

Ø200×70 mm

San Ace 200 9GA type Low Power Consumption Fan



DC Fan Ø200 mm

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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted 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 1500 g

Set the PWM duty cycle to 100% when starting the fan.

Specifications

The models listed below **have a pulse sensor with PWM control.**

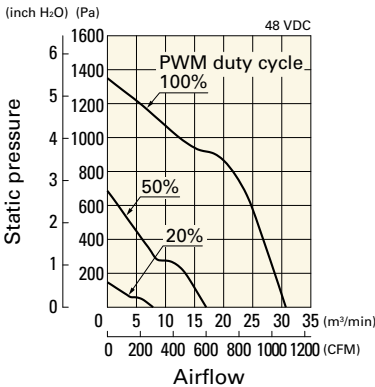
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GA2048P0G001	48	36 to 60	100	8.0	384	7800	30.7 1084	1350 5.40	81	-20 to +70	40000/60°C (70000/40°C)
			20	0.30	14.4	2000	7.87 278	147 0.588	48		

* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

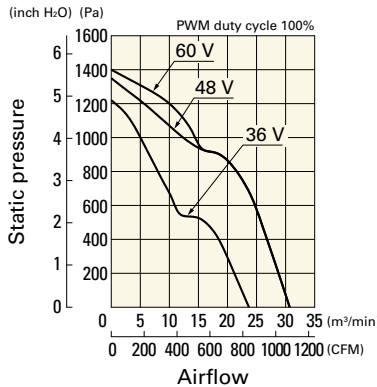
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA2048P0G001 With pulse sensor with PWM control

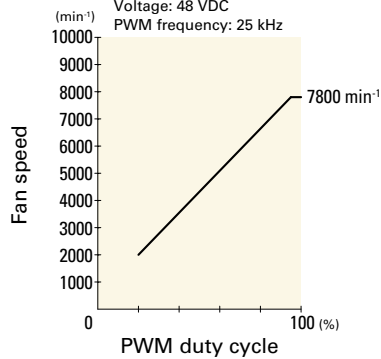
PWM duty cycle

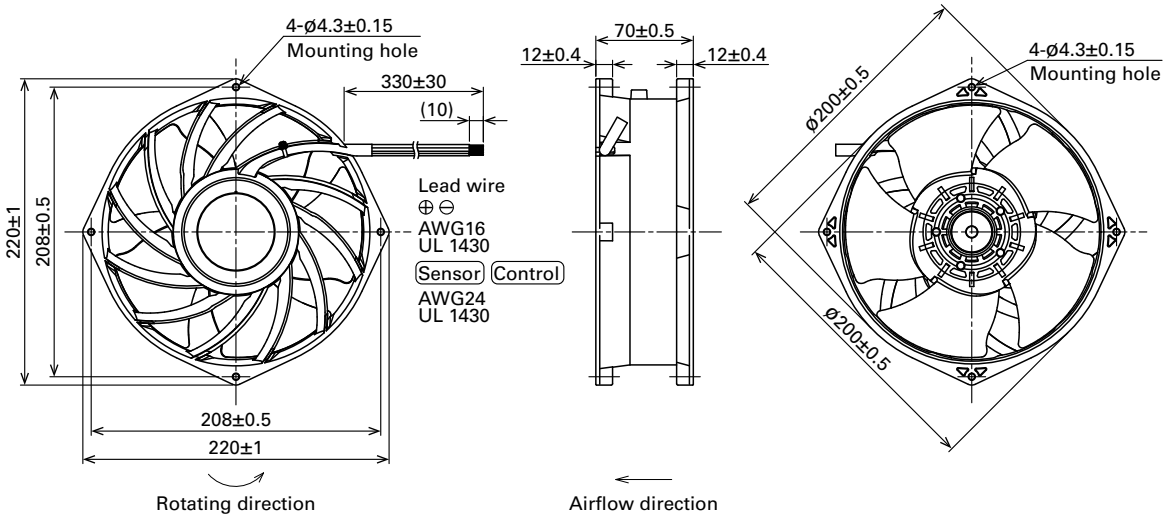


Operating voltage range

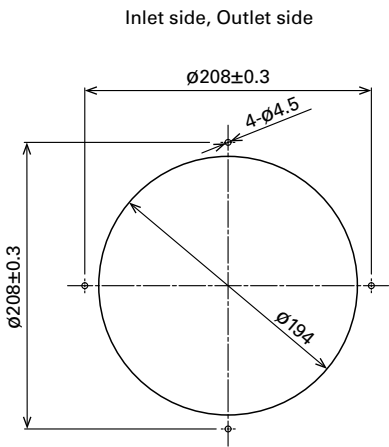


PWM duty - Speed characteristics example





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



Options

Finger guards

page: p. 601

Model no.: 109-1102, 109-1102H

Ø200×70 mm

San Ace 200 9EC type   



DC Fan Ø200 mm

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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted 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 a pulse sensor**.

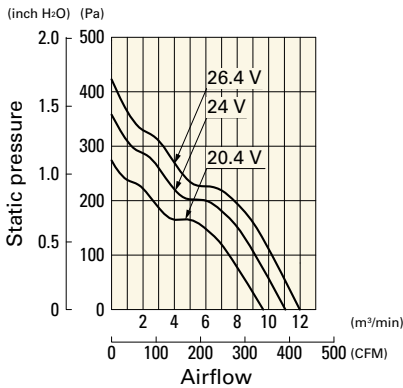
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9EC2024H001	24	20.4 to 26.4	2.0	48.0	3600	11.0 388	360 1.446	60	-20 to +60	40000/60°C (70000/40°C)
9EC2048A001	48	43.0 to 51.0	2.2	105.6	4800	14.7 519	640 2.57	68		
9EC2048H001		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. 647.

Airflow - Static Pressure Characteristics

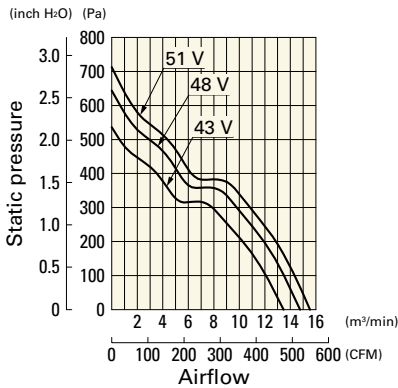
9EC2024H001 With pulse sensor

Operating voltage range



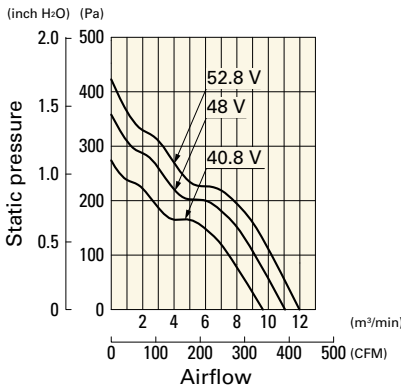
9EC2048A001 With pulse sensor

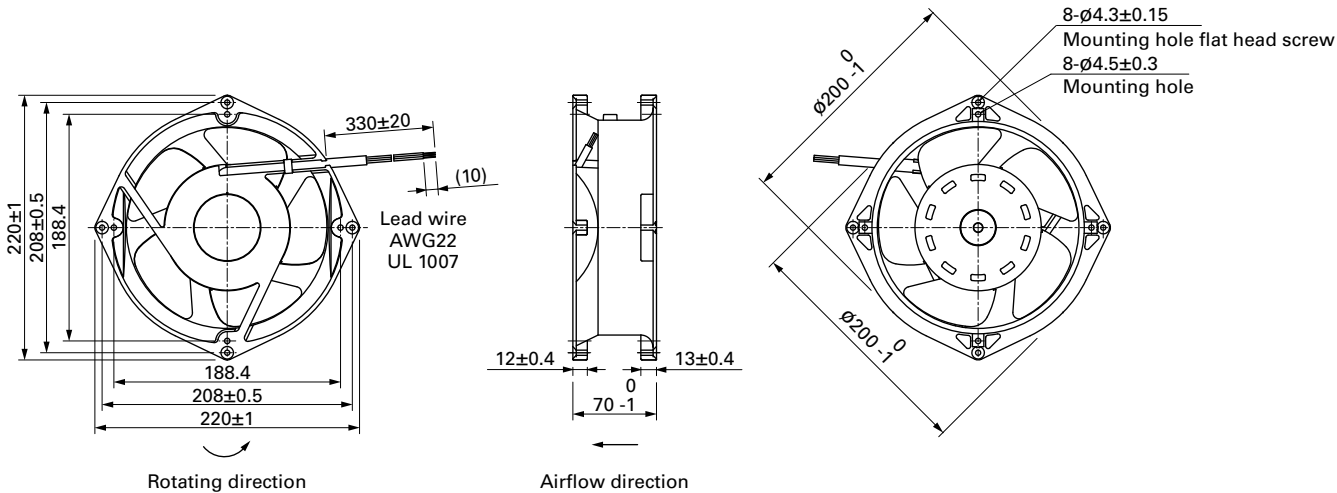
Operating voltage range



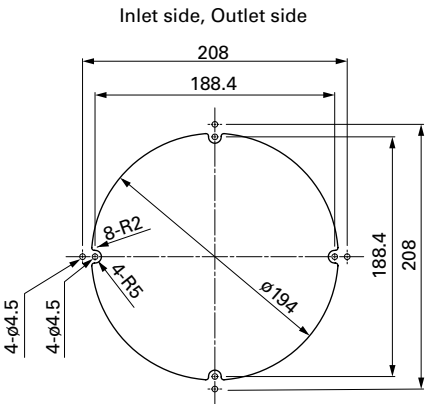
9EC2048H001 With pulse sensor

Operating voltage range





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



Options

Finger guards

page: p. 601

Model no.: 109-1102, 109-1102H

Counter Rotating Fan

Counter rotating fans feature high airflow and high static pressure.
Related product: Long Life Fan p. 331

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

9CRA	04	12	K	4	01
Type name	Frame size	Voltage	Speed code	Frame thickness	Sensor specifications

Fans with PWM control

9CRA	03	12	P	4	K	03
Type name	Frame size	Voltage	PWM control	Frame thickness	Speed code	Individual customer's spec (2 to 3 digits)

Type name	9CRA 9CRH etc.					
Frame size (mm)	03	04	06	08	12	57
	38×38	40×40	60×60	80×80	120×120	ø172×150 (sidecut)
Voltage (V)	12	48				
	12	48				
Speed code	G	H	J	K	S	etc.
Frame thickness (mm)	0	4	5	6	8	9
	76	48	51, 56	56	80	102
Sensor specifications	01, 001		02, 002		D01, D001	
	With a pulse sensor		Without a sensor		With a lock sensor	

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 ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ 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)

- 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 airflow at 0 Pa static pressure when the fan is operating at rated voltage. (Measured using the double chamber method)
- Max. static pressure The static pressure at 0 m³/min airflow when the fan is operating at rated voltage. (Measured using the double chamber method)
- SPL A-weighted sound pressure level (SPL) when the fan operates at the rated speed.
For the measurement method, see the Technical Materials section in the catalog.
- 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.