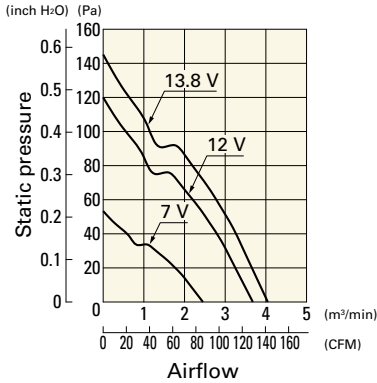


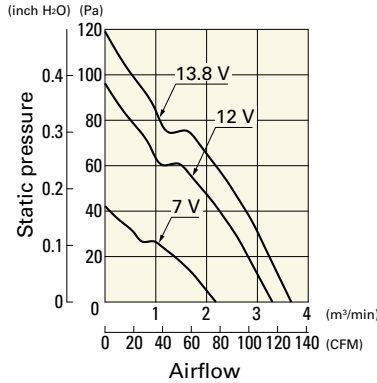
9RA1212G4001 With pulse sensor

Operating voltage range



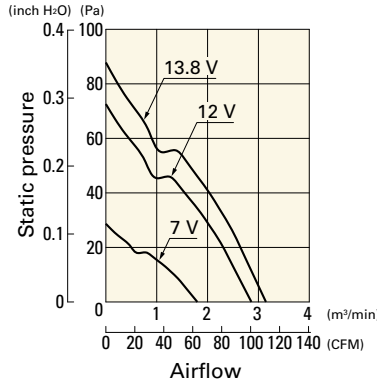
9RA1212E4001 With pulse sensor

Operating voltage range



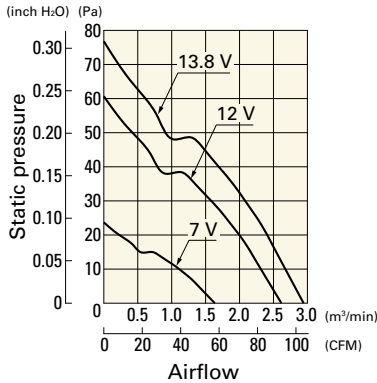
9RA1212A4001 With pulse sensor

Operating voltage range



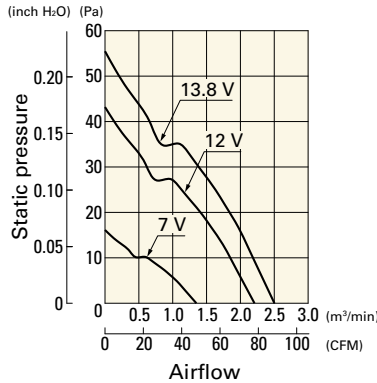
9RA1212H4001 With pulse sensor

Operating voltage range



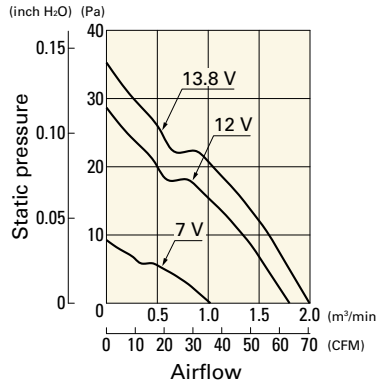
9RA1212F4001 With pulse sensor

Operating voltage range



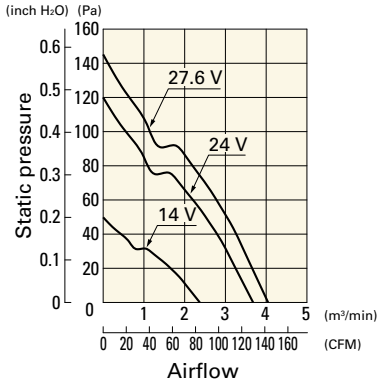
9RA1212M4001 With pulse sensor

Operating voltage range



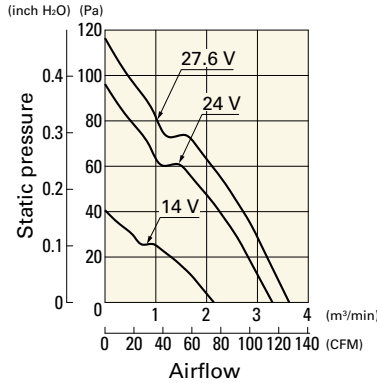
9RA1224G4001 With pulse sensor

Operating voltage range



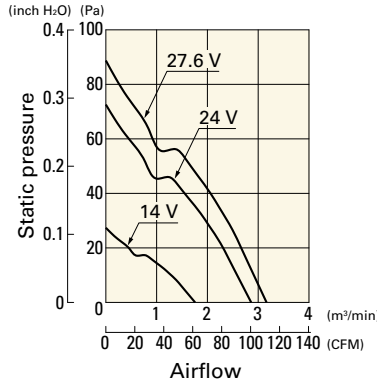
9RA1224E4001 With pulse sensor

Operating voltage range



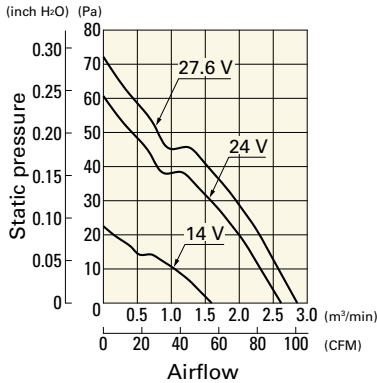
9RA1224A4001 With pulse sensor

Operating voltage range



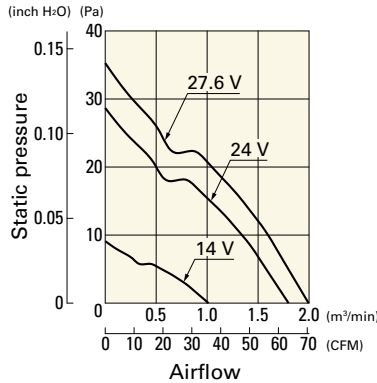
9RA1224H4001 With pulse sensor

Operating voltage range



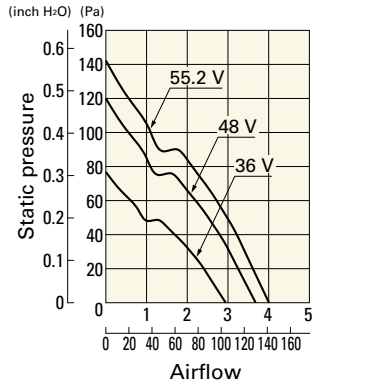
9RA1224M4001 With pulse sensor

Operating voltage range



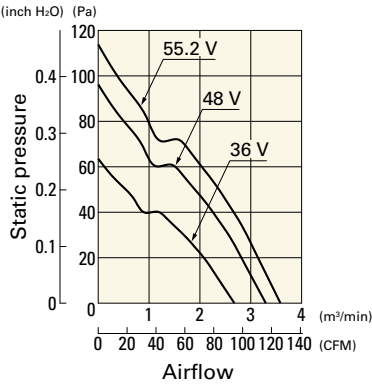
9RA1248G4001 With pulse sensor

Operating voltage range



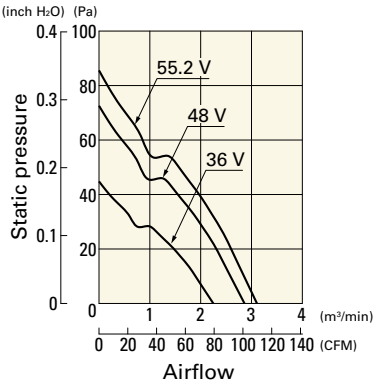
9RA1248E4001 With pulse sensor

Operating voltage range

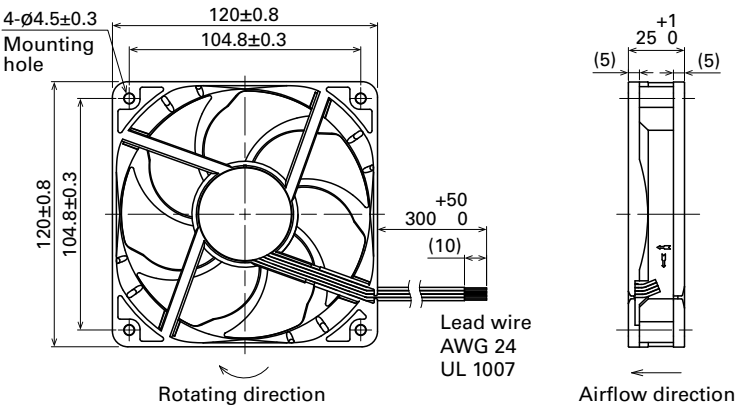


9RA1248A4001 With pulse sensor

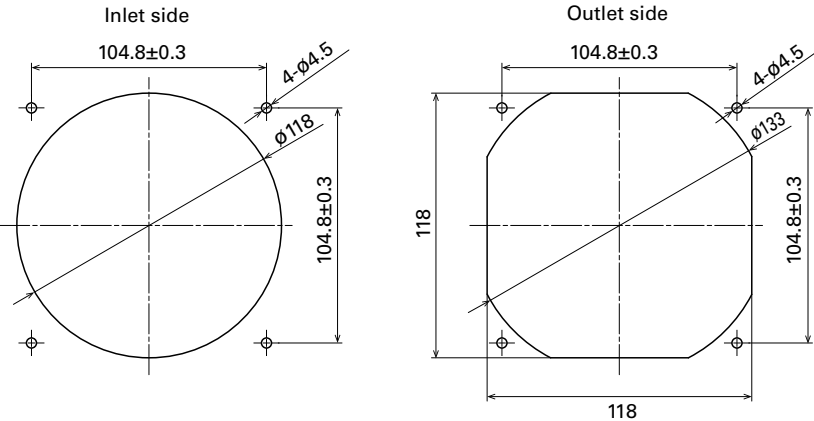
Operating voltage range



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



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



Options

Finger guards

page: p. 599

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

Resin finger guards

page: p. 605

Model no.: 109-1000G

Resin filter kits

page: p. 606

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

120×120×25 mm

San Ace 120 9S type Silent Fan  



DC Fan 120 mm sq. D

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. 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
- Mass 140 g

Specifications

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

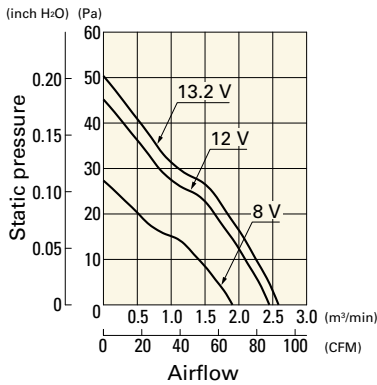
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9S1212H401	12	8 to 13.2	0.39	4.68	2700	2.45 86.5	45.2 0.18	36	-10 to +60	40000/60°C (70000/40°C)
9S1212F401			0.19	2.28	2200	2.0 70.6	30.0 0.12	30		
9S1212M401			0.13	1.56	1850	1.66 58.6	22.7 0.09	24		
9S1212L401			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: Sensor and control options are available for selection. Refer to the table on p. 659.

Airflow - Static Pressure Characteristics

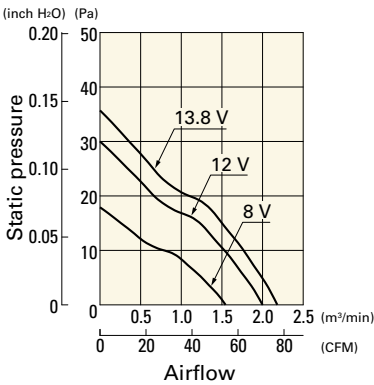
9S1212H401 With pulse sensor

Operating voltage range



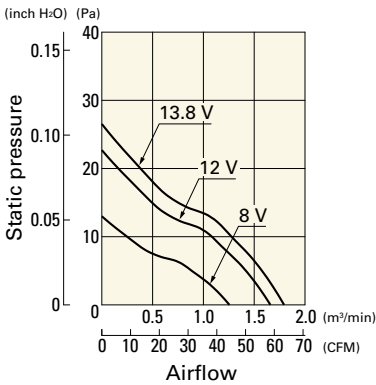
9S1212F401 With pulse sensor

Operating voltage range



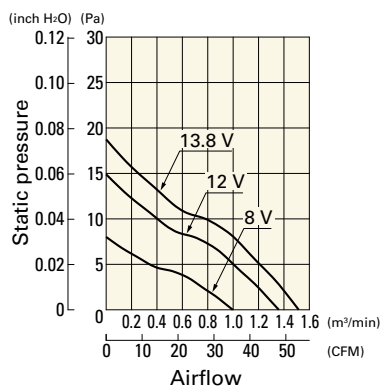
9S1212M401 With pulse sensor

Operating voltage range



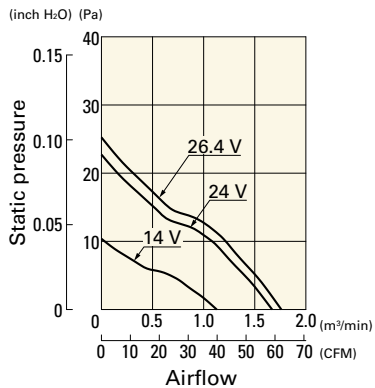
9S1212L401 With pulse sensor

Operating voltage range

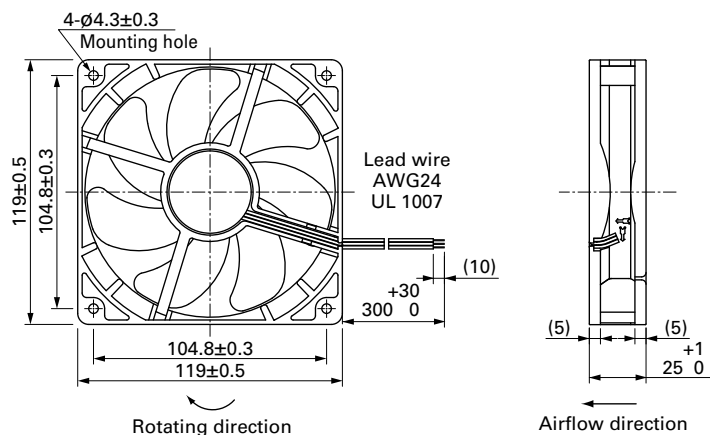


9S1224M401 With pulse sensor

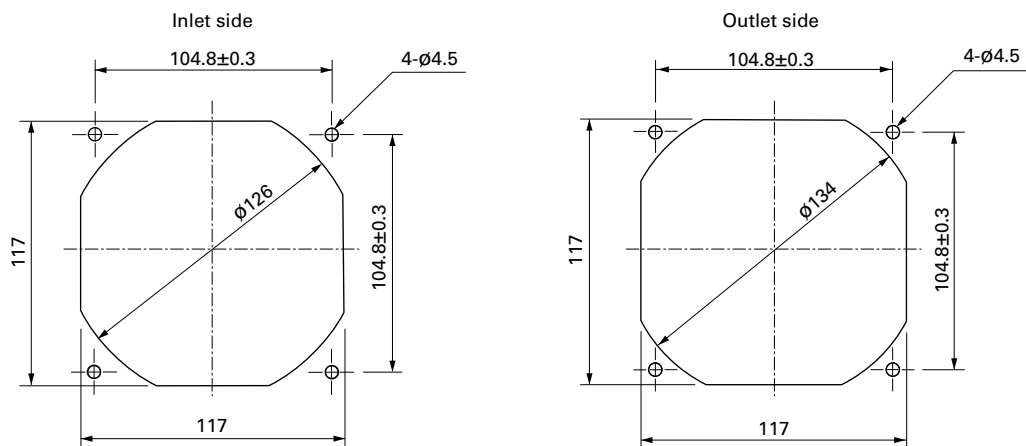
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards

page: p. 599

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

Resin finger guards

page: p. 605

Model no.: 109-1000G

Resin filter kits

page: p. 606

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

120×120×38 mm

San Ace 120 9HV type  



DC Fan 120 mm sq. D

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. 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 460 g

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 [m³/min] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]	
9HV1224P1A001	24	21.6 to 26.4	100	2.4	57.6	9600	7.0	247	950	3.82	71	-20 to +70	40000/60°C (70000/40°C)	
			0	0.37	8.88	3800	2.7	95	161	0.65	46			
9HV1248P1G001	48	36 to 60	100	2.0	96	11500	8.3	293	1300	5.22	75			
			0	0.23	11	3800	2.7	95	161	0.65	46			
9HV1248P1H001				100	1.4	67	10000	7.2	254	1050	4.22			72
				0	0.23	11	3800	2.7	95	161	0.65			46

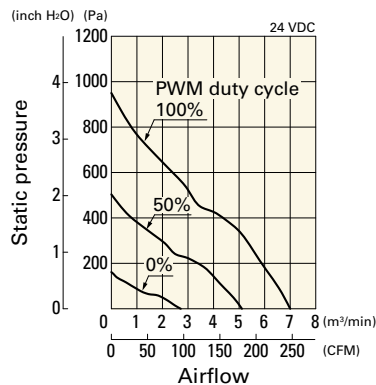
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Sensor and control options are available for selection. Refer to the table on p. 652.

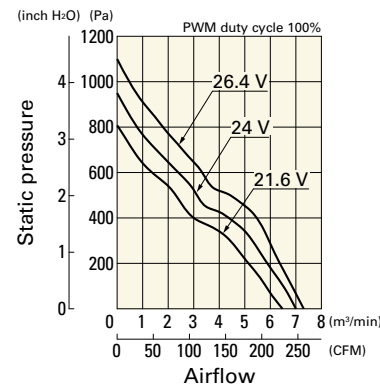
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV1224P1A001 With pulse sensor with PWM control

PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

