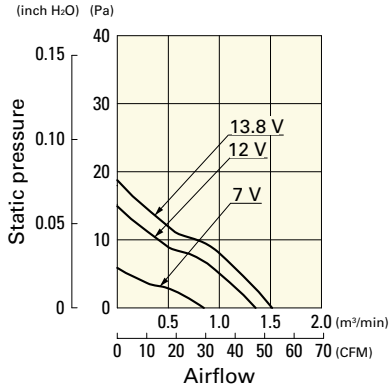
Operating voltage range



## Airflow - Static Pressure Characteristics

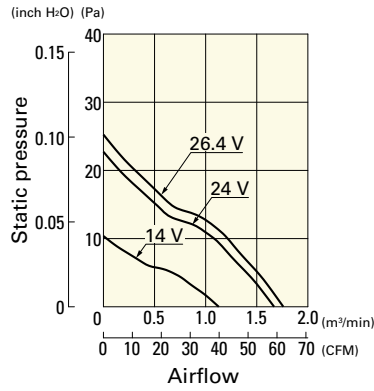
**9S1212L401** With pulse sensor

Operating voltage range

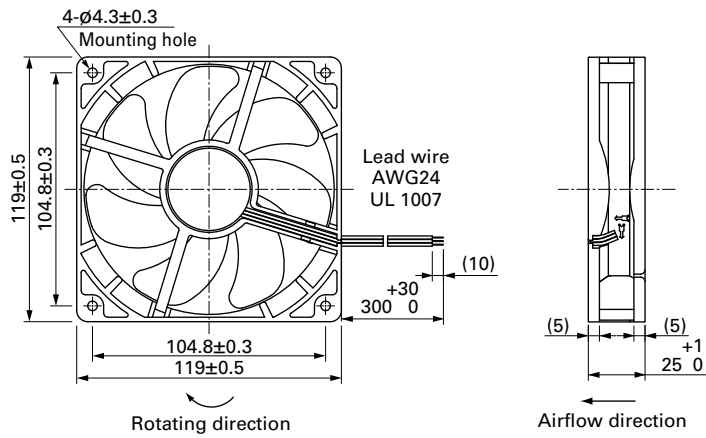


**9S1224M401** With pulse sensor

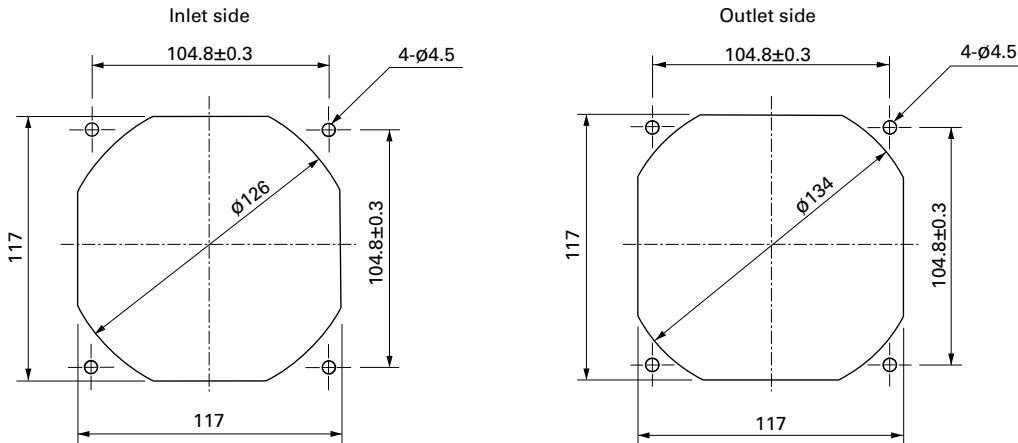
Operating voltage range



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



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



## Options

Finger guards

page: p. 585

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

Resin finger guards

page: p. 591

Model no.: 109-1000G

Resin filter kits

page: p. 592

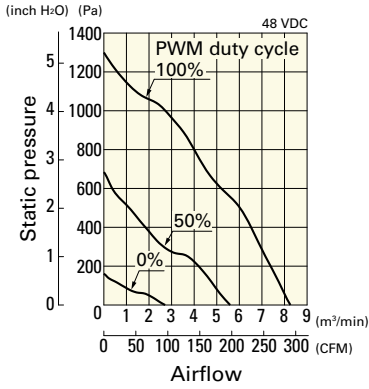
Model no.: 109-1000F13 (13PPI), 109-1000F20 (20PPI),  
109-1000F30 (30PPI), 109-1000F40 (40PPI)



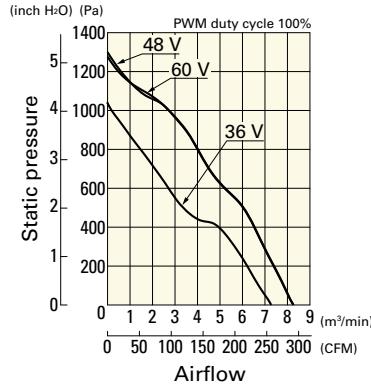
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9HV1248P1G001** With pulse sensor with PWM control function

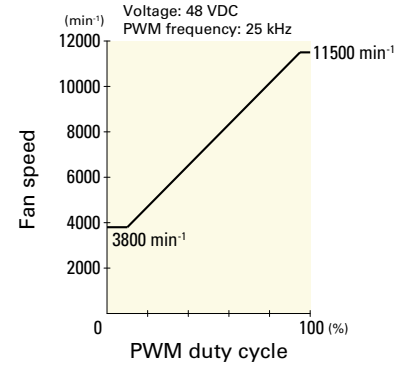
PWM duty cycle



Operating voltage range

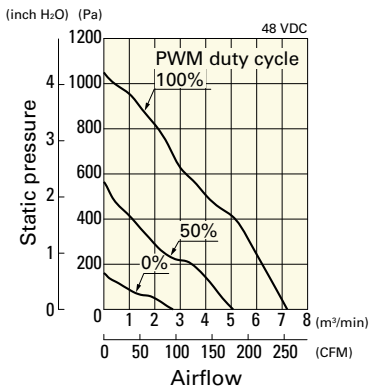


PWM duty - Speed characteristics example

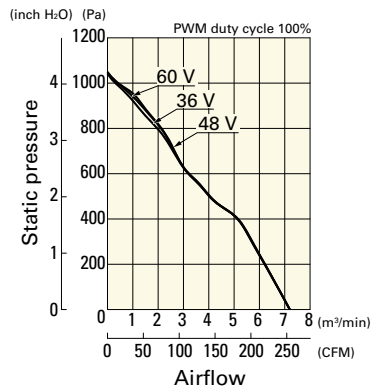


**9HV1248P1H001** With pulse sensor with PWM control function

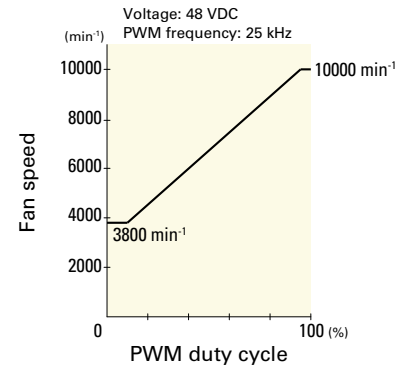
PWM duty cycle



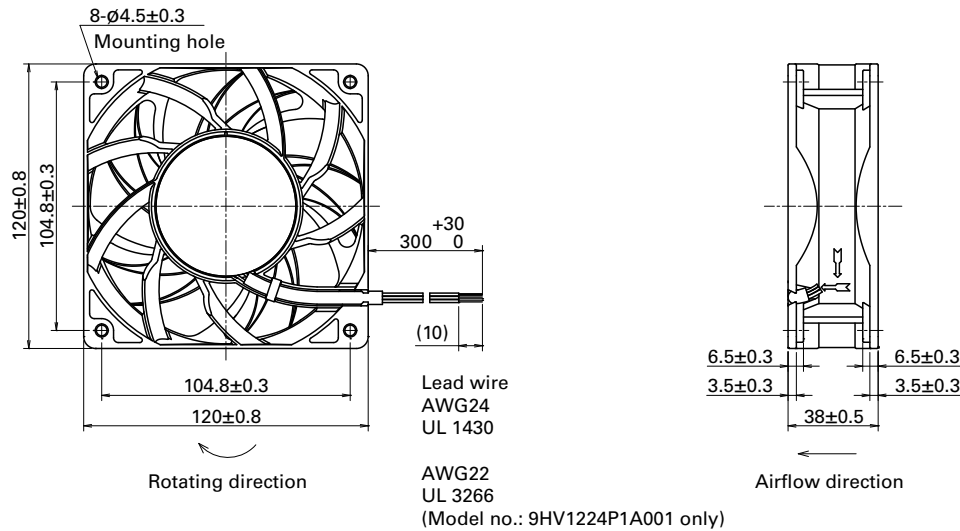
Operating voltage range



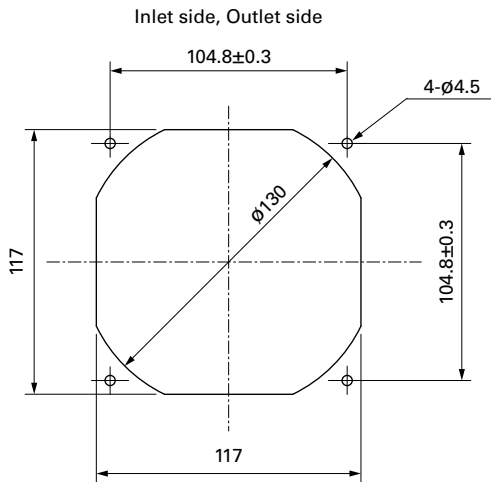
PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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



## Options

### Finger guards

page: p. 585

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

### Resin finger guards

page: p. 591

Model no.: 109-1000G

### Resin filter kits

page: p. 592

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



# 120x120x38 mm

San Ace 120 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 360 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	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]
9GV1212P1J01	12	10.2 to 13.8	100	3.0	36.0	6400	6.35 224.0	360.0 1.45	64	-20 to +70	40000/60°C (70000/40°C)
			0	0.19	2.28	1500	1.49 52.6	19.8 0.08	33		
9GV1212P1G01	12	10.2 to 13.8	100	2.1	25.2	5500	5.45 192.6	265 1.06	60		
			0	0.19	2.28	1500	1.49 52.6	19.8 0.08	33		
9GV1224P1J01	24	20.4 to 27.6	100	1.5	36.0	6400	6.35 224.0	360 1.45	64		
9GV1224P1H01			100	0.8	19.2	5200	5.16 182.3	237 0.95	58		
9GV1248P1J01	48	40.8 to 55.2	100	0.75	36.0	6400	6.35 224.0	360.0 1.45	64		
			0	0.06	2.88	1500	1.49 52.6	26.1 0.106	33		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

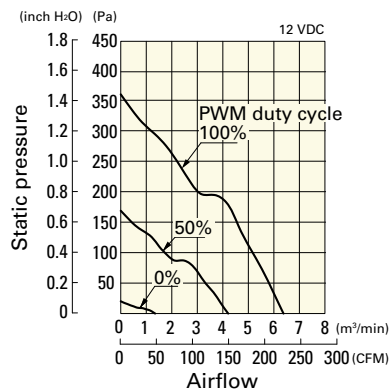
Note 1: Sensor and control options are available for selection. Refer to the table on p. 633.

Note 2: The mark indicates Short LeadTime Service applicable models. See p. 654 for details.

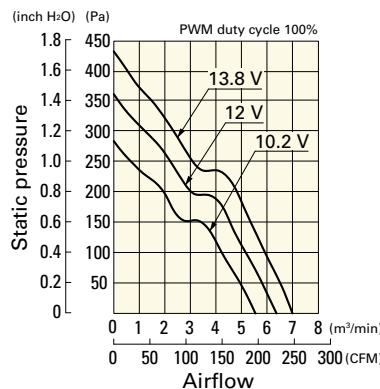
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GV1212P1J01** With pulse sensor with PWM control function

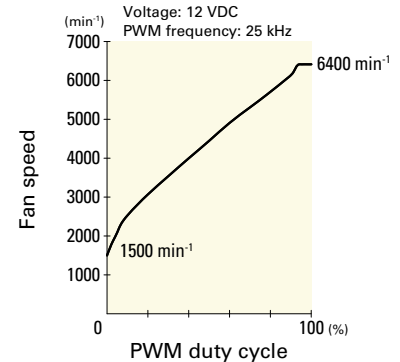
PWM duty cycle



Operating voltage range



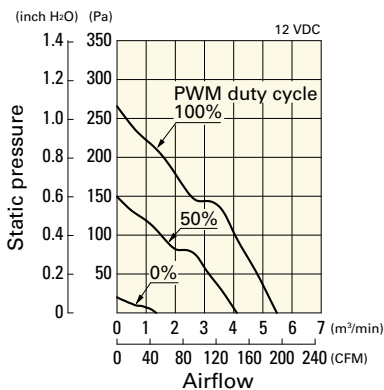
PWM duty - Speed characteristics example



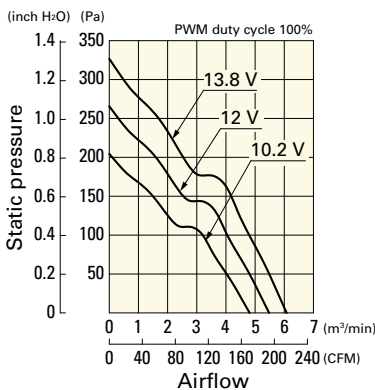
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GV1212P1G01** With pulse sensor with PWM control function

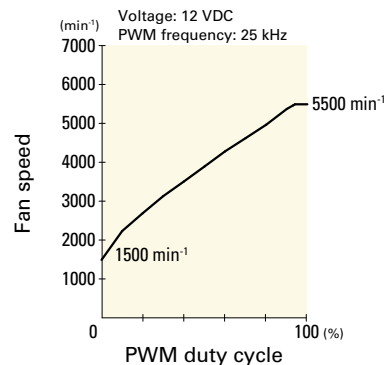
PWM duty cycle



Operating voltage range

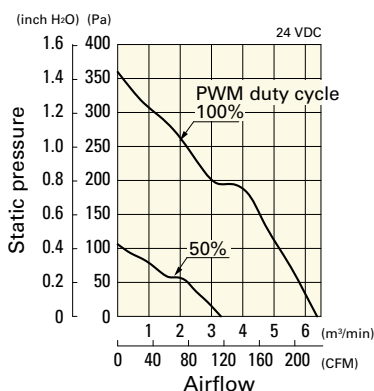


PWM duty - Speed characteristics example

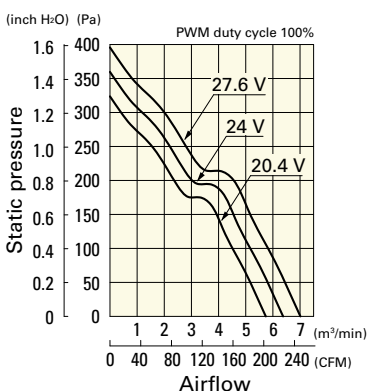


**9GV1224P1J01** With pulse sensor with PWM control function

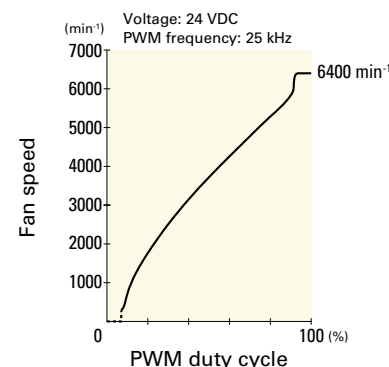
PWM duty cycle



Operating voltage range

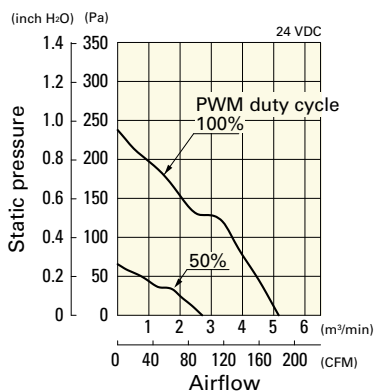


PWM duty - Speed characteristics example

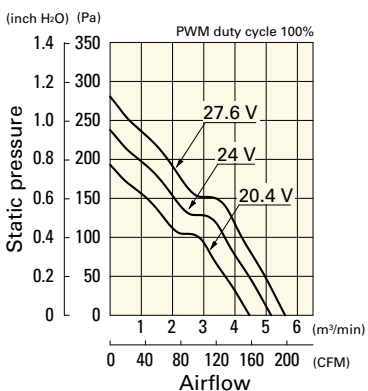


**9GV1224P1H01** With pulse sensor with PWM control function

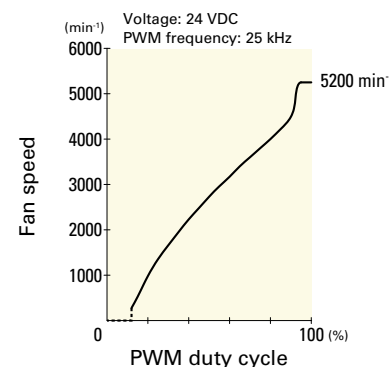
PWM duty cycle



Operating voltage range

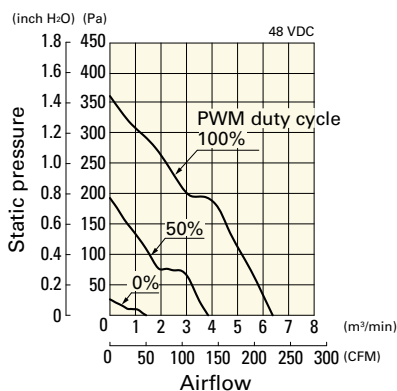


PWM duty - Speed characteristics example

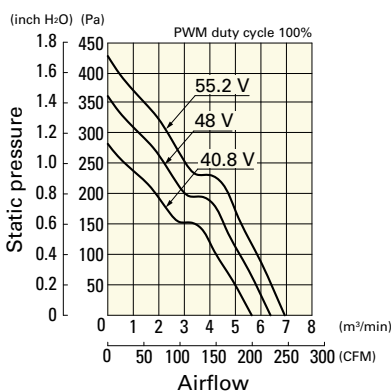


**9GV1248P1J01** With pulse sensor with PWM control function

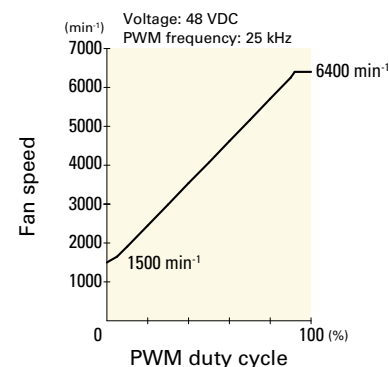
PWM duty cycle



Operating voltage range

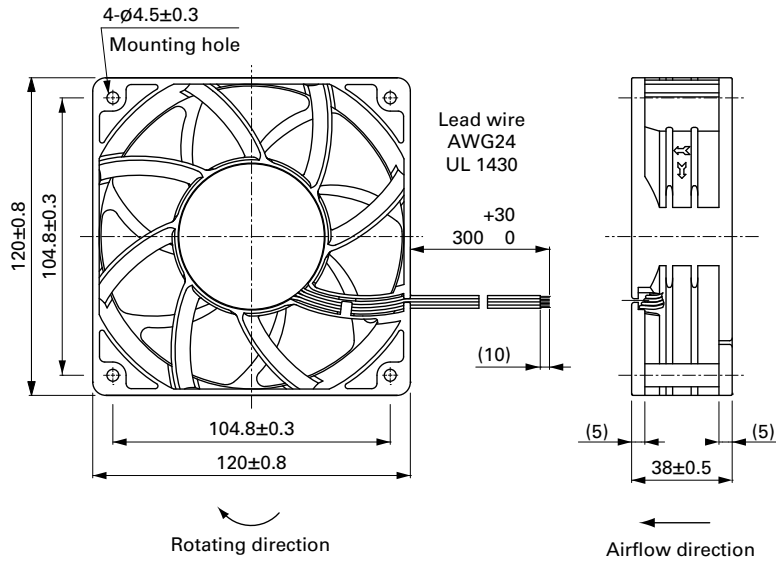


PWM duty - Speed characteristics example

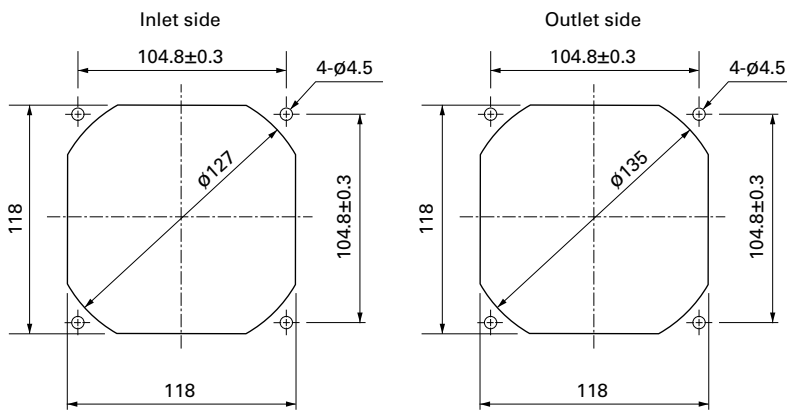




**Dimensions (unit: mm)** (With ribs)



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



**Options**

**Finger guards**

page: p. 585

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

**Resin finger guards**

page: p. 591

Model no.: 109-1000G

**Resin filter kits**

page: p. 592

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

DC Fan

# 120x120x38 mm



**San Ace 120 9SG type** Model 9SG1224H101 is not certified.

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 400 g

## Specifications

The models listed below **have pulse sensors**.

Model no.	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]
» 9SG1212G101	24	10.2 to 13.8	4.0	48.0	6000	7.35 260	340 1.37	64	-20 to +70	40000/60°C (70000/40°C)
» 9SG1224G101		20.4 to 27.6	2.0	48.0	6000	7.35 260	340 1.37	64		
» 9SG1224H101		0.46	11.0	3400	4.02 142	126 0.51	48			
» 9SG1248G101	48	40.8 to 55.2	1.0	48.0	6000	7.35 260	340 1.37	64		

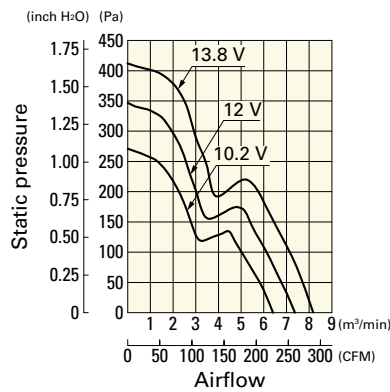
Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.

Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

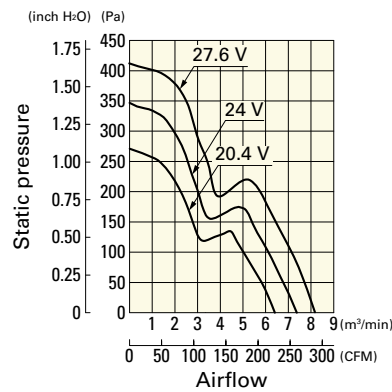
**9SG1212G101** With pulse sensor

Operating voltage range



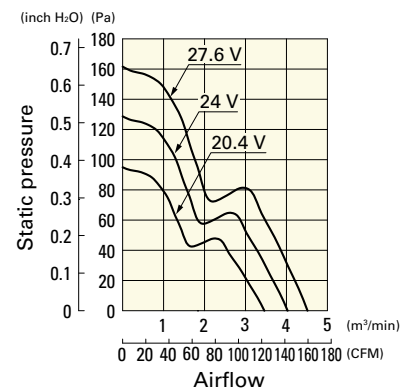
**9SG1224G101** With pulse sensor

Operating voltage range



**9SG1224H101** With pulse sensor

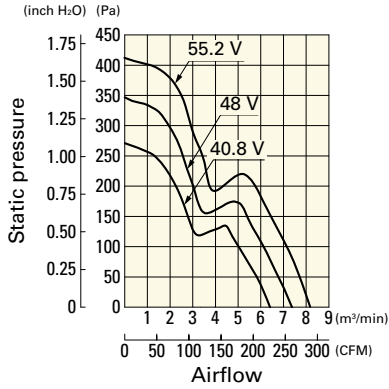
Operating voltage range



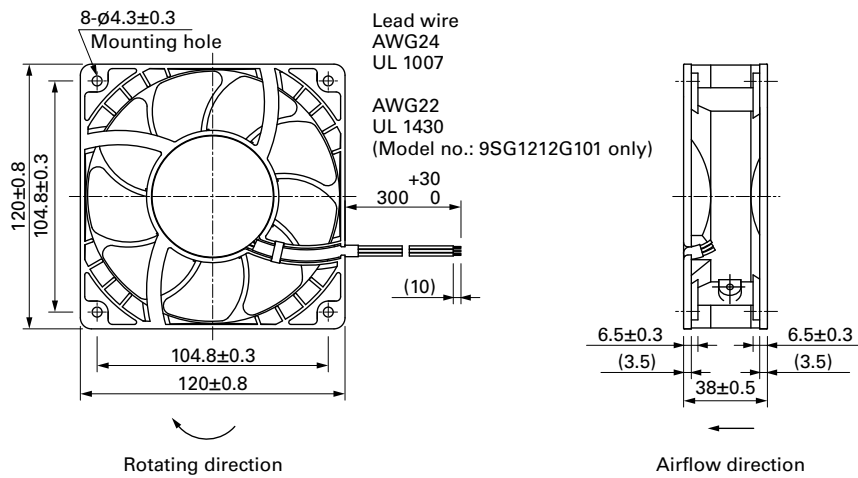
## Airflow - Static Pressure Characteristics

**9SG1248G101** With pulse sensor

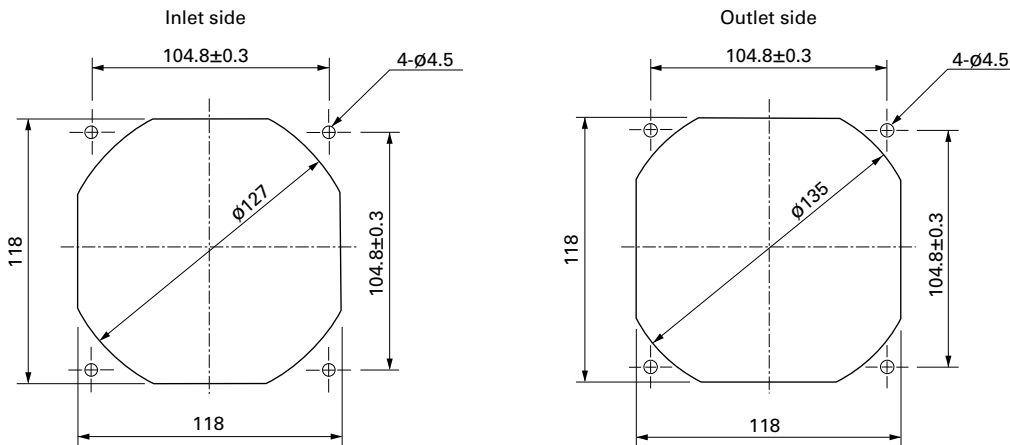
Operating voltage range



## Dimensions (unit: mm)



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



## Options

Finger guards

page: p. 585

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

Resin finger guards

page: p. 591

Model no.: 109-1000G

Resin filter kits

page: p. 592

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

DC Fan

# 120×120×38 mm



San Ace 120 9G 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 330 g

## Specifications

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

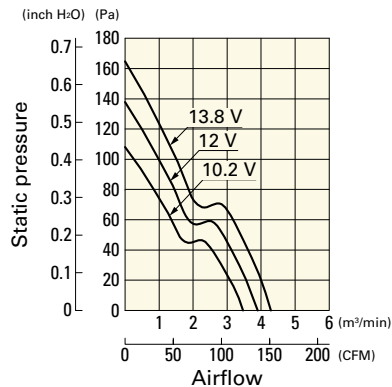
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9G1212G101	12	10.2 to 13.8	0.98	11.76	3600	3.88 137	135 0.542	49	-20 to +70	40000/60°C (70000/40°C)
9G1212E101			0.61	7.32	3100	3.34 118	100 0.402	46		
9G1212H101		7 to 13.8	0.38	4.56	2600	2.8 99	70.4 0.283	39		
9G1212F101			0.28	3.36	2280	2.45 87	54.2 0.218	36		
9G1212M101			0.21	2.52	1950	2.1 74	39.6 0.159	32		
9G1224G101			24	20.4 to 27.6	0.5	12	3600	3.88 137		
9G1224E101	0.34	8.16			3100	3.34 118	100 0.402	46		
9G1224H101	14 to 27.6	0.22		5.28	2600	2.8 99	70.4 0.283	39		
9G1224F101		0.16		3.84	2280	2.45 87	54.2 0.218	36		
9G1224M101		0.11		2.64	1950	2.1 74	39.6 0.159	32		
9G1248G101		48		40.8 to 55.2	0.25	12	3600	3.88 137		
9G1248E101	0.17		8.16		3100	3.34 118	100 0.402	46		
9G1248H101	0.11		5.28		2600	2.8 99	70.4 0.283	39		
9G1248F101	0.09		4.32		2280	2.45 87	54.2 0.218	36		
9G1248M101	0.07		3.36		1950	2.1 74	39.6 0.159	32		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 627 to 628.  
 Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

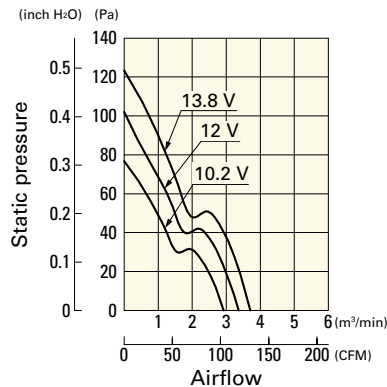
**9G1212G101** With pulse sensor

Operating voltage range



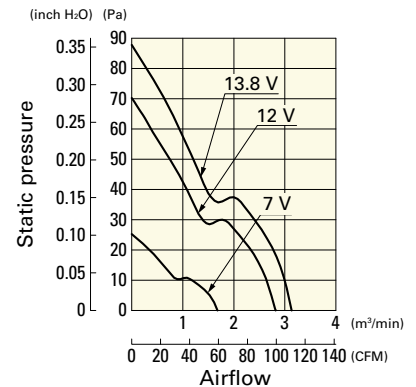
**9G1212E101** With pulse sensor

Operating voltage range



**9G1212H101** With pulse sensor

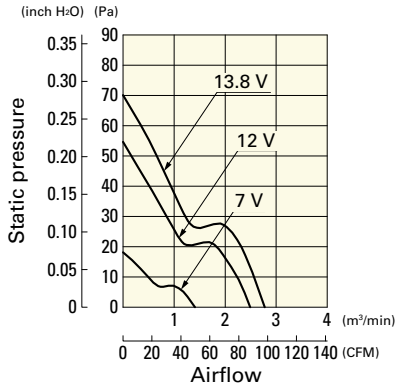
Operating voltage range



# Airflow - Static Pressure Characteristics

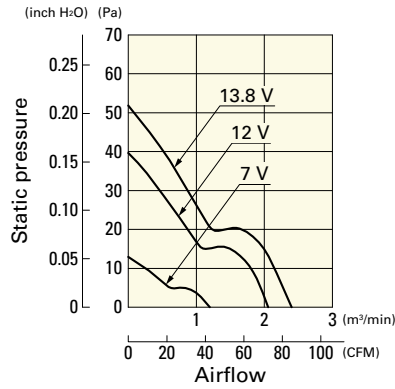
**9G1212F101** With pulse sensor

Operating voltage range



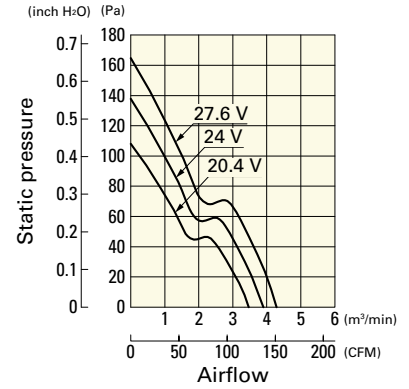
**9G1212M101** With pulse sensor

Operating voltage range



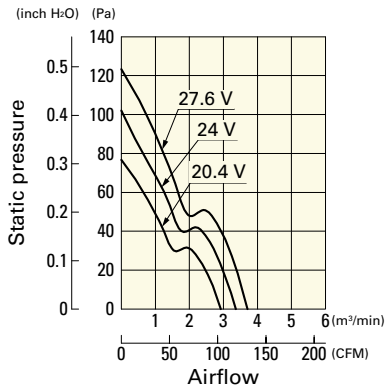
**9G1224G101** With pulse sensor

Operating voltage range



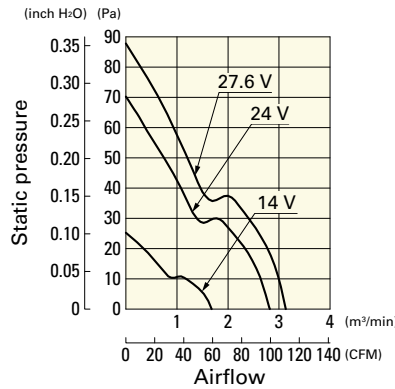
**9G1224E101** With pulse sensor

Operating voltage range



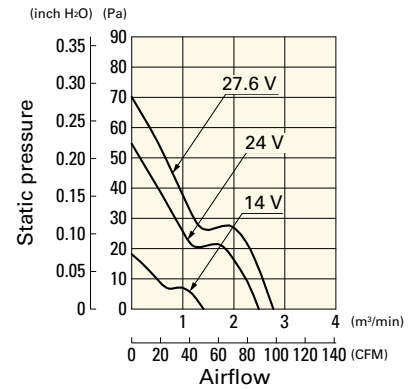
**9G1224H101** With pulse sensor

Operating voltage range



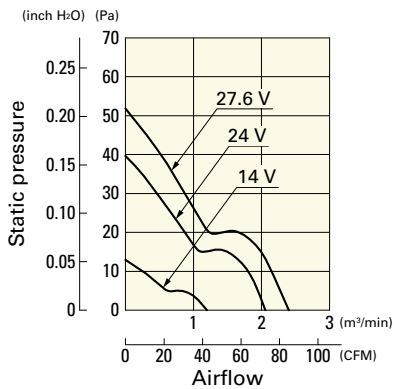
**9G1224F101** With pulse sensor

Operating voltage range



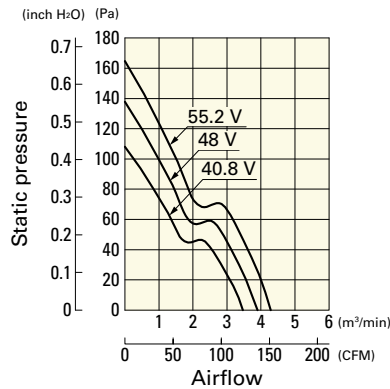
**9G1224M101** With pulse sensor

Operating voltage range



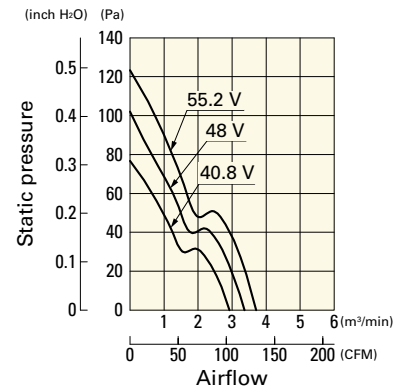
**9G1248G101** With pulse sensor

Operating voltage range



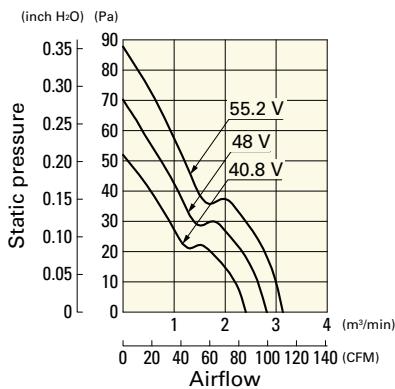
**9G1248E101** With pulse sensor

Operating voltage range



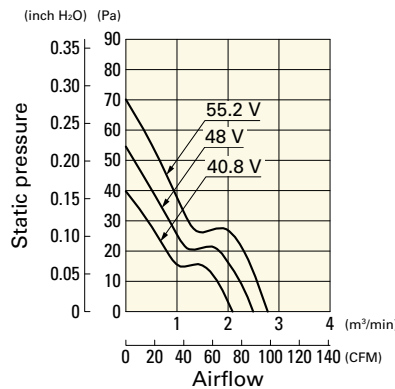
**9G1248H101** With pulse sensor

Operating voltage range



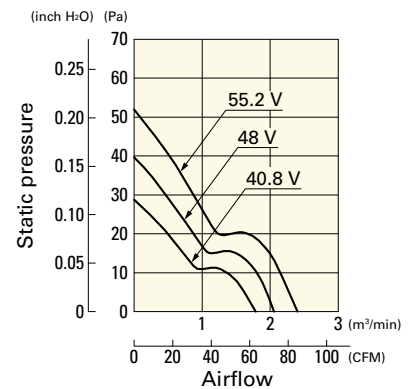
**9G1248F101** With pulse sensor

Operating voltage range

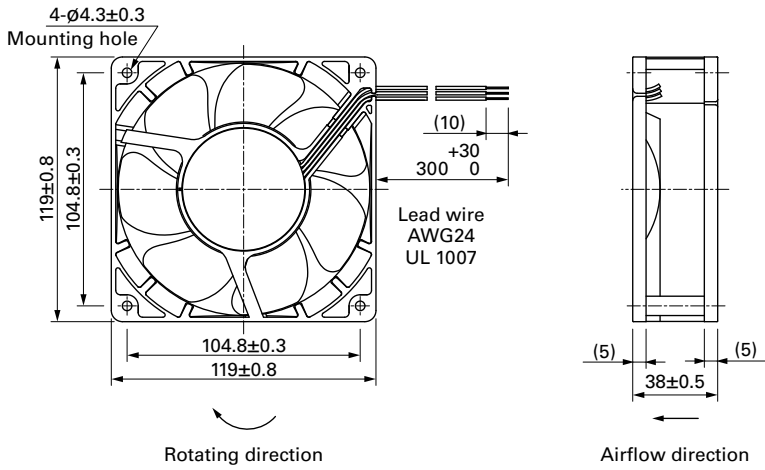


**9G1248M101** With pulse sensor

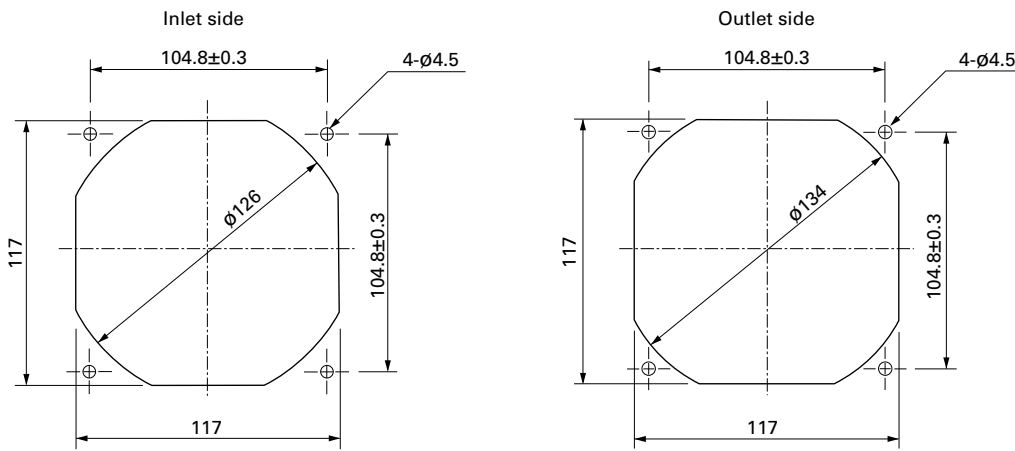
Operating voltage range



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



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



**Options**

**Finger guards**

page: p. 585

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

**Resin finger guards**

page: p. 591

Model no.: 109-1000G

**Resin filter kits**

page: p. 592

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

# 127×127×38 mm



San Ace 127 9E type   

## General Specifications

- Material ..... Frame: Aluminum, 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 400 g

## Specifications

The models listed below **have pulse sensors.**

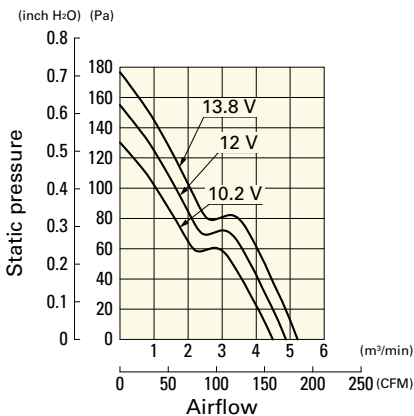
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109E1312A101</b>	12	10.2 to 13.8	1.4	16.8	3850	4.81 170	155 0.622	52	-20 to +70	60000/60°C (90000/40°C)
<b>109E1312S101</b>			1.2	14.4	3450	4.37 154	125 0.502	49		
<b>109E1324G101</b>	24	20.4 to 27.6	1.1	26.4	4550	5.66 200	216 0.867	57	-20 to +60	40000/60°C (70000/40°C)
<b>109E1324A101</b>			0.7	16.8	3850	4.81 170	155 0.622	52		
<b>109E1324S101</b>			0.53	12.7	3450	4.37 154	125 0.502	49		
<b>109E1348G101</b>	48	40.8 to 55.2	0.54	25.9	4550	5.66 200	216 0.867	57	-20 to +60	40000/60°C (70000/40°C)
<b>109E1348A101</b>			0.36	17.3	3850	4.81 170	155 0.622	52		
<b>109E1348S101</b>			0.28	13.4	3450	4.37 154	125 0.502	49		

Note: Sensor and control options are available for selection. Refer to the table on p. 620.

## Airflow - Static Pressure Characteristics

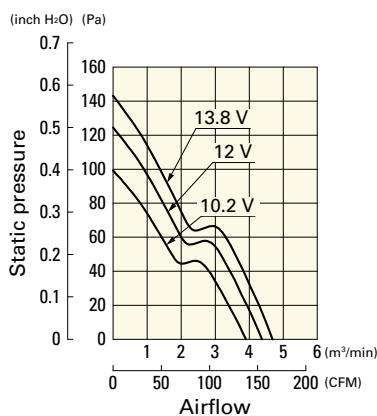
**109E1312A101** With pulse sensor

Operating voltage range



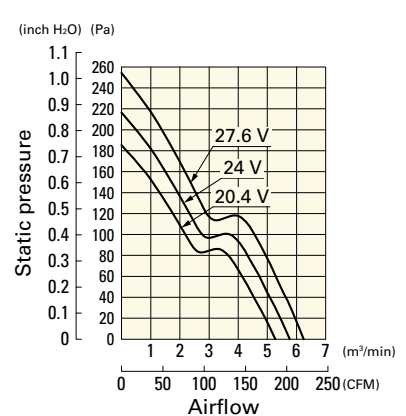
**109E1312S101** With pulse sensor

Operating voltage range



**109E1324G101** With pulse sensor

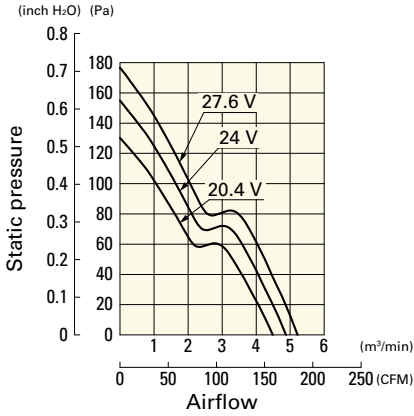
Operating voltage range



**Airflow - Static Pressure Characteristics**

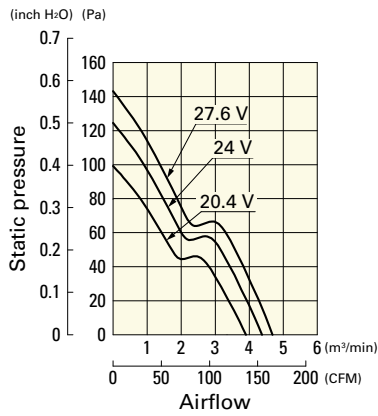
**109E1324A101** With pulse sensor

Operating voltage range



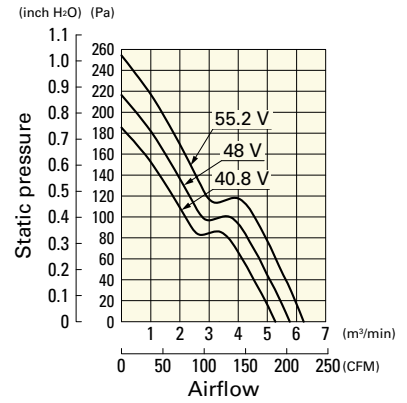
**109E1324S101** With pulse sensor

Operating voltage range



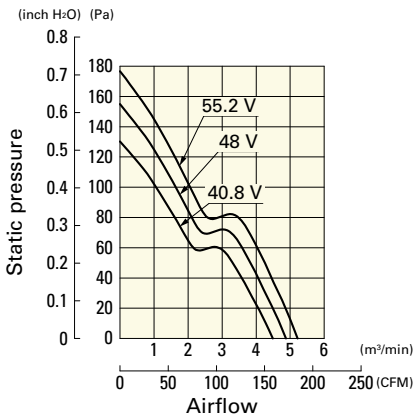
**109E1348G101** With pulse sensor

Operating voltage range



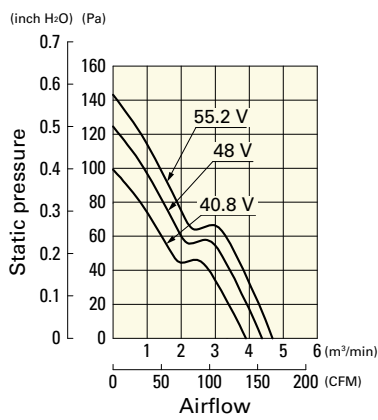
**109E1348A101** With pulse sensor

Operating voltage range

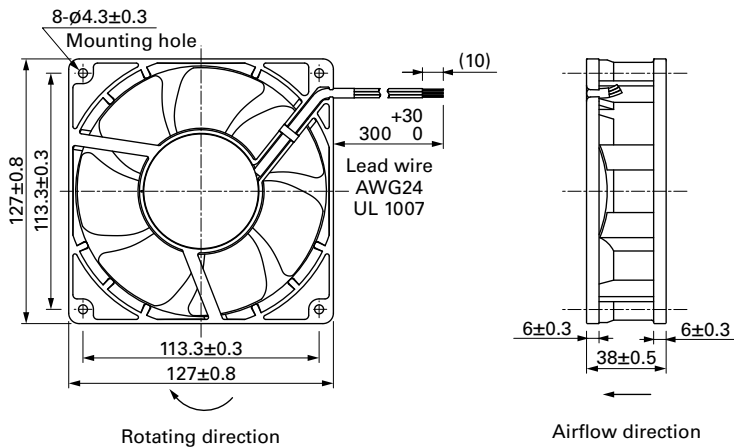


**109E1348S101** With pulse sensor

Operating voltage range

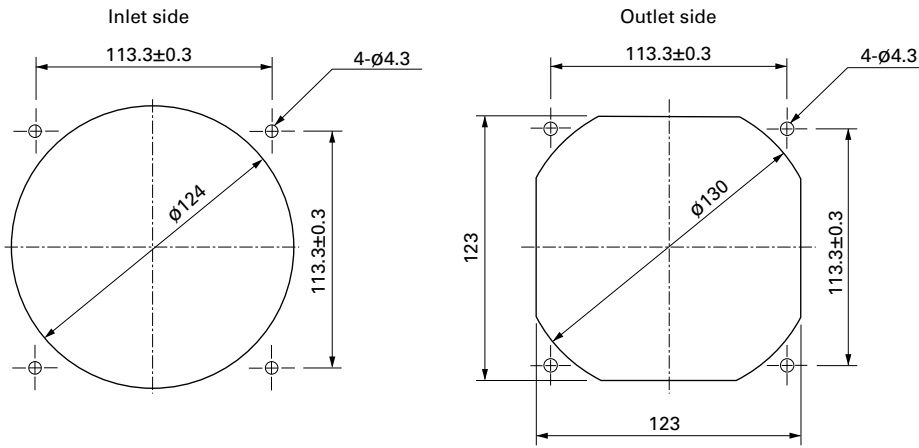


**Dimensions (unit: mm)**





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



## Options

Finger guards

page: p. 585

Model no.: 109-722, 109-722H, 109-723

DC Fan

# 127×127×38 mm



San Ace 127 9P 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue (Sensor) Yellow
- Mass ..... 350 g

## Specifications

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

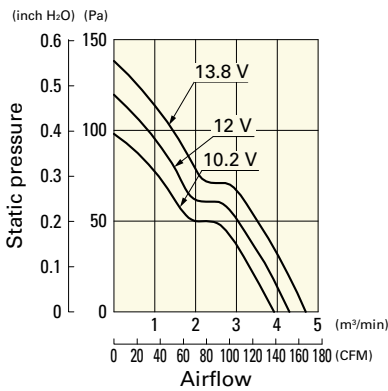
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109P1312S101	12	10.2 to 13.8	1.3	15.6	3300	4.2 148	117.6 0.472	47	-20 to +60	40000/60°C (70000/40°C)
109P1312H101			0.82	9.84	2950	3.8 134	98 0.394	45		
109P1324S101	24	20.4 to 27.6	0.55	13.2	3300	4.2 148	117.6 0.472	47		
109P1324H101			0.41	9.84	2950	3.8 134	98 0.394	45		
109P1348S101	48	40.8 to 55.2	0.3	14.4	3300	4.2 148	117.6 0.472	47		
109P1348H101			0.2	9.6	2950	3.8 134	98 0.394	45		

Note: Sensor and control options are available for selection. Refer to the table on p. 622.

## Airflow - Static Pressure Characteristics

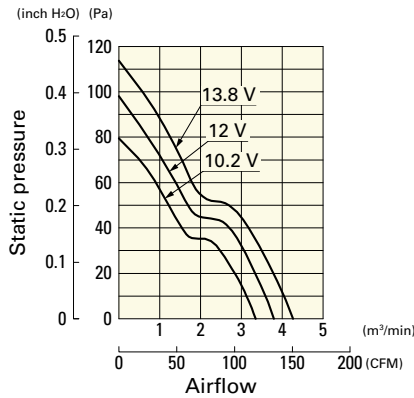
**109P1312S101** With pulse sensor

Operating voltage range



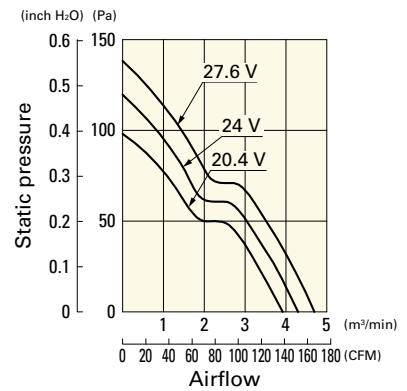
**109P1312H101** With pulse sensor

Operating voltage range



**109P1324S101** With pulse sensor

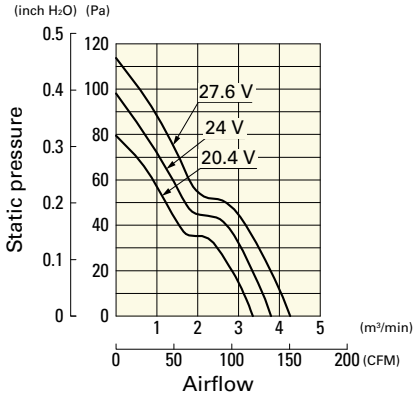
Operating voltage range



## Airflow - Static Pressure Characteristics

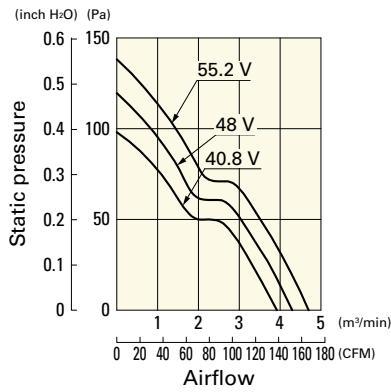
**109P1324H101** With pulse sensor

Operating voltage range



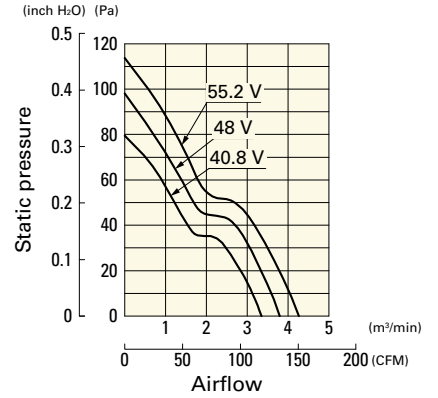
**109P1348S101** With pulse sensor

Operating voltage range

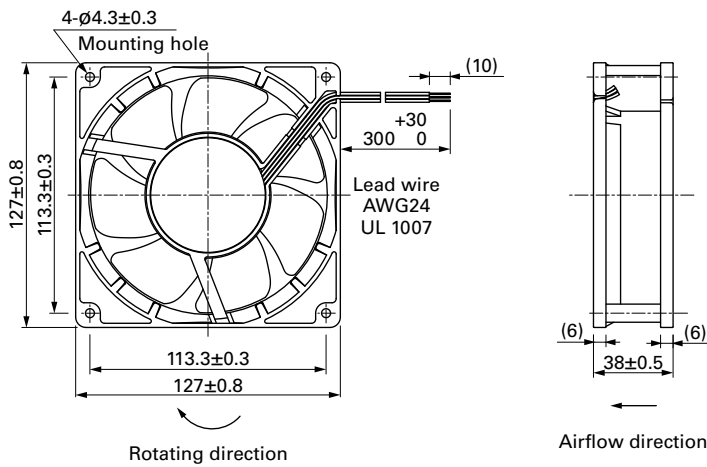


**109P1348H101** With pulse sensor

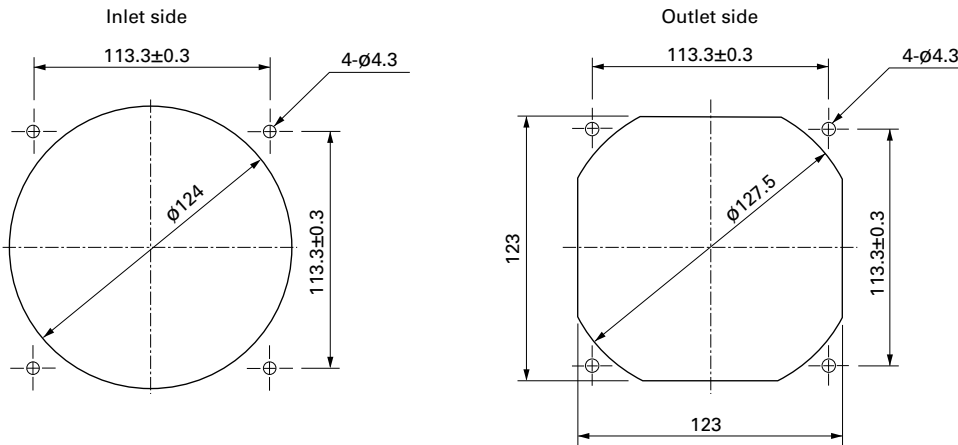
Operating voltage range



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



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



## Options

Finger guards

page: p. 585

Model no.: 109-722, 109-722H, 109-723

# 140x140x38 mm

San Ace 140 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 630 g


## Specifications

The models listed below **have pulse sensors with PWM control function.**

Model no.	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]	
9GV1412P1G001	12	10.8 to 13.2	100	4.6	55.2	7600	8.8 310	640 2.57	70	-20 to +70	40000/60°C (70000/40°C)	
			20	0.26	3.12	2300	2.66 93	80 0.32	39			
9GV1412P1S001			100	3.1	37.2	6650	7.7 272	480 1.93	67			
			20	0.26	3.12	2300	2.66 93	80 0.32	39			
9GV1412P1H001			100	1.7	20.4	5200	6.0 212	300 1.2	62			
			20	0.26	3.12	2300	2.66 93	80 0.32	39			
9GV1424P1G001		24	21.6 to 26.4	100	2.3	55.2	7600	8.8 310	640 2.57			70
				20	0.13	3.12	2300	2.66 93	80 0.32			39
100				1.55	37.2	6650	7.7 272	480 1.93	67			
9GV1424P1S001			20	0.13	3.12	2300	2.66 93	80 0.32	39			
			9GV1424P1H001	100	0.85	20.4	5200	6.0 212	300 1.2			62
20				0.13	3.12	2300	2.66 93	80 0.32	39			
9GV1448P1G001	48	36 to 60	100	1.15	55.2	7600	8.8 310	640 2.57	70			
			20	0.11	5.28	2300	2.66 93	80 0.32	39			
100			0.78	37.44	6650	7.7 272	480 1.93	67				
9GV1448P1S001		20	0.11	5.28	2300	2.66 93	80 0.32	39				
		9GV1448P1H001	100	0.42	20.16	5200	6.0 212	300 1.2	62			
20			0.11	5.28	2300	2.66 93	80 0.32	39				

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

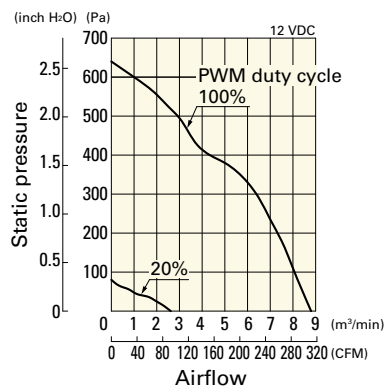
Note 1: Sensor and control options are available for selection. Refer to the table on p. 633.

Note 2: The  mark indicates Short LeadTime Service applicable models. See p. 654 for details.

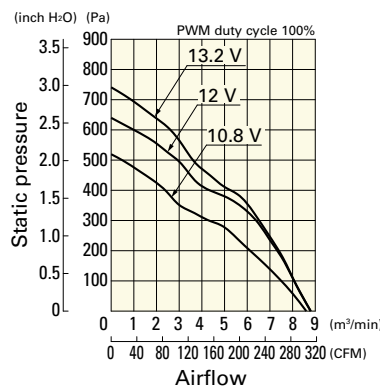
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GV1412P1G001** With pulse sensor with PWM control function

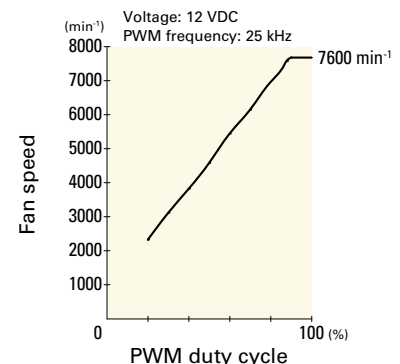
PWM duty cycle



Operating voltage range



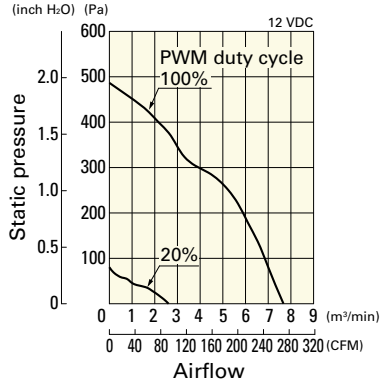
PWM duty - Speed characteristics example



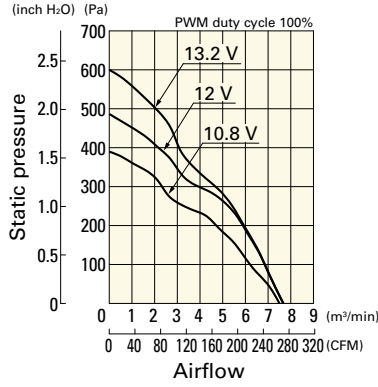
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GV1412P1S001** With pulse sensor with PWM control function

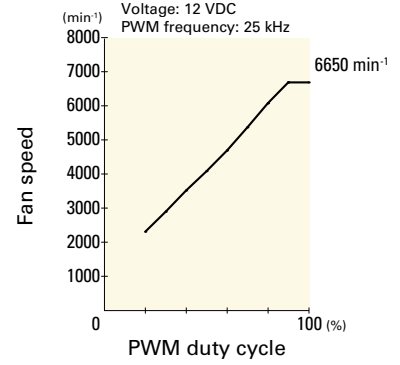
PWM duty cycle



Operating voltage range

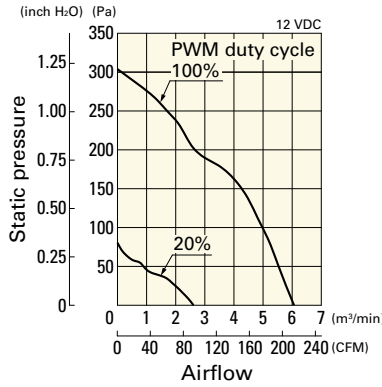


PWM duty - Speed characteristics example

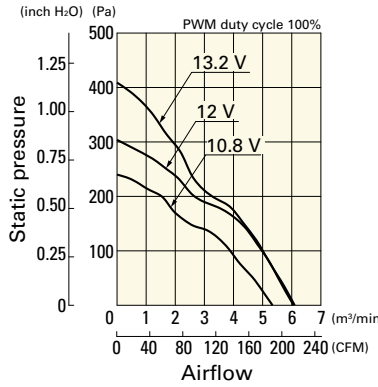


**9GV1412P1H001** With pulse sensor with PWM control function

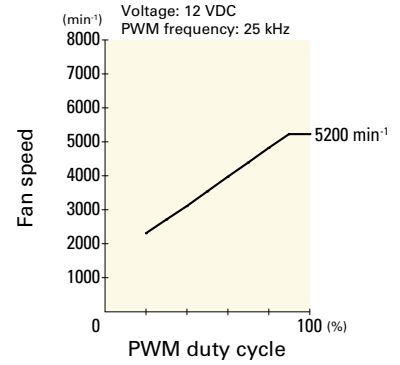
PWM duty cycle



Operating voltage range

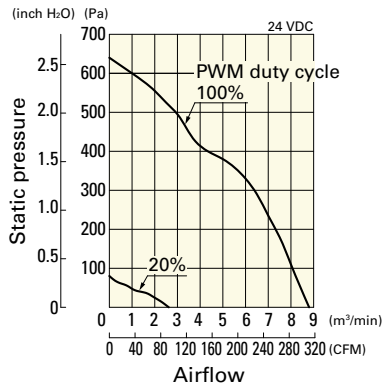


PWM duty - Speed characteristics example

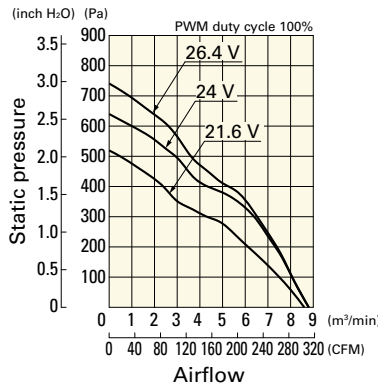


**9GV1424P1G001** With pulse sensor with PWM control function

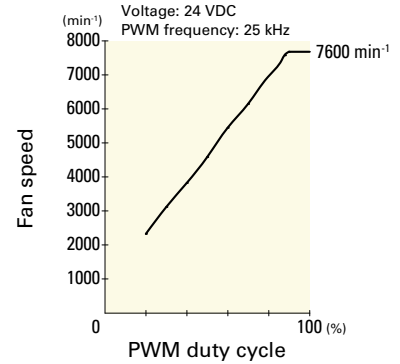
PWM duty cycle



Operating voltage range

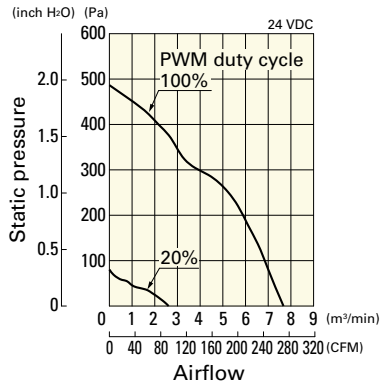


PWM duty - Speed characteristics example

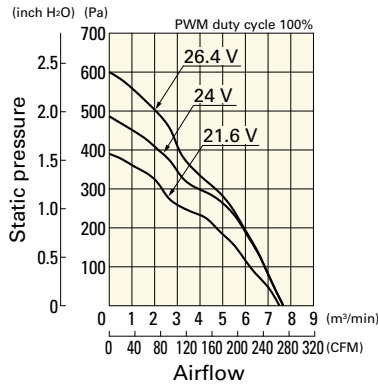


**9GV1424P1S001** With pulse sensor with PWM control function

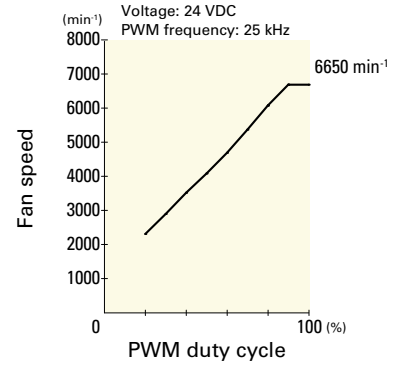
PWM duty cycle



Operating voltage range



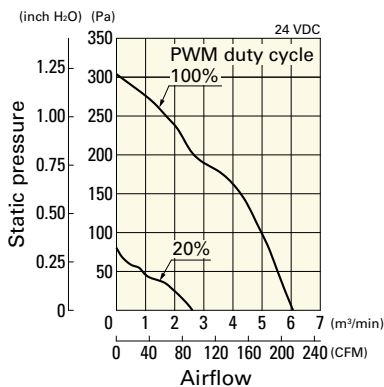
PWM duty - Speed characteristics example



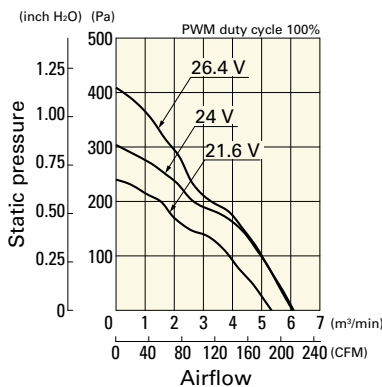
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GV1424P1H001** With pulse sensor with PWM control function

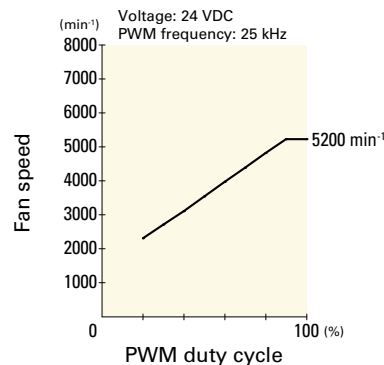
PWM duty cycle



Operating voltage range

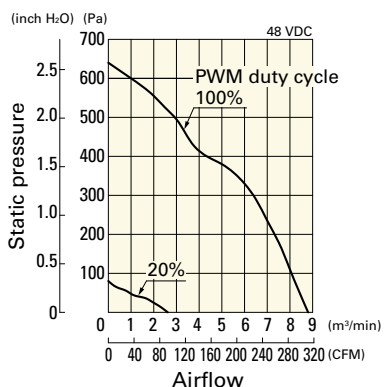


PWM duty - Speed characteristics example

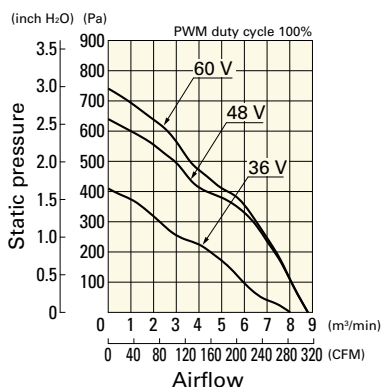


**9GV1448P1G001** With pulse sensor with PWM control function

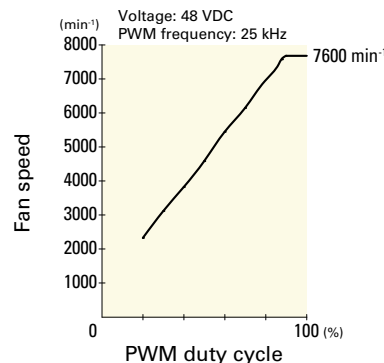
PWM duty cycle



Operating voltage range

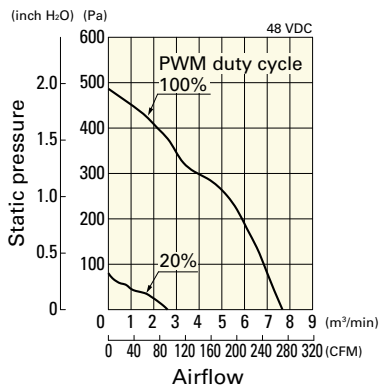


PWM duty - Speed characteristics example

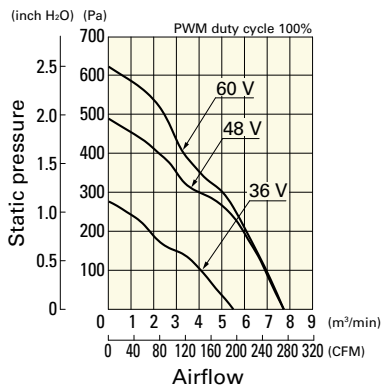


**9GV1448P1S001** With pulse sensor with PWM control function

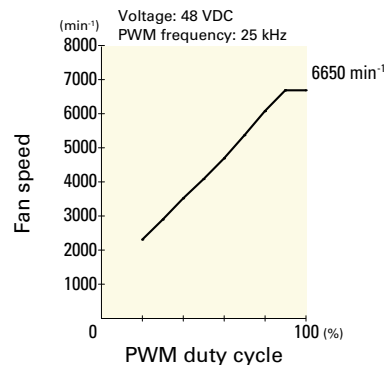
PWM duty cycle



Operating voltage range

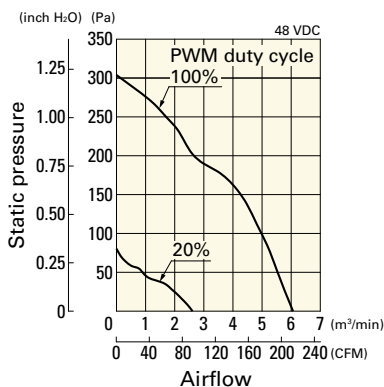


PWM duty - Speed characteristics example

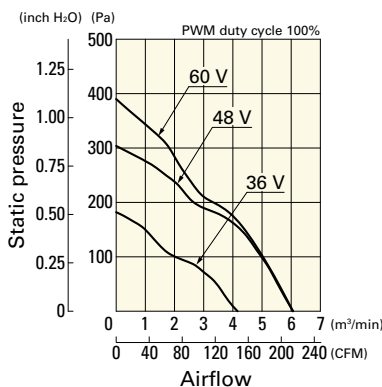


**9GV1448P1H001** With pulse sensor with PWM control function

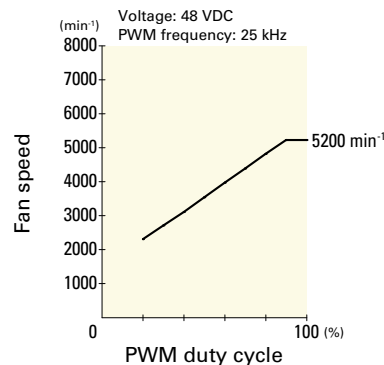
PWM duty cycle



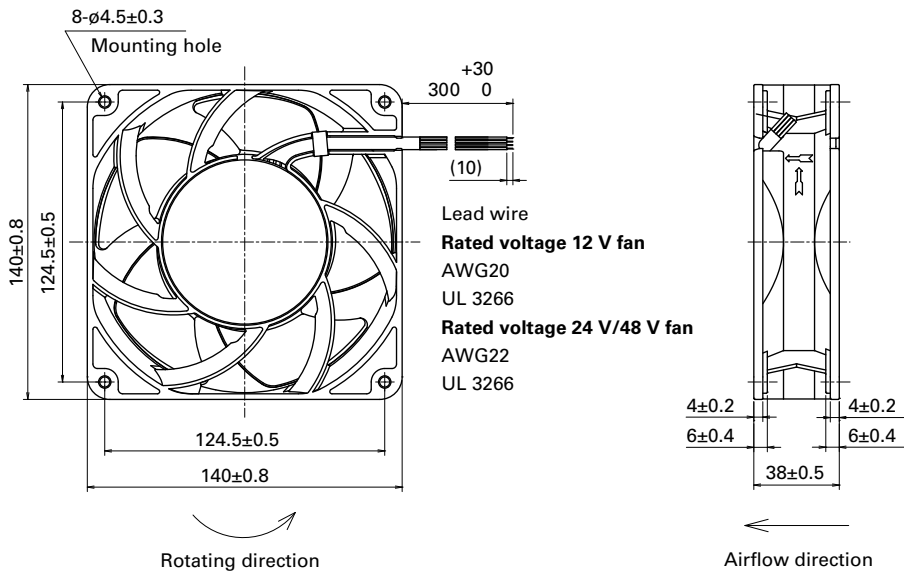
Operating voltage range



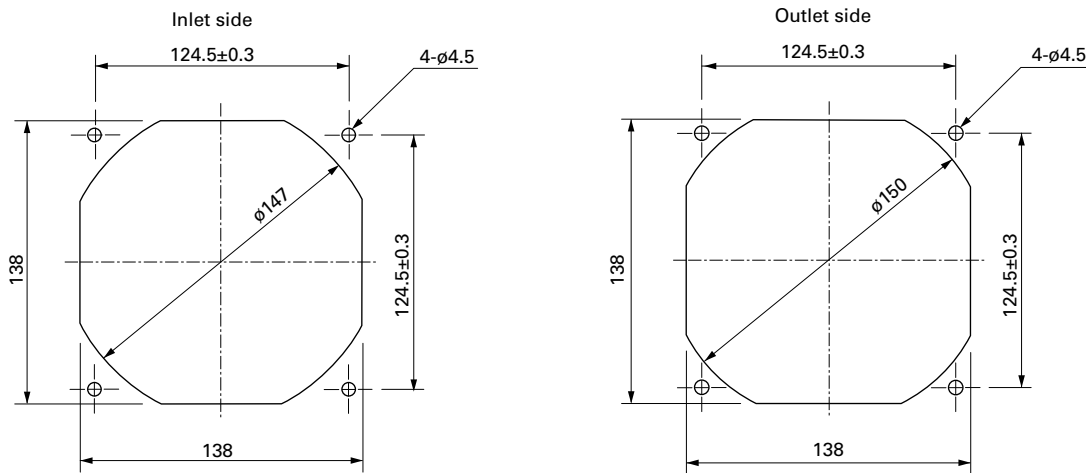
PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 585

Model no.: 109-719, 109-719H

# 140×140×38 mm



San Ace 140 9P 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 450 g

## Specifications

The models listed below **have ribs and pulse sensors.**

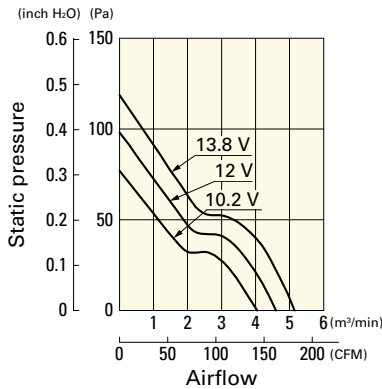
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109P1412H101	12	10.2 to 13.8	0.73	8.76	2600	4.5 159	94 0.378	46	-20 to +70	40000/60°C (70000/40°C)
109P1412M101			0.33	3.96	1900	3.3 117	52 0.209	38		
109P1424H101	24	20.4 to 27.6	0.37	8.88	2600	4.5 159	94 0.378	46		
109P1424M101			0.16	3.84	1900	3.3 117	52 0.209	38		
109P1448H101	48	40.8 to 55.2	0.2	9.6	2600	4.5 159	94 0.378	46		
109P1448M101			0.09	4.32	1900	3.3 117	52 0.209	38		

Note: Sensor and control options are available for selection. Refer to the table on p. 622.

## Airflow - Static Pressure Characteristics

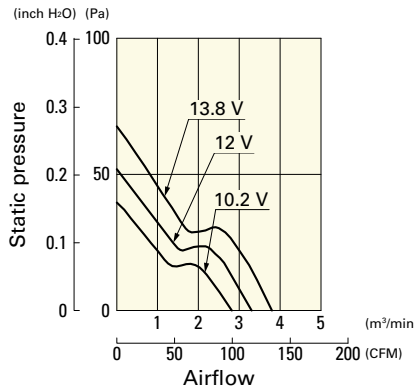
**109P1412H101** With pulse sensor

Operating voltage range



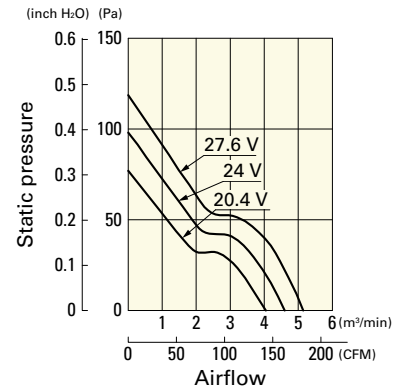
**109P1412M101** With pulse sensor

Operating voltage range



**109P1424H101** With pulse sensor

Operating voltage range

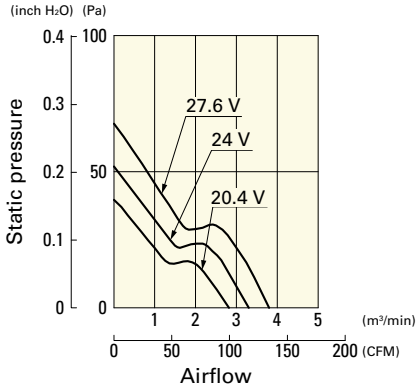




## Airflow - Static Pressure Characteristics

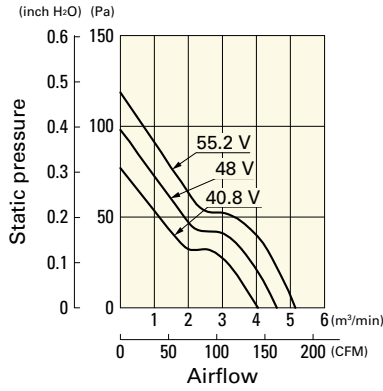
**109P1424M101** With pulse sensor

Operating voltage range



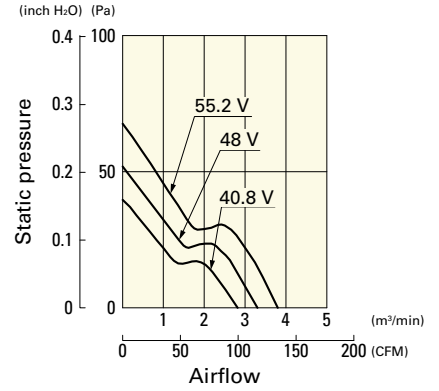
**109P1448H101** With pulse sensor

Operating voltage range

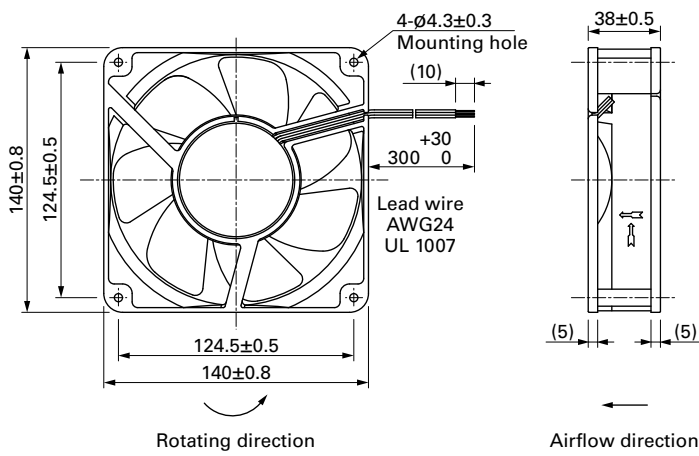


**109P1448M101** With pulse sensor

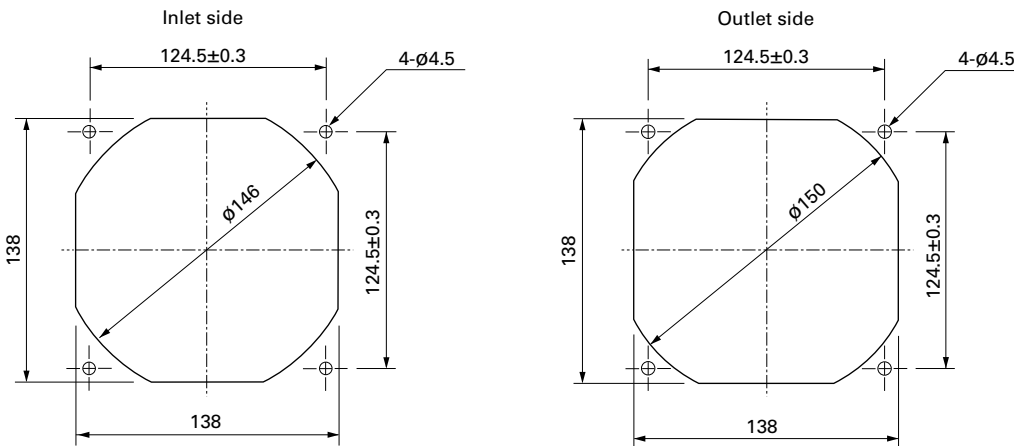
Operating voltage range



## Dimensions (unit: mm)



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



## Options

Finger guards

page: p. 585

Model no.: 109-719, 109-719H



# 150×150×50 mm

San Ace 150 9GV 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue Sensor Yellow
- Mass ..... 450 g

## Specifications

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

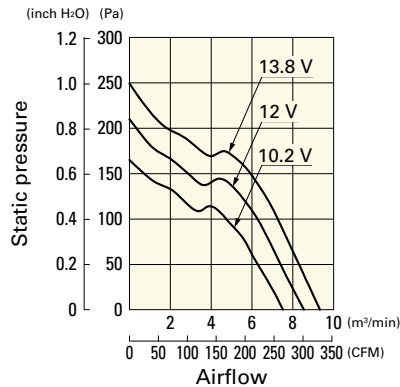
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>9GV1512H501</b>	12	10.2 to 13.8	2.9	34.8	3900	8.54 300	210 0.84	61	-20 to +70	40000/60°C (70000/40°C)
<b>9GV1512M501</b>			1.2	14.4	3000	6.35 224	132 0.53	53		
<b>9GV1524M501</b>	24	20.4 to 27.6	0.6	14.4	3000	6.35 224	132 0.53	53		

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

## Airflow - Static Pressure Characteristics

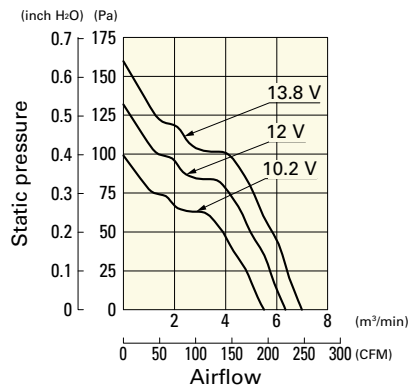
**9GV1512H501** With pulse sensor

Operating voltage range



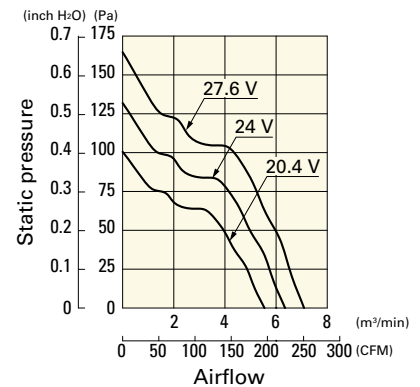
**9GV1512M501** With pulse sensor

Operating voltage range

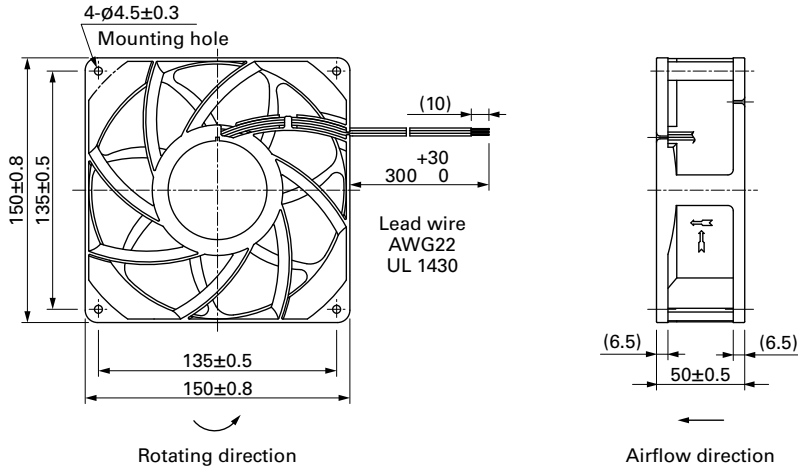


**9GV1524M501** With pulse sensor

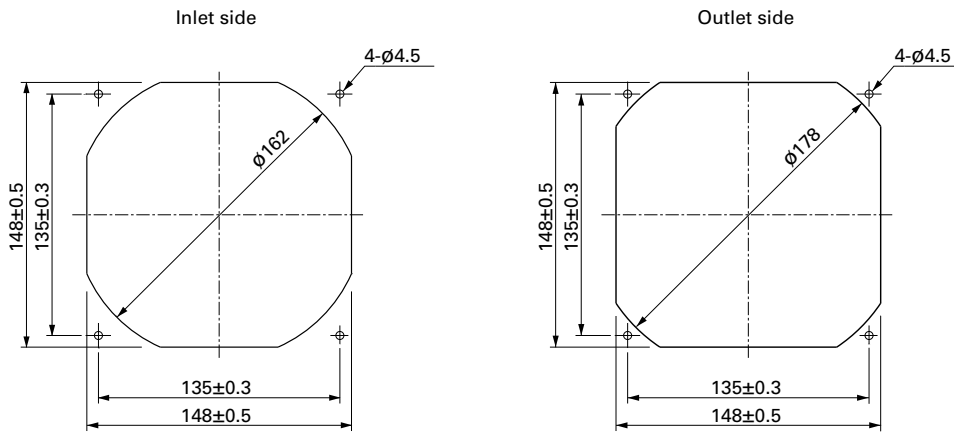
Operating voltage range



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



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



**Options**

Finger guards

page: p. 585

Model no.: 109-1051, 109-1052

DC Fan

# Ø 172x147x25 mm

**San Ace 172 9E** type   

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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 500 g

## Specifications

The models listed below **have pulse sensors**.

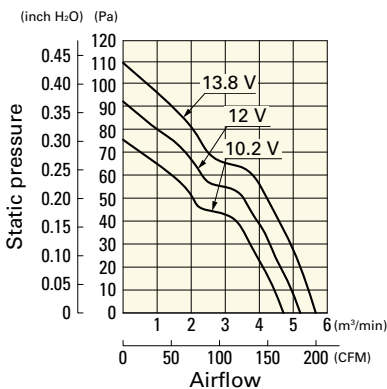
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>109E4712M401</b>	12	10.2 to 13.8	1.3	15.6	2800	5.2 183	92 0.369	51	-20 to +60	40000/60°C (70000/40°C)
<b>109E4712L401</b>			1.0	12.0	2500	4.6 162	73 0.293	48		
<b>109E4724H401</b>	24	20.4 to 27.6	1.0	24.0	3400	6.4 226	135 0.542	57		
<b>109E4724F401</b>			0.79	19.0	3100	5.8 204	112 0.45	54		
<b>109E4724M401</b>			0.58	13.9	2800	5.2 183	92 0.369	51		
<b>109E4724L401</b>			0.44	10.6	2500	4.6 162	73 0.293	48		
<b>109E4748S401</b>	48	40.8 to 55.2	0.62	29.8	3650	6.8 240	156 0.627	58		
<b>109E4748H401</b>			0.52	25.0	3400	6.4 226	135 0.542	57		
<b>109E4748F401</b>			0.4	19.2	3100	5.8 204	112 0.45	54		
<b>109E4748M401</b>			0.32	15.4	2800	5.2 183	92 0.369	51		
<b>109E4748L401</b>			0.25	12.0	2500	4.6 162	73 0.293	48		

Note: Sensor and control options are available for selection. Refer to the table on p. 620.

## Airflow - Static Pressure Characteristics

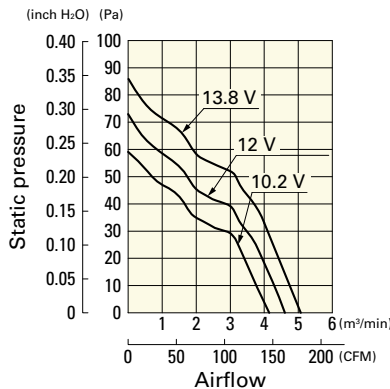
**109E4712M401** With pulse sensor

Operating voltage range



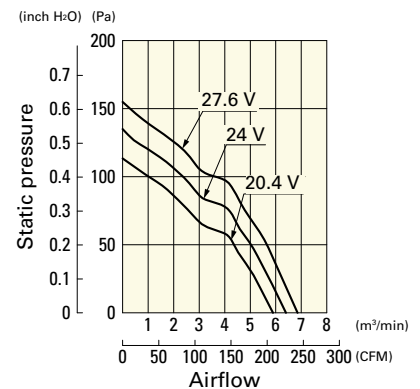
**109E4712L401** With pulse sensor

Operating voltage range



**109E4724H401** With pulse sensor

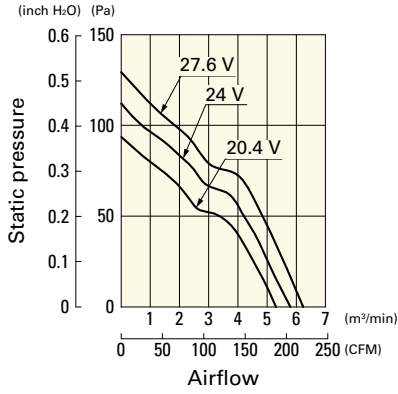
Operating voltage range



## Airflow - Static Pressure Characteristics

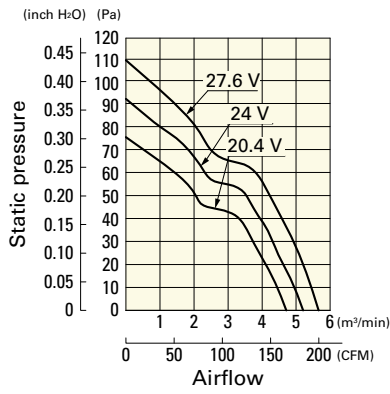
**109E4724F401** With pulse sensor

Operating voltage range



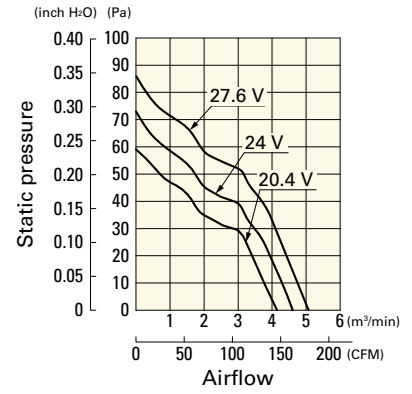
**109E4724M401** With pulse sensor

Operating voltage range



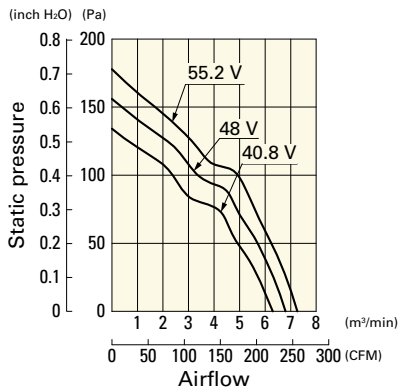
**109E4724L401** With pulse sensor

Operating voltage range



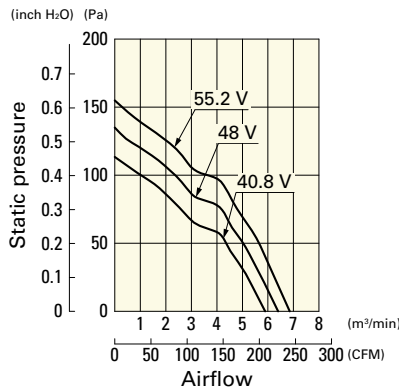
**109E4748S401** With pulse sensor

Operating voltage range



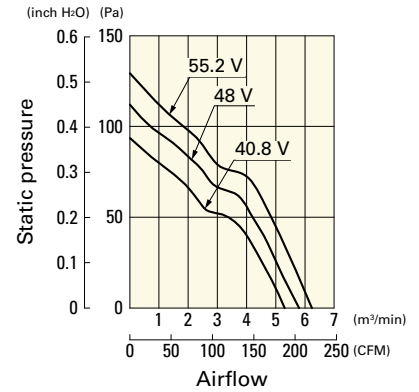
**109E4748H401** With pulse sensor

Operating voltage range



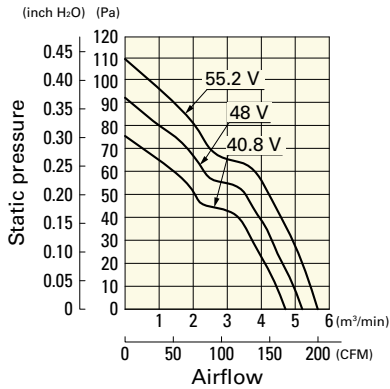
**109E4748F401** With pulse sensor

Operating voltage range



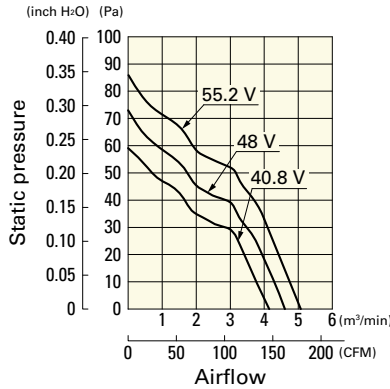
**109E4748M401** With pulse sensor

Operating voltage range

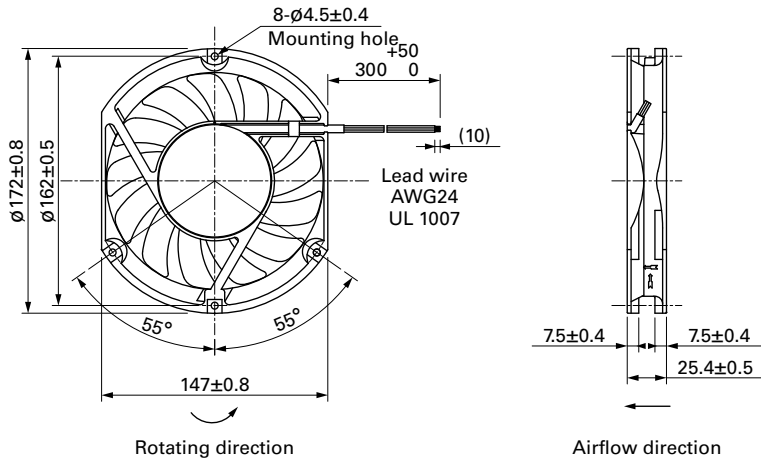


**109E4748L401** With pulse sensor

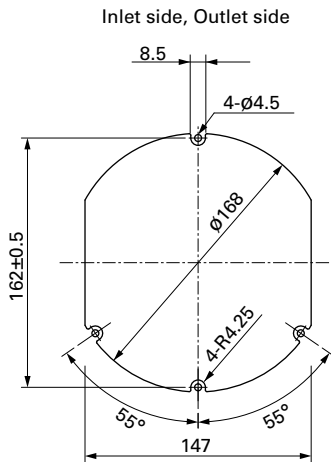
Operating voltage range



## Dimensions (unit: mm)



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



## Options

Finger guards

page: p. 586

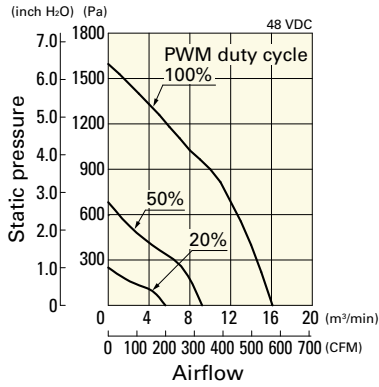
Model no.: 109-319E, 109-319H, 109-320



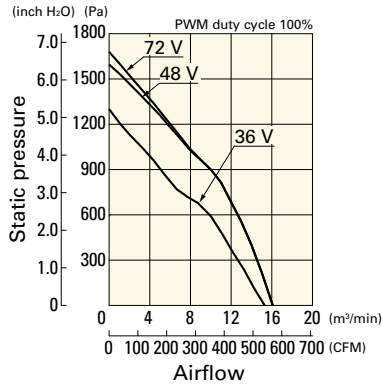
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9HV5748P5G001** With pulse sensor with PWM control function

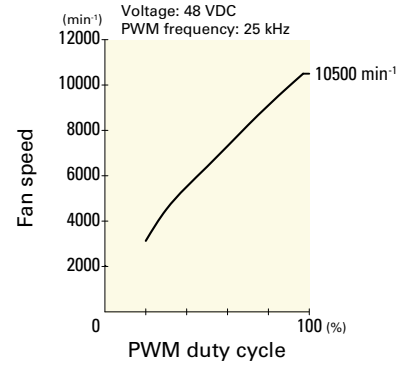
PWM duty cycle



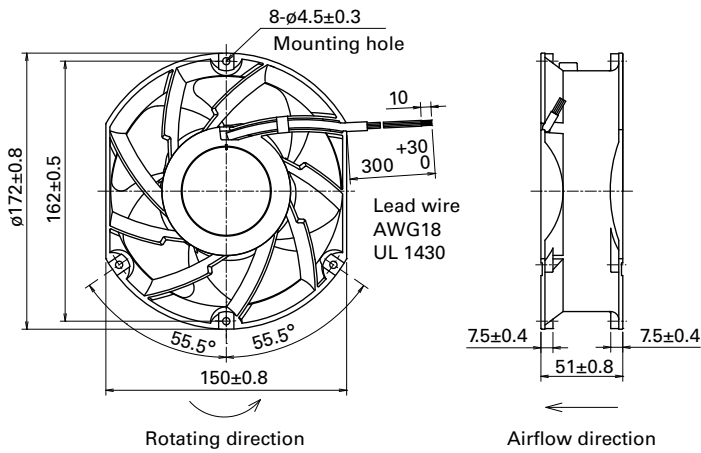
Operating voltage range



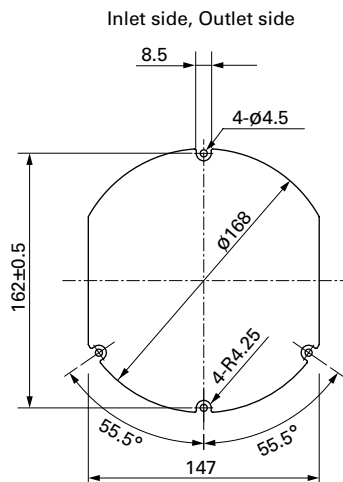
PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 586

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





# ∅172×150×51 mm

San Ace 172 9SG type US

Sidecut type

## General Specifications

- Material ..... Frame: Aluminum, 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 760 g

## Specifications

The models listed below **have pulse sensors with PWM control function.**

Model no.	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]
▶▶ 9SG5724P5H61	24	20.4 to 27.6	100	2.8	67.2	6500	11.6 410	540 2.16	71	-20 to +70	40000/60°C (70000/40°C)
			0	0.18	4.32	1300	2.32 81.9	30 0.12	28		
▶▶ 9SG5748P5G01	48	36 to 72	100	2.91	140	8600	15.46 546	1000 4.02	78	-20 to +60	
			0	0.21	10.1	2000	3.59 127	75.1 0.3	40		
▶▶ 9SG5748P5H01			100	1.62	78	6500	11.6 410	770 3.09	71		
			0	0.21	10.1	2000	3.59 127	75.1 0.3	40		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

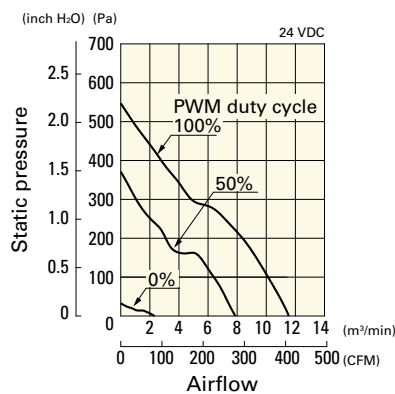
Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.

Note 2: The ▶▶ mark indicates Short LeadTime Service applicable models. See p. 654 for details.

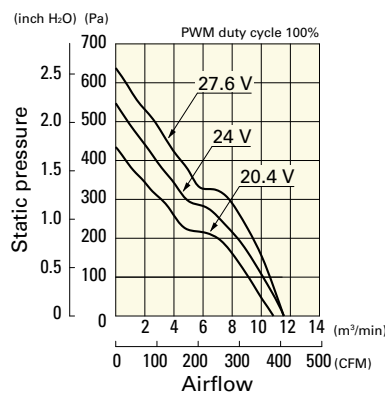
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9SG5724P5H61 With pulse sensor with PWM control function

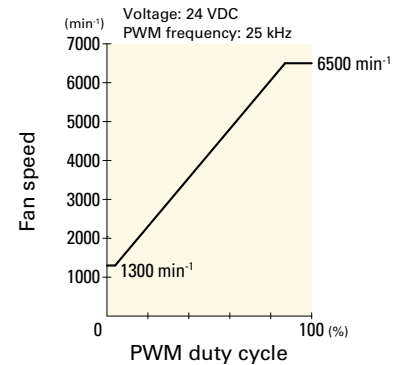
PWM duty cycle



Operating voltage range



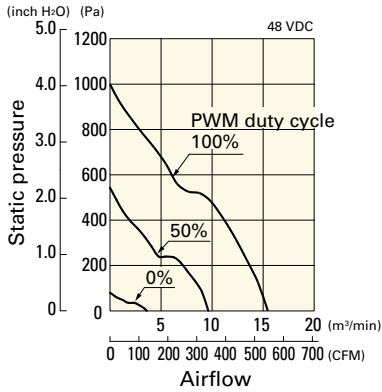
PWM duty - Speed characteristics example



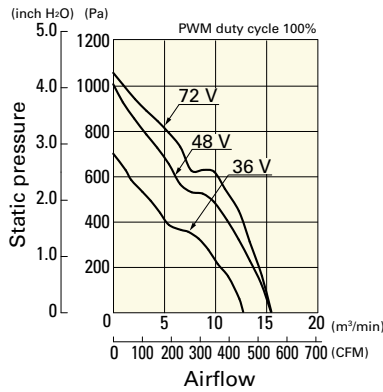
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9SG5748P5G01** With pulse sensor with PWM control function

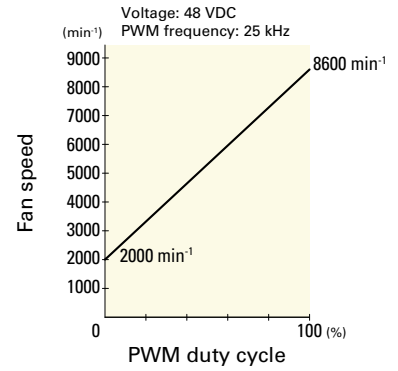
PWM duty cycle



Operating voltage range

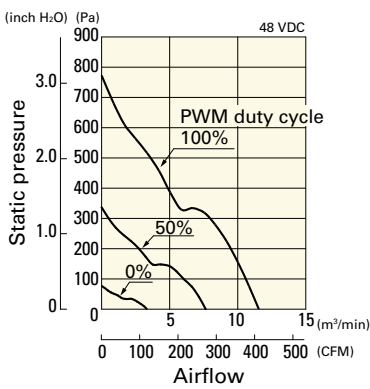


PWM duty - Speed characteristics example

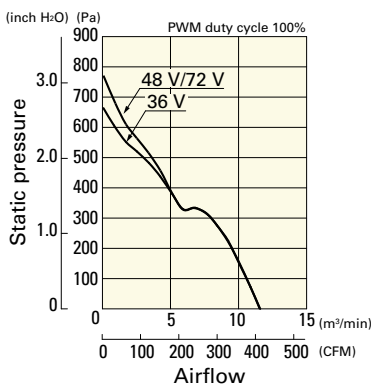


**9SG5748P5H01** With pulse sensor with PWM control function

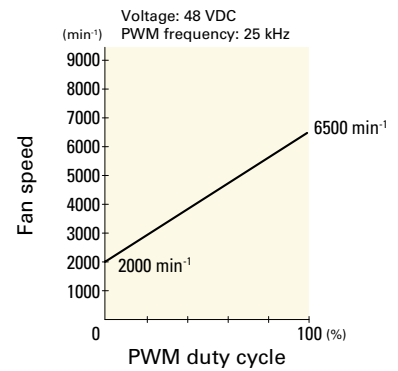
PWM duty cycle



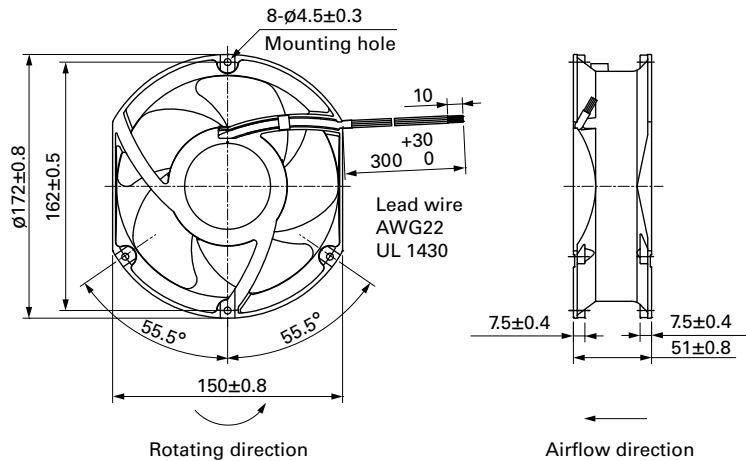
Operating voltage range



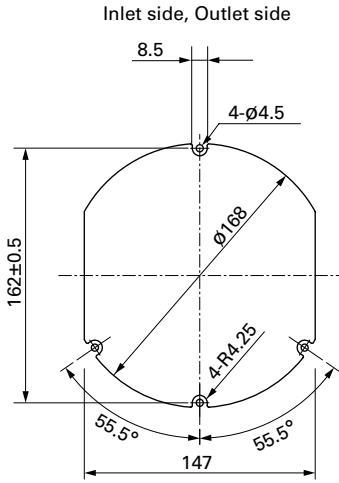
PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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



Options

Finger guards

page: p. 586

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

DC Fan



# Ø 172x150x51 mm

**San Ace 172 9GV** type

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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black Sensor Yellow
- Mass ..... 800 g

## Specifications

The models listed below **have pulse sensors**.

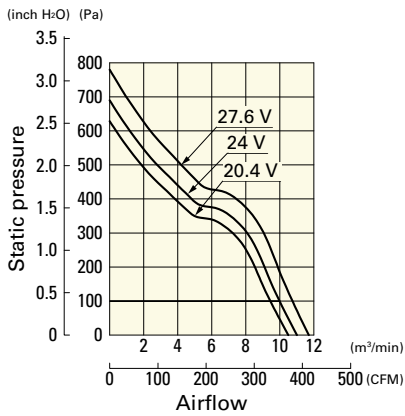
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>9GV5724H501</b>	24	20.4 to 27.6	4.0	96	6300	11.32 400	690 2.77	74	-20 to +70	40000/60°C (70000/40°C)
<b>9GV5748H501</b>	48	40.8 to 55.2	2.0	96	6300	11.32 400	690 2.77	74		

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

## Airflow - Static Pressure Characteristics

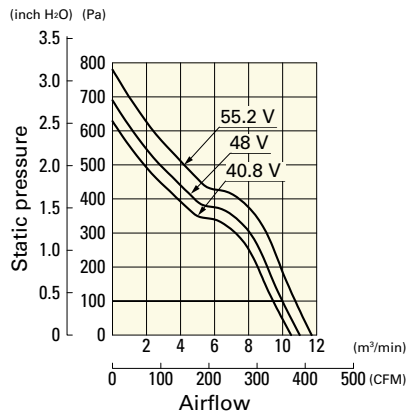
**9GV5724H501** With pulse sensor

Operating voltage range

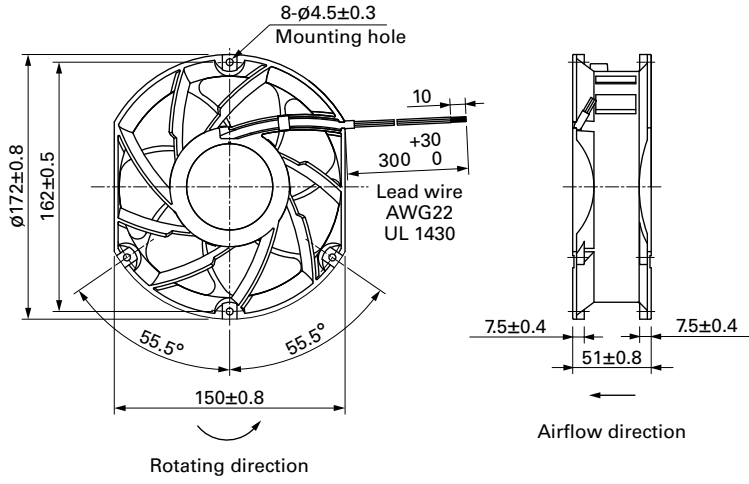


**9GV5748H501** With pulse sensor

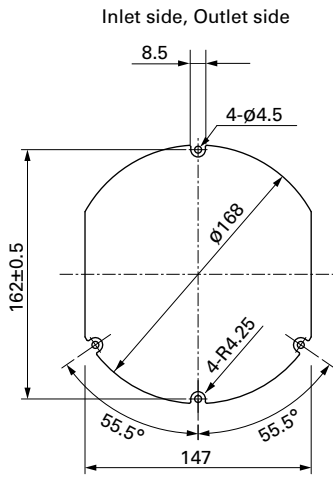
Operating voltage range



**Dimensions (unit: mm)**



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



**Options**

Finger guards


page: p. 586

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

DC Fan

# Ø 172x150x51 mm



**San Ace 172 9E** type   

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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue Sensor Yellow
- Mass ..... 760 g

## Specifications

The models listed below **have pulse sensors**.

Model no.	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]
▶▶ 109E5712K501	12	10.2 to 13.8	2.9	34.8	4100	8.5 300	243.0 0.976	60	-20 to +60	40000/60°C (70000/40°C)
▶▶ 109E5712Y501			2.3	27.6	3800	8 282	210 0.84	60		
▶▶ 109E5712H501			1.2	14.4	3050	6.4 226	137.2 0.551	52		
▶▶ 109E5712F501			0.68	8.16	2500	5.1 180	95 0.38	47		
▶▶ 109E5712M501			0.48	5.76	2000	4.2 148	67.6 0.271	41		
▶▶ 109E5724C501	24	20.4 to 27.6	2.3	55.2	4800	9.9 350	308.0 1.237	66	-20 to +70	
▶▶ 109E5724K501			1.3	31.2	4100	8.5 300	243.0 0.976	60		
▶▶ 109E5724H501			0.58	13.92	3050	6.4 226	137.2 0.551	52		
▶▶ 109E5724F501			0.35	8.4	2500	5.1 180	95 0.38	47		
▶▶ 109E5724M501			0.2	4.8	2000	4.2 148	67.6 0.271	41		
▶▶ 109E5748C501	48	40.8 to 55.2	1.2	57.6	4800	9.9 350	308.0 1.237	66	-20 to +60	
▶▶ 109E5748K501			0.7	33.6	4100	8.5 300	243.0 0.976	60		
▶▶ 109E5748H501			0.28	13.44	3050	6.4 226	137.2 0.551	52		
▶▶ 109E5748F501			0.19	9.12	2500	5.1 180	95 0.38	47		
▶▶ 109E5748M501			0.11	5.28	2000	4.2 148	67.6 0.271	41		

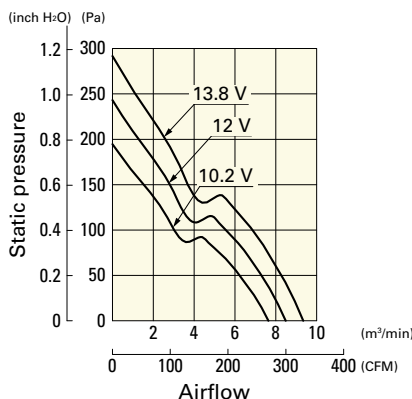
Note 1: Sensor and control options are available for selection. Refer to the table on p. 621.

Note 2: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

## Airflow - Static Pressure Characteristics

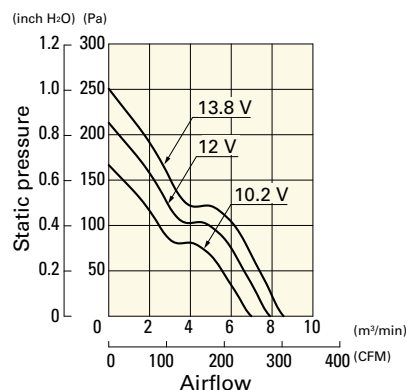
**109E5712K501** With pulse sensor

Operating voltage range



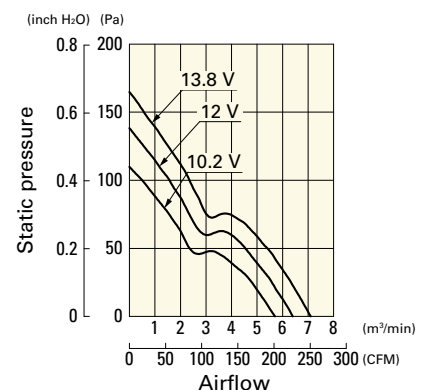
**109E5712Y501** With pulse sensor

Operating voltage range



**109E5712H501** With pulse sensor

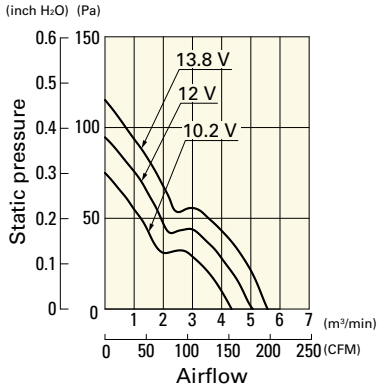
Operating voltage range



## Airflow - Static Pressure Characteristics

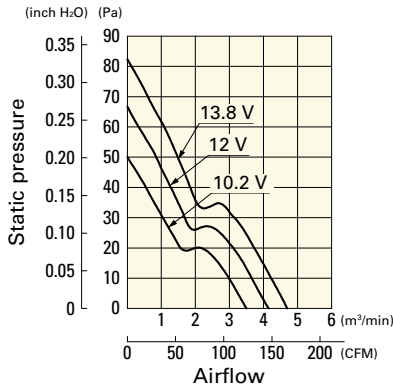
**109E5712F501** With pulse sensor

Operating voltage range



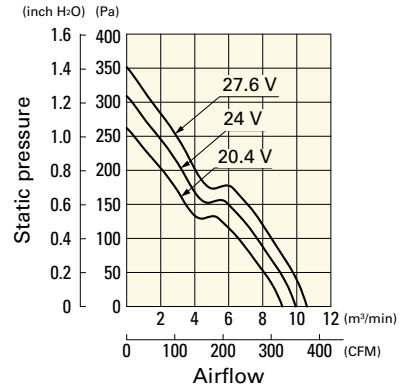
**109E5712M501** With pulse sensor

Operating voltage range



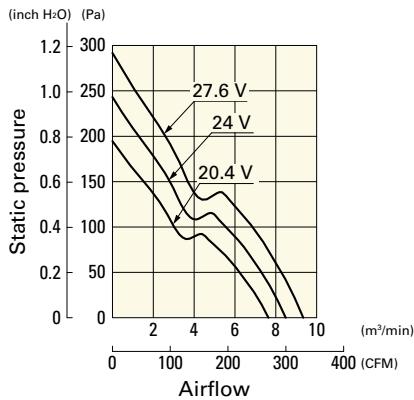
**109E5724C501** With pulse sensor

Operating voltage range



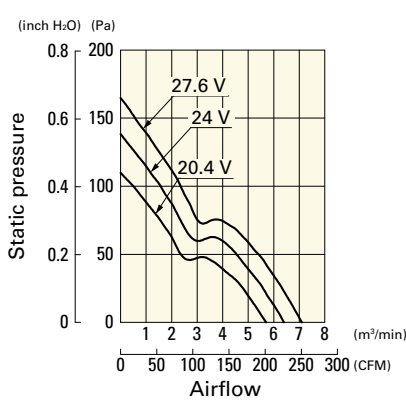
**109E5724K501** With pulse sensor

Operating voltage range



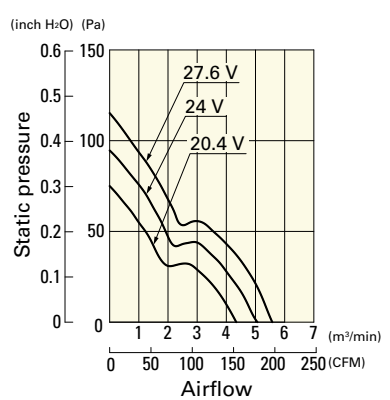
**109E5724H501** With pulse sensor

Operating voltage range



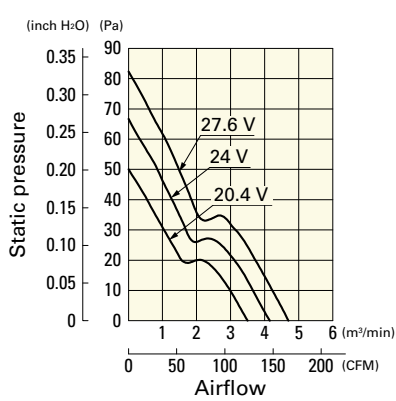
**109E5724F501** With pulse sensor

Operating voltage range



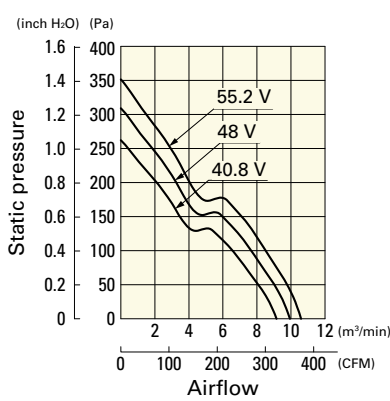
**109E5724M501** With pulse sensor

Operating voltage range



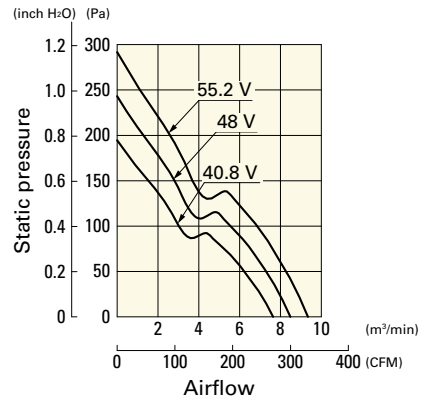
**109E5748C501** With pulse sensor

Operating voltage range



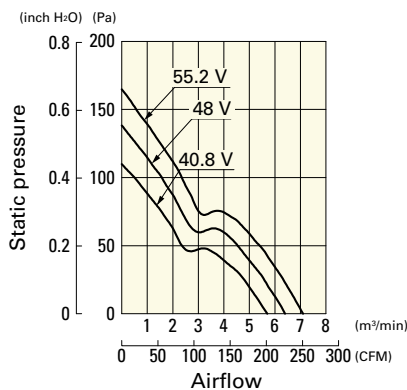
**109E5748K501** With pulse sensor

Operating voltage range



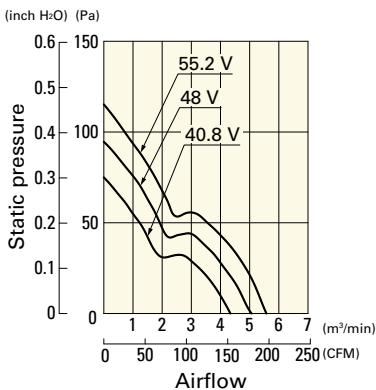
**109E5748H501** With pulse sensor

Operating voltage range



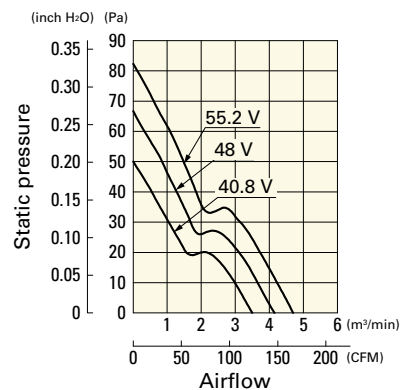
**109E5748F501** With pulse sensor

Operating voltage range

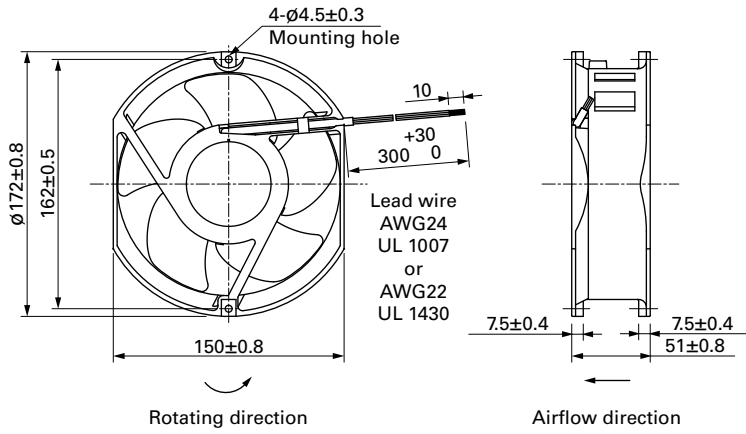


**109E5748M501** With pulse sensor

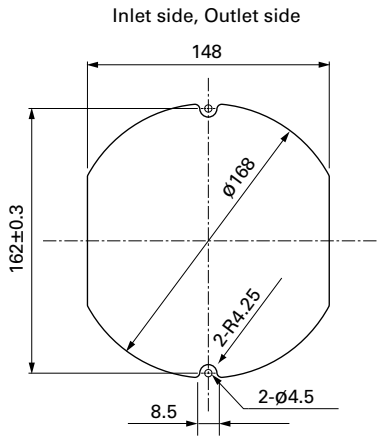
Operating voltage range



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 586

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



∅172x51 mm

San Ace 172 9E type   

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) Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue  Sensor Yellow
- Mass ..... 780 g

**Specifications**

The models listed below **have pulse sensors.**

Model no.	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]
▶▶ 109E1712K501	12	10.2 to 13.8	2.9	34.8	4100	8.5 300	243.0 0.976	55	-20 to +60	40000/60°C (70000/40°C)
▶▶ 109E1712Y501			2.3	27.6	3800	7.8 276	210.0 0.843	53		
▶▶ 109E1712H501			1.2	14.4	3050	6.4 226	137.2 0.551	47		
▶▶ 109E1712F501			0.68	10.8	2500	5.1 180	95.0 0.382	42		
▶▶ 109E1712M501			0.48	5.76	2000	4.2 148	67.6 0.271	36		
▶▶ 109E1724C501	24	20.4 to 27.6	2.3	55.2	4800	9.9 350	308.0 1.237	60	-20 to +70	
▶▶ 109E1724K501			1.3	31.2	4100	8.5 300	243.0 0.976	55		
▶▶ 109E1724H501			0.58	13.92	3050	6.4 226	137.2 0.551	47		
▶▶ 109E1724F501			0.35	8.4	2500	5.1 180	95 0.382	42		
▶▶ 109E1724M501			0.2	4.8	2000	4.2 148	67.6 0.271	36		
▶▶ 109E1748C501	48	40.8 to 55.2	1.2	57.6	4800	9.9 350	308.0 1.237	60	-20 to +60	
▶▶ 109E1748K501			0.7	33.6	4100	8.5 300	243.0 0.976	55		
▶▶ 109E1748H501			0.28	13.44	3050	6.4 226	137.2 0.551	47		
▶▶ 109E1748F501			0.19	9.12	2500	5.1 180	95 0.382	42		
▶▶ 109E1748M501			0.11	5.28	2000	4.2 148	67.6 0.271	36		

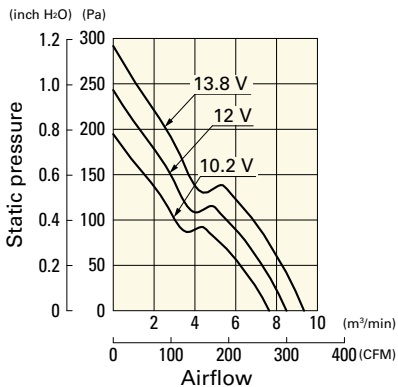
Note 1: Sensor and control options are available for selection. Refer to the table on p. 620.

Note 2: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

**Airflow - Static Pressure Characteristics**

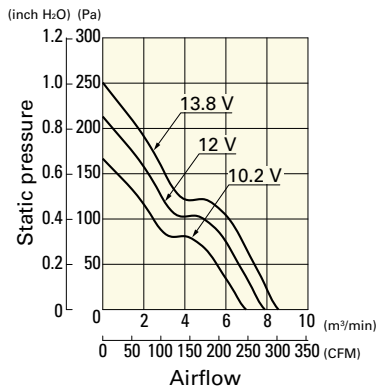
**109E1712K501** With pulse sensor

Operating voltage range



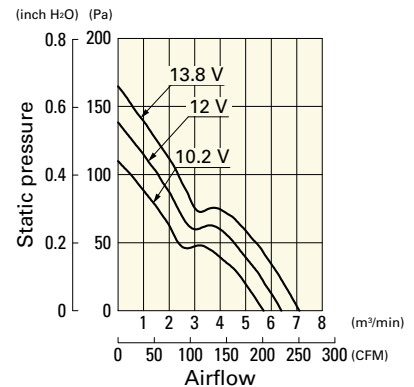
**109E1712Y501** With pulse sensor

Operating voltage range



**109E1712H501** With pulse sensor

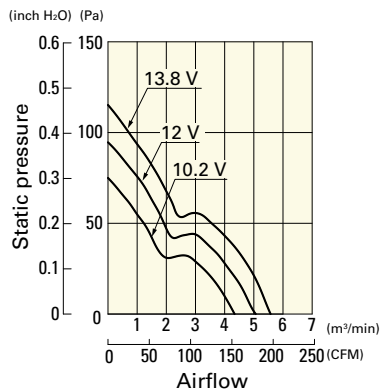
Operating voltage range



**Airflow - Static Pressure Characteristics**

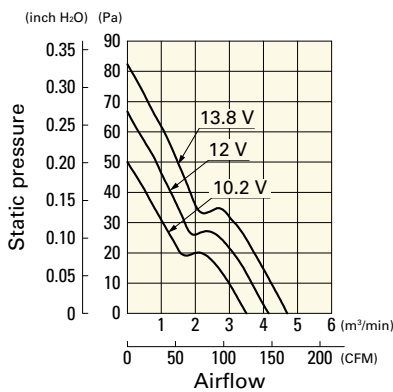
**109E1712F501** With pulse sensor

Operating voltage range



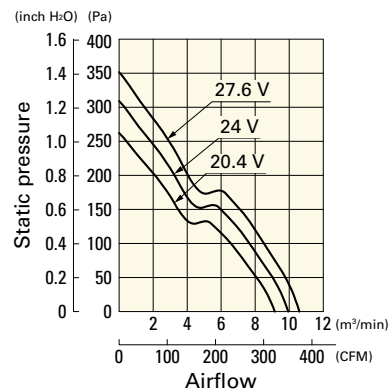
**109E1712M501** With pulse sensor

Operating voltage range



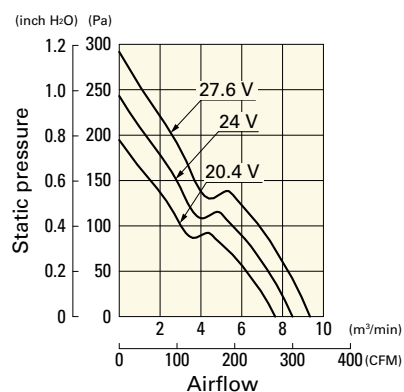
**109E1724C501** With pulse sensor

Operating voltage range



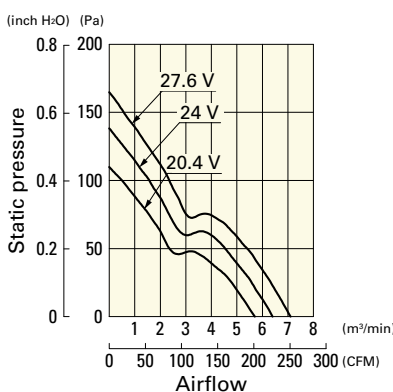
**109E1724K501** With pulse sensor

Operating voltage range



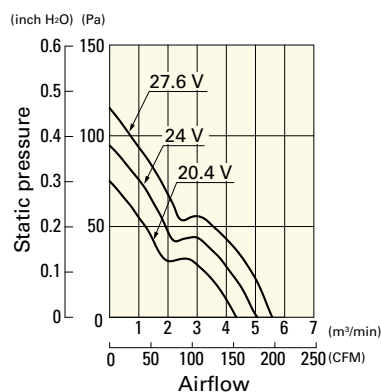
**109E1724H501** With pulse sensor

Operating voltage range



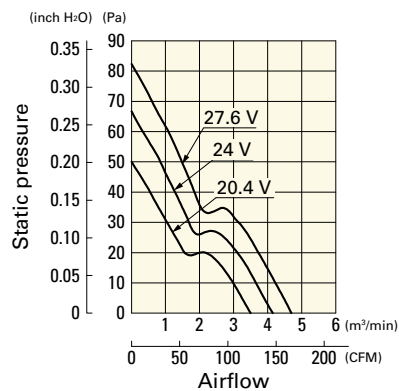
**109E1724F501** With pulse sensor

Operating voltage range



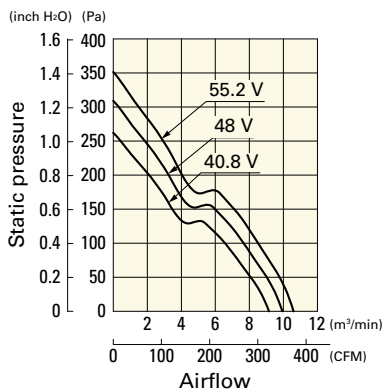
**109E1724M501** With pulse sensor

Operating voltage range



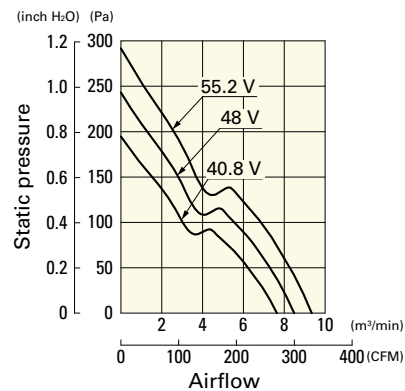
**109E1748C501** With pulse sensor

Operating voltage range



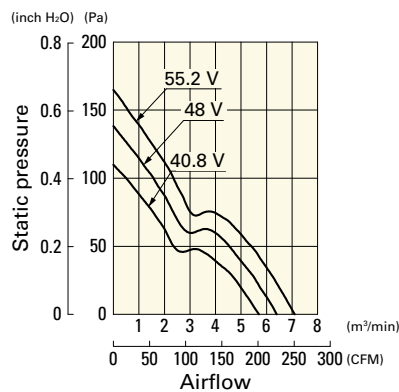
**109E1748K501** With pulse sensor

Operating voltage range



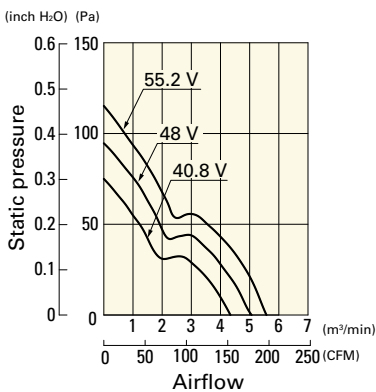
**109E1748H501** With pulse sensor

Operating voltage range



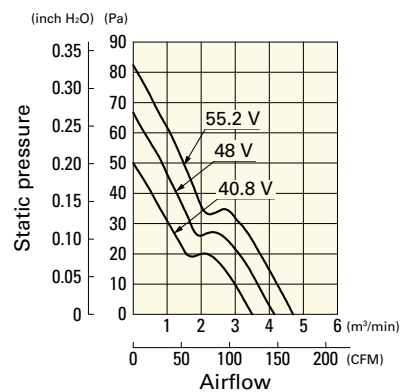
**109E1748F501** With pulse sensor

Operating voltage range

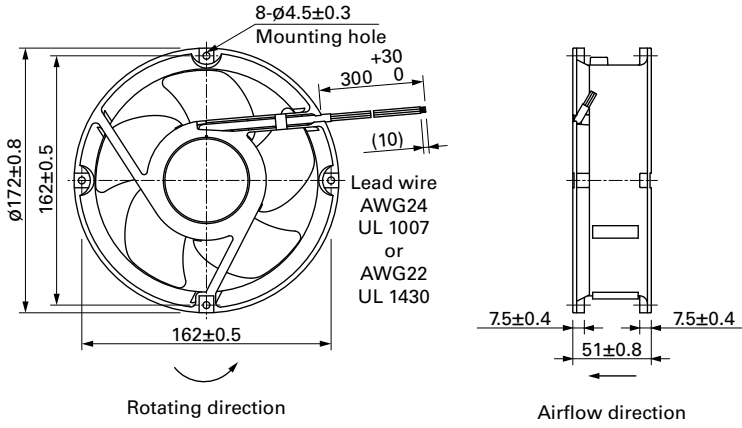


**109E1748M501** With pulse sensor

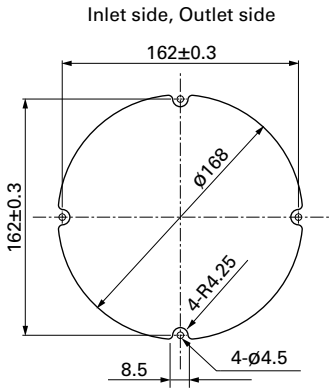
Operating voltage range



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 586

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



# Ø200x70 mm

**San Ace 200 9GV** 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown
- Mass ..... 1800 g

Once the fan stops, wait for at least 15 seconds before restarting the fan.

## Specifications

The models listed below **have pulse sensors with PWM control function.**

Model no.	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]
<b>9GV2048P0G201</b>	48	36 to 72	100	12.5	600	8000	31.5 1112	1400 5.62	81	-20 to +70	40000/60°C (70000/40°C)

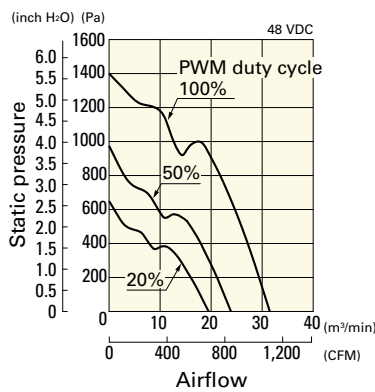
\* PWM input frequency is 1 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

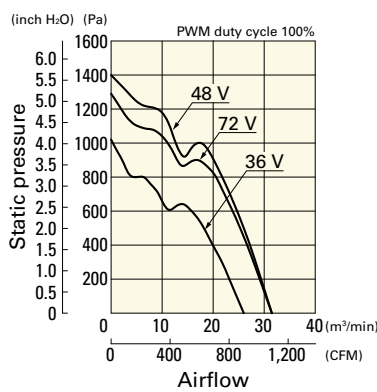
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GV2048P0G201** With pulse sensor with PWM control function

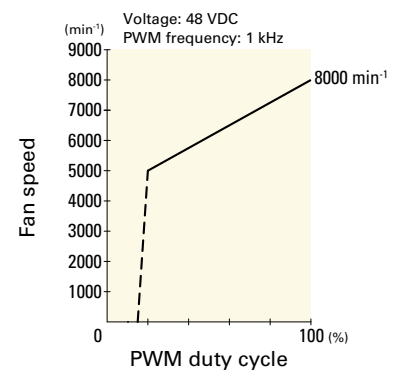
PWM duty cycle



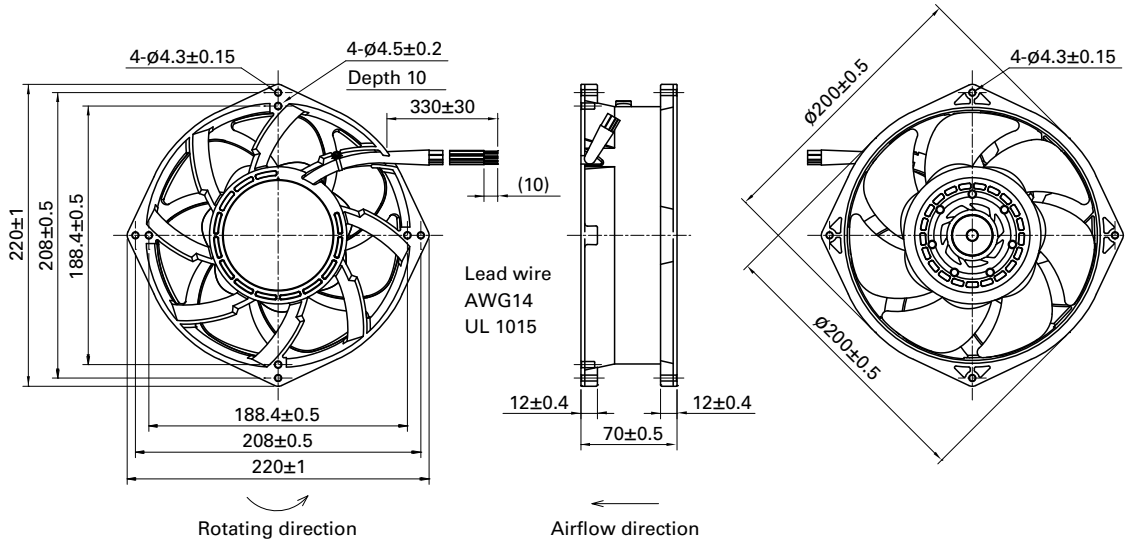
Operating voltage range



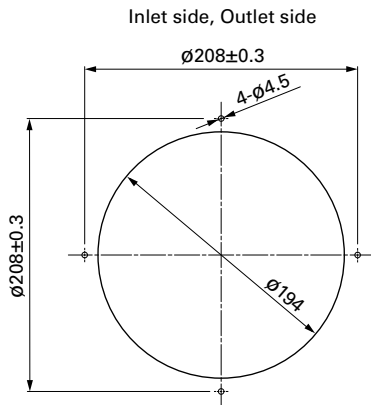
PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 587

Model no.: 109-1102, 109-1102H, 109-1103, 109-1103H

DC Fan

# Ø200x70 mm



**San Ace 200 9EC type** Model 9EC2048J001 is not certified.

## 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)  
Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 599.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black or Blue Sensor Yellow
- Mass ..... 1800 g

Once the fan stops, wait for at least 10 seconds before restarting the fan.

## Specifications

The models listed below **have pulse sensors**.

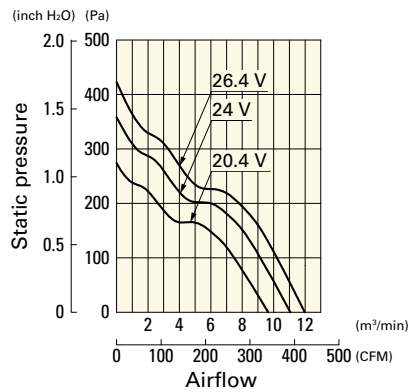
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
<b>9EC2024H001</b>	24	20.4 to 26.4	2.0	48.0	3600	11.0 388	360 1.446	60	-20 to +60	40000/60°C (70000/40°C)
<b>9EC2048J001</b>	48	40.8 to 55.2	4.4	211.2	6100	18.3 646	1000 4.016	75		
<b>9EC2048A001</b>		43.0 to 51.0	2.2	105.6	4800	14.7 519	640 2.57	68		
<b>9EC2048H001</b>		40.8 to 52.8	1.2	57.6	3600	11.0 388	360 1.446	60		

Note: Sensor and control options are available for selection. Refer to the table on p. 626.

## Airflow - Static Pressure Characteristics

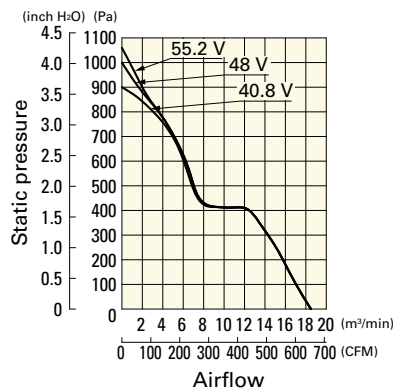
**9EC2024H001** With pulse sensor

Operating voltage range



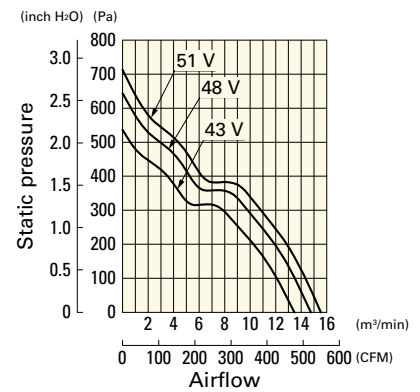
**9EC2048J001** With pulse sensor

Operating voltage range



**9EC2048A001** With pulse sensor

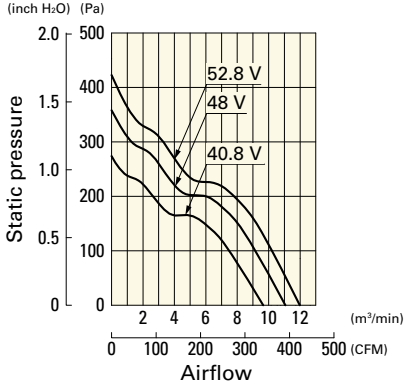
Operating voltage range



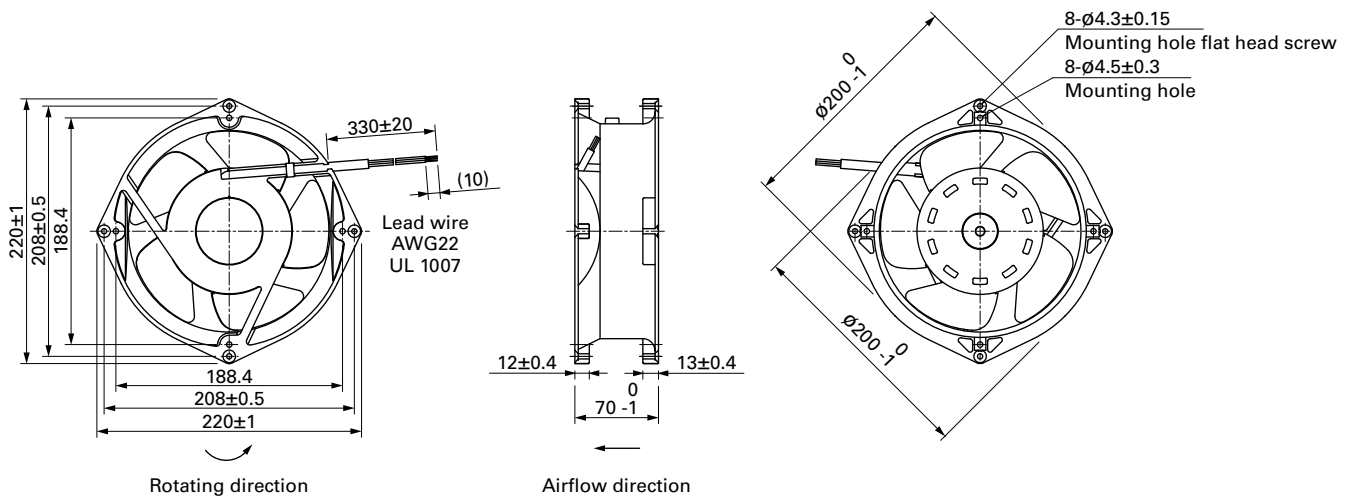
**Airflow - Static Pressure Characteristics**

**9EC2048H001** With pulse sensor

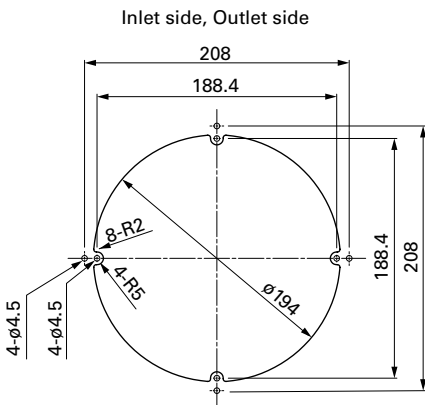
Operating voltage range



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 587

Model no.: 109-720, 109-720H, 109-721, 109-721H

**Finger guards** List

Increases safety by preventing foreign objects from entering fans. Fans can be used with little effect on airflow and static pressure.

Size	Model no.	Mounting side	Surface treatment	
			Nickel-chrome plating (silver)	Cation electropainting (black)
<b>36 mm sq. type</b>	109-1050	Inlet side, Outlet side	✓	–
<b>38 mm sq. type</b>	109-1065	Inlet side, Outlet side	✓	–
<b>40 mm sq. type</b>	109-059	Inlet side, Outlet side	✓	–
	109-059H		–	✓
<b>52 mm sq. type</b>	109-149E	Inlet side, Outlet side	✓	–
	109-149	Outlet side	✓	–
<b>60 mm sq. type</b>	109-139E	Inlet side, Outlet side	✓	–
	109-139H		–	✓
<b>70 mm sq. type, <math>\varnothing</math>70 mm type</b>	109-1128	Inlet side, Outlet side	✓	–
<b>80 mm sq. type</b>	109-049E	Inlet side, Outlet side	✓	–
	109-049H		–	✓
	109-049C	Outlet side	✓	–
<b>92 mm sq. type</b>	109-099C	Outlet side	✓	–
<b><math>\varnothing</math>92 mm type</b>	109-1147	Impeller side, Nameplate side	✓	–
<b>92 mm sq. type, <math>\varnothing</math>100 mm type</b>	109-099E	Inlet side, Outlet side	✓	–
	109-099H		–	✓
<b>120 mm sq. type</b>	109-019E	Inlet side, Outlet side	✓	–
	109-019K		–	✓
	109-019C	Outlet side	✓	–
	109-019H		–	✓
<b>127 mm sq. type, <math>\varnothing</math>175 mm type</b>	109-722	Inlet side, Outlet side	✓	–
	109-722H	Inlet side, Outlet side	–	✓
<b>127 mm sq. type</b>	109-723	Outlet side	✓	–
<b><math>\varnothing</math>133 mm type</b>	109-1112	Inlet side	✓	–
<b><math>\varnothing</math>136 mm type</b>	109-1139	Impeller side, Nameplate side	✓	–
<b>140 mm sq. type</b>	109-719	Inlet side, Outlet side	✓	–
	109-719H		–	✓
<b>150 mm sq. type</b>	109-1051	Inlet side, Outlet side	✓	–
	109-1052	Outlet side	✓	–
<b><math>\varnothing</math>150 mm type</b>	109-1104	Inlet side	✓	–
	109-1104H		–	✓
<b>160 mm sq. type</b>	109-619E	Inlet side, Outlet side	✓	–
	109-619H		–	✓
	109-620	Outlet side	✓	–
<b><math>\varnothing</math>172 mm Sidecut type</b>	109-319J	Inlet side, Outlet side	✓	–
<b><math>\varnothing</math>172 mm Sidecut, Round type</b>	109-319E	Inlet side, Outlet side	✓	–
	109-319H		–	✓
	109-320	Outlet side	✓	–
<b><math>\varnothing</math>172 mm Round type</b>	109-1066	Inlet side, Outlet side	✓	–
	109-1068	Outlet side	✓	–
<b><math>\varnothing</math>200 mm type</b>	109-1102*	Inlet side, Outlet side	✓	–
	109-1102H*		–	✓
	109-1103*	Outlet side	✓	–
	109-1103H*		–	✓
	109-720	Inlet side, Outlet side	✓	–
	109-720H		–	✓
	109-721	Outlet side	✓	–
109-721H	–		✓	
<b><math>\varnothing</math>221 mm type</b>	109-1138	Inlet side	✓	–
	109-1138H		–	✓
<b><math>\varnothing</math>225 mm type</b>	109-1137	Inlet side	✓	–
	109-1137H		–	✓
<b>270 mm sq. type (for Bracket-mounted Centrifugal Fan)</b>	109-1146	Inlet side	✓	–
	109-1146H		–	✓

\* Applicable model no.: 9GV20\*



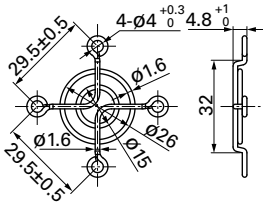
**Finger guards** Dimensions (unit: mm)

For use in environments subject to water splashes, cation electroplating models are recommended.

**36 mm sq. type**

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

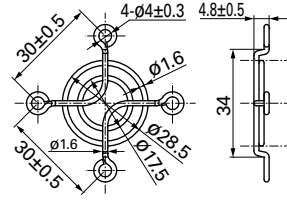
Inlet side, Outlet side



**38 mm sq. type**

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

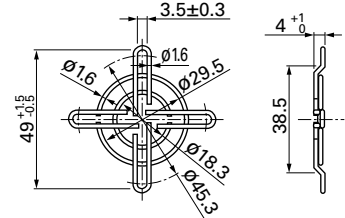
Inlet side, Outlet side



**40 mm sq. type**

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

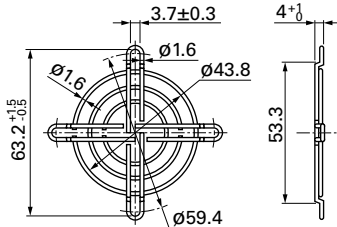
Inlet side, Outlet side



**52 mm sq. type**

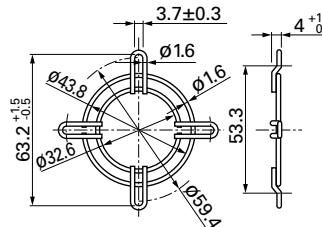
Model no.	Surface treatment	Mass (g)
109-149E	Nickel-chrome plating (silver)	9

Inlet side, Outlet side



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

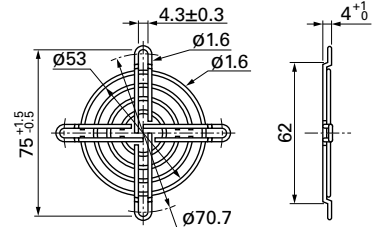
Outlet side



**60 mm sq. type**

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

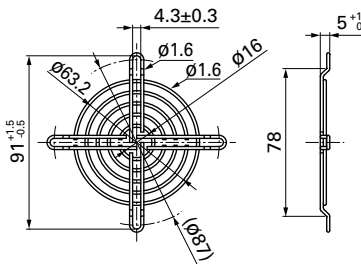
Inlet side, Outlet side



**70 mm sq. type, ø70 mm type**

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

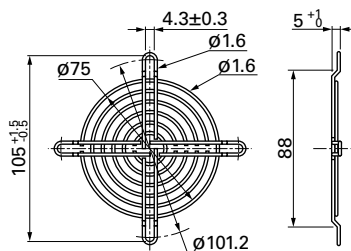
Inlet side, Outlet side



**80 mm sq. type**

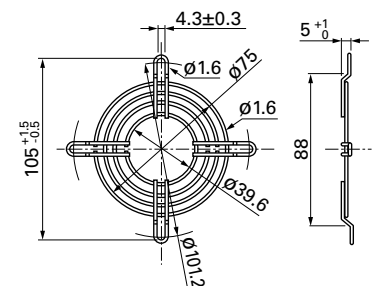
Model no.	Surface treatment	Mass (g)
109-049E	Nickel-chrome plating (silver)	21
109-049H	Cation electroplating (black)	

Inlet side, Outlet side



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

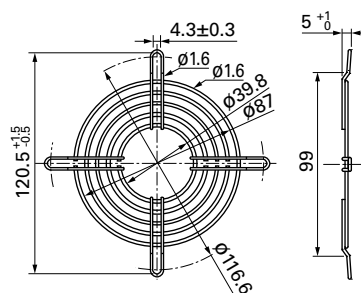
Outlet side



**92 mm sq. type**

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

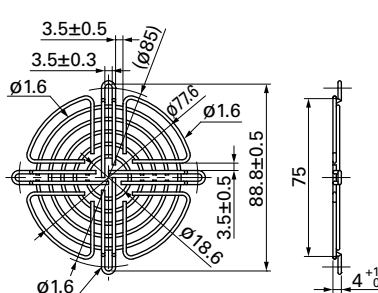
Outlet side



**ø92 mm type**

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

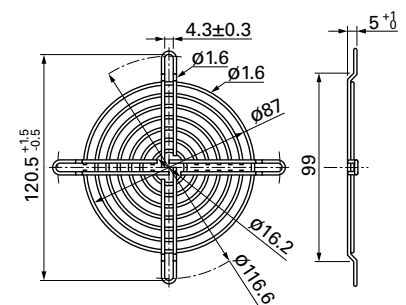
Impeller side, Nameplate side



**92 mm sq., ø100 mm type**

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

Inlet side, Outlet side

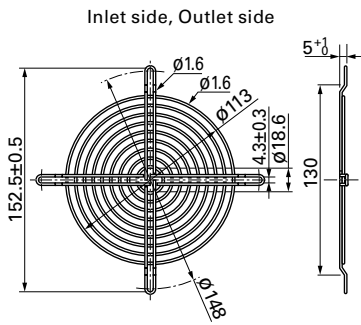


**Finger guards** Dimensions (unit: mm)

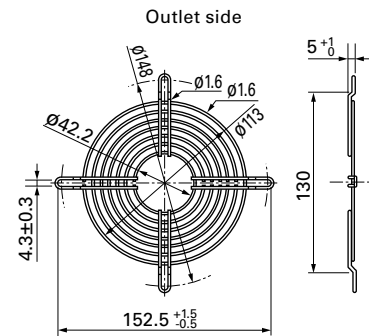
For use in environments subject to water splashes, cation electroplating models are recommended.

**120 mm sq. type**

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

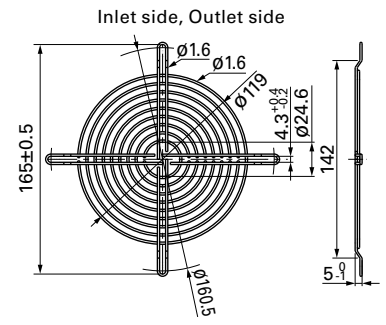


Model no.	Surface treatment	Mass (g)
109-019C	Nickel-chrome plating (silver)	32
109-019H	Cation electroplating (black)	



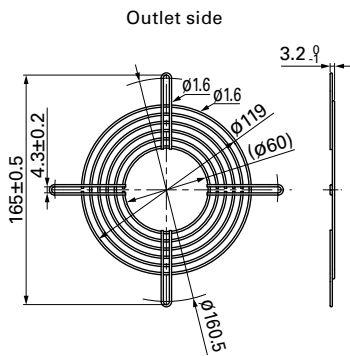
**127 mm sq., Ø175 mm type**

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



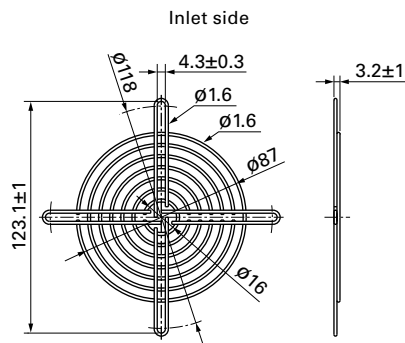
**127 mm sq. type**

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



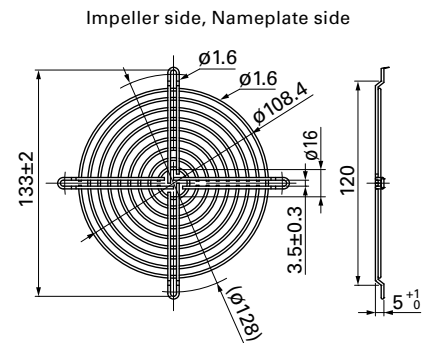
**Ø133 mm type**

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



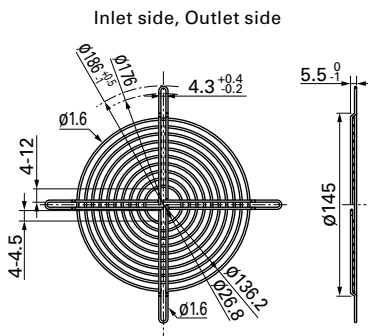
**Ø136 mm type**

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



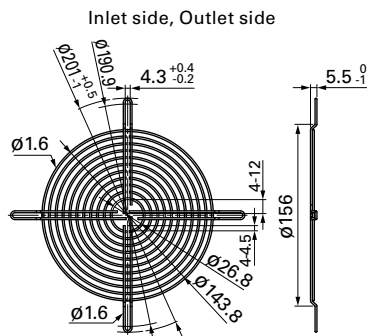
**140 mm sq. type**

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

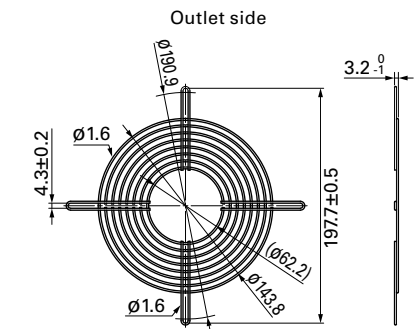


**150 mm sq. type**

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

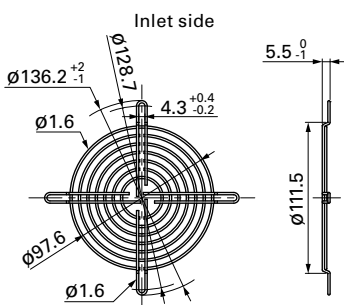


Model no.	Surface treatment	Mass (g)
109-1052	Nickel-chrome plating (silver)	53



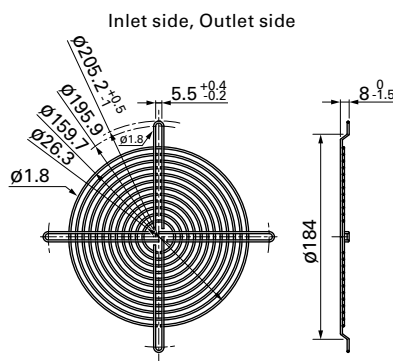
**Ø150 mm type**

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

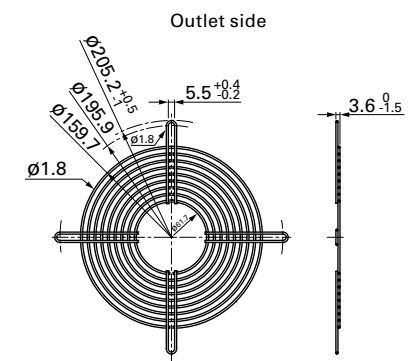


**160 mm sq. type**

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



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



Option

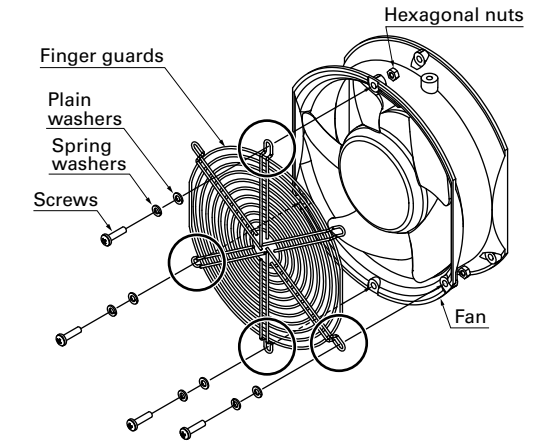
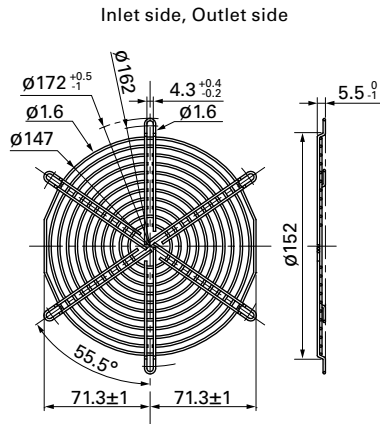
**Finger guards** Dimensions (unit: mm)

For use in environments subject to water splashes, cation electroplating models are recommended.

**Ø172 mm Sidecut type**

Model no.	Surface treatment	Mass (g)	Applicable model no.
109-319J	Nickel-chrome plating (silver)	65	9HV57*/9SG57*/9GV57* 9CR57*/9WG57*

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



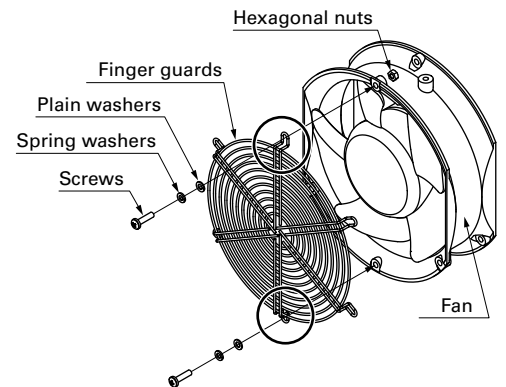
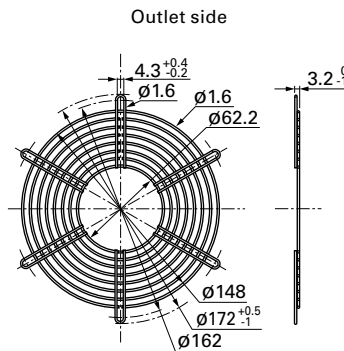
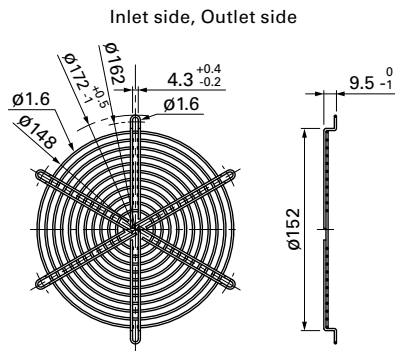
● No nuts or screws for use in attachment included.

**Ø172 mm Sidecut, Round type**

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



● No nuts or screws for use in attachment included.

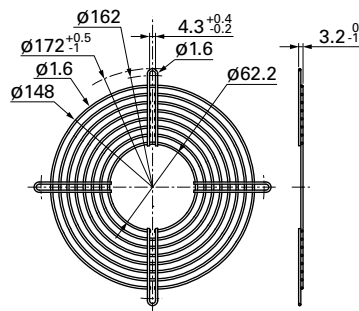
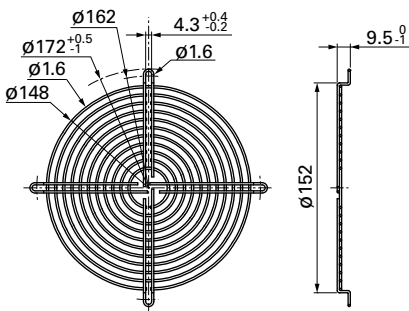
**Ø172 mm Round type**

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

Inlet side, Outlet side

Outlet side



Option

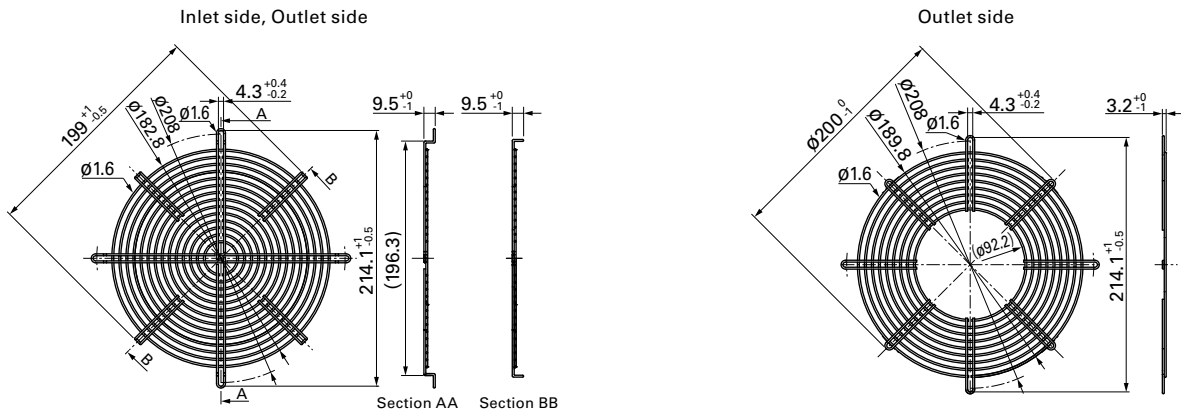
**Finger guards** Dimensions (unit: mm)

For use in environments subject to water splashes, cation electroplating models are recommended.

**ø200 mm type**

Model no.	Surface treatment	Mass (g)	Applicable model no.
109-1102	Nickel-chrome plating (silver)	100	9GV20*
109-1102H	Cation electroplating (black)		

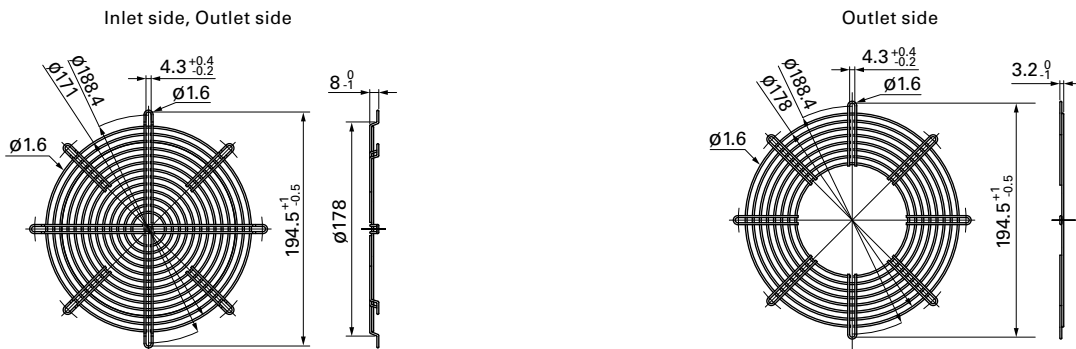
Model no.	Surface treatment	Mass (g)	Applicable model no.
109-1103	Nickel-chrome plating (silver)	80	9GV20*
109-1103H	Cation electroplating (black)		



**ø200 mm type**

Model no.	Surface treatment	Mass (g)	Applicable model no.
109-720	Nickel-chrome plating (silver)	84	109E20* 9EC20*
109-720H	Cation electroplating (black)		

Model no.	Surface treatment	Mass (g)	Applicable model no.
109-721	Nickel-chrome plating (silver)	66	109E20* 9EC20*
109-721H	Cation electroplating (black)		

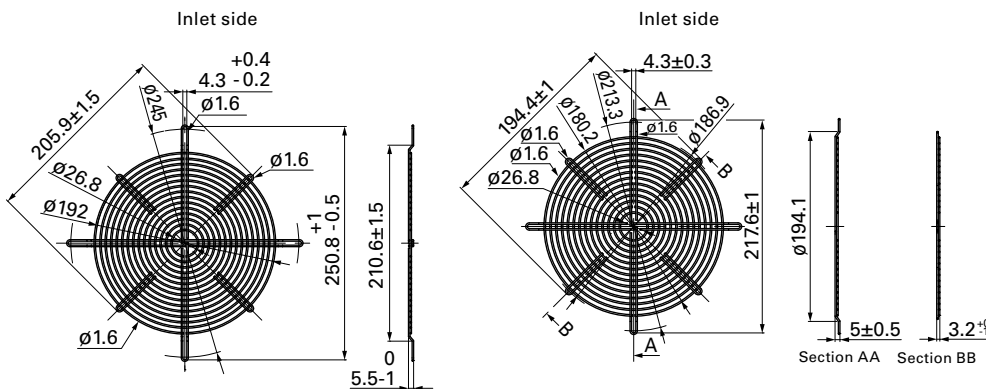


**ø221 mm type**

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

**ø225 mm type**

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



Option

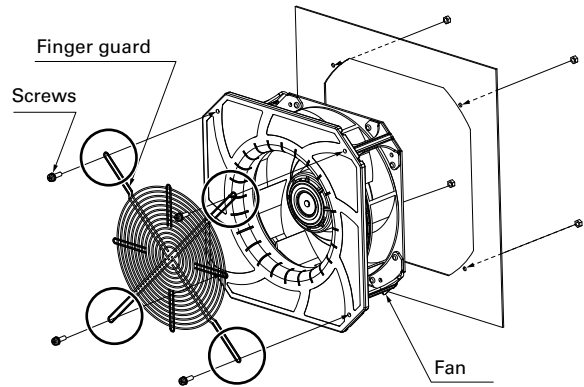
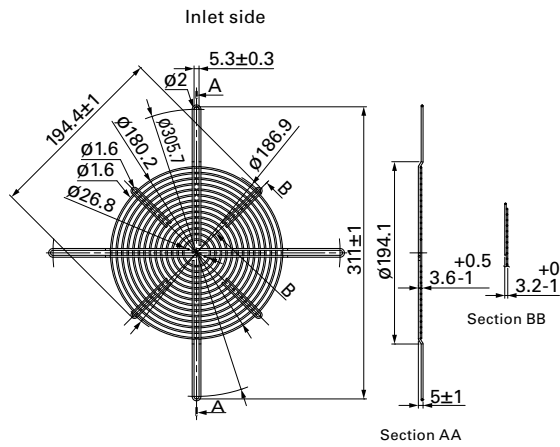
**Finger guards** Dimensions (unit: mm)

For use in environments subject to water splashes, cation electroplating models are recommended.

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

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

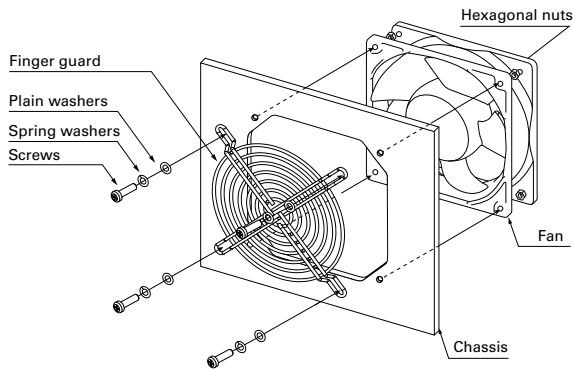
Finger guard 109-1146 and 109-1146H should be mounted with four holes as in the drawing.



●No nuts or screws for use in attachment included.

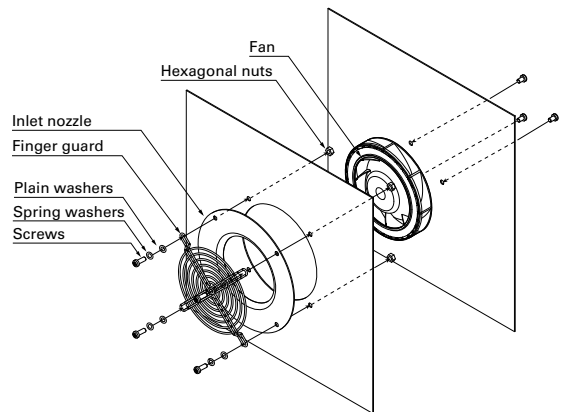
**Mounting example**

Axial fan



●No nuts or screws for use in attachment included.

Centrifugal fan



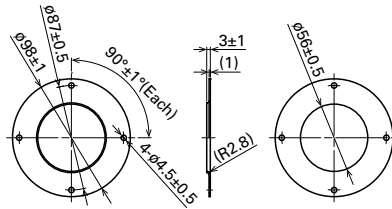


**Inlet nozzle for centrifugal fan and splash proof centrifugal fan** Dimensions (unit: mm)

Nozzle mounted in fan inlet side to adjust the flow of introduced air. Material: Steel sheet  
 For use in environments subject to water splashes, cation electroplating models are recommended.

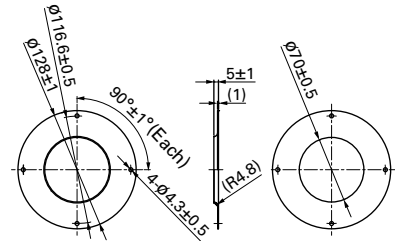
**ø70 mm type**

Model no.	Surface treatment	Mass (g)
109-1106	Electro nickel plating (silver)	40



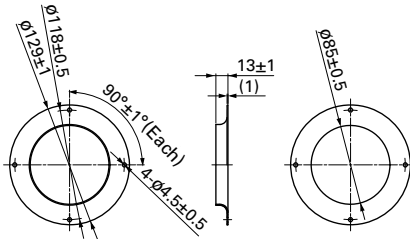
**ø100 mm type**

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



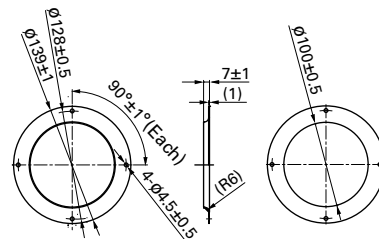
**ø133 mm type**

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



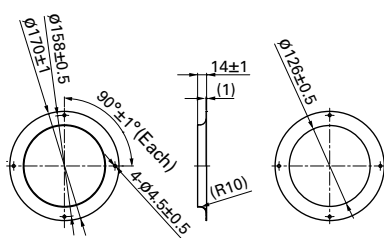
**ø150 mm type**

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



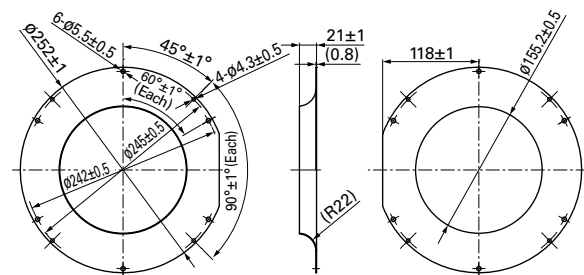
**ø175 mm type**

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



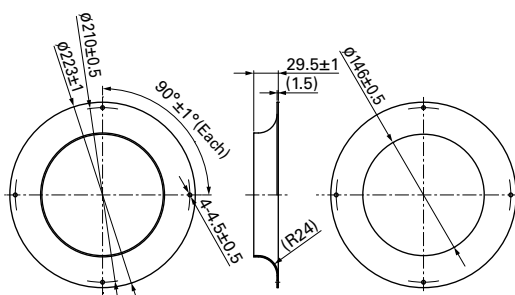
**ø221 mm type**

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



**ø225 mm type**

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



Option

## EMC guards Dimensions (unit: mm)

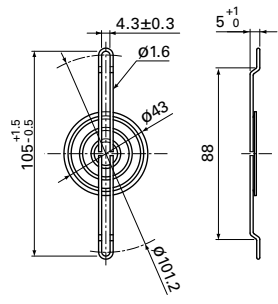
It is a metallic piece that protects materials from the adverse effects of electromagnetic noise sources. It provides electromagnetic shielding. It is attached to the casing of a device by means of the fan fixing screw (s). Ground the devices equipped with an EMC guard. Rust may occur if used in wet environments. Please refer to page 606 for detail.

### 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*	
9HVB08*	

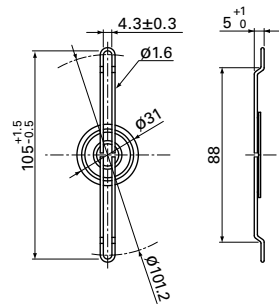


### 80 mm sq. type

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*	

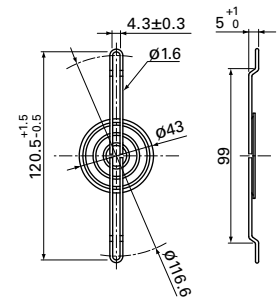


### 92 mm sq. type

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*	
9AD09*	

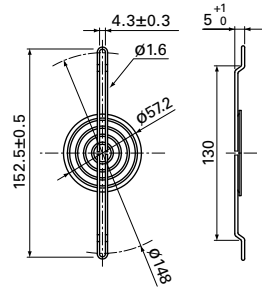


### 120 mm sq. type

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*	120×120×38
9G12*	
9GV12*	
9HV12*	
9LG12*	
9AD12*	

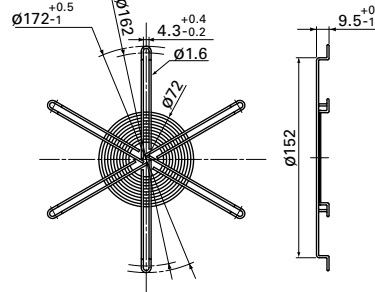


### Ø172 mm type

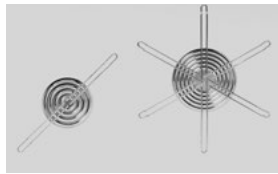
Model no.	Surface treatment	Mass (g)
109-1036	Nickel-chrome plating (silver)	49

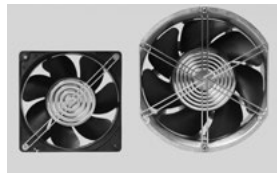
Representative fans model numbers	Dimensions of fans (mm)
109E47*	Ø172×25
109L17*	Ø172×51
9GV57*	
109E17*	
109E57*	
9SG57*	



Option



EMC guard



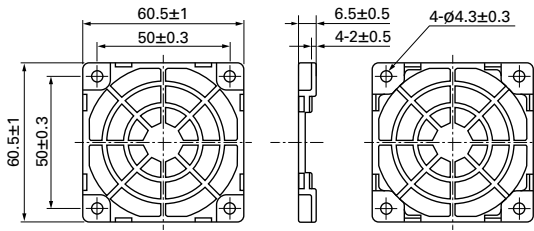
attached to a cooling fan

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

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

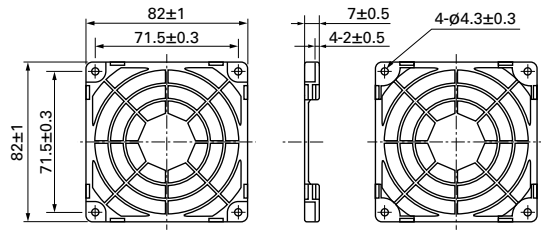
**60 mm sq. type**

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



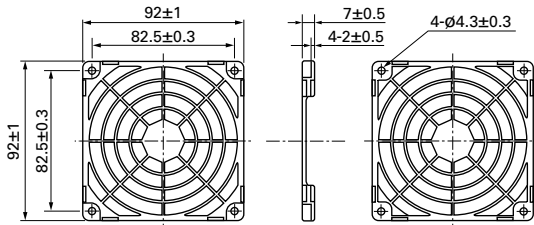
**80 mm sq. type**

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



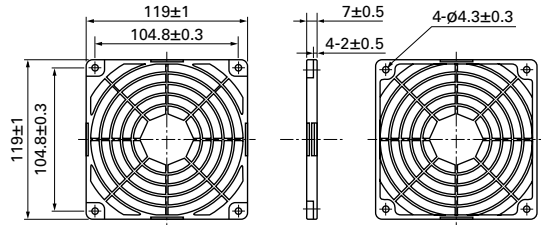
**92 mm sq. type**

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



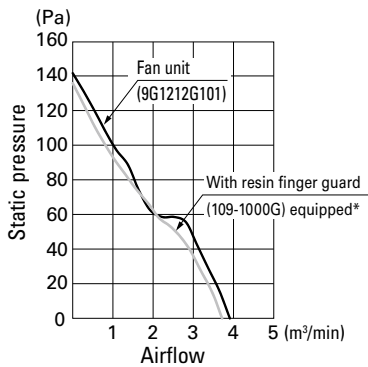
**120 mm sq. type**

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



**Airflow - Static pressure characteristics**

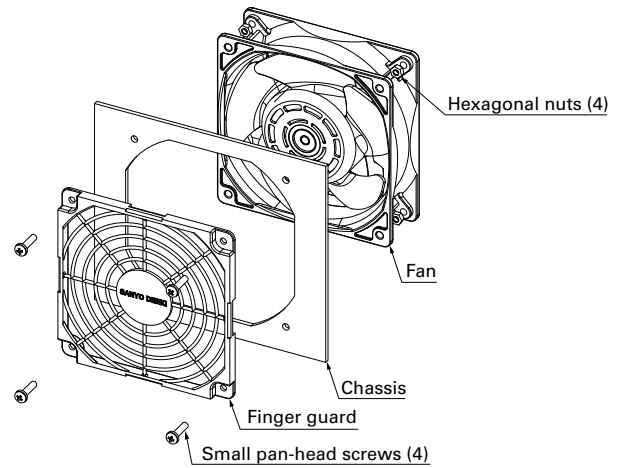
Measured with our double chamber measuring device (120 mm sq. type)



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.

Option

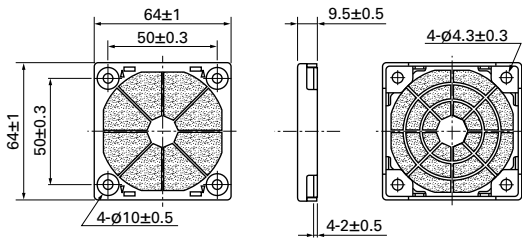


**Resin filter kits** Dimensions (unit: mm)

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.

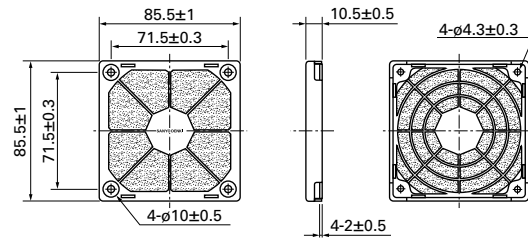
**60 mm sq. type**

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)	



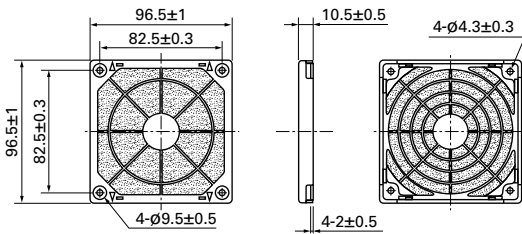
**80 mm sq. type**

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)	



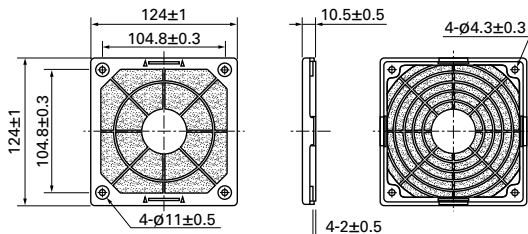
**92 mm sq. type**

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)	



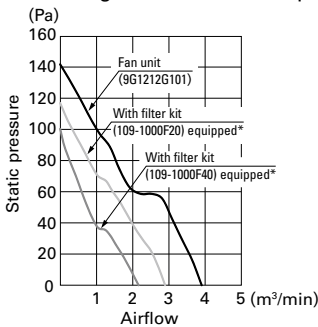
**120 mm sq. type**

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**

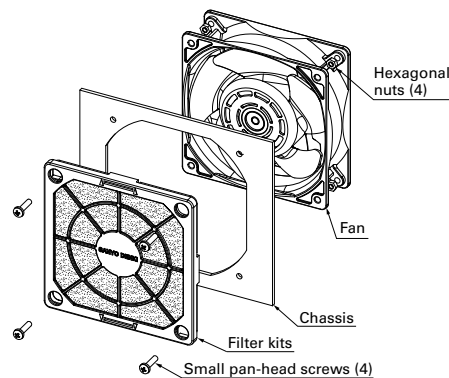
Measured with our double chamber measuring device (120 mm sq. type)



Applied voltage: 12 VDC

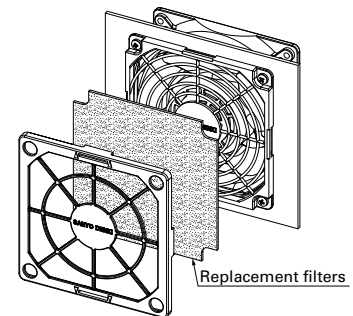
\* Filter kit is attached on air inlet side of fan.

**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.



Option

- 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.

# Index by Model No. - DC Fans

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	109BC12FC7-1	109BC12FA7-1	▶▶ 109BC12FC7-1	109BC12FD7-1			
109BC12GC7-1	▶▶ 109BC12GA7-1	▶▶ 109BC12GC7-1	109BC12GD7-1	—	52 × 15 mm	—	492
109BC12HC7-1	▶▶ 109BC12HA7-1	▶▶ 109BC12HC7-1	109BC12HD7-1	—	52 × 15 mm	—	492
109BC12MC7-1	109BC12MA7-1	▶▶ 109BC12MC7-1	▶▶ 109BC12MD7-1	—	52 × 15 mm	—	492
109BC24FC7-1	▶▶ 109BC24FA7-1	109BC24FC7-1	109BC24FD7-1	—	52 × 15 mm	—	492
109BC24GC7-1	▶▶ 109BC24GA7-1	▶▶ 109BC24GC7-1	▶▶ 109BC24GD7-1	—	52 × 15 mm	—	492
109BC24HC7-1	109BC24HA7-1	▶▶ 109BC24HC7-1	109BC24HD7-1	—	52 × 15 mm	—	492
109BD12FC2	▶▶ 109BD12FA2	▶▶ 109BD12FC2	▶▶ 109BD12FD2	—	76 × 30 mm	—	496
109BD12HC2	▶▶ 109BD12HA2	▶▶ 109BD12HC2	▶▶ 109BD12HD2	109BD12P2H01	76 × 30 mm	—	496
109BD12MC2	▶▶ 109BD12MA2	▶▶ 109BD12MC2	109BD12MD2	—	76 × 30 mm	—	496
109BD24FC2	▶▶ 109BD24FA2	▶▶ 109BD24FC2	109BD24FD2	—	76 × 30 mm	—	496
109BD24HC2	▶▶ 109BD24HA2	▶▶ 109BD24HC2	▶▶ 109BD24HD2	—	76 × 30 mm	—	496
109BD24MC2	▶▶ 109BD24MA2	▶▶ 109BD24MC2	▶▶ 109BD24MD2	—	76 × 30 mm	—	496
109BG12HC1	▶▶ 109BG12HA1	▶▶ 109BG12HC1	▶▶ 109BG12HD1	—	160 × 40 mm	—	512
109BG12MC1	▶▶ 109BG12MA1	▶▶ 109BG12MC1	109BG12MD1	—	160 × 40 mm	—	512
109BG24HC1	▶▶ 109BG24HA1	▶▶ 109BG24HC1	▶▶ 109BG24HD1	—	160 × 40 mm	—	512
109BG24MC1	109BG24MA1	▶▶ 109BG24MC1	109BG24MD1	—	160 × 40 mm	—	512
109BJ12HC2	▶▶ 109BJ12HA2	▶▶ 109BJ12HC2	109BJ12HD2	—	127 × 32 mm	—	510
109BJ12MC2	109BJ12MA2	▶▶ 109BJ12MC2	109BJ12MD2	—	127 × 32 mm	—	510
109BJ24HC2	109BJ24HA2	▶▶ 109BJ24HC2	▶▶ 109BJ24HD2	—	127 × 32 mm	—	510
109BJ24MC2	▶▶ 109BJ24MA2	109BJ24MC2	109BJ24MD2	—	127 × 32 mm	—	510
109BM12GC2-1	109BM12GA2-1	109BM12GC2-1	109BM12GD2-1	—	97 × 33 mm	—	506
109BM12HC2-1	109BM12HA2-1	109BM12HC2-1	109BM12HD2-1	—	97 × 33 mm	—	506
109BM12MC2-1	109BM12MA2-1	109BM12MC2-1	109BM12MD2-1	109BM12P2M01	97 × 33 mm	—	506
109BM24GC2-1	109BM24GA2-1	109BM24GC2-1	109BM24GD2-1	—	97 × 33 mm	—	506
109BM24HC2-1	109BM24HA2-1	109BM24HC2-1	109BM24HD2-1	—	97 × 33 mm	—	506
109BM24MC2-1	109BM24MA2-1	109BM24MC2-1	109BM24MD2-1	—	97 × 33 mm	—	506
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	—	∅172 × 51 mm	No	215
109E1712H501	▶▶ 109E1712H502	▶▶ 109E1712H501	109E1712H5D01	—	∅172 × 51 mm	No	215
109E1712K501	109E1712K502	▶▶ 109E1712K501	—	—	∅172 × 51 mm	No	215
109E1712M501	109E1712M502	▶▶ 109E1712M501	—	—	∅172 × 51 mm	No	215
109E1712Y501	109E1712Y502	109E1712Y501	—	—	∅172 × 51 mm	No	215
109E1724C501	109E1724C502	▶▶ 109E1724C501	109E1724C5D01	9EH1724P5C01	∅172 × 51 mm	No	215
109E1724F501	109E1724F502	109E1724F501	109E1724F5D01	—	∅172 × 51 mm	No	215
109E1724H501	▶▶ 109E1724H502	▶▶ 109E1724H501	▶▶ 109E1724H5D01	—	∅172 × 51 mm	No	215
109E1724K501	▶▶ 109E1724K502	▶▶ 109E1724K501	▶▶ 109E1724K5D01	—	∅172 × 51 mm	No	215
109E1724M501	▶▶ 109E1724M502	▶▶ 109E1724M501	109E1724M5D01	—	∅172 × 51 mm	No	215
109E1748C501	109E1748C502	▶▶ 109E1748C501	—	—	∅172 × 51 mm	No	215
109E1748F501	109E1748F502	109E1748F501	—	—	∅172 × 51 mm	No	215
109E1748H501	109E1748H502	▶▶ 109E1748H501	109E1748H5D01	—	∅172 × 51 mm	No	215
109E1748K501	109E1748K502	109E1748K501	—	109E1748P5K03	∅172 × 51 mm	No	215
109E1748M501	109E1748M502	109E1748M501	—	—	∅172 × 51 mm	No	215
109E4712L401	109E4712L402	109E4712L401	109E4712L4D01	—	∅172 × 147 × 25 mm	No	202
109E4712M401	109E4712M402	109E4712M401	109E4712M4D01	—	∅172 × 147 × 25 mm	No	202
109E4724F401	109E4724F402	109E4724F401	109E4724F4D01	—	∅172 × 147 × 25 mm	No	202
109E4724H401	109E4724H402	109E4724H401	109E4724H4D01	109E4724P4H01	∅172 × 147 × 25 mm	No	202
109E4724L401	109E4724L402	109E4724L401	109E4724L4D01	—	∅172 × 147 × 25 mm	No	202
109E4724M401	109E4724M402	109E4724M401	109E4724M4D01	—	∅172 × 147 × 25 mm	No	202
109E4748F401	109E4748F402	109E4748F401	109E4748F4D01	—	∅172 × 147 × 25 mm	No	202
109E4748H401	109E4748H402	109E4748H401	109E4748H4D01	—	∅172 × 147 × 25 mm	No	202
109E4748L401	109E4748L402	109E4748L401	109E4748L4D01	—	∅172 × 147 × 25 mm	No	202
109E4748M401	109E4748M402	109E4748M401	109E4748M4D01	—	∅172 × 147 × 25 mm	No	202
109E4748S401	109E4748S402	109E4748S401	109E4748S4D01	—	∅172 × 147 × 25 mm	No	202

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "-" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	109E5712F501	109E5712F502	109E5712F501	—			
109E5712H501	👉 109E5712H502	👉 109E5712H501	109E5712H5D01	—	∅172 × 150 × 51 mm	No	212
109E5712K501	109E5712K502	👉 109E5712K501	109E5712K5D01	109E5712P5K04	∅172 × 150 × 51 mm	No	212
109E5712M501	109E5712M502	109E5712M501	109E5712M5D01	—	∅172 × 150 × 51 mm	No	212
109E5712Y501	109E5712Y502	109E5712Y501	—	—	∅172 × 150 × 51 mm	No	212
109E5724C501	👉 109E5724C502	👉 109E5724C501	👉 109E5724C5D01	9EH5724P5C01	∅172 × 150 × 51 mm	No	212
109E5724F501	109E5724F502	109E5724F501	—	—	∅172 × 150 × 51 mm	No	212
109E5724H501	👉 109E5724H502	👉 109E5724H501	👉 109E5724H5D01	—	∅172 × 150 × 51 mm	No	212
109E5724K501	👉 109E5724K502	👉 109E5724K501	109E5724K5D01	—	∅172 × 150 × 51 mm	No	212
109E5724M501	👉 109E5724M502	👉 109E5724M501	—	—	∅172 × 150 × 51 mm	No	212
109E5748C501	109E5748C502	109E5748C501	—	—	∅172 × 150 × 51 mm	No	212
109E5748F501	109E5748F502	109E5748F501	—	—	∅172 × 150 × 51 mm	No	212
109E5748H501	109E5748H502	👉 109E5748H501	109E5748H5D01	—	∅172 × 150 × 51 mm	No	212
109E5748K501	👉 109E5748K502	👉 109E5748K501	—	—	∅172 × 150 × 51 mm	No	212
109E5748M501	109E5748M502	109E5748M501	—	—	∅172 × 150 × 51 mm	No	212
109L1712H501	109L1712H502	109L1712H501	109L1712H5D01	—	∅172 × 51 mm	No	440
109L1712M501	109L1712M502	109L1712M501	109L1712M5D01	—	∅172 × 51 mm	No	440
109L1724H501	109L1724H502	109L1724H501	109L1724H5D01	—	∅172 × 51 mm	No	440
109L1724M501	109L1724M502	109L1724M501	109L1724M5D01	—	∅172 × 51 mm	No	440
109L1748H501	109L1748H502	109L1748H501	109L1748H5D01	—	∅172 × 51 mm	No	440
109L1748M501	109L1748M502	109L1748M501	109L1748M5D01	—	∅172 × 51 mm	No	440
109L5712H501	109L5712H502	109L5712H501	109L5712H5D01	—	∅172 × 150 × 51 mm	No	438
109L5712M501	109L5712M502	109L5712M501	109L5712M5D01	—	∅172 × 150 × 51 mm	No	438
109L5724H501	109L5724H502	109L5724H501	109L5724H5D01	—	∅172 × 150 × 51 mm	No	438
109L5724M501	109L5724M502	109L5724M501	109L5724M5D01	—	∅172 × 150 × 51 mm	No	438
109L5748H501	109L5748H502	109L5748H501	109L5748H5D01	—	∅172 × 150 × 51 mm	No	438
109L5748M501	109L5748M502	109L5748M501	109L5748M5D01	—	∅172 × 150 × 51 mm	No	438
109P0405F3013	109P0405F3023	👉 109P0405F3013	👉 109P0405F3D013	—	40 × 40 × 28 mm	Yes	53
109P0405F601	👉 109P0405F602	👉 109P0405F601	👉 109P0405F6D01	—	40 × 40 × 20 mm	Yes	34
109P0405H3013	👉 109P0405H3023	👉 109P0405H3013	👉 109P0405H3D013	—	40 × 40 × 28 mm	Yes	53
109P0405H601	👉 109P0405H602	👉 109P0405H601	👉 109P0405H6D01	—	40 × 40 × 20 mm	Yes	34
109P0405H701	👉 109P0405H702	👉 109P0405H701	👉 109P0405H7D01	—	40 × 40 × 15 mm	Yes	27
109P0405H901	👉 109P0405H902	👉 109P0405H901	👉 109P0405H9D01	—	40 × 40 × 10 mm	Yes	23
109P0405J601	109P0405J602	👉 109P0405J601	—	—	40 × 40 × 20 mm	Yes	34
109P0405M601	👉 109P0405M602	👉 109P0405M601	👉 109P0405M6D01	—	40 × 40 × 20 mm	Yes	34
109P0405M701	👉 109P0405M702	👉 109P0405M701	👉 109P0405M7D01	—	40 × 40 × 15 mm	Yes	27
109P0405M901	👉 109P0405M902	👉 109P0405M901	👉 109P0405M9D01	—	40 × 40 × 10 mm	Yes	23
109P0412B3013	👉 109P0412B3023	👉 109P0412B3013	👉 109P0412B3D013	109P0412P3B013	40 × 40 × 28 mm	Yes	53
109P0412D601	👉 109P0412D602	👉 109P0412D601	👉 109P0412D6D01	—	40 × 40 × 20 mm	Yes	34
109P0412E601	👉 109P0412E602	👉 109P0412E601	👉 109P0412E6D01	—	40 × 40 × 20 mm	Yes	34
109P0412F3013	👉 109P0412F3023	👉 109P0412F3013	👉 109P0412F3D013	—	40 × 40 × 28 mm	Yes	53
109P0412F601	👉 109P0412F602	👉 109P0412F601	👉 109P0412F6D01	—	40 × 40 × 20 mm	Yes	34
109P0412G3013	👉 109P0412G3023	👉 109P0412G3013	👉 109P0412G3D013	—	40 × 40 × 28 mm	Yes	53
109P0412G601	👉 109P0412G602	👉 109P0412G601	👉 109P0412G6D01	—	40 × 40 × 20 mm	Yes	34
109P0412H3013	👉 109P0412H3023	👉 109P0412H3013	👉 109P0412H3D013	109P0412P3H013	40 × 40 × 28 mm	Yes	53
109P0412H601	👉 109P0412H602	👉 109P0412H601	👉 109P0412H6D01	—	40 × 40 × 20 mm	Yes	34
109P0412H701	👉 109P0412H702	👉 109P0412H701	👉 109P0412H7D01	—	40 × 40 × 15 mm	Yes	27
109P0412H901	👉 109P0412H902	👉 109P0412H901	👉 109P0412H9D01	109P0412P9H01	40 × 40 × 10 mm	Yes	23
109P0412J3013	👉 109P0412J3023	👉 109P0412J3013	👉 109P0412J3D013	9PH0412P3J013	40 × 40 × 28 mm	Yes	53
109P0412K3013	👉 109P0412K3023	👉 109P0412K3013	👉 109P0412K3D013	9PH0412P3K033	40 × 40 × 28 mm	Yes	53
109P0412M3013	👉 109P0412M3023	👉 109P0412M3013	👉 109P0412M3D013	—	40 × 40 × 28 mm	Yes	53
109P0412M601	👉 109P0412M602	👉 109P0412M601	109P0412M6D01	—	40 × 40 × 20 mm	Yes	34
109P0412M701	👉 109P0412M702	👉 109P0412M701	👉 109P0412M7D01	—	40 × 40 × 15 mm	Yes	27
109P0412M901	👉 109P0412M902	👉 109P0412M901	👉 109P0412M9D01	—	40 × 40 × 10 mm	Yes	23
109P0412R701	109P0412R702	👉 109P0412R701	109P0412R7D01	—	40 × 40 × 15 mm	Yes	27
109P0412S701	👉 109P0412S702	👉 109P0412S701	👉 109P0412S7D01	—	40 × 40 × 15 mm	Yes	27
109P0424B3013	109P0424B3023	👉 109P0424B3013	👉 109P0424B3D013	—	40 × 40 × 28 mm	Yes	53
109P0424B601	👉 109P0424B602	👉 109P0424B601	👉 109P0424B6D01	—	40 × 40 × 20 mm	Yes	34
109P0424D601	👉 109P0424D602	👉 109P0424D601	👉 109P0424D6D01	—	40 × 40 × 20 mm	Yes	34
109P0424F3013	👉 109P0424F3023	👉 109P0424F3013	👉 109P0424F3D013	—	40 × 40 × 28 mm	Yes	53
109P0424F601	👉 109P0424F602	👉 109P0424F601	👉 109P0424F6D01	—	40 × 40 × 20 mm	Yes	34

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The 👉 mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	109P0424G3013	▶▶ 109P0424G3023	▶▶ 109P0424G3013	109P0424G3D013			
109P0424G601	109P0424G602	▶▶ 109P0424G601	109P0424G6D01	—	40 × 40 × 20 mm	Yes	34
109P0424H3013	▶▶ 109P0424H3023	▶▶ 109P0424H3013	▶▶ 109P0424H3D013	—	40 × 40 × 28 mm	Yes	53
109P0424H601	▶▶ 109P0424H602	▶▶ 109P0424H601	▶▶ 109P0424H6D01	—	40 × 40 × 20 mm	Yes	34
109P0424H901	109P0424H902	109P0424H901	109P0424H9D01	—	40 × 40 × 10 mm	Yes	23
109P0424H701	▶▶ 109P0424H702	▶▶ 109P0424H701	▶▶ 109P0424H7D01	—	40 × 40 × 15 mm	Yes	27
109P0424J3013	▶▶ 109P0424J3023	▶▶ 109P0424J3013	▶▶ 109P0424J3D013	—	40 × 40 × 28 mm	Yes	53
109P0424R3013	109P0424R3023	109P0424R3013	—	—	40 × 40 × 28 mm	Yes	53
109P0505M701	▶▶ 109P0505M702	▶▶ 109P0505M701	▶▶ 109P0505M7D01	—	52 × 52 × 15 mm	Yes	60
109P0812C601	109P0812C602	109P0812C601	109P0812C6D01	—	80 × 80 × 20 mm	Yes	101
109P0812H601	▶▶ 109P0812H602	▶▶ 109P0812H601	▶▶ 109P0812H6D01	—	80 × 80 × 20 mm	Yes	101
109P0812H701	▶▶ 109P0812H702	▶▶ 109P0812H701	▶▶ 109P0812H7D01	—	80 × 80 × 15 mm	Yes	96
109P0812M601	▶▶ 109P0812M602	▶▶ 109P0812M601	▶▶ 109P0812M6D01	—	80 × 80 × 20 mm	Yes	101
109P0812M701	▶▶ 109P0812M702	▶▶ 109P0812M701	▶▶ 109P0812M7D01	—	80 × 80 × 15 mm	Yes	96
109P0824H601	▶▶ 109P0824H602	▶▶ 109P0824H601	▶▶ 109P0824H6D01	—	80 × 80 × 20 mm	Yes	101
109P0824H701	▶▶ 109P0824H702	▶▶ 109P0824H701	▶▶ 109P0824H7D01	—	80 × 80 × 15 mm	Yes	96
109P0824M601	▶▶ 109P0824M602	▶▶ 109P0824M601	▶▶ 109P0824M6D01	—	80 × 80 × 20 mm	Yes	101
109P0824M701	▶▶ 109P0824M702	▶▶ 109P0824M701	109P0824M7D01	—	80 × 80 × 15 mm	Yes	96
109P0848C601	109P0848C602	109P0848C601	109P0848C6D01	—	80 × 80 × 20 mm	Yes	101
109P0848H601	—	109P0848H601	109P0848H6D01	—	80 × 80 × 20 mm	Yes	101
109P1312H101	109P1312H102	109P1312H101	109P1312H1D01	—	127 × 127 × 38 mm	Yes	192
109P1312H1011	109P1312H1021	109P1312H1011	109P1312H1D011	—	127 × 127 × 38 mm	No	192
109P1312S101	109P1312S102	109P1312S101	109P1312S1D01	—	127 × 127 × 38 mm	Yes	192
109P1312S1011	109P1312S1021	109P1312S1011	109P1312S1D011	—	127 × 127 × 38 mm	No	192
109P1324H101	109P1324H102	109P1324H101	109P1324H1D01	—	127 × 127 × 38 mm	Yes	192
109P1324H1011	109P1324H1021	109P1324H1011	109P1324H1D011	—	127 × 127 × 38 mm	No	192
109P1324S101	109P1324S102	109P1324S101	109P1324S1D01	—	127 × 127 × 38 mm	Yes	192
109P1324S1011	109P1324S1021	109P1324S1011	109P1324S1D011	—	127 × 127 × 38 mm	No	192
109P1348H101	109P1348H102	109P1348H101	109P1348H1D01	—	127 × 127 × 38 mm	Yes	192
109P1348H1011	109P1348H1021	109P1348H1011	109P1348H1D011	—	127 × 127 × 38 mm	No	192
109P1348S101	109P1348S102	109P1348S101	109P1348S1D01	—	127 × 127 × 38 mm	Yes	192
109P1348S1011	109P1348S1021	109P1348S1011	109P1348S1D011	—	127 × 127 × 38 mm	No	192
109P1412H101	109P1412H102	109P1412H101	109P1412H1D01	—	140 × 140 × 38 mm	Yes	198
109P1412M101	109P1412M102	109P1412M101	—	—	140 × 140 × 38 mm	Yes	198
109P1424H101	109P1424H102	109P1424H101	109P1424H1D01	—	140 × 140 × 38 mm	Yes	198
109P1424M101	109P1424M102	109P1424M101	—	—	140 × 140 × 38 mm	Yes	198
109P1448H101	109P1448H102	109P1448H101	—	—	140 × 140 × 38 mm	Yes	198
109P1448M101	109P1448M102	109P1448M101	—	—	140 × 140 × 38 mm	Yes	198
109R0605F401	▶▶ 109R0605F402	▶▶ 109R0605F401	▶▶ 109R0605F4D01	—	60 × 60 × 25 mm	Yes	74
109R0605F4011	109R0605F4021	109R0605F4011	—	—	60 × 60 × 25 mm	No	74
109R0605H401	▶▶ 109R0605H402	▶▶ 109R0605H401	▶▶ 109R0605H4D01	—	60 × 60 × 25 mm	Yes	74
109R0605H4011	109R0605H4021	109R0605H4011	—	—	60 × 60 × 25 mm	No	74
109R0605M401	▶▶ 109R0605M402	▶▶ 109R0605M401	▶▶ 109R0605M4D01	—	60 × 60 × 25 mm	Yes	74
109R0605M4011	109R0605M4021	109R0605M4011	—	—	60 × 60 × 25 mm	No	74
109R0612D401	▶▶ 109R0612D402	▶▶ 109R0612D401	▶▶ 109R0612D4D01	—	60 × 60 × 25 mm	Yes	74
109R0612D4011	109R0612D4021	109R0612D4011	109R0612D4D011	—	60 × 60 × 25 mm	No	74
109R0612F401	109R0612F402	▶▶ 109R0612F401	▶▶ 109R0612F4D01	—	60 × 60 × 25 mm	Yes	74
109R0612F4011	109R0612F4021	109R0612F4011	109R0612F4D011	—	60 × 60 × 25 mm	No	74
109R0612G401	▶▶ 109R0612G402	▶▶ 109R0612G401	▶▶ 109R0612G4D01	—	60 × 60 × 25 mm	Yes	74
109R0612G4011	109R0612G4021	▶▶ 109R0612G4011	109R0612G4D011	—	60 × 60 × 25 mm	No	74
109R0612H401	▶▶ 109R0612H402	▶▶ 109R0612H401	▶▶ 109R0612H4D01	—	60 × 60 × 25 mm	Yes	74
109R0612H4011	109R0612H4021	▶▶ 109R0612H4011	▶▶ 109R0612H4D011	—	60 × 60 × 25 mm	No	74
109R0612J401	▶▶ 109R0612J402	▶▶ 109R0612J401	▶▶ 109R0612J4D01	109R0612P4J03	60 × 60 × 25 mm	Yes	74
109R0612J4011	▶▶ 109R0612J4021	109R0612J4011	109R0612J4D011	109R0612P4J061	60 × 60 × 25 mm	No	74
109R0612M401	▶▶ 109R0612M402	▶▶ 109R0612M401	▶▶ 109R0612M4D01	—	60 × 60 × 25 mm	Yes	74
109R0612M4011	109R0612M4021	109R0612M4011	109R0612M4D011	—	60 × 60 × 25 mm	No	74
109R0612S401	▶▶ 109R0612S402	▶▶ 109R0612S401	▶▶ 109R0612S4D01	—	60 × 60 × 25 mm	Yes	74
109R0612S4011	109R0612S4021	109R0612S4011	▶▶ 109R0612S4D011	—	60 × 60 × 25 mm	No	74
109R0624D401	▶▶ 109R0624D402	▶▶ 109R0624D401	▶▶ 109R0624D4D01	—	60 × 60 × 25 mm	Yes	74
109R0624D4011	109R0624D4021	109R0624D4011	—	—	60 × 60 × 25 mm	No	74
109R0624F401	▶▶ 109R0624F402	▶▶ 109R0624F401	▶▶ 109R0624F4D01	—	60 × 60 × 25 mm	Yes	74

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "-" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	109R0624F4011	109R0624F4021	109R0624F4011	109R0624F4D011			
109R0624G401	☛ 109R0624G402	☛ 109R0624G401	☛ 109R0624G4D01	—	60 × 60 × 25 mm	Yes	74
109R0624G4011	☛ 109R0624G4021	109R0624G4011	109R0624G4D011	—	60 × 60 × 25 mm	No	74
109R0624H401	☛ 109R0624H402	☛ 109R0624H401	☛ 109R0624H4D01	—	60 × 60 × 25 mm	Yes	74
109R0624H4011	☛ 109R0624H4021	109R0624H4011	☛ 109R0624H4D011	—	60 × 60 × 25 mm	No	74
109R0624J401	☛ 109R0624J402	☛ 109R0624J401	☛ 109R0624J4D01	9RH0624P4J01	60 × 60 × 25 mm	Yes	74
109R0624J4011	109R0624J4021	109R0624J4011	109R0624J4D011	—	60 × 60 × 25 mm	No	74
109R0624M401	☛ 109R0624M402	☛ 109R0624M401	109R0624M4D01	—	60 × 60 × 25 mm	Yes	74
109R0624M4011	109R0624M4021	109R0624M4011	109R0624M4D011	—	60 × 60 × 25 mm	No	74
109R0624S401	☛ 109R0624S402	☛ 109R0624S401	☛ 109R0624S4D01	—	60 × 60 × 25 mm	Yes	74
109R0624S4011	☛ 109R0624S4021	109R0624S4011	109R0624S4D011	—	60 × 60 × 25 mm	No	74
109R0648G401	☛ 109R0648G402	☛ 109R0648G401	☛ 109R0648G4D01	—	60 × 60 × 25 mm	Yes	74
109R0648G4011	109R0648G4021	109R0648G4011	109R0648G4D011	—	60 × 60 × 25 mm	No	74
109R0648H401	☛ 109R0648H402	☛ 109R0648H401	☛ 109R0648H4D01	—	60 × 60 × 25 mm	Yes	74
109R0648H4011	109R0648H4021	109R0648H4011	109R0648H4D011	—	60 × 60 × 25 mm	No	74
109R0648J401	☛ 109R0648J402	☛ 109R0648J401	☛ 109R0648J4D01	—	60 × 60 × 25 mm	Yes	74
109R0648J4011	109R0648J4021	109R0648J4011	—	—	60 × 60 × 25 mm	No	74
109R0805F401	☛ 109R0805F402	☛ 109R0805F401	☛ 109R0805F4D01	—	80 × 80 × 25 mm	Yes	109
109R0805F4011	☛ 109R0805F4021	109R0805F4011	—	—	80 × 80 × 25 mm	No	109
109R0805M401	☛ 109R0805M402	☛ 109R0805M401	☛ 109R0805M4D01	—	80 × 80 × 25 mm	Yes	109
109R0805M4011	☛ 109R0805M4021	109R0805M4011	—	—	80 × 80 × 25 mm	No	109
109R0812E401	109R0812E402	☛ 109R0812E401	—	—	80 × 80 × 25 mm	Yes	109
109R0812E4011	—	109R0812E4011	—	—	80 × 80 × 25 mm	No	109
109R0812F401	☛ 109R0812F402	☛ 109R0812F401	☛ 109R0812F4D01	—	80 × 80 × 25 mm	Yes	109
109R0812F4011	☛ 109R0812F4021	☛ 109R0812F4011	109R0812F4D011	—	80 × 80 × 25 mm	No	109
109R0812G401	☛ 109R0812G402	☛ 109R0812G401	☛ 109R0812G4D01	—	80 × 80 × 25 mm	Yes	109
109R0812G4011	☛ 109R0812G4021	☛ 109R0812G4011	☛ 109R0812G4D011	—	80 × 80 × 25 mm	No	109
109R0812H401	☛ 109R0812H402	☛ 109R0812H401	☛ 109R0812H4D01	—	80 × 80 × 25 mm	Yes	109
109R0812H4011	☛ 109R0812H4021	☛ 109R0812H4011	☛ 109R0812H4D011	—	80 × 80 × 25 mm	No	109
109R0812L401	☛ 109R0812L402	☛ 109R0812L401	☛ 109R0812L4D01	—	80 × 80 × 25 mm	Yes	109
109R0812L4011	☛ 109R0812L4021	☛ 109R0812L4011	109R0812L4D011	—	80 × 80 × 25 mm	No	109
109R0812M401	☛ 109R0812M402	☛ 109R0812M401	☛ 109R0812M4D01	—	80 × 80 × 25 mm	Yes	109
109R0812M4011	☛ 109R0812M4021	☛ 109R0812M4011	109R0812M4D011	—	80 × 80 × 25 mm	No	109
109R0812S401	☛ 109R0812S402	☛ 109R0812S401	☛ 109R0812S4D01	—	80 × 80 × 25 mm	Yes	109
109R0812S4011	☛ 109R0812S4021	☛ 109R0812S4011	☛ 109R0812S4D011	—	80 × 80 × 25 mm	No	109
109R0824F401	☛ 109R0824F402	☛ 109R0824F401	☛ 109R0824F4D01	—	80 × 80 × 25 mm	Yes	109
109R0824F4011	109R0824F4021	109R0824F4011	109R0824F4D011	—	80 × 80 × 25 mm	No	109
109R0824G401	☛ 109R0824G402	☛ 109R0824G401	☛ 109R0824G4D01	—	80 × 80 × 25 mm	Yes	109
109R0824G4011	☛ 109R0824G4021	109R0824G4011	☛ 109R0824G4D011	—	80 × 80 × 25 mm	No	109
109R0824H401	☛ 109R0824H402	☛ 109R0824H401	☛ 109R0824H4D01	—	80 × 80 × 25 mm	Yes	109
109R0824H4011	☛ 109R0824H4021	☛ 109R0824H4011	☛ 109R0824H4D011	—	80 × 80 × 25 mm	No	109
109R0824L401	☛ 109R0824L402	☛ 109R0824L401	☛ 109R0824L4D01	—	80 × 80 × 25 mm	Yes	109
109R0824L4011	☛ 109R0824L4021	☛ 109R0824L4011	109R0824L4D011	—	80 × 80 × 25 mm	No	109
109R0824M401	☛ 109R0824M402	☛ 109R0824M401	☛ 109R0824M4D01	—	80 × 80 × 25 mm	Yes	109
109R0824M4011	☛ 109R0824M4021	☛ 109R0824M4011	109R0824M4D011	—	80 × 80 × 25 mm	No	109
109R0824S401	☛ 109R0824S402	☛ 109R0824S401	☛ 109R0824S4D01	—	80 × 80 × 25 mm	Yes	109
109R0824S4011	☛ 109R0824S4021	☛ 109R0824S4011	☛ 109R0824S4D011	—	80 × 80 × 25 mm	No	109
109R0848K401	☛ 109R0848K402	☛ 109R0848K401	☛ 109R0848K4D01	—	80 × 80 × 25 mm	Yes	109
109R0848K4011	109R0848K4021	109R0848K4011	109R0848K4D011	—	80 × 80 × 25 mm	No	109
109R0848S401	☛ 109R0848S402	☛ 109R0848S401	☛ 109R0848S4D01	—	80 × 80 × 25 mm	Yes	109
109R0848S4011	109R0848S4021	109R0848S4011	109R0848S4D011	—	80 × 80 × 25 mm	No	109
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	9AH0612P4S011	60 × 60 × 25 mm	No	80


Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The ☛ mark indicates Short Lead Time Service applicable models. See p. 654 for details.



Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9A0624F401	9A0624F402	9A0624F401	9A0624F4D01			
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	114
9A0812F4011	9A0812F4021	9A0812F4011	9A0812F4D011	—	80 × 80 × 25 mm	No	114
9A0812G401	9A0812G402	9A0812G401	9A0812G4D01	9AH0812P4G04	80 × 80 × 25 mm	Yes	114
9A0812G4011	9A0812G4021	9A0812G4011	9A0812G4D011	9AH0812P4G011	80 × 80 × 25 mm	No	114
9A0812H401	9A0812H402	9A0812H401	9A0812H4D01	9AH0812P4H04	80 × 80 × 25 mm	Yes	114
9A0812H4011	9A0812H4021	9A0812H4011	9A0812H4D011	—	80 × 80 × 25 mm	No	114
9A0812L401	9A0812L402	9A0812L401	9A0812L4D01	—	80 × 80 × 25 mm	Yes	114
9A0812L4011	9A0812L4021	9A0812L4011	9A0812L4D011	—	80 × 80 × 25 mm	No	114
9A0812M401	9A0812M402	9A0812M401	9A0812M4D01	—	80 × 80 × 25 mm	Yes	114
9A0812M4011	9A0812M4021	9A0812M4011	9A0812M4D011	—	80 × 80 × 25 mm	No	114
9A0812S401	9A0812S402	9A0812S401	9A0812S4D01	—	80 × 80 × 25 mm	Yes	114
9A0812S4011	9A0812S4021	9A0812S4011	9A0812S4D011	—	80 × 80 × 25 mm	No	114
9A0824F401	9A0824F402	9A0824F401	9A0824F4D01	—	80 × 80 × 25 mm	Yes	114
9A0824F4011	9A0824F4021	9A0824F4011	9A0824F4D011	—	80 × 80 × 25 mm	No	114
9A0824G401	9A0824G402	9A0824G401	9A0824G4D01	—	80 × 80 × 25 mm	Yes	114
9A0824G4011	9A0824G4021	9A0824G4011	9A0824G4D011	—	80 × 80 × 25 mm	No	114
9A0824H401	9A0824H402	9A0824H401	9A0824H4D01	—	80 × 80 × 25 mm	Yes	114
9A0824H4011	9A0824H4021	9A0824H4011	9A0824H4D011	—	80 × 80 × 25 mm	No	114
9A0824L401	9A0824L402	9A0824L401	9A0824L4D01	—	80 × 80 × 25 mm	Yes	114
9A0824L4011	9A0824L4021	9A0824L4011	9A0824L4D011	—	80 × 80 × 25 mm	No	114
9A0824M401	9A0824M402	9A0824M401	9A0824M4D01	—	80 × 80 × 25 mm	Yes	114
9A0824M4011	9A0824M4021	9A0824M4011	9A0824M4D011	—	80 × 80 × 25 mm	No	114
9A0824S401	9A0824S402	9A0824S401	9A0824S4D01	—	80 × 80 × 25 mm	Yes	114
9A0824S4011	9A0824S4021	9A0824S4011	9A0824S4D011	—	80 × 80 × 25 mm	No	114
9A0912F401	9A0912F402	9A0912F401	9A0912F4D01	—	92 × 92 × 25 mm	Yes	147
9A0912F4011	9A0912F4021	9A0912F4011	9A0912F4D011	—	92 × 92 × 25 mm	No	147
9A0912G401	9A0912G402	9A0912G401	9A0912G4D01	9AH0912P4G03	92 × 92 × 25 mm	Yes	147
9A0912G4011	9A0912G4021	9A0912G4011	9A0912G4D011	—	92 × 92 × 25 mm	No	147
9A0912H401	9A0912H402	9A0912H401	9A0912H4D01	9AH0912P4H03	92 × 92 × 25 mm	Yes	147
9A0912H4011	9A0912H4021	9A0912H4011	9A0912H4D011	—	92 × 92 × 25 mm	No	147
9A0912L401	9A0912L402	9A0912L401	9A0912L4D01	—	92 × 92 × 25 mm	Yes	147
9A0912L4011	9A0912L4021	9A0912L4011	9A0912L4D011	—	92 × 92 × 25 mm	No	147
9A0912M401	9A0912M402	9A0912M401	9A0912M4D01	—	92 × 92 × 25 mm	Yes	147
9A0912M4011	9A0912M4021	9A0912M4011	9A0912M4D011	—	92 × 92 × 25 mm	No	147
9A0912S401	9A0912S402	9A0912S401	9A0912S4D01	—	92 × 92 × 25 mm	Yes	147
9A0912S4011	9A0912S4021	9A0912S4011	9A0912S4D011	—	92 × 92 × 25 mm	No	147
9A0924F401	9A0924F402	9A0924F401	9A0924F4D01	—	92 × 92 × 25 mm	Yes	147
9A0924F4011	9A0924F4021	9A0924F4011	9A0924F4D011	—	92 × 92 × 25 mm	No	147
9A0924G401	9A0924G402	9A0924G401	9A0924G4D01	—	92 × 92 × 25 mm	Yes	147
9A0924G4011	9A0924G4021	9A0924G4011	—	—	92 × 92 × 25 mm	No	147
9A0924H401	9A0924H402	9A0924H401	9A0924H4D01	—	92 × 92 × 25 mm	Yes	147
9A0924H4011	9A0924H4021	9A0924H4011	9A0924H4D011	—	92 × 92 × 25 mm	No	147
9A0924L401	9A0924L402	9A0924L401	9A0924L4D01	—	92 × 92 × 25 mm	Yes	147
9A0924L4011	9A0924L4021	9A0924L4011	9A0924L4D011	—	92 × 92 × 25 mm	No	147
9A0924M401	9A0924M402	9A0924M401	9A0924M4D01	—	92 × 92 × 25 mm	Yes	147
9A0924M4011	9A0924M4021	9A0924M4011	9A0924M4D011	—	92 × 92 × 25 mm	No	147
9A0924S401	9A0924S402	9A0924S401	9A0924S4D01	—	92 × 92 × 25 mm	Yes	147
9A0924S4011	9A0924S4021	9A0924S4011	9A0924S4D011	—	92 × 92 × 25 mm	No	147
9A0948S401	9A0948S402	9A0948S401	9A0948S4D01	—	92 × 92 × 25 mm	Yes	147
9A0948S4011	9A0948S4021	9A0948S4011	—	—	92 × 92 × 25 mm	No	147
9B1TP24P0H001	—	—	—	9B1TP24P0H001	270 × 270 × 99 mm	—	485

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.


Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "–" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9B1TP48P0G001	–	–	–			
9B1TP48P0H001	–	–	–	9B1TP48P0H001	270 × 270 × 99 mm	–	485
9B1TS48P0G001	–	–	–	9B1TS48P0G001	270 × 270 × 119 mm	–	488
9B1TS48P0H001	–	–	–	9B1TS48P0H001	270 × 270 × 119 mm	–	488
9B1W2TP24P0H001	–	–	–	9B1W2TP24P0H001	270 × 270 × 99 mm	–	353
9B1W2TP48P0S001	–	–	–	9B1W2TP48P0S001	270 × 270 × 99 mm	–	353
9B1W2TS48P0S001	–	–	–	9B1W2TS48P0S001	270 × 270 × 119 mm	–	356
9BD12FC6-1	9BD12FA6-1	▶▶ 9BD12FC6-1	9BD12FD6-1	–	76 × 20 mm	–	494
9BD12HC6-1	▶▶ 9BD12HA6-1	▶▶ 9BD12HC6-1	9BD12HD6-1	–	76 × 20 mm	–	494
9BD12SC6-1	9BD12SA6-1	▶▶ 9BD12SC6-1	▶▶ 9BD12SD6-1	9BD12P6S01	76 × 20 mm	–	494
9BD24FC6-1	9BD24FA6-1	▶▶ 9BD24FC6-1	9BD24FD6-1	–	76 × 20 mm	–	494
9BD24HC6-1	▶▶ 9BD24HA6-1	▶▶ 9BD24HC6-1	9BD24HD6-1	–	76 × 20 mm	–	494
9BD24SC6-1	▶▶ 9BD24SA6-1	▶▶ 9BD24SC6-1	▶▶ 9BD24SD6-1	9BD24P6S06	76 × 20 mm	–	494
9BFB12P2H003	–	–	–	▶▶ 9BFB12P2H003	120 × 32 mm	–	508
9BFB24P2H003	–	–	9BFB24H2D001	▶▶ 9BFB24P2H003	120 × 32 mm	–	508
9BMB12F201	9BMB12F202	▶▶ 9BMB12F201	9BMB12F2D01	▶▶ 9BMB12P2F01	97 × 33 mm	–	500
9BMB12G201	9BMB12G202	▶▶ 9BMB12G201	9BMB12G2D01	▶▶ 9BMB12P2G01	97 × 33 mm	–	500
9BMB12H201	▶▶ 9BMB12H202	▶▶ 9BMB12H201	▶▶ 9BMB12H2D01	▶▶ 9BMB12P2H01	97 × 33 mm	–	500
9BMB12K201	▶▶ 9BMB12K202	▶▶ 9BMB12K201	–	▶▶ 9BMB12P2K01	97 × 33 mm	–	500
9BMB12P2F01	9BMB12F202	▶▶ 9BMB12F201	9BMB12F2D01	▶▶ 9BMB12P2F01	97 × 33 mm	–	500
9BMB12P2G01	9BMB12G202	▶▶ 9BMB12G201	9BMB12G2D01	▶▶ 9BMB12P2G01	97 × 33 mm	–	500
9BMB12P2H01	▶▶ 9BMB12H202	▶▶ 9BMB12H201	▶▶ 9BMB12H2D01	▶▶ 9BMB12P2H01	97 × 33 mm	–	500
9BMB12P2K01	▶▶ 9BMB12K202	▶▶ 9BMB12K201	–	▶▶ 9BMB12P2K01	97 × 33 mm	–	500
9BMB12P2S01	9BMB12S202	▶▶ 9BMB12S201	–	9BMB12P2S01	97 × 33 mm	–	500
9BMB12S201	9BMB12S202	▶▶ 9BMB12S201	–	9BMB12P2S01	97 × 33 mm	–	500
9BMB24F201	9BMB24F202	▶▶ 9BMB24F201	9BMB24F2D01	▶▶ 9BMB24P2F01	97 × 33 mm	–	500
9BMB24G201	▶▶ 9BMB24G202	▶▶ 9BMB24G201	▶▶ 9BMB24G2D01	▶▶ 9BMB24P2G01	97 × 33 mm	–	500
9BMB24H201	▶▶ 9BMB24H202	▶▶ 9BMB24H201	▶▶ 9BMB24H2D01	9BMB24P2H01	97 × 33 mm	–	500
9BMB24K201	9BMB24K202	9BMB24K201	9BMB24K2D01	▶▶ 9BMB24P2K01	97 × 33 mm	–	500
9BMB24P2F01	9BMB24F202	▶▶ 9BMB24F201	9BMB24F2D01	▶▶ 9BMB24P2F01	97 × 33 mm	–	500
9BMB24P2G01	▶▶ 9BMB24G202	▶▶ 9BMB24G201	▶▶ 9BMB24G2D01	▶▶ 9BMB24P2G01	97 × 33 mm	–	500
9BMB24P2H01	▶▶ 9BMB24H202	▶▶ 9BMB24H201	▶▶ 9BMB24H2D01	9BMB24P2H01	97 × 33 mm	–	500
9BMB24P2K01	9BMB24K202	9BMB24K201	–	▶▶ 9BMB24P2K01	97 × 33 mm	–	500
9BMB24P2S01	9BMB24S202	▶▶ 9BMB24S201	–	9BMB24P2S01	97 × 33 mm	–	500
9BMB24S201	9BMB24S202	▶▶ 9BMB24S201	–	9BMB24P2S01	97 × 33 mm	–	500
9BMC12P2G001	9BMC12G2002	–	–	▶▶ 9BMC12P2G001	97 × 33 mm	–	498
9BMC24P2G001	–	–	–	▶▶ 9BMC24P2G001	97 × 33 mm	–	498
9CR0612P5G03	9CR0612G502	9CR0612G501	–	9CR0612P5G03	60 × 60 × 51 mm	–	240
9CR0612P5H03	–	9CR0612H501	–	9CR0612P5H03	60 × 60 × 51 mm	–	240
9CR1212P0G03	9CR1212G002	9CR1212G001	–	9CR1212P0G03	120 × 120 × 76 mm	–	258
9CR5748P9G001	–	–	–	9CR5748P9G001	∅172 × 150 × 102 mm	–	260
9CRA0312P4J03	–	9CRA0312J401	–	9CRA0312P4J03	38 × 38 × 48 mm	–	224
9CRA0312P4K03	9CRA0312K402	–	–	9CRA0312P4K03	38 × 38 × 48 mm	–	224
9CRA0412P4G03	9CRA0412G402	–	–	9CRA0412P4G03	40 × 40 × 48 mm	–	226
9CRA0412P4J03	9CRA0412J402	9CRA0412J401	–	9CRA0412P4J03	40 × 40 × 48 mm	–	226
9CRA0412P4K03	9CRA0412K402	9CRA0412K401	–	9CRA0412P4K03	40 × 40 × 48 mm	–	226
9CRA0612P0G001	–	–	–	▶▶ 9CRA0612P0G001	60 × 60 × 76 mm	–	247
9CRA0612P0S001	–	–	–	9CRA0612P0S001	60 × 60 × 76 mm	–	247
9CRA0612P6G001	–	–	–	9CRA0612P6G001	60 × 60 × 56 mm	–	242
9CRA0612P6J001	–	–	–	9CRA0612P6J001	60 × 60 × 56 mm	–	242
9CRA0612P6K001	–	–	–	▶▶ 9CRA0612P6K001	60 × 60 × 56 mm	–	242
9CRA0812P8G001	–	9CRA0812G8001	–	▶▶ 9CRA0812P8G001	80 × 80 × 80 mm	–	253
9CRA0824P8G001	–	–	9CRA0824G8D001	9CRA0824P8G001	80 × 80 × 80 mm	–	253
9CRA0848P8G001	–	–	–	▶▶ 9CRA0848P8G001	80 × 80 × 80 mm	–	253
9CRA0912P0G001	–	–	–	▶▶ 9CRA0912P0G001	92 × 92 × 76 mm	–	256
9CRA0948P0G601	–	–	–	▶▶ 9CRA0948P0G601	92 × 92 × 76 mm	–	256
9CRB0812P8G001	–	–	–	▶▶ 9CRB0812P8G001	80 × 80 × 80 mm	–	249
9CRD0412P5G03	–	–	–	9CRD0412P5G03	40 × 40 × 56 mm	–	235
9CRD0412P5H03	–	–	–	9CRD0412P5H03	40 × 40 × 56 mm	–	235
9CRD0412P5J03	–	–	–	9CRD0412P5J03	40 × 40 × 56 mm	–	235
9CRD0412P5M03	–	–	–	9CRD0412P5M03	40 × 40 × 56 mm	–	235

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9CRE0412P5J03	9CRE0412J502	—	—			
9CRE0612P0G001	—	—	—	9CRE0612P0G001	60 × 60 × 76 mm	—	245
9CRE0812P8G001	—	—	—	9CRE0812P8G001	80 × 80 × 80 mm	—	251
9CRH0412P5J001	—	—	—	9CRH0412P5J001	40 × 40 × 56 mm	—	231
9CRJ0412P5J001	—	—	—	9CRJ0412P5J001	40 × 40 × 56 mm	—	229
9CRL0612P0G001	—	—	—	9CRL0612P0G001	60 × 60 × 76 mm	No	403
9CRL0812P8G001	—	—	—	9CRL0812P8G001	80 × 80 × 80 mm	No	410
9CRLA0612P0G001	—	—	—	9CRLA0612P0G001	60 × 60 × 76 mm	No	401
9CRV0412P5J201	—	—	—	9CRV0412P5J201	40 × 40 × 56 mm	—	233
9EC2024H001	9EC2024H002	9EC2024H001	9EC2024H0D01	—	∅200 × 70 mm	No	220
9EC2048A001	9EC2048A002	9EC2048A001	9EC2048A0D01	9EC2048P0A01	∅200 × 70 mm	No	220
9EC2048H001	9EC2048H002	9EC2048H001	—	—	∅200 × 70 mm	No	220
9EC2048J001	9EC2048J002	9EC2048J001	—	9EC2048P0J01	∅200 × 70 mm	No	220
9G0612P4H001	9G0612H4002	—	9G0612H4D001	9G0612P4H001	60 × 60 × 25 mm	Yes	71
9G0612P4H0011	9G0612H40021	9G0612H40011	9G0612H4D0011	9G0612P4H0011	60 × 60 × 25 mm	No	71
9G0612P4S001	9G0612S4002	9G0612S4001	—	9G0612P4S001	60 × 60 × 25 mm	Yes	71
9G0612P4S0011	9G0612S40021	—	—	9G0612P4S0011	60 × 60 × 25 mm	No	71
9G0624P4F001	9G0624F4002	—	—	9G0624P4F001	60 × 60 × 25 mm	Yes	71
9G0624P4F0011	—	—	—	9G0624P4F0011	60 × 60 × 25 mm	No	71
9G0624P4H001	9G0624H4002	9G0624H4001	9G0624H4D001	9G0624P4H001	60 × 60 × 25 mm	Yes	71
9G0624P4H0011	9G0624H40021	—	—	9G0624P4H0011	60 × 60 × 25 mm	No	71
9G0624P4S001	9G0624S4002	—	9G0624S4D001	9G0624P4S001	60 × 60 × 25 mm	Yes	71
9G0624P4S0011	9G0624S40021	—	—	9G0624P4S0011	60 × 60 × 25 mm	No	71
9G0648P4S001	9G0648S4002	—	—	9G0648P4S001	60 × 60 × 25 mm	Yes	71
9G0648P4S0011	—	—	—	9G0648P4S0011	60 × 60 × 25 mm	No	71
9G0812G101	9G0812G102	9G0812G101	9G0812G1D01	9G0812P1G04	80 × 80 × 38 mm	Yes	134
9G0812G1011	9G0812G1021	9G0812G1011	9G0812G1D011	9G0812P1G081	80 × 80 × 38 mm	No	134
9G0812H101	9G0812H102	9G0812H101	9G0812H1D01	9G0812P1H03	80 × 80 × 38 mm	Yes	134
9G0812H1011	9G0812H1021	9G0812H1011	9G0812H1D011	9G0812P1H051	80 × 80 × 38 mm	No	134
9G0812K101	9G0812K102	9G0812K101	9G0812K1D01	9G0812P1K08	80 × 80 × 38 mm	Yes	134
9G0812K1011	9G0812K1021	9G0812K1011	—	9G0812P1K081	80 × 80 × 38 mm	No	134
9G0824G101	9G0824G102	9G0824G101	9G0824G1D01	9G0824P1G04	80 × 80 × 38 mm	Yes	134
9G0824G1011	9G0824G1021	9G0824G1011	9G0824G1D011	—	80 × 80 × 38 mm	No	134
9G0824H101	9G0824H102	9G0824H101	9G0824H1D01	—	80 × 80 × 38 mm	Yes	134
9G0824H1011	9G0824H1021	9G0824H1011	9G0824H1D011	—	80 × 80 × 38 mm	No	134
9G0848G101	9G0848G102	9G0848G101	9G0848G1D01	9G0848P1G03	80 × 80 × 38 mm	Yes	134
9G0848G1011	9G0848G1021	9G0848G1011	9G0848G1D011	—	80 × 80 × 38 mm	No	134
9G0848H101	9G0848H102	9G0848H101	9G0848H1D01	9G0848P1H04	80 × 80 × 38 mm	Yes	134
9G0848H1011	9G0848H1021	9G0848H1011	—	—	80 × 80 × 38 mm	No	134
9G0912A201	9G0912A202	9G0912A201	9G0912A2D01	9G0912P2A01	92 × 92 × 32 mm	Yes	150
9G0912A2011	9G0912A2021	9G0912A2011	9G0912A2D011	—	92 × 92 × 32 mm	No	150
9G0912G101	9G0912G102	9G0912G101	9G0912G1D01	9G0912P1G03	92 × 92 × 38 mm	Yes	162
9G0912G1011	9G0912G1021	9G0912G1011	—	9G0912P1G031	92 × 92 × 38 mm	No	162
9G0912H101	9G0912H102	9G0912H101	9G0912H1D01	9G0912P1H05	92 × 92 × 38 mm	Yes	162
9G0912H1011	9G0912H1021	9G0912H1011	9G0912H1D011	—	92 × 92 × 38 mm	No	162
9G0912H201	9G0912H202	9G0912H201	9G0912H2D01	9G0912P2H01	92 × 92 × 32 mm	Yes	150
9G0912H2011	9G0912H2021	9G0912H2011	9G0912H2D011	—	92 × 92 × 32 mm	No	150
9G0912M201	9G0912M202	9G0912M201	9G0912M2D01	—	92 × 92 × 32 mm	Yes	150
9G0912M2011	9G0912M2021	9G0912M2011	9G0912M2D011	—	92 × 92 × 32 mm	No	150
9G0912S201	9G0912S202	9G0912S201	9G0912S2D01	9G0912P2S01	92 × 92 × 32 mm	Yes	150
9G0912S2011	9G0912S2021	9G0912S2011	9G0912S2D011	—	92 × 92 × 32 mm	No	150
9G0924A201	9G0924A202	9G0924A201	9G0924A2D01	—	92 × 92 × 32 mm	Yes	150
9G0924A2011	9G0924A2021	9G0924A2011	9G0924A2D011	—	92 × 92 × 32 mm	No	150
9G0924G101	9G0924G102	9G0924G101	9G0924G1D01	—	92 × 92 × 38 mm	Yes	162
9G0924G1011	9G0924G1021	9G0924G1011	9G0924G1D011	—	92 × 92 × 38 mm	No	162
9G0924H101	9G0924H102	9G0924H101	9G0924H1D01	—	92 × 92 × 38 mm	Yes	162
9G0924H1011	9G0924H1021	9G0924H1011	9G0924H1D011	—	92 × 92 × 38 mm	No	162
9G0924H201	9G0924H202	9G0924H201	9G0924H2D01	—	92 × 92 × 32 mm	Yes	150
9G0924H2011	9G0924H2021	9G0924H2011	9G0924H2D011	—	92 × 92 × 32 mm	No	150
9G0924M201	9G0924M202	9G0924M201	9G0924M2D01	—	92 × 92 × 32 mm	Yes	150
9G0924M2011	9G0924M2021	9G0924M2011	9G0924M2D011	—	92 × 92 × 32 mm	No	150


Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.




Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "-" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9G0924S201	9G0924S202	9G0924S201	9G0924S2D01			
9G0924S2011	9G0924S2021	9G0924S2011	9G0924S2D011	—	92 × 92 × 32 mm	No	150
9G0948A201	9G0948A202	9G0948A201	9G0948A2D01	—	92 × 92 × 32 mm	Yes	150
9G0948A2011	9G0948A2021	9G0948A2011	9G0948A2D011	—	92 × 92 × 32 mm	No	150
9G0948G101	9G0948G102	9G0948G101	9G0948G1D01	—	92 × 92 × 38 mm	Yes	162
9G0948G1011	9G0948G1021	9G0948G1011	—	—	92 × 92 × 38 mm	No	162
9G0948H101	9G0948H102	9G0948H101	9G0948H1D01	—	92 × 92 × 38 mm	Yes	162
9G0948H1011	—	9G0948H1011	—	—	92 × 92 × 38 mm	No	162
9G0948H201	9G0948H202	9G0948H201	9G0948H2D01	—	92 × 92 × 32 mm	Yes	150
9G0948H2011	9G0948H2021	9G0948H2011	9G0948H2D011	—	92 × 92 × 32 mm	No	150
9G0948J101	—	9G0948J101	—	—	92 × 92 × 38 mm	Yes	162
9G0948J1011	—	9G0948J1011	—	9G0948P1J031	92 × 92 × 38 mm	No	162
9G0948M201	9G0948M202	9G0948M201	9G0948M2D01	—	92 × 92 × 32 mm	Yes	150
9G0948M2011	9G0948M2021	9G0948M2011	9G0948M2D011	—	92 × 92 × 32 mm	No	150
9G0948S201	9G0948S202	9G0948S201	9G0948S2D01	—	92 × 92 × 32 mm	Yes	150
9G0948S2011	9G0948S2021	9G0948S2011	9G0948S2D011	—	92 × 92 × 32 mm	No	150
9G1212A401	9G1212A402	9G1212A401	9G1212A4D01	—	120 × 120 × 25 mm	Yes	172
9G1212A4011	9G1212A4021	9G1212A4011	9G1212A4D011	—	120 × 120 × 25 mm	No	172
9G1212B401	—	9G1212B401	—	—	120 × 120 × 25 mm	Yes	172
9G1212B4011	—	9G1212B4011	—	—	120 × 120 × 25 mm	No	172
9G1212E101	9G1212E102	9G1212E101	9G1212E1D01	—	120 × 120 × 38 mm	Yes	186
9G1212E1011	9G1212E1021	9G1212E1011	9G1212E1D011	—	120 × 120 × 38 mm	No	186
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	9G1212F1D01	—	120 × 120 × 38 mm	Yes	186
9G1212F1011	9G1212F1021	9G1212F1011	—	—	120 × 120 × 38 mm	No	186
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	186
9G1212G1011	9G1212G1021	9G1212G1011	9G1212G1D011	9G1212P1G081	120 × 120 × 38 mm	No	186
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	186
9G1212H1011	9G1212H1021	9G1212H1011	9G1212H1D011	—	120 × 120 × 38 mm	No	186
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	186
9G1212M1011	9G1212M1021	9G1212M1011	9G1212M1D011	—	120 × 120 × 38 mm	No	186
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	186
9G1224E1011	9G1224E1021	9G1224E1011	9G1224E1D011	—	120 × 120 × 38 mm	No	186
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	186
9G1224F1011	9G1224F1021	9G1224F1011	—	—	120 × 120 × 38 mm	No	186
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	186
9G1224G1011	9G1224G1021	9G1224G1011	9G1224G1D011	—	120 × 120 × 38 mm	No	186
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	186
9G1224H1011	9G1224H1021	9G1224H1011	9G1224H1D011	—	120 × 120 × 38 mm	No	186
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	186
9G1224M1011	9G1224M1021	9G1224M1011	9G1224M1D011	—	120 × 120 × 38 mm	No	186
9G1224M401	9G1224M402	9G1224M401	9G1224M4D01	—	120 × 120 × 25 mm	Yes	172

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Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "-" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9G1224M4011	9G1224M4021	9G1224M4011	9G1224M4D011			
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	186
9G1248E1011	9G1248E1021	9G1248E1011	9G1248E1D011	—	120 × 120 × 38 mm	No	186
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	186
9G1248F1011	9G1248F1021	9G1248F1011	—	—	120 × 120 × 38 mm	No	186
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	186
9G1248G1011	9G1248G1021	9G1248G1011	9G1248G1D011	9G1248P1G041	120 × 120 × 38 mm	No	186
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	186
9G1248H1011	9G1248H1021	9G1248H1011	9G1248H1D011	—	120 × 120 × 38 mm	No	186
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	186
9G1248M1011	9G1248M1021	9G1248M1011	9G1248M1D011	—	120 × 120 × 38 mm	No	186
9G1248M401	9G1248M402	9G1248M401	9G1248M4D01	—	120 × 120 × 25 mm	Yes	172
9G1248M4011	9G1248M4021	9G1248M4011	9G1248M4D011	—	120 × 120 × 25 mm	No	172
9GA0312P3G001	—	9GA0312G3001	9GA0312G3D001	9GA0312P3G001	38 × 38 × 28 mm	Yes	18
9GA0312P3G0011	—	—	—	9GA0312P3G0011	38 × 38 × 28 mm	No	18
9GA0312P3J001	—	9GA0312J3001	—	9GA0312P3J001	38 × 38 × 28 mm	Yes	18
9GA0312P3J0011	—	—	—	9GA0312P3J0011	38 × 38 × 28 mm	No	18
9GA0312P3K001	—	9GA0312K3001	9GA0312K3D001	9GA0312P3K001	38 × 38 × 28 mm	Yes	18
9GA0312P3K0011	—	—	9GA0312K3D0011	9GA0312P3K0011	38 × 38 × 28 mm	No	18
9GA0405P6F001	9GA0405F6002	9GA0405F6001	—	9GA0405P6F001	40 × 40 × 20 mm	Yes	30
9GA0405P6H001	9GA0405H6002	9GA0405H6001	—	9GA0405P6H001	40 × 40 × 20 mm	Yes	30
9GA0412G7001	9GA0412G7002	9GA0412G7001	9GA0412G7D001	9GA0412P7G001	40 × 40 × 15 mm	Yes	25
9GA0412H7001	9GA0412H7002	9GA0412H7001	9GA0412H7D001	—	40 × 40 × 15 mm	Yes	25
9GA0412P3G01	9GA0412G302	9GA0412G301	—	9GA0412P3G01	40 × 40 × 28 mm	Yes	44
9GA0412P3G011	9GA0412G3021	9GA0412G3011	—	9GA0412P3G011	40 × 40 × 28 mm	No	44
9GA0412P3H01	9GA0412H302	9GA0412H301	9GA0412H3D01	9GA0412P3H01	40 × 40 × 28 mm	Yes	44
9GA0412P3H011	9GA0412H3021	9GA0412H3011	9GA0412H3D011	9GA0412P3H011	40 × 40 × 28 mm	No	44
9GA0412P3J01	9GA0412J302	9GA0412J301	9GA0412J3D01	9GA0412P3J01	40 × 40 × 28 mm	Yes	44
9GA0412P3J011	9GA0412J3021	9GA0412J3011	—	9GA0412P3J011	40 × 40 × 28 mm	No	44
9GA0412P3K01	9GA0412K302	9GA0412K301	9GA0412K3D01	9GA0412P3K01	40 × 40 × 28 mm	Yes	44
9GA0412P3K011	9GA0412K3021	9GA0412K3011	—	9GA0412P3K011	40 × 40 × 28 mm	No	44
9GA0412P3M01	9GA0412M302	9GA0412M301	9GA0412M3D01	9GA0412P3M01	40 × 40 × 28 mm	Yes	44
9GA0412P3M011	9GA0412M3021	9GA0412M3011	—	9GA0412P3M011	40 × 40 × 28 mm	No	44
9GA0412P6F001	9GA0412F6002	9GA0412F6001	—	9GA0412P6F001	40 × 40 × 20 mm	Yes	30
9GA0412P6G001	9GA0412G6002	9GA0412G6001	—	9GA0412P6G001	40 × 40 × 20 mm	Yes	30
9GA0412P6H001	9GA0412H6002	9GA0412H6001	—	9GA0412P6H001	40 × 40 × 20 mm	Yes	30
9GA0412P7G001	9GA0412G7002	9GA0412G7001	9GA0412G7D001	9GA0412P7G001	40 × 40 × 15 mm	Yes	25
9GA0424P3G001	9GA0424G3002	9GA0424G3001	9GA0424G3D001	9GA0424P3G001	40 × 40 × 28 mm	Yes	44
9GA0424P3G0011	9GA0424G30021	9GA0424G30011	—	9GA0424P3G0011	40 × 40 × 28 mm	No	44
9GA0424P3H001	9GA0424H3002	9GA0424H3001	9GA0424H3D001	9GA0424P3H001	40 × 40 × 28 mm	Yes	44
9GA0424P3H0011	9GA0424H30021	9GA0424H30011	—	9GA0424P3H0011	40 × 40 × 28 mm	No	44
9GA0424P3J001	9GA0424J3002	9GA0424J3001	9GA0424J3D001	9GA0424P3J001	40 × 40 × 28 mm	Yes	44
9GA0424P3J0011	9GA0424J30021	9GA0424J30011	—	9GA0424P3J0011	40 × 40 × 28 mm	No	44
9GA0424P3M001	9GA0424M3002	9GA0424M3001	—	9GA0424P3M001	40 × 40 × 28 mm	Yes	44
9GA0424P3M0011	9GA0424M30021	9GA0424M30011	9GA0424M3D001	9GA0424P3M0011	40 × 40 × 28 mm	No	44
9GA0424P6F001	9GA0424F6002	9GA0424F6001	9GA0424F6D001	9GA0424P6F001	40 × 40 × 20 mm	Yes	30
9GA0424P6G001	9GA0424G6002	9GA0424G6001	9GA0424G6D001	9GA0424P6G001	40 × 40 × 20 mm	Yes	30
9GA0424P6H001	9GA0424H6002	9GA0424H6001	9GA0424H6D001	9GA0424P6H001	40 × 40 × 20 mm	Yes	30
9GA0512P7A001	9GA0512A7002	9GA0512A7001	—	9GA0512P7A001	52 × 52 × 15 mm	Yes	56
9GA0512P7G001	9GA0512G7002	9GA0512G7001	—	9GA0512P7G001	52 × 52 × 15 mm	Yes	56
9GA0512P7H001	9GA0512H7002	9GA0512H7001	9GA0512H7D001	9GA0512P7H001	52 × 52 × 15 mm	Yes	56

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "–" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9GA0512P7M001	9GA0512M7002	9GA0512M7001	–			
9GA0524P7A001	9GA0524A7002	9GA0524A7001	9GA0524A7D001	☞ 9GA0524P7A001	52 × 52 × 15 mm	Yes	56
9GA0524P7G001	9GA0524G7002	9GA0524G7001	9GA0524G7D001	☞ 9GA0524P7G001	52 × 52 × 15 mm	Yes	56
9GA0524P7H001	9GA0524H7002	9GA0524H7001	–	☞ 9GA0524P7H001	52 × 52 × 15 mm	Yes	56
9GA0524P7M001	9GA0524M7002	9GA0524M7001	–	☞ 9GA0524P7M001	52 × 52 × 15 mm	Yes	56
9GA0612G701	☞ 9GA0612G702	☞ 9GA0612G701	9GA0612G7D01	☞ 9GA0612P7G01	60 × 60 × 15 mm	Yes	64
9GA0612G9001	9GA0612G9002	☞ 9GA0612G9001	9GA0612G9D001	9GA0612P9G001	60 × 60 × 10 mm	Yes	62
9GA0612H6001	9GA0612H6002	☞ 9GA0612H6001	9GA0612H6D001	–	60 × 60 × 20 mm	Yes	67
9GA0612H701	☞ 9GA0612H702	☞ 9GA0612H701	9GA0612H7D01	☞ 9GA0612P7H01	60 × 60 × 15 mm	Yes	64
9GA0612H9001	9GA0612H9002	☞ 9GA0612H9001	9GA0612H9D001	–	60 × 60 × 10 mm	Yes	62
9GA0612L701	☞ 9GA0612L702	☞ 9GA0612L701	9GA0612L7D01	–	60 × 60 × 15 mm	Yes	64
9GA0612L9001	9GA0612L9002	☞ 9GA0612L9001	9GA0612L9D001	–	60 × 60 × 10 mm	Yes	62
9GA0612M6001	☞ 9GA0612M6002	☞ 9GA0612M6001	9GA0612M6D001	–	60 × 60 × 20 mm	Yes	67
9GA0612M701	☞ 9GA0612M702	☞ 9GA0612M701	–	–	60 × 60 × 15 mm	Yes	64
9GA0612P1H03	9GA0612H102	9GA0612H101	–	☞ 9GA0612P1H03	60 × 60 × 38 mm	Yes	85
9GA0612P1H031	9GA0612H1021	9GA0612H1011	–	9GA0612P1H031	60 × 60 × 38 mm	No	85
9GA0612P1J03	9GA0612J102	9GA0612J101	9GA0612J1D01	☞ 9GA0612P1J03	60 × 60 × 38 mm	Yes	85
9GA0612P1J031	9GA0612J1021	9GA0612J1011	–	9GA0612P1J031	60 × 60 × 38 mm	No	85
9GA0612P1K03	9GA0612K102	9GA0612K101	9GA0612K1D01	☞ 9GA0612P1K03	60 × 60 × 38 mm	Yes	85
9GA0612P1K031	9GA0612K1021	9GA0612K1011	9GA0612K1D011	☞ 9GA0612P1K031	60 × 60 × 38 mm	No	85
9GA0612P1K60	–	–	–	☞ 9GA0612P1K60	60 × 60 × 38 mm	Yes	85
9GA0612P1K601	–	–	–	☞ 9GA0612P1K601	60 × 60 × 38 mm	No	85
9GA0612P6G001	9GA0612G6002	9GA0612G6001	–	☞ 9GA0612P6G001	60 × 60 × 20 mm	Yes	67
9GA0612P6S001	9GA0612S6002	9GA0612S6001	–	☞ 9GA0612P6S001	60 × 60 × 20 mm	Yes	67
9GA0612P7G01	☞ 9GA0612G702	☞ 9GA0612G701	9GA0612G7D01	☞ 9GA0612P7G01	60 × 60 × 15 mm	Yes	64
9GA0612P7H01	☞ 9GA0612H702	☞ 9GA0612H701	9GA0612H7D01	☞ 9GA0612P7H01	60 × 60 × 15 mm	Yes	64
9GA0624H6001	☞ 9GA0624H6002	☞ 9GA0624H6001	☞ 9GA0624H6D001	–	60 × 60 × 20 mm	Yes	67
9GA0624M6001	☞ 9GA0624M6002	☞ 9GA0624M6001	9GA0624M6D001	–	60 × 60 × 20 mm	Yes	67
9GA0624M701	9GA0624M702	9GA0624M701	–	–	60 × 60 × 15 mm	Yes	64
9GA0624P1J03	9GA0624J102	9GA0624J101	–	☞ 9GA0624P1J03	60 × 60 × 38 mm	Yes	85
9GA0624P1J031	9GA0624J1021	9GA0624J1011	–	☞ 9GA0624P1J031	60 × 60 × 38 mm	No	85
9GA0624P1K03	9GA0624K102	–	9GA0624K1D01	9GA0624P1K03	60 × 60 × 38 mm	Yes	85
9GA0624P1K031	–	–	–	9GA0624P1K031	60 × 60 × 38 mm	No	85
9GA0624P6G001	9GA0624G6002	9GA0624G6001	9GA0624G6D001	☞ 9GA0624P6G001	60 × 60 × 20 mm	Yes	67
9GA0624P6S001	9GA0624S6002	9GA0624S6001	–	☞ 9GA0624P6S001	60 × 60 × 20 mm	Yes	67
9GA0624P7G01	9GA0624G702	–	–	☞ 9GA0624P7G01	60 × 60 × 15 mm	Yes	64
9GA0712P1G001	–	–	–	☞ 9GA0712P1G001	70 × 70 × 38 mm	Yes	91
9GA0712P1G0011	–	–	–	9GA0712P1G0011	70 × 70 × 38 mm	No	91
9GA0712P1H001	–	–	9GA0712H1D001	☞ 9GA0712P1H001	70 × 70 × 38 mm	Yes	91
9GA0712P1H0011	–	–	–	9GA0712P1H0011	70 × 70 × 38 mm	No	91
9GA0812A2001	☞ 9GA0812A2002	☞ 9GA0812A2001	☞ 9GA0812A2D001	–	80 × 80 × 32 mm	Yes	117
9GA0812A20011	☞ 9GA0812A20021	☞ 9GA0812A20011	☞ 9GA0812A2D0011	–	80 × 80 × 32 mm	No	117
9GA0812B2001	☞ 9GA0812B2002	☞ 9GA0812B2001	☞ 9GA0812B2D001	–	80 × 80 × 32 mm	Yes	117
9GA0812B20011	☞ 9GA0812B20021	☞ 9GA0812B20011	☞ 9GA0812B2D0011	–	80 × 80 × 32 mm	No	117
9GA0812H7001	9GA0812H7002	☞ 9GA0812H7001	9GA0812H7D001	–	80 × 80 × 15 mm	Yes	93
9GA0812L2001	☞ 9GA0812L2002	☞ 9GA0812L2001	☞ 9GA0812L2D001	–	80 × 80 × 32 mm	Yes	117
9GA0812L20011	☞ 9GA0812L20021	☞ 9GA0812L20011	☞ 9GA0812L2D0011	–	80 × 80 × 32 mm	No	117
9GA0812P1G61	–	–	–	☞ 9GA0812P1G61	80 × 80 × 38 mm	Yes	128
9GA0812P1G611	–	–	–	☞ 9GA0812P1G611	80 × 80 × 38 mm	No	128
9GA0812P1H61	9GA0812H162	9GA0812H161	9GA0812H1D61	☞ 9GA0812P1H61	80 × 80 × 38 mm	Yes	128
9GA0812P1H611	9GA0812H1621	9GA0812H1611	–	☞ 9GA0812P1H611	80 × 80 × 38 mm	No	128
9GA0812P1S61	9GA0812S162	9GA0812S161	9GA0812S1D61	☞ 9GA0812P1S61	80 × 80 × 38 mm	Yes	128
9GA0812P1S611	9GA0812S1621	9GA0812S1611	–	☞ 9GA0812P1S611	80 × 80 × 38 mm	No	128
9GA0812P2H001	–	–	–	☞ 9GA0812P2H001	80 × 80 × 32 mm	Yes	117
9GA0812P2H0011	–	–	–	☞ 9GA0812P2H0011	80 × 80 × 32 mm	No	117
9GA0812P2M001	–	–	–	☞ 9GA0812P2M001	80 × 80 × 32 mm	Yes	117
9GA0812P2M0011	–	–	–	☞ 9GA0812P2M0011	80 × 80 × 32 mm	No	117
9GA0812P2S001	–	☞ 9GA0812S2001	–	☞ 9GA0812P2S001	80 × 80 × 32 mm	Yes	117
9GA0812P2S0011	–	–	–	☞ 9GA0812P2S0011	80 × 80 × 32 mm	No	117
9GA0812P4G001	9GA0812G4002	9GA0812G4001	9GA0812G4D001	☞ 9GA0812P4G001	80 × 80 × 25 mm	Yes	104
9GA0812P4G0011	9GA0812G40021	9GA0812G40011	–	☞ 9GA0812P4G0011	80 × 80 × 25 mm	No	104

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The ☞ mark indicates Short Lead Time Service applicable models. See p. 654 for details.


Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9GA0812P4H001	9GA0812H4002	9GA0812H4001	9GA0812H4D001			
9GA0812P4H0011	9GA0812H40021	9GA0812H40011	—	☛ 9GA0812P4H0011	80 × 80 × 25 mm	No	104
9GA0812P4J001	9GA0812J4002	9GA0812J4001	9GA0812J4D001	☛ 9GA0812P4J001	80 × 80 × 25 mm	Yes	104
9GA0812P4J0011	9GA0812J40021	9GA0812J40011	—	☛ 9GA0812P4J0011	80 × 80 × 25 mm	No	104
9GA0812P6G001	9GA0812G6002	9GA0812G6001	—	☛ 9GA0812P6G001	80 × 80 × 20 mm	Yes	98
9GA0812P6M001	9GA0812M6002	9GA0812M6001	—	☛ 9GA0812P6M001	80 × 80 × 20 mm	Yes	98
9GA0812P7G001	9GA0812G7002	9GA0812G7001	9GA0812G7D001	☛ 9GA0812P7G001	80 × 80 × 15 mm	Yes	93
9GA0812P7S001	—	—	—	☛ 9GA0812P7S001	80 × 80 × 15 mm	Yes	93
9GA0824A2001	☛ 9GA0824A2002	☛ 9GA0824A2001	☛ 9GA0824A2D001	—	80 × 80 × 32 mm	Yes	117
9GA0824A20011	☛ 9GA0824A20021	☛ 9GA0824A20011	9GA0824A2D0011	—	80 × 80 × 32 mm	No	117
9GA0824B2001	☛ 9GA0824B2002	☛ 9GA0824B2001	☛ 9GA0824B2D001	—	80 × 80 × 32 mm	Yes	117
9GA0824B20011	☛ 9GA0824B20021	☛ 9GA0824B20011	☛ 9GA0824B2D0011	—	80 × 80 × 32 mm	No	117
9GA0824H7001	9GA0824H7002	☛ 9GA0824H7001	9GA0824H7D001	—	80 × 80 × 15 mm	Yes	93
9GA0824L2001	☛ 9GA0824L2002	☛ 9GA0824L2001	☛ 9GA0824L2D001	—	80 × 80 × 32 mm	Yes	117
9GA0824L20011	☛ 9GA0824L20021	☛ 9GA0824L20011	☛ 9GA0824L2D0011	—	80 × 80 × 32 mm	No	117
9GA0824P1H61	9GA0824H162	9GA0824H161	9GA0824H1D61	☛ 9GA0824P1H61	80 × 80 × 38 mm	Yes	128
9GA0824P1H611	9GA0824H1621	9GA0824H1611	—	☛ 9GA0824P1H611	80 × 80 × 38 mm	No	128
9GA0824P1S61	9GA0824S162	9GA0824S161	—	☛ 9GA0824P1S61	80 × 80 × 38 mm	Yes	128
9GA0824P1S611	9GA0824S1621	9GA0824S1611	—	☛ 9GA0824P1S611	80 × 80 × 38 mm	No	128
9GA0824P2S001	9GA0824S2002	—	—	☛ 9GA0824P2S001	80 × 80 × 32 mm	Yes	117
9GA0824P2S0011	—	—	—	☛ 9GA0824P2S0011	80 × 80 × 32 mm	No	117
9GA0824P4G001	9GA0824G4002	9GA0824G4001	9GA0824G4D001	☛ 9GA0824P4G001	80 × 80 × 25 mm	Yes	104
9GA0824P4G0011	9GA0824G40021	9GA0824G40011	—	9GA0824P4G0011	80 × 80 × 25 mm	No	104
9GA0824P4H001	9GA0824H4002	9GA0824H4001	9GA0824H4D001	☛ 9GA0824P4H001	80 × 80 × 25 mm	Yes	104
9GA0824P4H0011	9GA0824H40021	9GA0824H40011	—	9GA0824P4H0011	80 × 80 × 25 mm	No	104
9GA0824P4J001	9GA0824J4002	9GA0824J4001	9GA0824J4D001	☛ 9GA0824P4J001	80 × 80 × 25 mm	Yes	104
9GA0824P4J0011	9GA0824J40021	9GA0824J40011	9GA0824J4D0011	☛ 9GA0824P4J0011	80 × 80 × 25 mm	No	104
9GA0824P6G001	9GA0824G6002	9GA0824G6001	—	☛ 9GA0824P6G001	80 × 80 × 20 mm	Yes	98
9GA0824P6M001	9GA0824M6002	9GA0824M6001	—	☛ 9GA0824P6M001	80 × 80 × 20 mm	Yes	98
9GA0824P7G001	9GA0824G7002	—	9GA0824G7D001	☛ 9GA0824P7G001	80 × 80 × 15 mm	Yes	93
9GA0824P7S001	9GA0824S7002	—	—	☛ 9GA0824P7S001	80 × 80 × 15 mm	Yes	93
9GA0848P1S61	—	—	—	9GA0848P1S61	80 × 80 × 38 mm	Yes	128
9GA0848P1S611	—	—	—	9GA0848P1S611	80 × 80 × 38 mm	No	128
9GA0848P2S001	—	—	—	9GA0848P2S001	80 × 80 × 32 mm	Yes	117
9GA0848P2S0011	—	—	—	9GA0848P2S0011	80 × 80 × 32 mm	No	117
9GA0912F401	☛ 9GA0912F402	☛ 9GA0912F401	☛ 9GA0912F4D01	—	92 × 92 × 25 mm	Yes	140
9GA0912F4011	☛ 9GA0912F4021	☛ 9GA0912F4011	☛ 9GA0912F4D011	—	92 × 92 × 25 mm	No	140
9GA0912H401	☛ 9GA0912H402	☛ 9GA0912H401	☛ 9GA0912H4D01	—	92 × 92 × 25 mm	Yes	140
9GA0912H4011	☛ 9GA0912H4021	☛ 9GA0912H4011	☛ 9GA0912H4D011	—	92 × 92 × 25 mm	No	140
9GA0912L401	☛ 9GA0912L402	☛ 9GA0912L401	☛ 9GA0912L4D01	—	92 × 92 × 25 mm	Yes	140
9GA0912L4011	☛ 9GA0912L4021	☛ 9GA0912L4011	☛ 9GA0912L4D011	—	92 × 92 × 25 mm	No	140
9GA0912M401	☛ 9GA0912M402	☛ 9GA0912M401	☛ 9GA0912M4D01	—	92 × 92 × 25 mm	Yes	140
9GA0912M4011	☛ 9GA0912M4021	☛ 9GA0912M4011	☛ 9GA0912M4D011	—	92 × 92 × 25 mm	No	140
9GA0912P1H03	9GA0912H102	9GA0912H101	9GA0912H1D01	☛ 9GA0912P1H03	92 × 92 × 38 mm	Yes	156
9GA0912P1H031	9GA0912H1021	9GA0912H1011	—	☛ 9GA0912P1H031	92 × 92 × 38 mm	No	156
9GA0912P4G03	9GA0912G402	9GA0912G401	9GA0912G4D01	☛ 9GA0912P4G03	92 × 92 × 25 mm	Yes	140
9GA0912P4G031	9GA0912G4021	9GA0912G4011	—	☛ 9GA0912P4G031	92 × 92 × 25 mm	No	140
9GA0912P4J03	☛ 9GA0912J402	☛ 9GA0912J401	☛ 9GA0912J4D01	☛ 9GA0912P4J03	92 × 92 × 25 mm	Yes	140
9GA0912P4J031	☛ 9GA0912J4021	☛ 9GA0912J4011	☛ 9GA0912J4D011	☛ 9GA0912P4J031	92 × 92 × 25 mm	No	140
9GA0912P4S03	☛ 9GA0912S402	☛ 9GA0912S401	☛ 9GA0912S4D01	☛ 9GA0912P4S03	92 × 92 × 25 mm	Yes	140
9GA0912P4S031	☛ 9GA0912S4021	☛ 9GA0912S4011	☛ 9GA0912S4D011	☛ 9GA0912P4S031	92 × 92 × 25 mm	No	140
9GA0912W401	☛ 9GA0912W402	☛ 9GA0912W401	☛ 9GA0912W4D01	—	92 × 92 × 25 mm	Yes	140
9GA0912W4011	☛ 9GA0912W4021	☛ 9GA0912W4011	☛ 9GA0912W4D011	—	92 × 92 × 25 mm	No	140
9GA0924F401	☛ 9GA0924F402	☛ 9GA0924F401	☛ 9GA0924F4D01	—	92 × 92 × 25 mm	Yes	140
9GA0924F4011	☛ 9GA0924F4021	☛ 9GA0924F4011	☛ 9GA0924F4D011	—	92 × 92 × 25 mm	No	140
9GA0924H401	☛ 9GA0924H402	☛ 9GA0924H401	☛ 9GA0924H4D01	—	92 × 92 × 25 mm	Yes	140
9GA0924H4011	☛ 9GA0924H4021	☛ 9GA0924H4011	☛ 9GA0924H4D011	—	92 × 92 × 25 mm	No	140
9GA0924L401	☛ 9GA0924L402	☛ 9GA0924L401	☛ 9GA0924L4D01	—	92 × 92 × 25 mm	Yes	140
9GA0924L4011	☛ 9GA0924L4021	☛ 9GA0924L4011	☛ 9GA0924L4D011	—	92 × 92 × 25 mm	No	140
9GA0924M401	☛ 9GA0924M402	☛ 9GA0924M401	☛ 9GA0924M4D01	—	92 × 92 × 25 mm	Yes	140
9GA0924M4011	☛ 9GA0924M4021	☛ 9GA0924M4011	☛ 9GA0924M4D011	—	92 × 92 × 25 mm	No	140

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The ☛ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "-" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9GA0924P1H01	9GA0924H102	9GA0924H101	9GA0924H1D01			
9GA0924P1H011	—	9GA0924H1011	9GA0924H1D011	9GA0924P1H011	92 × 92 × 38 mm	No	156
9GA0924P4G03	9GA0924G402	9GA0924G401	9GA0924G4D01	9GA0924P4G03	92 × 92 × 25 mm	Yes	140
9GA0924P4G031	9GA0924G4021	9GA0924G4011	—	9GA0924P4G031	92 × 92 × 25 mm	No	140
9GA0924P4J03	9GA0924J402	9GA0924J401	9GA0924J4D01	9GA0924P4J03	92 × 92 × 25 mm	Yes	140
9GA0924P4J031	9GA0924J4021	9GA0924J4011	—	9GA0924P4J031	92 × 92 × 25 mm	No	140
9GA0924P4S03	9GA0924S402	9GA0924S401	9GA0924S4D01	9GA0924P4S03	92 × 92 × 25 mm	Yes	140
9GA0924P4S031	9GA0924S4021	9GA0924S4011	—	9GA0924P4S031	92 × 92 × 25 mm	No	140
9GA0924W401	9GA0924W402	9GA0924W401	9GA0924W4D01	—	92 × 92 × 25 mm	Yes	140
9GA0924W4011	9GA0924W4021	9GA0924W4011	9GA0924W4D011	—	92 × 92 × 25 mm	No	140
9GA0948P1H03	9GA0948H102	9GA0948H101	—	9GA0948P1H03	92 × 92 × 38 mm	Yes	156
9GA0948P1H031	—	—	—	9GA0948P1H031	92 × 92 × 38 mm	No	156
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	9GA1224S4D001	9GA1224P4S001	120 × 120 × 25 mm	Yes	165
9GA1224P4S0011	—	9GA1224S40011	—	9GA1224P4S0011	120 × 120 × 25 mm	No	165
9GA1224S4001	9GA1224S4002	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	39
9GAX0412P3K0011	—	—	—	9GAX0412P3K0011	40 × 40 × 28 mm	No	39
9GAX0412P3K003	—	—	—	9GAX0412P3K003	40 × 40 × 28 mm	Yes	39
9GAX0412P3K0031	—	—	—	9GAX0412P3K0031	40 × 40 × 28 mm	No	39
9GAX0412P3S001	—	—	—	9GAX0412P3S001	40 × 40 × 28 mm	Yes	39
9GAX0412P3S0011	—	—	—	9GAX0412P3S0011	40 × 40 × 28 mm	No	39
9GAX0412P3S003	—	—	—	9GAX0412P3S003	40 × 40 × 28 mm	Yes	39
9GAX0412P3S0031	—	—	—	9GAX0412P3S0031	40 × 40 × 28 mm	No	39
9GE0412P3G03	—	—	9GE0412G3D01	9GE0412P3G03	40 × 40 × 28 mm	No	48
9GE0412P3J03	9GE0412J302	9GE0412J301	9GE0412J3D01	9GE0412P3J03	40 × 40 × 28 mm	No	48
9GE0412P3K03	—	9GE0412K301	9GE0412K3D01	9GE0412P3K03	40 × 40 × 28 mm	No	48
9GL1212E101	9GL1212E102	9GL1212E101	9GL1212E1D01	—	120 × 120 × 38 mm	No	425
9GL1212F101	9GL1212F102	9GL1212F101	9GL1212F1D01	—	120 × 120 × 38 mm	No	425
9GL1212G101	9GL1212G102	9GL1212G101	9GL1212G1D01	—	120 × 120 × 38 mm	No	425
9GL1212H101	9GL1212H102	9GL1212H101	9GL1212H1D01	—	120 × 120 × 38 mm	No	425
9GL1212M101	9GL1212M102	9GL1212M101	9GL1212M1D01	—	120 × 120 × 38 mm	No	425
9GL1224E101	9GL1224E102	9GL1224E101	9GL1224E1D01	—	120 × 120 × 38 mm	No	425
9GL1224F101	9GL1224F102	9GL1224F101	9GL1224F1D01	—	120 × 120 × 38 mm	No	425
9GL1224G101	9GL1224G102	9GL1224G101	9GL1224G1D01	—	120 × 120 × 38 mm	No	425
9GL1224H101	9GL1224H102	9GL1224H101	9GL1224H1D01	—	120 × 120 × 38 mm	No	425
9GL1224M101	9GL1224M102	9GL1224M101	9GL1224M1D01	—	120 × 120 × 38 mm	No	425
9GL1248E101	9GL1248E102	9GL1248E101	9GL1248E1D01	—	120 × 120 × 38 mm	No	425
9GL1248F101	9GL1248F102	9GL1248F101	9GL1248F1D01	—	120 × 120 × 38 mm	No	425
9GL1248G101	9GL1248G102	9GL1248G101	9GL1248G1D01	—	120 × 120 × 38 mm	No	425
9GL1248H101	9GL1248H102	9GL1248H101	9GL1248H1D01	—	120 × 120 × 38 mm	No	425

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Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.




Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "-" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9GL1248M101	9GL1248M102	9GL1248M101	9GL1248M1D01			
9GP1224P1G001	9GP1224G1002	—	—	9GP1224P1G001	120 × 120 × 38 mm	No	458
9GP1248P1G001	—	—	—	9GP1248P1G001	120 × 120 × 38 mm	No	458
9GP5724P5H001	—	—	—	9GP5724P5H001	∅172 × 150 × 51 mm	No	460
9GP5748P5G001	—	—	—	9GP5748P5G001	∅172 × 150 × 51 mm	No	460
9GT0412P3J001	9GT0412J3002	9GT0412J3001	9GT0412J3D001	☺ 9GT0412P3J001	40 × 40 × 28 mm	No	444
9GT0424P3J001	9GT0424J3002	9GT0424J3001	9GT0424J3D001	☺ 9GT0424P3J001	40 × 40 × 28 mm	No	444
9GT0612P4G001	9GT0612G4002	9GT0612G4001	9GT0612G4D001	☺ 9GT0612P4G001	60 × 60 × 25 mm	No	446
9GT0624P4G001	9GT0624G4002	9GT0624G4001	—	☺ 9GT0624P4G001	60 × 60 × 25 mm	No	446
9GT0812P4S001	9GT0812S4002	9GT0812S4001	9GT0812S4D001	☺ 9GT0812P4S001	80 × 80 × 25 mm	No	448
9GT0824P4S001	9GT0824S4002	9GT0824S4001	—	☺ 9GT0824P4S001	80 × 80 × 25 mm	No	448
9GT0912P1M001	9GT0912M1002	9GT0912M1001	9GT0912M1D001	☺ 9GT0912P1M001	92 × 92 × 38 mm	No	452
9GT0912P4J001	9GT0912J4002	9GT0912J4001	9GT0912J4D001	☺ 9GT0912P4J001	92 × 92 × 25 mm	No	450
9GT0924P1M001	9GT0924M1002	—	9GT0924M1D001	☺ 9GT0924P1M001	92 × 92 × 38 mm	No	452
9GT0924P4J001	9GT0924J4002	9GT0924J4001	—	☺ 9GT0924P4J001	92 × 92 × 25 mm	No	450
9GT1212P1S001	—	—	—	☺ 9GT1212P1S001	120 × 120 × 38 mm	No	454
9GT1224P1S001	9GT1224S1002	—	9GT1224S1D001	☺ 9GT1224P1S001	120 × 120 × 38 mm	No	454
9GV0312E301	9GV0312E302	9GV0312E301	9GV0312E3D01	—	38 × 38 × 28 mm	Yes	21
9GV0312E3011	—	9GV0312E3011	9GV0312E3D011	—	38 × 38 × 28 mm	No	21
9GV0312G301	9GV0312G302	9GV0312G301	9GV0312G3D01	9GV0312P3G03	38 × 38 × 28 mm	Yes	21
9GV0312G3011	9GV0312G3021	9GV0312G3011	—	—	38 × 38 × 28 mm	No	21
9GV0312H301	9GV0312H302	9GV0312H301	9GV0312H3D01	—	38 × 38 × 28 mm	Yes	21
9GV0312H3011	—	9GV0312H3011	—	—	38 × 38 × 28 mm	No	21
9GV0312J301	9GV0312J302	9GV0312J301	9GV0312J3D01	9GV0312P3J03	38 × 38 × 28 mm	Yes	21
9GV0312J3011	9GV0312J3021	9GV0312J3011	—	9GV0312P3J031	38 × 38 × 28 mm	No	21
9GV0312K301	—	9GV0312K301	9GV0312K3D01	9GV0312P3K01	38 × 38 × 28 mm	Yes	21
9GV0312K3011	—	9GV0312K3011	9GV0312K3D011	—	38 × 38 × 28 mm	No	21
9GV0412C301	—	9GV0412C301	9GV0412C3D01	—	40 × 40 × 28 mm	Yes	51
9GV0412C3011	—	9GV0412C3011	9GV0412C3D011	—	40 × 40 × 28 mm	No	51
9GV0412G301	9GV0412G302	9GV0412G301	9GV0412G3D01	9GV0412P3G03	40 × 40 × 28 mm	Yes	51
9GV0412G3011	9GV0412G3021	9GV0412G3011	9GV0412G3D011	9GV0412P3G031	40 × 40 × 28 mm	No	51
9GV0412H301	—	9GV0412H301	9GV0412H3D01	9GV0412P3H01	40 × 40 × 28 mm	Yes	51
9GV0412H3011	—	9GV0412H3011	—	—	40 × 40 × 28 mm	No	51
9GV0412J301	9GV0412J302	9GV0412J301	9GV0412J3D01	9GV0412P3J03	40 × 40 × 28 mm	Yes	51
9GV0412J3011	9GV0412J3021	9GV0412J3011	9GV0412J3D011	9GV0412P3J031	40 × 40 × 28 mm	No	51
9GV0412K301	9GV0412K302	9GV0412K301	9GV0412K3D01	9GV0412P3K03	40 × 40 × 28 mm	Yes	51
9GV0412K3011	—	9GV0412K3011	—	—	40 × 40 × 28 mm	No	51
9GV0612P1G03	9GV0612G102	9GV0612G101	9GV0612G1D01	9GV0612P1G03	60 × 60 × 38 mm	Yes	88
9GV0612P1G031	9GV0612G1021	9GV0612G1011	9GV0612G1D011	9GV0612P1G031	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
9GV0648P1H03	—	—	—	9GV0648P1H03	60 × 60 × 38 mm	Yes	88
9GV0648P1H031	—	—	—	9GV0648P1H031	60 × 60 × 38 mm	No	88
9GV0812P1F03	—	—	—	9GV0812P1F03	80 × 80 × 38 mm	Yes	131
9GV0812P1F031	—	—	—	9GV0812P1F031	80 × 80 × 38 mm	No	131
9GV0812P1G03	9GV0812G102	9GV0812G101	—	9GV0812P1G03	80 × 80 × 38 mm	Yes	131
9GV0812P1G031	9GV0812G1021	9GV0812G1011	—	9GV0812P1G031	80 × 80 × 38 mm	No	131
9GV0812P1H03	9GV0812H102	9GV0812H101	—	9GV0812P1H03	80 × 80 × 38 mm	Yes	131
9GV0812P1H031	9GV0812H1021	9GV0812H1011	—	9GV0812P1H031	80 × 80 × 38 mm	No	131
9GV0812P1M03	—	—	—	9GV0812P1M03	80 × 80 × 38 mm	Yes	131
9GV0812P1M031	—	—	—	9GV0812P1M031	80 × 80 × 38 mm	No	131
9GV0824P1G03	9GV0824G102	9GV0824G101	9GV0824G1D01	9GV0824P1G03	80 × 80 × 38 mm	Yes	131
9GV0824P1G031	—	—	—	9GV0824P1G031	80 × 80 × 38 mm	No	131
9GV0848P1G03	9GV0848G102	9GV0848G101	—	9GV0848P1G03	80 × 80 × 38 mm	Yes	131
9GV0848P1G031	—	9GV0848G1011	—	9GV0848P1G031	80 × 80 × 38 mm	No	131
9GV0848P4K03	—	9GV0848K401	—	☺ 9GV0848P4K03	80 × 80 × 25 mm	Yes	107
9GV0848P4K031	—	—	—	☺ 9GV0848P4K031	80 × 80 × 25 mm	No	107
9GV0912P1F03	—	—	—	9GV0912P1F03	92 × 92 × 38 mm	Yes	159
9GV0912P1F031	—	—	—	9GV0912P1F031	92 × 92 × 38 mm	No	159
9GV0912P1G03	9GV0912G102	—	9GV0912G1D01	9GV0912P1G03	92 × 92 × 38 mm	Yes	159
9GV0912P1G031	—	—	—	9GV0912P1G031	92 × 92 × 38 mm	No	159

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Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9GV0912P1H03	9GV0912H102	9GV0912H101	9GV0912H1D01			
9GV0912P1H031	—	—	—	9GV0912P1H031	92 × 92 × 38 mm	No	159
9GV0948P1F03	—	—	—	9GV0948P1F03	92 × 92 × 38 mm	Yes	159
9GV0948P1F031	—	—	—	9GV0948P1F031	92 × 92 × 38 mm	No	159
9GV0948P1H03	9GV0948H102	9GV0948H101	—	9GV0948P1H03	92 × 92 × 38 mm	Yes	159
9GV0948P1H031	9GV0948H1021	—	—	9GV0948P1H031	92 × 92 × 38 mm	No	159
9GV1212P1G01	—	—	—	9GV1212P1G01	120 × 120 × 38 mm	Yes	181
9GV1212P1G011	—	9GV1212G1011	9GV1212G1D011	9GV1212P1G011	120 × 120 × 38 mm	No	181
9GV1212P1J01	9GV1212J102	9GV1212J101	9GV1212J1D01	9GV1212P1J01	120 × 120 × 38 mm	Yes	181
9GV1212P1J011	9GV1212J1021	9GV1212J1011	—	9GV1212P1J011	120 × 120 × 38 mm	No	181
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	181
9GV1224P1H011	9GV1224H1021	9GV1224H1011	9GV1224H1D011	9GV1224P1H011	120 × 120 × 38 mm	No	181
9GV1224P1J01	9GV1224J102	9GV1224J101	9GV1224J1D01	9GV1224P1J01	120 × 120 × 38 mm	Yes	181
9GV1224P1J011	9GV1224J1021	9GV1224J1011	9GV1224J1D011	9GV1224P1J011	120 × 120 × 38 mm	No	181
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	181
9GV1248P1J011	9GV1248J1021	9GV1248J1011	—	9GV1248P1J011	120 × 120 × 38 mm	No	181
9GV1248P4G01	9GV1248G402	9GV1248G401	—	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	194
9GV1412P1H001	9GV1412H1002	—	—	9GV1412P1H001	140 × 140 × 38 mm	No	194
9GV1412P1S001	—	—	—	9GV1412P1S001	140 × 140 × 38 mm	No	194
9GV1424P1G001	—	—	—	9GV1424P1G001	140 × 140 × 38 mm	No	194
9GV1424P1H001	9GV1424H1002	—	9GV1424H1D001	9GV1424P1H001	140 × 140 × 38 mm	No	194
9GV1424P1S001	—	—	—	9GV1424P1S001	140 × 140 × 38 mm	No	194
9GV1448P1G001	—	—	—	9GV1448P1G001	140 × 140 × 38 mm	No	194
9GV1448P1H001	—	—	—	9GV1448P1H001	140 × 140 × 38 mm	No	194
9GV1448P1S001	—	—	—	9GV1448P1S001	140 × 140 × 38 mm	No	194
9GV1512H501	9GV1512H502	9GV1512H501	—	9GV1512P5H03	150 × 150 × 50 mm	Yes	200
9GV1512H5011	9GV1512H5021	9GV1512H5011	—	—	150 × 150 × 50 mm	No	200
9GV1512M501	9GV1512M502	9GV1512M501	—	9GV1512P5M03	150 × 150 × 50 mm	Yes	200
9GV1512M5011	9GV1512M5021	9GV1512M5011	—	9GV1512P5M011	150 × 150 × 50 mm	No	200
9GV1524M501	9GV1524M502	9GV1524M501	9GV1524M5D01	—	150 × 150 × 50 mm	Yes	200
9GV1524M5011	—	9GV1524M5011	—	—	150 × 150 × 50 mm	No	200
9GV2048P0G201	9GV2048G0202	—	—	9GV2048P0G201	∅200 × 70 mm	No	218
9GV3612G301	9GV3612G302	9GV3612G301	9GV3612G3D01	9GV3612P3G03	36 × 36 × 28 mm	Yes	16
9GV3612J301	9GV3612J302	9GV3612J301	9GV3612J3D01	9GV3612P3J03	36 × 36 × 28 mm	Yes	16
9GV5724H501	9GV5724H502	9GV5724H501	—	9GV5724P5H03	∅172 × 150 × 51 mm	No	210
9GV5748H501	9GV5748H502	9GV5748H501	—	9GV5748P5H01	∅172 × 150 × 51 mm	No	210
9GX3612P3K001	9GX3612K3002	—	—	9GX3612P3K001	36 × 36 × 28 mm	Yes	14
9HV0412P3K001	—	—	—	9HV0412P3K001	40 × 40 × 28 mm	No	42
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	125
9HV0812P1G6011	9HV0812G10021	9HV0812G10011	—	9HV0812P1G6011	80 × 80 × 38 mm	No	125
9HV0824P1G003	—	—	9HV0824G1D001	9HV0824P1G003	80 × 80 × 38 mm	Yes	125
9HV0824P1G0011	—	—	—	9HV0824P1G0011	80 × 80 × 38 mm	No	125
9HV0848P1G001	9HV0848G1002	9HV0848G1001	9HV0848G1D001	9HV0848P1G001	80 × 80 × 38 mm	Yes	125
9HV0848P1G0011	9HV0848G10021	9HV0848G10011	—	9HV0848P1G0011	80 × 80 × 38 mm	No	125
9HV0912P1G001	—	—	—	9HV0912P1G001	92 × 92 × 38 mm	Yes	153
9HV0912P1G0011	—	—	—	9HV0912P1G0011	92 × 92 × 38 mm	No	153
9HV0924P1G001	—	—	—	9HV0924P1G001	92 × 92 × 38 mm	Yes	153
9HV0924P1G0011	—	—	—	9HV0924P1G0011	92 × 92 × 38 mm	No	153
9HV0948P1G001	—	—	—	9HV0948P1G001	92 × 92 × 38 mm	Yes	153

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9HV0948P1G0011	—	—	—			
9HV0912P4G001	—	—	—	☞ 9HV0912P4G001	92 × 92 × 25 mm	Yes	137
9HV0912P4G0011	—	—	—	☞ 9HV0912P4G0011	92 × 92 × 25 mm	No	137
9HV0912P4H001	—	—	—	☞ 9HV0912P4H001	92 × 92 × 25 mm	Yes	137
9HV0912P4H0011	—	—	—	☞ 9HV0912P4H0011	92 × 92 × 25 mm	No	137
9HV0924P4G001	—	—	—	☞ 9HV0924P4G001	92 × 92 × 25 mm	Yes	137
9HV0924P4G0011	—	—	—	☞ 9HV0924P4G0011	92 × 92 × 25 mm	No	137
9HV0924P4H001	—	—	—	☞ 9HV0924P4H001	92 × 92 × 25 mm	Yes	137
9HV0924P4H0011	—	—	—	☞ 9HV0924P4H0011	92 × 92 × 25 mm	No	137
9HV1224P1A001	—	—	9HV1224A1D001	9HV1224P1A001	120 × 120 × 38 mm	No	178
9HV1248P1G001	9HV1248G1002	9HV1248G1001	9HV1248G1D001	☞ 9HV1248P1G001	120 × 120 × 38 mm	No	178
9HV1248P1H001	9HV1248H1002	9HV1248H1001	—	9HV1248P1H001	120 × 120 × 38 mm	No	178
9HV3612P3K001	—	—	—	☞ 9HV3612P3K001	36 × 36 × 28 mm	Yes	12
9HV5724P5H001	9HV5724H5002	9HV5724H5001	9HV5724H5D001	☞ 9HV5724P5H001	∅172 × 150 × 51 mm	No	205
9HV5748P5G001	—	—	—	☞ 9HV5748P5G001	∅172 × 150 × 51 mm	No	205
9HVA0412P3J001	—	—	—	☞ 9HVA0412P3J001	40 × 40 × 28 mm	Yes	37
9HVA0812P1G001	—	—	—	☞ 9HVA0812P1G001	80 × 80 × 38 mm	Yes	123
9HVA0812P1G0011	—	—	—	☞ 9HVA0812P1G0011	80 × 80 × 38 mm	No	123
9HVA0848P1G601	—	—	—	9HVA0848P1G601	80 × 80 × 38 mm	Yes	123
9HVA0848P1G6011	—	—	—	9HVA0848P1G6011	80 × 80 × 38 mm	No	123
9HVB0812P1G001	—	—	—	☞ 9HVB0812P1G001	80 × 80 × 38 mm	Yes	121
9HVB0812P1G0011	—	—	—	☞ 9HVB0812P1G0011	80 × 80 × 38 mm	No	121
9L0412H301	9L0412H302	9L0412H301	9L0412H3D01	—	40 × 40 × 28 mm	No	394
9L0412J301	9L0412J302	9L0412J301	9L0412J3D01	9L0412P3J01	40 × 40 × 28 mm	No	394
9L0412M301	9L0412M302	9L0412M301	9L0412M3D01	—	40 × 40 × 28 mm	No	394
9LG0612P4H001	9LG0612H4002	9LG0612H4001	9LG0612H4D001	☞ 9LG0612P4H001	60 × 60 × 25 mm	No	396
9LG0612P4J001	—	—	9LG0612J4D001	☞ 9LG0612P4J001	60 × 60 × 25 mm	No	396
9LG0612P4M001	—	—	9LG0612M4D001	☞ 9LG0612P4M001	60 × 60 × 25 mm	No	396
9LG0612P4S001	—	9LG0612S4001	9LG0612S4D001	☞ 9LG0612P4S001	60 × 60 × 25 mm	No	396
9LG0624P4H001	9LG0624H4002	9LG0624H4001	9LG0624H4D001	☞ 9LG0624P4H001	60 × 60 × 25 mm	No	396
9LG0624P4J001	—	—	—	☞ 9LG0624P4J001	60 × 60 × 25 mm	No	396
9LG0624P4M001	9LG0624M4002	9LG0624M4001	—	☞ 9LG0624P4M001	60 × 60 × 25 mm	No	396
9LG0624P4S001	9LG0624S4002	—	—	☞ 9LG0624P4S001	60 × 60 × 25 mm	No	396
9LG0648P4H001	—	—	—	☞ 9LG0648P4H001	60 × 60 × 25 mm	No	396
9LG0648P4J001	—	—	—	☞ 9LG0648P4J001	60 × 60 × 25 mm	No	396
9LG0648P4M001	—	—	—	☞ 9LG0648P4M001	60 × 60 × 25 mm	No	396
9LG0648P4S001	—	—	—	☞ 9LG0648P4S001	60 × 60 × 25 mm	No	396
9LG0812F4001	☞ 9LG0812F4002	☞ 9LG0812F4001	☞ 9LG0812F4D001	—	80 × 80 × 25 mm	No	405
9LG0812L4001	☞ 9LG0812L4002	☞ 9LG0812L4001	☞ 9LG0812L4D001	—	80 × 80 × 25 mm	No	405
9LG0812M4001	☞ 9LG0812M4002	☞ 9LG0812M4001	☞ 9LG0812M4D001	—	80 × 80 × 25 mm	No	405
9LG0812P4G001	—	9LG0812G4001	9LG0812G4D001	☞ 9LG0812P4G001	80 × 80 × 25 mm	No	405
9LG0812P4H001	☞ 9LG0812H4002	☞ 9LG0812H4001	☞ 9LG0812H4D001	☞ 9LG0812P4H001	80 × 80 × 25 mm	No	405
9LG0812P4J001	9LG0812J4002	—	9LG0812J4D001	☞ 9LG0812P4J001	80 × 80 × 25 mm	No	405
9LG0812S4001	☞ 9LG0812S4002	☞ 9LG0812S4001	☞ 9LG0812S4D001	—	80 × 80 × 25 mm	No	405
9LG0824F4001	☞ 9LG0824F4002	☞ 9LG0824F4001	☞ 9LG0824F4D001	—	80 × 80 × 25 mm	No	405
9LG0824L4001	☞ 9LG0824L4002	☞ 9LG0824L4001	☞ 9LG0824L4D001	—	80 × 80 × 25 mm	No	405
9LG0824M4001	☞ 9LG0824M4002	☞ 9LG0824M4001	☞ 9LG0824M4D001	—	80 × 80 × 25 mm	No	405
9LG0824P4G001	9LG0824G4002	9LG0824G4001	9LG0824G4D001	☞ 9LG0824P4G001	80 × 80 × 25 mm	No	405
9LG0824P4H001	☞ 9LG0824H4002	☞ 9LG0824H4001	☞ 9LG0824H4D001	☞ 9LG0824P4H001	80 × 80 × 25 mm	No	405
9LG0824P4J001	—	—	9LG0824J4D001	☞ 9LG0824P4J001	80 × 80 × 25 mm	No	405
9LG0824S4001	☞ 9LG0824S4002	☞ 9LG0824S4001	☞ 9LG0824S4D001	—	80 × 80 × 25 mm	No	405
9LG0912F4001	☞ 9LG0912F4002	☞ 9LG0912F4001	☞ 9LG0912F4D001	—	92 × 92 × 25 mm	No	412
9LG0912L4001	☞ 9LG0912L4002	☞ 9LG0912L4001	☞ 9LG0912L4D001	—	92 × 92 × 25 mm	No	412
9LG0912M4001	☞ 9LG0912M4002	☞ 9LG0912M4001	☞ 9LG0912M4D001	—	92 × 92 × 25 mm	No	412
9LG0912P1F001	—	—	—	☞ 9LG0912P1F001	92 × 92 × 38 mm	No	417
9LG0912P1H001	—	—	9LG0912H1D001	☞ 9LG0912P1H001	92 × 92 × 38 mm	No	417
9LG0912P4G001	9LG0912G4002	—	—	☞ 9LG0912P4G001	92 × 92 × 25 mm	No	412
9LG0912P4H001	☞ 9LG0912H4002	☞ 9LG0912H4001	☞ 9LG0912H4D001	☞ 9LG0912P4H001	92 × 92 × 25 mm	No	412
9LG0912P4J001	—	—	9LG0912J4D001	☞ 9LG0912P4J001	92 × 92 × 25 mm	No	412
9LG0912P4S001	☞ 9LG0912S4002	☞ 9LG0912S4001	☞ 9LG0912S4D001	☞ 9LG0912P4S001	92 × 92 × 25 mm	No	412
9LG0924F4001	☞ 9LG0924F4002	☞ 9LG0924F4001	☞ 9LG0924F4D001	—	92 × 92 × 25 mm	No	412


Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The ☞ mark indicates Short Lead Time Service applicable models. See p. 654 for details.



Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9LG0924L4001	9LG0924L4002	9LG0924L4001	9LG0924L4D001			
9LG0924M4001	9LG0924M4002	9LG0924M4001	9LG0924M4D001	—	92 × 92 × 25 mm	No	412
9LG0924P1F001	—	—	—	9LG0924P1F001	92 × 92 × 38 mm	No	417
9LG0924P1H001	—	—	—	9LG0924P1H001	92 × 92 × 38 mm	No	417
9LG0924P4G001	—	—	—	9LG0924P4G001	92 × 92 × 25 mm	No	412
9LG0924P4H001	9LG0924H4002	9LG0924H4001	9LG0924H4D001	9LG0924P4H001	92 × 92 × 25 mm	No	412
9LG0924P4J001	—	—	9LG0924J4D001	9LG0924P4J001	92 × 92 × 25 mm	No	412
9LG0924P4S001	—	—	9LG0924S4D001	9LG0924P4S001	92 × 92 × 25 mm	No	412
9LG1212F1001	9LG1212F1002	9LG1212F1001	9LG1212F1D001	—	120 × 120 × 38 mm	No	420
9LG1212M1001	9LG1212M1002	9LG1212M1001	9LG1212M1D001	—	120 × 120 × 38 mm	No	420
9LG1212P1G001	—	—	—	9LG1212P1G001	120 × 120 × 38 mm	No	420
9LG1212P1H001	—	—	9LG1212H1D001	9LG1212P1H001	120 × 120 × 38 mm	No	420
9LG1212P1S001	—	—	—	9LG1212P1S001	120 × 120 × 38 mm	No	420
9LG1224A1001	9LG1224A1002	9LG1224A1001	9LG1224A1D001	—	120 × 120 × 38 mm	No	420
9LG1224F1001	9LG1224F1002	9LG1224F1001	9LG1224F1D001	—	120 × 120 × 38 mm	No	420
9LG1224M1001	9LG1224M1002	9LG1224M1001	9LG1224M1D001	—	120 × 120 × 38 mm	No	420
9LG1224P1G001	—	—	9LG1224G1D001	9LG1224P1G001	120 × 120 × 38 mm	No	420
9LG1224P1H001	—	9LG1224H1001	9LG1224H1D001	9LG1224P1H001	120 × 120 × 38 mm	No	420
9LG1224P1S001	—	9LG1224S1001	9LG1224S1D001	9LG1224P1S001	120 × 120 × 38 mm	No	420
9LG1248F1001	9LG1248F1002	9LG1248F1001	9LG1248F1D001	—	120 × 120 × 38 mm	No	420
9LG1248M1001	9LG1248M1002	9LG1248M1001	9LG1248M1D001	—	120 × 120 × 38 mm	No	420
9LG1248P1G001	9LG1248G1002	—	—	9LG1248P1G001	120 × 120 × 38 mm	No	420
9LG1248P1H001	—	—	—	9LG1248P1H001	120 × 120 × 38 mm	No	420
9LG1248P1S001	—	—	—	9LG1248P1S001	120 × 120 × 38 mm	No	420
9LG1412A5001	9LG1412A5002	9LG1412A5001	9LG1412A5D001	—	140 × 140 × 51 mm	No	433
9LG1412H5001	9LG1412H5002	9LG1412H5001	9LG1412H5D001	—	140 × 140 × 51 mm	No	433
9LG1412L1001	9LG1412L1002	9LG1412L1001	—	—	140 × 140 × 38 mm	No	428
9LG1412M5001	9LG1412M5002	9LG1412M5001	9LG1412M5D001	—	140 × 140 × 51 mm	No	433
9LG1412P1A001	—	—	—	9LG1412P1A001	140 × 140 × 38 mm	No	428
9LG1412P1H001	—	—	—	9LG1412P1H001	140 × 140 × 38 mm	No	428
9LG1412P1M001	9LG1412M1002	9LG1412M1001	9LG1412M1D001	9LG1412P1M001	140 × 140 × 38 mm	No	428
9LG1412P5G001	—	—	—	9LG1412P5G001	140 × 140 × 51 mm	No	433
9LG1412P5S001	9LG1412S5001	—	—	9LG1412P5S001	140 × 140 × 51 mm	No	433
9LG1424A5001	9LG1424A5002	9LG1424A5001	9LG1424A5D001	—	140 × 140 × 51 mm	No	433
9LG1424H5001	9LG1424H5002	9LG1424H5001	9LG1424H5D001	—	140 × 140 × 51 mm	No	433
9LG1424L1001	9LG1424L1002	9LG1424L1001	9LG1424L1D001	—	140 × 140 × 38 mm	No	428
9LG1424M5001	9LG1424M5002	9LG1424M5001	9LG1424M5D001	—	140 × 140 × 51 mm	No	433
9LG1424P1A001	—	—	—	9LG1424P1A001	140 × 140 × 38 mm	No	428
9LG1424P1H001	—	—	—	9LG1424P1H001	140 × 140 × 38 mm	No	428
9LG1424P1M001	9LG1424M1002	9LG1424M1001	9LG1424M1D001	9LG1424P1M001	140 × 140 × 38 mm	No	428
9LG1424P5G001	—	—	—	9LG1424P5G001	140 × 140 × 51 mm	No	433
9LG1424P5S001	9LG1424S5002	9LG1424S5001	9LG1424S5D001	9LG1424P5S001	140 × 140 × 51 mm	No	433
9LG1448A5001	9LG1448A5002	9LG1448A5001	9LG1448A5D001	—	140 × 140 × 51 mm	No	433
9LG1448H5001	9LG1448H5002	9LG1448H5001	9LG1448H5D001	—	140 × 140 × 51 mm	No	433
9LG1448L1001	9LG1448L1002	9LG1448L1001	9LG1448L1D001	—	140 × 140 × 38 mm	No	428
9LG1448M5001	9LG1448M5002	9LG1448M5001	9LG1448M5D001	—	140 × 140 × 51 mm	No	433
9LG1448P1A001	—	—	—	9LG1448P1A001	140 × 140 × 38 mm	No	428
9LG1448P1H001	—	—	—	9LG1448P1H001	140 × 140 × 38 mm	No	428
9LG1448P1M001	9LG1448M1002	9LG1448M1001	9LG1448M1D001	9LG1448P1M001	140 × 140 × 38 mm	No	428
9LG1448P5G001	—	—	—	9LG1448P5G001	140 × 140 × 51 mm	No	433
9LG1448P5S001	—	—	—	9LG1448P5S001	140 × 140 × 51 mm	No	433
9RF0912P1H001	—	—	—	9RF0912P1H001	92 × 38 mm	No	264
9RF0924P1H001	—	—	—	9RF0924P1H001	92 × 38 mm	No	264
9RF1312P3H001	—	—	—	9RF1312P3H001	136 × 28 mm	No	267
9RF1324P3H001	—	—	—	9RF1324P3H001	136 × 28 mm	No	267
9S0612F401	9S0612F402	9S0612F401	9S0612F4D01	9S0612P4F01	60 × 60 × 25 mm	Yes	78
9S0612F4011	9S0612F4021	9S0612F4011	9S0612F4D011	9S0612P4F011	60 × 60 × 25 mm	No	78
9S0612H401	9S0612H402	9S0612H401	9S0612H4D01	9S0612P4H01	60 × 60 × 25 mm	Yes	78
9S0612H4011	9S0612H4021	9S0612H4011	9S0612H4D011	9S0612P4H011	60 × 60 × 25 mm	No	78
9S0612M401	9S0612M402	9S0612M401	9S0612M4D01	9S0612P4M01	60 × 60 × 25 mm	Yes	78
9S0612M4011	9S0612M4021	9S0612M4011	9S0612M4D011	—	60 × 60 × 25 mm	No	78

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Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9S0612S401	9S0612S402	➤ 9S0612S401	9S0612S4D01			
9S0612S4011	—	9S0612S4011	—	9S0612P4S011	60 × 60 × 25 mm	No	78
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	145
9S0912F4011	9S0912F4021	9S0912F4011	9S0912F4D011	9S0912P4F011	92 × 92 × 25 mm	No	145
9S0912L401	9S0912L402	➤ 9S0912L401	9S0912L4D01	—	92 × 92 × 25 mm	Yes	145
9S0912L4011	9S0912L4021	9S0912L4011	9S0912L4D011	—	92 × 92 × 25 mm	No	145
9S0912M401	9S0912M402	➤ 9S0912M401	9S0912M4D01	9S0912P4M01	92 × 92 × 25 mm	Yes	145
9S0912M4011	9S0912M4021	9S0912M4011	9S0912M4D011	9S0912P4M011	92 × 92 × 25 mm	No	145
9S0924F401	9S0924F402	➤ 9S0924F401	9S0924F4D01	—	92 × 92 × 25 mm	Yes	145
9S0924F4011	9S0924F4021	9S0924F4011	—	—	92 × 92 × 25 mm	No	145
9S0924L401	9S0924L402	➤ 9S0924L401	9S0924L4D01	—	92 × 92 × 25 mm	Yes	145
9S0924L4011	9S0924L4021	9S0924L4011	—	—	92 × 92 × 25 mm	No	145
9S0924M401	9S0924M402	➤ 9S0924M401	9S0924M4D01	—	92 × 92 × 25 mm	Yes	145
9S0924M4011	9S0924M4021	9S0924M4011	—	—	92 × 92 × 25 mm	No	145
9S1212F401	9S1212F402	➤ 9S1212F401	9S1212F4D01	9S1212P4F01	120 × 120 × 25 mm	Yes	176
9S1212F4011	9S1212F4021	9S1212F4011	9S1212F4D011	9S1212P4F011	120 × 120 × 25 mm	No	176
9S1212H401	9S1212H402	➤ 9S1212H401	9S1212H4D01	➤ 9S1212P4H01	120 × 120 × 25 mm	Yes	176
9S1212H4011	9S1212H4021	9S1212H4011	—	9S1212P4H011	120 × 120 × 25 mm	No	176
9S1212L401	9S1212L402	➤ 9S1212L401	9S1212L4D01	—	120 × 120 × 25 mm	Yes	176
9S1212L4011	9S1212L4021	9S1212L4011	9S1212L4D011	9S1212P4L011	120 × 120 × 25 mm	No	176
9S1212M401	9S1212M402	➤ 9S1212M401	9S1212M4D01	9S1212P4M01	120 × 120 × 25 mm	Yes	176
9S1212M4011	9S1212M4021	9S1212M4011	9S1212M4D011	9S1212P4M011	120 × 120 × 25 mm	No	176
9S1224M401	➤ 9S1224M402	➤ 9S1224M401	9S1224M4D01	—	120 × 120 × 25 mm	Yes	176
9S1224M4011	9S1224M4021	9S1224M4011	9S1224M4D011	—	120 × 120 × 25 mm	No	176
9SG1212G101	➤ 9SG1212G102	➤ 9SG1212G101	9SG1212G1D01	➤ 9SG1212P1G01	120 × 120 × 38 mm	No	184
9SG1224G101	➤ 9SG1224G102	➤ 9SG1224G101	➤ 9SG1224G1D01	➤ 9SG1224P1G01	120 × 120 × 38 mm	No	184
9SG1224H101	9SG1224H102	9SG1224H101	9SG1224H1D01	—	120 × 120 × 38 mm	No	184
9SG1248G101	9SG1248G102	➤ 9SG1248G101	—	➤ 9SG1248P1G01	120 × 120 × 38 mm	No	184
9SG5724P5H61	9SG5724H562	—	—	➤ 9SG5724P5H61	∅172 × 150 × 51 mm	No	207
9SG5748P5G01	—	—	—	➤ 9SG5748P5G01	∅172 × 150 × 51 mm	No	207
9SG5748P5H01	—	—	—	➤ 9SG5748P5H01	∅172 × 150 × 51 mm	No	207
9TD12P6G001	—	—	—	9TD12P6G001	∅70 × 20 mm	No	464
9TG24P0G01	9TG24G002	9TG24G001	—	9TG24P0G01	∅175 × 69 mm	—	476
9TG24P0S01	9TG24S002	9TG24S001	—	9TG24P0S01	∅175 × 69 mm	—	476
9TG48P0G01	—	—	—	9TG48P0G01	∅175 × 69 mm	—	476
9TGA24P0H001	—	—	—	9TGA24P0H001	∅175 × 69 mm	—	473
9TGA48P0G001	—	—	—	9TGA48P0G001	∅175 × 69 mm	—	473
9TJ24P0H61	—	—	—	9TJ24P0H61	∅133 × 91 mm	—	469
9TJ48P0H01	—	—	—	9TJ48P0H01	∅133 × 91 mm	—	469
9TM24P4H01	—	—	—	9TM24P4H01	∅100 × 25 mm	—	466
9TM48P4H01	9TM48H402	—	—	9TM48P4H01	∅100 × 25 mm	—	466
9TN24P1H01	—	—	—	9TN24P1H01	∅150 × 35 mm	—	471
9TN48P1H01	—	—	—	9TN48P1H01	∅150 × 35 mm	—	471
9TP24P0H001	—	—	—	9TP24P0H001	∅221 × 71 mm	—	479
9TP48P0G001	9TP48G0002	—	—	9TP48P0G001	∅221 × 71 mm	—	479
9TP48P0H001	—	—	—	9TP48P0H001	∅221 × 71 mm	—	479
9TS48P0G001	—	—	—	9TS48P0G001	∅225 × 99 mm	—	482
9TS48P0H001	—	—	—	9TS48P0H001	∅225 × 99 mm	—	482
9W1BM12P2H001	—	—	—	9W1BM12P2H001	97 × 33 mm	—	360

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The ➤ mark indicates Short Lead Time Service applicable models. See p. 654 for details.


Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "-" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9W1BM12P2M001	—	—	—			
9W1BM24P2H001	—	—	—	9W1BM24P2H001	97 × 33 mm	—	360
9W1BM24P2M001	—	—	—	9W1BM24P2M001	97 × 33 mm	—	360
9W1TG48P0H61	—	—	—	9W1TG48P0H61	∅175 × 69 mm	—	346
9W1TJ24P0H61	—	—	—	9W1TJ24P0H61	∅133 × 91 mm	—	337
9W1TJ48P0H61	—	—	—	9W1TJ48P0H61	∅133 × 91 mm	—	337
9W1TM48P4G01	—	—	—	9W1TM48P4G01	∅100 × 25 mm	—	334
9W1TM48P4H01	—	—	—	9W1TM48P4H01	∅100 × 25 mm	—	334
9W1TN48P1H01	—	—	—	9W1TN48P1H01	∅150 × 35 mm	—	342
9W2TGA48P0G001	—	—	—	9W2TGA48P0G001	∅175 × 69 mm	—	344
9W2TN24P1H001	—	—	—	9W2TN24P1H001	∅150 × 35 mm	—	339
9W2TN48P1H001	—	—	—	9W2TN48P1H001	∅150 × 35 mm	—	339
9W2TP24P0H001	—	—	—	9W2TP24P0H001	∅221 × 71 mm	—	348
9W2TP48P0S001	—	—	—	9W2TP48P0S001	∅221 × 71 mm	—	348
9W2TS48P0S001	—	—	—	9W2TS48P0S001	∅225 × 99 mm	—	351
9WE1724K501	9WE1724K502	9WE1724K501	—	—	∅172 × 51 mm	No	330
9WE5724K501	9WE5724K502	9WE5724K501	—	—	∅172 × 150 × 51 mm	No	328
9WE5748K501	9WE5748K502	9WE5748K501	9WE5748K5D01	9WE5748P5K01	∅172 × 150 × 51 mm	No	328
9WF0424F601	9WF0424F602	9WF0424F601	9WF0424F6D01	—	40 × 40 × 20 mm	Yes	368
9WF0424H601	9WF0424H602	9WF0424H601	9WF0424H6D01	—	40 × 40 × 20 mm	Yes	368
9WF0424H701	9WF0424H702	9WF0424H701	9WF0424H7D01	—	40 × 40 × 15 mm	Yes	364
9WF0624H401	9WF0624H402	9WF0624H401	9WF0624H4D01	—	60 × 60 × 25 mm	Yes	376
9WF0624H601	—	9WF0624H601	9WF0624H6D01	—	60 × 60 × 20 mm	Yes	374
9WF0624H701	9WF0624H702	9WF0624H701	9WF0624H7D01	—	60 × 60 × 15 mm	Yes	370
9WF0824S401	9WF0824S402	9WF0824S401	9WF0824S4D01	—	80 × 80 × 25 mm	Yes	380
9WF0924H201	9WF0924H202	9WF0924H201	9WF0924H2D01	—	92 × 92 × 32 mm	Yes	388
9WF0924H2011	—	9WF0924H2011	—	—	92 × 92 × 32 mm	No	388
9WF0924H401	9WF0924H402	9WF0924H401	9WF0924H4D01	—	92 × 92 × 25 mm	Yes	384
9WF0924H4011	—	9WF0924H4011	9WF0924H4D011	—	92 × 92 × 25 mm	No	384
9WF0924S201	9WF0924S202	9WF0924S201	9WF0924S2D01	—	92 × 92 × 32 mm	Yes	388
9WF0924S2011	—	9WF0924S2011	—	—	92 × 92 × 32 mm	No	388
9WF1224H101	9WF1224H102	9WF1224H101	9WF1224H1D01	—	120 × 120 × 38 mm	Yes	390
9WFA0424G6001	9WFA0424G6002	9WFA0424G6001	9WFA0424G6D001	9WFA0424P6G001	40 × 40 × 20 mm	Yes	366
9WFA0624G6001	9WFA0624G6002	9WFA0624G6001	9WFA0624G6D001	9WFA0624P6G001	60 × 60 × 20 mm	Yes	372
9WFA0824G6001	9WFA0824G6002	9WFA0824G6001	9WFA0824G6D001	9WFA0824P6G001	80 × 80 × 20 mm	Yes	378
9WFA0924G2001	9WFA0924G2002	9WFA0924G2001	9WFA0924G2D001	9WFA0924P2G001	92 × 92 × 32 mm	Yes	386
9WFA0924G4001	—	9WFA0924G4001	—	9WFA0924P4G001	92 × 92 × 25 mm	Yes	382
9WFA0924G40011	—	9WFA0924G40011	—	9WFA0924P4G0011	92 × 92 × 25 mm	No	382
9WFA0924H4001	—	9WFA0924H4001	—	9WFA0924P4H001	92 × 92 × 25 mm	Yes	382
9WFA0924H40011	—	9WFA0924H40011	—	9WFA0924P4H0011	92 × 92 × 25 mm	No	382
9WG1212E101-E	9WG1212E102-E	9WG1212E101-E	9WG1212E1D01-E	—	120 × 120 × 38 mm	No	310
9WG1212F101-E	9WG1212F102-E	9WG1212F101-E	9WG1212F1D01-E	—	120 × 120 × 38 mm	No	310
9WG1212G101-E	9WG1212G102-E	9WG1212G101-E	9WG1212G1D01-E	—	120 × 120 × 38 mm	No	310
9WG1212H101-E	9WG1212H102-E	9WG1212H101-E	9WG1212H1D01-E	—	120 × 120 × 38 mm	No	310
9WG1212M101-E	9WG1212M102-E	9WG1212M101-E	9WG1212M1D01-E	—	120 × 120 × 38 mm	No	310
9WG1224E101-E	9WG1224E102-E	9WG1224E101-E	9WG1224E1D01-E	—	120 × 120 × 38 mm	No	310
9WG1224F101-E	9WG1224F102-E	9WG1224F101-E	9WG1224F1D01-E	—	120 × 120 × 38 mm	No	310
9WG1224G101-E	9WG1224G102-E	9WG1224G101-E	9WG1224G1D01-E	—	120 × 120 × 38 mm	No	310
9WG1224H101-E	9WG1224H102-E	9WG1224H101-E	9WG1224H1D01-E	—	120 × 120 × 38 mm	No	310
9WG1224M101-E	9WG1224M102-E	9WG1224M101-E	9WG1224M1D01-E	—	120 × 120 × 38 mm	No	310
9WG1248E101-E	9WG1248E102-E	9WG1248E101-E	9WG1248E1D01-E	—	120 × 120 × 38 mm	No	310
9WG1248F101-E	9WG1248F102-E	9WG1248F101-E	9WG1248F1D01-E	—	120 × 120 × 38 mm	No	310
9WG1248G101-E	9WG1248G102-E	9WG1248G101-E	9WG1248G1D01-E	—	120 × 120 × 38 mm	No	310
9WG1248H101-E	9WG1248H102-E	9WG1248H101-E	9WG1248H1D01-E	—	120 × 120 × 38 mm	No	310
9WG1248M101-E	9WG1248M102-E	9WG1248M101-E	9WG1248M1D01-E	—	120 × 120 × 38 mm	No	310
9WG5748P5G001	9WG5748G5002	—	—	9WG5748P5G001	∅172 × 150 × 51 mm	No	326
9WG5748P5H001	9WG5748H5002	9WG5748H5001	9WG5748H5D001	9WG5748P5H001	∅172 × 150 × 51 mm	No	326
9WL0412P3G001	9WL0412G3002	9WL0412G3001	9WL0412G3D001	9WL0412P3G001	40 × 40 × 28 mm	No	272
9WL0412P3J001	9WL0412J3002	9WL0412J3001	—	9WL0412P3J001	40 × 40 × 28 mm	No	272
9WL0424P3G001	9WL0424G3002	9WL0424G3001	—	9WL0424P3G001	40 × 40 × 28 mm	No	272
9WL0424P3J001	9WL0424J3002	9WL0424J3001	—	9WL0424P3J001	40 × 40 × 28 mm	No	272

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.


Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9WL0612P4H001	9WL0612H4002	—	—			
9WL0612P4J001	9WL0612J4002	—	9WL0612J4D001	9WL0612P4J001	60 × 60 × 25 mm	No	277
9WL0612P4S001	9WL0612S4002	—	9WL0612S4D001	9WL0612P4S001	60 × 60 × 25 mm	No	277
9WL0624P4H001	—	9WL0624H4001	—	9WL0624P4H001	60 × 60 × 25 mm	No	277
9WL0624P4J001	—	—	9WL0624J4D001	9WL0624P4J001	60 × 60 × 25 mm	No	277
9WL0624P4S001	9WL0624S4002	9WL0624S4001	—	9WL0624P4S001	60 × 60 × 25 mm	No	277
9WL0812L4001	9WL0812L4002	9WL0812L4001	—	—	80 × 80 × 25 mm	No	285
9WL0812P4G001	—	—	9WL0812G4D001	9WL0812P4G001	80 × 80 × 25 mm	No	285
9WL0812P4H001	9WL0812H4002	9WL0812H4001	9WL0812H4D001	9WL0812P4H001	80 × 80 × 25 mm	No	285
9WL0812P4J001	—	—	—	9WL0812P4J001	80 × 80 × 25 mm	No	285
9WL0824F4001	9WL0824F4002	9WL0824F4001	—	—	80 × 80 × 25 mm	No	285
9WL0824L4001	9WL0824L4002	9WL0824L4001	—	—	80 × 80 × 25 mm	No	285
9WL0824P4G001	—	—	—	9WL0824P4G001	80 × 80 × 25 mm	No	285
9WL0824P4H001	9WL0824H4002	9WL0824H4001	9WL0824H4D001	9WL0824P4H001	80 × 80 × 25 mm	No	285
9WL0824P4J001	9WL0824J4002	—	—	9WL0824P4J001	80 × 80 × 25 mm	No	285
9WL0912M4001	9WL0912M4002	9WL0912M4001	—	—	92 × 92 × 25 mm	No	295
9WL0912P1F001	—	—	—	9WL0912P1F001	92 × 92 × 38 mm	No	302
9WL0912P1H001	—	—	—	9WL0912P1H001	92 × 92 × 38 mm	No	302
9WL0912P4G001	—	—	—	9WL0912P4G001	92 × 92 × 25 mm	No	295
9WL0912P4H001	9WL0912H4002	9WL0912H4001	9WL0912H4D001	9WL0912P4H001	92 × 92 × 25 mm	No	295
9WL0912P4J001	9WL0912J4002	—	—	9WL0912P4J001	92 × 92 × 25 mm	No	295
9WL0912P4S001	—	—	—	9WL0912P4S001	92 × 92 × 25 mm	No	295
9WL0924F4001	9WL0924F4002	9WL0924F4001	—	—	92 × 92 × 25 mm	No	295
9WL0924M4001	9WL0924M4002	9WL0924M4001	9WL0924M4D001	—	92 × 92 × 25 mm	No	295
9WL0924P1F001	9WL0924F1002	—	—	9WL0924P1F001	92 × 92 × 38 mm	No	302
9WL0924P1H001	—	—	—	9WL0924P1H001	92 × 92 × 38 mm	No	302
9WL0924P4H001	9WL0924H4002	9WL0924H4001	9WL0924H4D001	9WL0924P4H001	92 × 92 × 25 mm	No	295
9WL0924P4J001	—	—	—	9WL0924P4J001	92 × 92 × 25 mm	No	295
9WL0924P4S001	—	—	—	9WL0924P4S001	92 × 92 × 25 mm	No	295
9WL0948P1F601	—	—	—	9WL0948P1F601	92 × 92 × 38 mm	No	302
9WL0948P1H601	—	—	—	9WL0948P1H601	92 × 92 × 38 mm	No	302
9WL1412P1A001	—	—	—	9WL1412P1A001	140 × 140 × 38 mm	No	316
9WL1412P1H001	—	—	—	9WL1412P1H001	140 × 140 × 38 mm	No	316
9WL1412P1M001	9WL1412M1002	9WL1412M1001	9WL1412M1D001	9WL1412P1M001	140 × 140 × 38 mm	No	316
9WL1412A5001	9WL1412A5002	9WL1412A5001	9WL1412A5D001	—	140 × 140 × 51 mm	No	321
9WL1412H5001	9WL1412H5002	9WL1412H5001	9WL1412H5D001	—	140 × 140 × 51 mm	No	321
9WL1412M5001	9WL1412M5002	9WL1412M5001	9WL1412M5D001	—	140 × 140 × 51 mm	No	321
9WL1412P5G001	—	—	9WL1412G5D001	9WL1412P5G001	140 × 140 × 51 mm	No	321
9WL1412P5S001	—	—	—	9WL1412P5S001	140 × 140 × 51 mm	No	321
9WL1424P1A001	—	—	—	9WL1424P1A001	140 × 140 × 38 mm	No	316
9WL1424P1H001	—	—	—	9WL1424P1H001	140 × 140 × 38 mm	No	316
9WL1424P1M001	9WL1424M1002	9WL1424M1001	9WL1424M1D001	9WL1424P1M001	140 × 140 × 38 mm	No	316
9WL1424A5001	9WL1424A5002	9WL1424A5001	9WL1424A5D001	—	140 × 140 × 51 mm	No	321
9WL1424H5001	9WL1424H5002	9WL1424H5001	9WL1424H5D001	—	140 × 140 × 51 mm	No	321
9WL1424M5001	9WL1424M5002	9WL1424M5001	9WL1424M5D001	—	140 × 140 × 51 mm	No	321
9WL1424P5G001	—	9WL1424G5001	—	9WL1424P5G001	140 × 140 × 51 mm	No	321
9WL1424P5S001	—	—	—	9WL1424P5S001	140 × 140 × 51 mm	No	321
9WL1448A5001	9WL1448A5002	9WL1448A5001	9WL1448A5D001	—	140 × 140 × 51 mm	No	321
9WL1448H5001	9WL1448H5002	9WL1448H5001	9WL1448H5D001	—	140 × 140 × 51 mm	No	321
9WL1448L1001	9WL1448L1002	9WL1448L1001	9WL1448L1D001	—	140 × 140 × 38 mm	No	316
9WL1448M5001	9WL1448M5002	9WL1448M5001	9WL1448M5D001	—	140 × 140 × 51 mm	No	321
9WL1448P1A001	—	—	—	9WL1448P1A001	140 × 140 × 38 mm	No	316
9WL1448P1H001	—	—	—	9WL1448P1H001	140 × 140 × 38 mm	No	316
9WL1448P1M001	9WL1448M1002	9WL1448M1001	9WL1448M1D001	9WL1448P1M001	140 × 140 × 38 mm	No	316
9WL1448P5G001	—	—	—	9WL1448P5G001	140 × 140 × 51 mm	No	321
9WL1448P5S001	—	—	—	9WL1448P5S001	140 × 140 × 51 mm	No	321
9WP0412F6001	9WP0412F6002	9WP0412F6001	9WP0412F6D001	—	40 × 40 × 20 mm	Yes	270
9WP0412H6001	9WP0412H6002	9WP0412H6001	—	—	40 × 40 × 20 mm	Yes	270
9WP0612D401	9WP0612D402	9WP0612D401	9WP0612D4D01	—	60 × 60 × 25 mm	Yes	280
9WP0612D4011	—	9WP0612D4011	9WP0612D4D011	—	60 × 60 × 25 mm	No	280
9WP0612G401	9WP0612G402	9WP0612G401	9WP0612G4D01	9WP0612P4G01	60 × 60 × 25 mm	Yes	280

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9WP0612G4011	9WP0612G4021	9WP0612G4011	—			
9WP0612H401	9WP0612H402	9WP0612H401	9WP0612H4D01	—	60 × 60 × 25 mm	Yes	280
9WP0612H4011	9WP0612H4021	9WP0612H4011	9WP0612H4D011	—	60 × 60 × 25 mm	No	280
9WP0624G401	9WP0624G402	9WP0624G401	9WP0624G4D01	—	60 × 60 × 25 mm	Yes	280
9WP0624G4011	—	9WP0624G4011	—	—	60 × 60 × 25 mm	No	280
9WP0624H401	9WP0624H402	9WP0624H401	9WP0624H4D01	—	60 × 60 × 25 mm	Yes	280
9WP0624H4011	9WP0624H4021	9WP0624H4011	9WP0624H4D011	—	60 × 60 × 25 mm	No	280
9WP0624J401	9WP0624J402	9WP0624J401	—	—	60 × 60 × 25 mm	Yes	280
9WP0624J4011	—	9WP0624J4011	—	—	60 × 60 × 25 mm	No	280
9WP0648H401	9WP0648H402	9WP0648H401	9WP0648H4D01	—	60 × 60 × 25 mm	Yes	280
9WP0648H4011	9WP0648H4021	9WP0648H4011	9WP0648H4D011	—	60 × 60 × 25 mm	No	280
9WP0812G401	9WP0812G402	9WP0812G401	9WP0812G4D01	9WP0812P4G01	80 × 80 × 25 mm	Yes	289
9WP0812G4011	9WP0812G4021	9WP0812G4011	9WP0812G4D011	—	80 × 80 × 25 mm	No	289
9WP0812H401	9WP0812H402	9WP0812H401	9WP0812H4D01	—	80 × 80 × 25 mm	Yes	289
9WP0812H4011	9WP0812H4021	9WP0812H4011	9WP0812H4D011	—	80 × 80 × 25 mm	No	289
9WP0824H401	9WP0824H402	9WP0824H401	9WP0824H4D01	—	80 × 80 × 25 mm	Yes	289
9WP0824H4011	9WP0824H4021	9WP0824H4011	9WP0824H4D011	—	80 × 80 × 25 mm	No	289
9WP0824S401	9WP0824S402	9WP0824S401	9WP0824S4D01	—	80 × 80 × 25 mm	Yes	289
9WP0824S4011	9WP0824S4021	9WP0824S4011	—	—	80 × 80 × 25 mm	No	289
9WP0848S401	9WP0848S402	9WP0848S401	9WP0848S4D01	—	80 × 80 × 25 mm	Yes	289
9WP0848S4011	9WP0848S4021	9WP0848S4011	9WP0848S4D011	—	80 × 80 × 25 mm	No	289
9WP0912F401	9WP0912F402	9WP0912F401	9WP0912F4D01	—	92 × 92 × 25 mm	Yes	299
9WP0912F4011	—	9WP0912F4011	9WP0912F4D011	—	92 × 92 × 25 mm	No	299
9WP0912S401	9WP0912S402	9WP0912S401	9WP0912S4D01	—	92 × 92 × 25 mm	Yes	299
9WP0912S4011	—	9WP0912S4011	—	—	92 × 92 × 25 mm	No	299
9WP0924B401	9WP0924B402	9WP0924B401	9WP0924B4D01	—	92 × 92 × 25 mm	Yes	299
9WP0924B4011	9WP0924B4021	9WP0924B4011	9WP0924B4D011	—	92 × 92 × 25 mm	No	299
9WP0924F401	9WP0924F402	9WP0924F401	9WP0924F4D01	—	92 × 92 × 25 mm	Yes	299
9WP0924F4011	9WP0924F4021	9WP0924F4011	9WP0924F4D011	—	92 × 92 × 25 mm	No	299
9WP0924G401	9WP0924G402	9WP0924G401	9WP0924G4D01	—	92 × 92 × 25 mm	Yes	299
9WP0924G4011	—	9WP0924G4011	—	—	92 × 92 × 25 mm	No	299
9WP0924H401	9WP0924H402	9WP0924H401	9WP0924H4D01	—	92 × 92 × 25 mm	Yes	299
9WP0924H4011	—	9WP0924H4011	—	—	92 × 92 × 25 mm	No	299
9WP0924S401	9WP0924S402	9WP0924S401	9WP0924S4D01	—	92 × 92 × 25 mm	Yes	299
9WP0924S4011	—	9WP0924S4011	—	—	92 × 92 × 25 mm	No	299
9WP1212H101	9WP1212H102	9WP1212H101	9WP1212H1D01	—	120 × 120 × 38 mm	Yes	313
9WP1212H1011	9WP1212H1021	9WP1212H1011	9WP1212H1D011	—	120 × 120 × 38 mm	No	313
9WP1212L101	9WP1212L102	9WP1212L101	—	—	120 × 120 × 38 mm	Yes	313
9WP1212L1011	—	9WP1212L1011	—	—	120 × 120 × 38 mm	No	313
9WP1212M101	9WP1212M102	9WP1212M101	—	—	120 × 120 × 38 mm	Yes	313
9WP1212M1011	9WP1212M1021	9WP1212M1011	—	—	120 × 120 × 38 mm	No	313
9WP1224H101	9WP1224H102	9WP1224H101	9WP1224H1D01	—	120 × 120 × 38 mm	Yes	313
9WP1224H1011	9WP1224H1021	9WP1224H1011	9WP1224H1D011	—	120 × 120 × 38 mm	No	313
9WP1224M101	9WP1224M102	9WP1224M101	—	—	120 × 120 × 38 mm	Yes	313
9WP1224M1011	9WP1224M1021	9WP1224M1011	—	—	120 × 120 × 38 mm	No	313
9WP1248H101	9WP1248H102	9WP1248H101	9WP1248H1D01	—	120 × 120 × 38 mm	Yes	313
9WP1248H1011	9WP1248H1021	9WP1248H1011	9WP1248H1D011	—	120 × 120 × 38 mm	No	313
9WP1248M101	9WP1248M102	9WP1248M101	9WP1248M1D01	—	120 × 120 × 38 mm	Yes	313
9WP1248M1011	9WP1248M1021	9WP1248M1011	9WP1248M1D011	—	120 × 120 × 38 mm	No	313
9WPA0612P4G001	9WPA0612G4002	9WPA0612G4001	9WPA0612G4D001	9WPA0612P4G001	60 × 60 × 25 mm	Yes	275
9WPA0612P4G0011	—	—	—	9WPA0612P4G0011	60 × 60 × 25 mm	No	275
9WPA0624P4G001	9WPA0624G4002	9WPA0624G4001	9WPA0624G4D001	9WPA0624P4G001	60 × 60 × 25 mm	Yes	275
9WPA0624P4G0011	—	—	—	9WPA0624P4G0011	60 × 60 × 25 mm	No	275
9WPA0812P4G001	9WPA0812G4002	9WPA0812G4001	9WPA0812G4D001	9WPA0812P4G001	80 × 80 × 25 mm	Yes	283
9WPA0812P4G0011	—	—	—	9WPA0812P4G0011	80 × 80 × 25 mm	No	283
9WPA0824P4G001	9WPA0824G4002	9WPA0824G4001	9WPA0824G4D001	9WPA0824P4G001	80 × 80 × 25 mm	Yes	283
9WPA0824P4G0011	—	—	—	9WPA0824P4G0011	80 × 80 × 25 mm	No	283
9WPA0912P4G001	—	—	—	9WPA0912P4G001	92 × 92 × 25 mm	Yes	293
9WPA0912P4G0011	—	—	—	9WPA0912P4G0011	92 × 92 × 25 mm	No	293
9WPA0924P4G001	—	—	—	9WPA0924P4G001	92 × 92 × 25 mm	Yes	293
9WPA0924P4G0011	—	—	—	9WPA0924P4G0011	92 × 92 × 25 mm	No	293

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The  mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Models listed in product pages	List of models (Below are optional models and not listed in product pages. Standard compliance of these optional models may differ from that of the models listed in product pages. Contact us for details of "—" models.)				Frame size	Rib	page
	Without sensor	With pulse sensor	With lock sensor	With PWM control function and pulse sensor			
	9WV0812P1M001	—	9WV0812M1001	9WV0812M1D001			
9WV0812P1M0011	—	—	—	9WV0812P1M0011	80 × 80 × 38 mm	No	291
9WV0848P1H001	—	—	—	9WV0848P1H001	80 × 80 × 38 mm	Yes	291
9WV0848P1H0011	—	—	—	9WV0848P1H0011	80 × 80 × 38 mm	No	291
9WV0924P1H001	9WV0924H1002	—	—	9WV0924P1H001	92 × 92 × 38 mm	Yes	305
9WV0948P1H001	—	—	—	9WV0948P1H001	92 × 92 × 38 mm	Yes	305
9WV1212P1J001	9WV1212J1002	—	9WV1212J1D001	9WV1212P1J001	120 × 120 × 38 mm	No	307
9WV1224P1H001	9WV1224H102	9WV1224H101	9WV1224H1D001	9WV1224P1H001	120 × 120 × 38 mm	No	307
9WV1224P1J601	9WV1224J1002	9WV1224J1001	—	9WV1224P1J601	120 × 120 × 38 mm	No	307
9WV1248P1J001	9WV1248J1002	9WV1248J1001	9WV1248J1D001	9WV1248P1J001	120 × 120 × 38 mm	No	307

Note 1: For compliance with standards, see individual product pages. Please contact your point of sale regarding low-speed sensors.

Note 2: The 🚚 mark indicates Short Lead Time Service applicable models. See p. 654 for details.



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

Models listed in product pages	Option	Frame size	Model	Rated voltage [V]	Rib	Standard (certification status is for the models listed in this catalog, and standards for optional model numbers may differ.)					page
	Pulse sensor					UL (cUL)	CSA (cUL)	TÜV	CE	PSE	
▶▶ 9AD0901H12	9AD0901H11	92 × 92 × 38 mm	San Ace 92AD	100 to 240	Yes	✓	✓	✓	✓	✓	516
▶▶ 9AD0901H121	9AD0901H111	92 × 92 × 38 mm	San Ace 92AD	100 to 240	No	✓	✓	✓	✓	✓	516
▶▶ 9AD0901H1H	9AD0901H11	92 × 92 × 38 mm	San Ace 92AD	100 to 240	Yes	✓	✓	✓	✓	✓	516
▶▶ 9AD0901H1H1	9AD0901H111	92 × 92 × 38 mm	San Ace 92AD	100 to 240	No	✓	✓	✓	✓	✓	516
▶▶ 9AD0901M12	9AD0901M11	92 × 92 × 38 mm	San Ace 92AD	100 to 240	Yes	✓	✓	✓	✓	✓	516
▶▶ 9AD0901M121	9AD0901M111	92 × 92 × 38 mm	San Ace 92AD	100 to 240	No	✓	✓	✓	✓	✓	516
▶▶ 9AD0901M1H	9AD0901M11	92 × 92 × 38 mm	San Ace 92AD	100 to 240	Yes	✓	✓	✓	✓	✓	516
▶▶ 9AD0901M1H1	9AD0901M111	92 × 92 × 38 mm	San Ace 92AD	100 to 240	No	✓	✓	✓	✓	✓	516
▶▶ 9AD1201H12	9AD1201H11	120 × 120 × 38 mm	San Ace 120AD	100 to 240	Yes	✓	✓	✓	✓	✓	519
▶▶ 9AD1201H121	9AD1201H111	120 × 120 × 38 mm	San Ace 120AD	100 to 240	No	✓	✓	✓	✓	✓	519
▶▶ 9AD1201H1H	9AD1201H11	120 × 120 × 38 mm	San Ace 120AD	100 to 240	Yes	✓	✓	✓	✓	✓	519
▶▶ 9AD1201H1H1	9AD1201H111	120 × 120 × 38 mm	San Ace 120AD	100 to 240	No	✓	✓	✓	✓	✓	519
9ADTS11P0F001	—	∅225 × 99 mm	San Ace 225AD	115	—	✓	✓	✓	✓	—	522
9ADTS11P0G001	—	∅225 × 99 mm	San Ace 225AD	115	—	✓	✓	✓	✓	—	522
9ADTS23P0F001	—	∅225 × 99 mm	San Ace 225AD	230	—	✓	✓	✓	✓	—	522
9ADTS23P0G001	—	∅225 × 99 mm	San Ace 225AD	230	—	✓	✓	✓	✓	—	522
9ADW1TS11P0H001	—	∅225 × 99 mm	San Ace 225AD	115	—	✓	✓	✓	✓	—	525
9ADW1TS11P0M001	—	∅225 × 99 mm	San Ace 225AD	115	—	✓	✓	✓	✓	—	525
9ADW1TS23P0H001	—	∅225 × 99 mm	San Ace 225AD	230	—	✓	✓	✓	✓	—	525
9ADW1TS23P0M001	—	∅225 × 99 mm	San Ace 225AD	230	—	✓	✓	✓	✓	—	525
9ADB1TS11P0F001	—	270 × 270 × 119 mm	San Ace 225AD	115	—	✓	✓	✓	✓	—	528
9ADB1TS11P0G001	—	270 × 270 × 119 mm	San Ace 225AD	115	—	✓	✓	✓	✓	—	528
9ADB1TS23P0F001	—	270 × 270 × 119 mm	San Ace 225AD	230	—	✓	✓	✓	✓	—	528
9ADB1TS23P0G001	—	270 × 270 × 119 mm	San Ace 225AD	230	—	✓	✓	✓	✓	—	528
9ADB1W1TS11P0H001	—	270 × 270 × 119 mm	San Ace 225AD	115	—	✓	✓	✓	✓	—	531
9ADB1W1TS11P0M001	—	270 × 270 × 119 mm	San Ace 225AD	115	—	✓	✓	✓	✓	—	531
9ADB1W1TS23P0H001	—	270 × 270 × 119 mm	San Ace 225AD	230	—	✓	✓	✓	✓	—	531
9ADB1W1TS23P0M001	—	270 × 270 × 119 mm	San Ace 225AD	230	—	✓	✓	✓	✓	—	531

Note 1: Please contact your point of sale for pulse sensors and lock sensors.

Note 2: The ▶▶ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

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

Models listed in product pages	Frame size	Model	Rated voltage [V]	UL	CSA	TÜV	CE	PSE	Note	page
109-033UL	80×80×42 mm	San Ace 80	115	✓	✓	✓	✓	✓		546
109-040UL	80×80×42 mm	San Ace 80	100	✓	✓	✓	✓	✓		546
109-041UL	80×80×42 mm	San Ace 80	200	✓	✓	✓	✓	✓		546
109-043UL	80×80×42 mm	San Ace 80	115	✓	✓	✓	✓	✓		546
109-044UL	80×80×42 mm	San Ace 80	230	✓	✓	✓	✓	✓		546
109-047UL	80×80×42 mm	San Ace 80	100	✓	✓	✓	✓	✓		546
109-130	60×60×38 mm	San Ace 60	100	✓	—	✓	✓	—		538
109-133	60×60×38 mm	San Ace 60	115	✓	—	✓	✓	—		538
109-150	80×80×38 mm	San Ace 80	100	✓	✓	✓	✓	✓		544
109-151	80×80×38 mm	San Ace 80	200	✓	✓	✓	✓	✓		544
109-153	80×80×38 mm	San Ace 80	115	✓	✓	✓	✓	✓		544
109-154	80×80×38 mm	San Ace 80	230	✓	✓	✓	✓	✓		544
109-180	60×60×28 mm	San Ace 60	100	✓	—	✓	✓	—		536
109-183	60×60×28 mm	San Ace 60	115	✓	—	✓	✓	—		536
109-210	80×80×20 mm	San Ace 80	100	✓	✓	✓	✓	—		540
109-213	80×80×20 mm	San Ace 80	115	✓	✓	✓	✓	—		540
109-311	∅172×51 mm (Round type)	San Ace 172	100	✓	✓	✓	✓	✓		566
109-312	∅172×51 mm (Round type)	San Ace 172	200	✓	✓	✓	✓	✓		566
109-313	∅172×51 mm (Round type)	San Ace 172	230	✓	✓	✓	✓	✓		566
109-314	∅172×51 mm (Round type)	San Ace 172	115	✓	✓	✓	✓	✓		566
109-371	∅172×51 mm (with sensor)	San Ace 172	100	✓	—	✓	✓	✓		566
109-372	∅172×51 mm (with sensor)	San Ace 172	200	✓	—	✓	✓	✓		566
109-373	∅172×51 mm (with sensor)	San Ace 172	230	✓	—	✓	✓	✓		566
109-374	∅172×51 mm (with sensor)	San Ace 172	115	✓	—	✓	✓	✓		566
109-601	160×160×51 mm	San Ace 160	100	✓	✓	✓	✓	✓		561
109-602	160×160×51 mm	San Ace 160	200	✓	✓	✓	✓	✓		561
109-603	160×160×51 mm	San Ace 160	230	✓	✓	✓	✓	✓		561
109-604	160×160×51 mm	San Ace 160	115	✓	✓	✓	✓	✓		561
109-641	160×160×51 mm (with sensor)	San Ace 160	100	✓	—	✓	✓	✓		561
109-642	160×160×51 mm (with sensor)	San Ace 160	200	✓	—	✓	✓	✓		561
109-643	160×160×51 mm (with sensor)	San Ace 160	230	✓	—	✓	✓	✓		561
109-644	160×160×51 mm (with sensor)	San Ace 160	115	✓	—	✓	✓	✓		561
109S005	120×120×38 mm	San Ace 120	100	—	—	—	—	✓		556
109S005UL	120×120×38 mm	San Ace 120	100	✓	✓	✓	✓	✓		556
109S006	120×120×38 mm	San Ace 120	100	—	—	—	—	✓		556
109S006UL	120×120×38 mm	San Ace 120	100/115	✓	✓	✓	✓	✓		556
109S008	120×120×38 mm	San Ace 120	200	—	—	—	—	✓		556
109S008UL	120×120×38 mm	San Ace 120	200	✓	✓	✓	✓	✓		556
109S010	120×120×38 mm	San Ace 120	200	—	—	—	—	✓		556
109S010UL	120×120×38 mm	San Ace 120	200/240	✓	✓	✓	✓	✓		556
109S013	120×120×38 mm	San Ace 120	100	—	—	—	—	✓		556
109S013UL	120×120×38 mm	San Ace 120	100	✓	✓	✓	✓	✓		556
109S024	120×120×38 mm	San Ace 120	120	—	—	—	—	✓		556
109S024UL	120×120×38 mm	San Ace 120	115	✓	✓	✓	✓	✓		556
109S025	120×120×38 mm	San Ace 120	230	—	—	—	—	✓		556
109S025UL	120×120×38 mm	San Ace 120	230	✓	✓	✓	✓	✓		556
109S029UL	120×120×38 mm	San Ace 120	100	✓	✓	✓	✓	✓		556
109S030	80×80×25 mm	San Ace 80	100	✓	✓	✓	✓	✓		542
109S031	80×80×25 mm	San Ace 80	200	✓	✓	✓	✓	✓		542
109S033	80×80×25 mm	San Ace 80	115	✓	✓	✓	✓	✓		542
109S034	80×80×25 mm	San Ace 80	230	✓	✓	✓	✓	✓		542
109S050	80×80×25 mm	San Ace 80	100	✓	✓	✓	✓	✓		542
109S051	80×80×25 mm	San Ace 80	200	✓	✓	✓	✓	✓		542
109S053	80×80×25 mm	San Ace 80	115	✓	✓	✓	✓	✓		542
109S054	80×80×25 mm	San Ace 80	230	✓	✓	✓	✓	✓		542
109S072UL	120×120×38 mm	San Ace 120	230	✓	✓	✓	✓	✓		556
109S074UL	120×120×38 mm	San Ace 120	115	✓	✓	✓	✓	✓		556
109S075UL	120×120×38 mm	San Ace 120	100	✓	✓	✓	✓	✓		556
109S078UL	120×120×38 mm	San Ace 120	200	✓	✓	✓	✓	✓		556
109S081	120×120×25 mm	San Ace 120	100	✓	✓	✓	✓	✓		552
109S082	120×120×25 mm	San Ace 120	200	✓	✓	✓	✓	✓		552
109S083	120×120×25 mm	San Ace 120	115	✓	✓	✓	✓	✓		552
109S084	120×120×25 mm	San Ace 120	115	✓	✓	✓	✓	✓		552
109S085	120×120×25 mm	San Ace 120	100	✓	✓	✓	✓	✓		552



Models listed in product pages	Frame size	Model	Rated voltage [V]	UL	CSA	TÜV	CE	PSE	Note	page
109S086	120 × 120 × 25 mm	San Ace 120	100	✓	✓	✓	✓	✓		552
109S087	120 × 120 × 25 mm	San Ace 120	230	✓	✓	✓	✓	✓		552
109S088	120 × 120 × 25 mm	San Ace 120	200	✓	✓	✓	✓	✓		552
109S089	120 × 120 × 25 mm	San Ace 120	230	✓	✓	✓	✓	✓		552
109S091	92 × 92 × 25 mm	San Ace 92	100	✓	✓	✓	✓	✓		548
109S092	92 × 92 × 25 mm	San Ace 92	200	✓	✓	✓	✓	✓		548
109S093	92 × 92 × 25 mm	San Ace 92	115	✓	✓	✓	✓	✓		548
109S094	92 × 92 × 25 mm	San Ace 92	230	✓	✓	✓	✓	✓		548
109S095	92 × 92 × 25 mm	San Ace 92	100	✓	✓	✓	✓	✓		548
109S096	92 × 92 × 25 mm	San Ace 92	100	✓	✓	✓	✓	✓		548
109S192	92 × 92 × 25 mm	San Ace 92	200	✓	✓	✓	✓	✓		548
109S193	92 × 92 × 25 mm	San Ace 92	115	✓	✓	✓	✓	✓		548
109S194	92 × 92 × 25 mm	San Ace 92	230	✓	✓	✓	✓	✓		548
109S301	∅172 × 150 × 51 mm (Sidecut type)	San Ace 172	100	✓	✓	✓	✓	✓		564
109S302	∅172 × 150 × 51 mm (Sidecut type)	San Ace 172	200	✓	✓	✓	✓	✓		564
109S303	∅172 × 150 × 51 mm (Sidecut type)	San Ace 172	230	✓	✓	✓	✓	✓		564
109S304	∅172 × 150 × 51 mm (Sidecut type)	San Ace 172	115	✓	✓	✓	✓	✓		564
109S405UL	120 × 120 × 38 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		557
109S406UL	120 × 120 × 38 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		557
109S408UL	120 × 120 × 38 mm (with sensor)	San Ace 120	200	✓	—	✓	✓	✓		557
109S424UL	120 × 120 × 38 mm (with sensor)	San Ace 120	115	✓	—	✓	✓	✓		557
109S425UL	120 × 120 × 38 mm (with sensor)	San Ace 120	230	✓	—	✓	✓	✓		557
109S429UL	120 × 120 × 38 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		557
109S472UL	120 × 120 × 38 mm (with sensor)	San Ace 120	230	✓	—	✓	✓	✓		557
109S474UL	120 × 120 × 38 mm (with sensor)	San Ace 120	115	✓	—	✓	✓	✓		557
109S475UL	120 × 120 × 38 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		557
109S478UL	120 × 120 × 38 mm (with sensor)	San Ace 120	200	✓	—	✓	✓	✓		557
109S484	120 × 120 × 25 mm (with sensor)	San Ace 120	115	✓	—	✓	✓	✓		552
109S485	120 × 120 × 25 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		552
109S486	120 × 120 × 25 mm (with sensor)	San Ace 120	100	✓	—	✓	✓	✓		552
109S487	120 × 120 × 25 mm (with sensor)	San Ace 120	230	✓	—	✓	✓	✓		552
109S488	120 × 120 × 25 mm (with sensor)	San Ace 120	200	✓	—	✓	✓	✓		552
109S491	92 × 92 × 25 mm (with sensor)	San Ace 92	100	✓	—	✓	✓	✓		548
109S492	92 × 92 × 25 mm (with sensor)	San Ace 92	200	✓	—	✓	✓	✓		548
109S493	92 × 92 × 25 mm (with sensor)	San Ace 92	115	✓	—	✓	✓	✓		548
109S494	92 × 92 × 25 mm (with sensor)	San Ace 92	230	✓	—	✓	✓	✓		548
109S495	92 × 92 × 25 mm (with sensor)	San Ace 92	100	✓	—	✓	✓	✓		548
109S496	92 × 92 × 25 mm (with sensor)	San Ace 92	100	✓	—	✓	✓	✓		548

# Index by Model No. - Options

## ■ Finger Guards

Model no.	Category	Matching fan size	page
109-019C	Finger Guards	120 mm sq. type	585
109-019E	Finger Guards	120 mm sq. type	585
109-019H	Finger Guards	120 mm sq. type	585
109-019K	Finger Guards	120 mm sq. type	585
109-049C	Finger Guards	80 mm sq. type	584
109-049E	Finger Guards	80 mm sq. type	584
109-049H	Finger Guards	80 mm sq. type	584
109-059	Finger Guards	40 mm sq. type	584
109-059H	Finger Guards	40 mm sq. type	584
109-099C	Finger Guards	92 mm sq. type	584
109-099E	Finger Guards	92 mm sq., $\phi$ 100 mm type	584
109-099H	Finger Guards	92 mm sq., $\phi$ 100 mm type	584
109-1050	Finger Guards	36 mm sq. type	584
109-1051	Finger Guards	150 mm sq. type	585
109-1052	Finger Guards	150 mm sq. type	585
109-1065	Finger Guards	38 mm sq. type	584
109-1066	Finger Guards	$\phi$ 172 mm type	586
109-1068	Finger Guards	$\phi$ 172 mm type	586
109-1102	Finger Guards	$\phi$ 200 mm type	587
109-1102H	Finger Guards	$\phi$ 200 mm type	587
109-1103	Finger Guards	$\phi$ 200 mm type	587
109-1103H	Finger Guards	$\phi$ 200 mm type	587
109-1104	Finger Guards	$\phi$ 150 mm type	585
109-1104H	Finger Guards	$\phi$ 150 mm type	585
109-1112	Finger Guards	$\phi$ 133 mm type	585
109-1128	Finger Guards	70 mm sq., $\phi$ 70 mm type	584
109-1137	Finger Guards	$\phi$ 225 mm type	587
109-1137H	Finger Guards	$\phi$ 225 mm type	587
109-1138	Finger Guards	$\phi$ 221 mm type	587
109-1138H	Finger Guards	$\phi$ 221 mm type	587
109-1139	Finger Guards	$\phi$ 136 mm type	585
109-1146	Finger Guards	270 mm sq. type	588
109-1146H	Finger Guards	270 mm sq. type	588
109-1147	Finger Guards	$\phi$ 92 mm type	584
109-139E	Finger Guards	60 mm sq. type	584
109-139H	Finger Guards	60 mm sq. type	584
109-149	Finger Guards	52 mm sq. type	584
109-149E	Finger Guards	52 mm sq. type	584
109-319E	Finger Guards	$\phi$ 172 mm type	586
109-319H	Finger Guards	$\phi$ 172 mm type	586
109-319J	Finger Guards	$\phi$ 172 mm type	586
109-320	Finger Guards	$\phi$ 172 mm type	586
109-619E	Finger Guards	160 mm sq. type	585
109-619H	Finger Guards	160 mm sq. type	585
109-620	Finger Guards	160 mm sq. type	585
109-719	Finger Guards	140 mm sq. type	585
109-719H	Finger Guards	140 mm sq. type	585
109-720	Finger Guards	$\phi$ 200 mm type	587
109-720H	Finger Guards	$\phi$ 200 mm type	587
109-721	Finger Guards	$\phi$ 200 mm type	587
109-721H	Finger Guards	$\phi$ 200 mm type	587
109-722	Finger Guards	127 mm sq., $\phi$ 175 mm type	585
109-722H	Finger Guards	127 mm sq., $\phi$ 175 mm type	585
109-723	Finger Guards	127 mm sq. type	585

## ■ Resin Finger Guards/Resin Filter Kits

Model no.	Category	Matching fan size	page
109-1000F13	Resin Filter Kits	120 mm sq. type	592
109-1000F20	Resin Filter Kits	120 mm sq. type	592
109-1000F30	Resin Filter Kits	120 mm sq. type	592
109-1000F40	Resin Filter Kits	120 mm sq. type	592
109-1001F13	Resin Filter Kits	92 mm sq. type	592
109-1001F20	Resin Filter Kits	92 mm sq. type	592
109-1001F30	Resin Filter Kits	92 mm sq. type	592
109-1001F40	Resin Filter Kits	92 mm sq. type	592
109-1002F13	Resin Filter Kits	80 mm sq. type	592
109-1002F20	Resin Filter Kits	80 mm sq. type	592
109-1002F30	Resin Filter Kits	80 mm sq. type	592
109-1002F40	Resin Filter Kits	80 mm sq. type	592
109-1003F13	Resin Filter Kits	60 mm sq. type	592
109-1003F20	Resin Filter Kits	60 mm sq. type	592
109-1003F30	Resin Filter Kits	60 mm sq. type	592
109-1003F40	Resin Filter Kits	60 mm sq. type	592
109-1000G	Resin Finger Guards	120 mm sq. type	591
109-1001G	Resin Finger Guards	92 mm sq. type	591
109-1002G	Resin Finger Guards	80 mm sq. type	591
109-1003G	Resin Finger Guards	60 mm sq. type	591

## ■ Replacement filter

Model no.	Category	Matching fan size	page
109-1000M13	Replacement filter	120 mm sq. type	592
109-1000M20	Replacement filter	120 mm sq. type	592
109-1000M30	Replacement filter	120 mm sq. type	592
109-1000M40	Replacement filter	120 mm sq. type	592
109-1001M13	Replacement filter	92 mm sq. type	592
109-1001M20	Replacement filter	92 mm sq. type	592
109-1001M30	Replacement filter	92 mm sq. type	592
109-1001M40	Replacement filter	92 mm sq. type	592
109-1002M13	Replacement filter	80 mm sq. type	592
109-1002M20	Replacement filter	80 mm sq. type	592
109-1002M30	Replacement filter	80 mm sq. type	592
109-1002M40	Replacement filter	80 mm sq. type	592
109-1003M13	Replacement filter	60 mm sq. type	592
109-1003M20	Replacement filter	60 mm sq. type	592
109-1003M30	Replacement filter	60 mm sq. type	592
109-1003M40	Replacement filter	60 mm sq. type	592

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

Model no.	Category	Matching fan size	page
109-1036	EMC guards	∅172 mm type	590
109-1037	EMC guards	120 mm sq. type	590
109-1038	EMC guards	80 mm sq. type	590
109-1039	EMC guards	80 mm sq. type	590
109-1040	EMC guards	92 mm sq. type	590
109-1069	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅133 mm type	589
109-1069H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅133 mm type	589
109-1073	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅175 mm type	589
109-1073H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅175 mm type	589
109-1080	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅100 mm type	589
109-1080H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅100 mm type	589
109-1081	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅150 mm type	589
109-1081H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅150 mm type	589
109-1106	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅70 mm type	589
109-1134	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅225 mm type	589
109-1134H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅225 mm type	589
109-1135	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅221 mm type	589
109-1135H	Inlet nozzle for centrifugal fan and splash proof centrifugal fan	∅221 mm type	589

## ■ Filter kits/Screen kits

Model no.	Category	Matching fan size	Note	page
109-018	Filter kits	120 × 120 × 38 mm	Not mountable on AC fans with a sensor or ACDC fans.	593
109-020	Screen kits	120 × 120 × 38 mm		593

## ■ Plug Cord

Model no.	UL	CSA	PSE	Applicable model	page
489-006-L10			✓	120 × 120 × 38 mm	594
489-006-L21			✓	120 × 120 × 38 mm	594
489-006-L35			✓	120 × 120 × 38 mm	594
489-007-L10	✓	✓		120 × 120 × 38 mm	595
489-007-L21	✓	✓		120 × 120 × 38 mm	595
489-008-L10			✓	80 × 80 × 42 mm	594
489-008-L21			✓	80 × 80 × 42 mm	594
489-008-L35			✓	80 × 80 × 42 mm	594
489-016-L10			✓	120 × 120 × 25 mm 92 × 92 × 25 mm 80 × 80 × 25 mm 80 × 80 × 38 mm	594
489-016-L21			✓	120 × 120 × 25 mm 92 × 92 × 25 mm 80 × 80 × 25 mm 80 × 80 × 38 mm	594
489-037-L10			✓	120 × 120 × 38 mm	594
489-037-L21			✓	120 × 120 × 38 mm	594
489-037-L35			✓	120 × 120 × 38 mm	594
489-047-L10	✓	✓		120 × 120 × 25 mm 92 × 92 × 25 mm 80 × 80 × 25 mm 80 × 80 × 38 mm	595
489-047-L21	✓	✓		120 × 120 × 25 mm 92 × 92 × 25 mm 80 × 80 × 25 mm 80 × 80 × 38 mm	595
489-084-L10	✓	✓		∅172 × 51 mm ∅172 × 150 × 51 mm 160 × 160 × 51 mm	595
489-084-L21	✓	✓		∅172 × 51 mm ∅172 × 150 × 51 mm 160 × 160 × 51 mm	595
489-086-L10	✓	✓		160 × 160 × 51 mm	595
489-086-L21	✓	✓		160 × 160 × 51 mm	595
489-1618-L10			✓	160 × 160 × 51 mm	594
489-1618-L21			✓	160 × 160 × 51 mm	594
489-1618-L28			✓	160 × 160 × 51 mm	594
489-1619-L10			✓	∅172 × 51 mm ∅172 × 150 × 51 mm 160 × 160 × 51 mm	594
489-1619-L21			✓	∅172 × 51 mm ∅172 × 150 × 51 mm 160 × 160 × 51 mm	594
489-1635-L10	✓	✓	✓	ACDC Fan	595
489-1635-L21	✓	✓	✓		595

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## 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]
52×52×15 mm	109P0512A701	Plastics	12	10.2 to 13.8	0.21	2.52	6800	0.375	13.25	69.7	0.28	36	-20 to +70	40000/60°C
52×52×15 mm	109P0512H701	Plastics	12	7 to 13.8	0.1	1.2	4600	0.255	9.0	31.9	0.128	27	-20 to +70	60000/60°C
52×52×15 mm	109P0512M701	Plastics	12	7 to 13.8	0.07	0.84	3700	0.205	7.24	21.4	0.086	22	-20 to +70	60000/60°C
52×52×15 mm	109P0524A701	Plastics	24	14 to 27.6	0.11	2.64	6800	0.375	13.24	69.7	0.28	36	-20 to +60	40000/60°C
52×52×15 mm	109P0524H701	Plastics	24	14 to 27.6	0.05	1.2	4600	0.255	9.0	31.9	0.128	27	-20 to +70	60000/60°C
52×52×15 mm	109P0524M701	Plastics	24	14 to 27.6	0.04	0.96	3700	0.205	7.24	21.4	0.086	22	-20 to +70	60000/60°C
60×60×15 mm	109P0605H701	Plastics	5	4.5 to 5.5	0.26	1.3	4100	0.4	14.1	38.2	0.153	32	-20 to +70	60000/60°C
60×60×15 mm	109P0605M701	Plastics	5	4.5 to 5.5	0.15	0.75	3100	0.3	10.6	22.6	0.091	25	-20 to +70	60000/60°C
60×60×15 mm	109P0612K701	Plastics	12	10.2 to 13.8	0.26	3.12	6500	0.62	21.9	99.3	0.399	45	-20 to +60	40000/60°C
60×60×15 mm	109P0612S701	Plastics	12	10.2 to 13.8	0.15	1.8	5000	0.48	17	58.8	0.236	36	-20 to +70	40000/60°C
60×60×15 mm	109P0612H701	Plastics	12	7 to 13.8	0.09	1.08	4100	0.4	14.1	38.2	0.153	32	-20 to +70	60000/60°C
60×60×15 mm	109P0612M701	Plastics	12	10.2 to 13.8	0.07	0.84	3100	0.3	10.6	22.6	0.091	25	-20 to +70	60000/60°C
60×60×15 mm	109P0612B701	Plastics	12	10.2 to 13.8	0.05	0.6	2200	0.21	7.42	11.7	0.047	21	-20 to +70	60000/60°C
60×60×15 mm	109P0624J701	Plastics	24	14 to 27.6	0.14	3.36	6200	0.61	21.5	86.5	0.347	44	-20 to +60	40000/60°C
60×60×15 mm	109P0624S701	Plastics	24	14 to 27.6	0.08	1.92	5000	0.48	16.9	58.8	0.236	36	-20 to +70	40000/60°C
60×60×15 mm	109P0624H701	Plastics	24	14 to 27.6	0.06	1.44	4100	0.4	14.1	38.2	0.153	32	-20 to +70	60000/60°C
60×60×15 mm	109P0624M701	Plastics	24	20.4 to 27.6	0.04	0.96	3100	0.3	10.6	22.6	0.091	25	-20 to +70	60000/60°C
60×60×20 mm	109P0612W601	Plastics	12	6 to 16	0.13	1.56	4200	0.42	14.8	31.8	0.128	31	-20 to +70	60000/60°C
60×60×20 mm	109P0612H601	Plastics	12	10.2 to 13.8	0.13	1.56	4200	0.42	14.8	31.8	0.128	31	-20 to +70	60000/60°C
60×60×20 mm	109P0612M601	Plastics	12	10.2 to 13.8	0.09	1.08	3200	0.3	10.6	18.8	0.076	25	-20 to +70	60000/60°C
60×60×20 mm	109P0624W601	Plastics	24	12 to 30	0.07	1.68	4200	0.42	14.8	31.8	0.128	31	-20 to +70	60000/60°C
60×60×20 mm	109P0624H601	Plastics	24	20.4 to 27.6	0.07	1.68	4200	0.42	14.8	31.8	0.128	31	-20 to +70	60000/60°C
60×60×20 mm	109P0624M601	Plastics	24	20.4 to 27.6	0.05	1.2	3200	0.3	10.6	18.8	0.076	25	-20 to +70	60000/60°C
60×60×20 mm	109P0648H601	Plastics	48	43 to 53	0.07	3.36	5600	0.55	19.4	52.9	0.212	41	-20 to +70	40000/60°C
60×60×38 mm	9G0612G101	Plastics	12	7.0 to 13.8	1.54	18.5	11800	1.84	65	435	1.747	58	-20 to +70	40000/60°C
60×60×38 mm	9G0612S101	Plastics	12	7.0 to 13.8	1.36	16.3	10800	1.7	60	370	1.486	56	-20 to +70	40000/60°C
60×60×38 mm	9G0624G101	Plastics	24	14.0 to 27.6	0.85	20.4	11800	1.84	65	435	1.747	58	-20 to +70	40000/60°C
60×60×38 mm	9G0624S101	Plastics	24	14.0 to 27.6	0.7	16.8	10800	1.7	60	370	1.486	56	-20 to +70	40000/60°C
60×60×38 mm	9G0624H101	Plastics	24	14.0 to 27.6	0.57	13.68	9800	1.54	54.4	304.6	1.223	54	-20 to +70	40000/60°C
60×60×38 mm	9G0648G101	Plastics	48	28 to 55.2	0.35	16.8	11800	1.84	65	435	1.747	58	-20 to +70	40000/60°C
60×60×38 mm	9G0648S101	Plastics	48	28 to 55.2	0.29	13.9	10800	1.7	60	370	1.486	56	-20 to +70	40000/60°C
∅200×70 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
∅200×70 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
∅200×70 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
∅200×70 mm	109E2024AS001	Aluminum	24	21.6 to 26.4	1.45	34.8	2800	9	317.8	215.6	0.865	54	-10 to +70	40000
∅200×70 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
∅200×70 mm	109E2024MH001	Aluminum	24	20.4 to 27.6	0.63	15.12	2100	6.7	236.6	115.4	0.463	45	-10 to +70	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]
60×60×38 mm	9GV0612P1H03	Plastics	12	8.0 to 13.8	100	2.0	24.0	14500	2.15	76	617	2.48	63	-20 to +70	40000/60°C
					0	0.1	1.2	2700	0.4	14	21	0.09	22		
60×60×38 mm	9GV0612P1M03	Plastics	12	8.0 to 13.8	100	1.5	18.0	13000	1.93	68	496	1.99	60	-20 to +70	40000/60°C
					0	0.08	1.0	2500	0.38	13	18	0.07	19		
60×60×38 mm	9GV0612P1L01	Plastics	12	8.0 to 13.8	100	0.7	8.4	10000	1.49	52.6	293	1.17	52	-20 to +70	40000/60°C
60×60×38 mm	9GV0624P1M03	Plastics	24	20.4 to 27.6	100	0.73	17.52	13000	1.93	68.0	496	1.99	60	-20 to +70	40000/60°C

\* PWM frequency: 25 kHz

## 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> ] Inlet Outlet	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]
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
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)]	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	0.09	1.08	3800	3500	0.15 5.3	31 0.124
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	0.11	1.32	5700	5100	0.21 7.41	67 0.26
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	0.07	0.84	3450	3200	0.13 4.59	26 0.1

\* PWM frequency: 25 kHz

## Splash Proof 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]
80 × 80 × 25 mm	9WS0812H401	Plastics	12	10.2 to 13.8	0.16	1.92	3100	0.94 33.2	45.1 0.181	32	-20 to +70	40000/60°C
80 × 80 × 25 mm	9WS0812F401	Plastics	12	10.2 to 13.8	0.13	1.56	2700	0.83 29.3	34.3 0.138	28	-20 to +70	40000/60°C
80 × 80 × 25 mm	9WS0812M401	Plastics	12	10.2 to 13.8	0.1	1.2	2200	0.65 23.0	23.5 0.094	23	-20 to +70	40000/60°C
80 × 80 × 25 mm	9WS0824H401	Plastics	24	20.4 to 27.6	0.09	2.16	3100	0.94 33.2	45.1 0.181	32	-20 to +70	40000/60°C
80 × 80 × 25 mm	9WS0824F401	Plastics	24	20.4 to 27.6	0.07	1.68	2700	0.83 29.3	34.3 0.138	28	-20 to +70	40000/60°C
80 × 80 × 25 mm	9WS0824M401	Plastics	24	20.4 to 27.6	0.05	1.2	2200	0.65 23.0	23.5 0.094	23	-20 to +70	40000/60°C
92 × 92 × 25 mm	9WS0912H401	Plastics	12	10.2 to 13.8	0.17	2.04	2850	1.38 48.7	45.1 0.181	33	-20 to +70	40000/60°C
92 × 92 × 25 mm	9WS0912F401	Plastics	12	10.2 to 13.8	0.13	1.56	2450	1.18 41.7	32.3 0.13	30	-20 to +70	40000/60°C
92 × 92 × 25 mm	9WS0912M401	Plastics	12	10.2 to 13.8	0.1	1.2	2100	1.01 35.7	23.5 0.094	27	-20 to +70	40000/60°C
92 × 92 × 25 mm	9WS0912L401	Plastics	12	10.2 to 13.8	0.06	0.72	1700	0.8 28.2	16.7 0.067	23	-20 to +70	40000/60°C
92 × 92 × 25 mm	9WS0924H401	Plastics	24	20.4 to 27.6	0.1	2.4	2850	1.38 48.7	45.1 0.181	33	-20 to +70	40000/60°C
92 × 92 × 25 mm	9WS0924F401	Plastics	24	20.4 to 27.6	0.07	1.68	2450	1.18 41.7	32.3 0.13	30	-20 to +70	40000/60°C
92 × 92 × 25 mm	9WS0924M401	Plastics	24	20.4 to 27.6	0.06	1.44	2100	1.01 35.7	23.5 0.094	27	-20 to +70	40000/60°C
92 × 92 × 25 mm	9WS0924L401	Plastics	24	20.4 to 27.6	0.05	1.2	1700	0.8 28.2	16.7 0.067	23	-20 to +70	40000/60°C

## 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

## 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

Note: Storage temperature is -30 to +70°C.