

DC Fan



120×120×25 mm

San Ace 120 9RA 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. 580.
- 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
(For models without PWM control function, there is no speed control wiring.)
- Mass 210 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 ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
» 9RA1212P4G001	12	10.8 to 13.2	100	0.55	6.6	4500	3.68 130	120 0.48	47	-20 to +70	60000/60°C (90000/40°C)
			20	0.06	0.72	1250	1.02 36	9.2 0.037	15		
» 9RA1224P4G001	24	21.6 to 26.4	100	0.28	6.72	4500	3.68 130	120 0.48	47		
			20	0.05	1.2	1750	1.43 50.5	18.1 0.073	22		
» 9RA1248P4G001	48	43.2 to 52.8	100	0.15	7.2	4500	3.68 130	120 0.48	47		
			20	0.03	1.44	1650	1.34 47.3	16.1 0.065	21		

* 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.

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 ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
» 9RA1212G4001	12	7 to 13.8	0.55	6.6	4500	3.68 130	120 0.48	47	-20 to +70	60000/60°C (90000/40°C)
» 9RA1212E4001			0.41	4.92	4000	3.3 116.5	96 0.386	45		
» 9RA1212A4001			0.3	3.6	3500	2.86 101.1	73 0.293	42		
» 9RA1212H4001			0.26	3.12	3200	2.62 92.4	61 0.245	39		
» 9RA1212M4001			0.12	1.44	2200	1.8 63.5	29 0.116	28		
» 9RA1224G4001	24	14 to 27.6	0.28	6.72	4500	3.68 130	120 0.48	47		
» 9RA1224E4001			0.22	5.28	4000	3.3 116.5	96 0.386	45		
» 9RA1224A4001			0.16	3.84	3500	2.86 101.1	73 0.293	42		
» 9RA1224H4001			0.13	3.12	3200	2.62 92.4	61 0.245	39		
» 9RA1224M4001			0.07	1.68	2200	1.8 63.5	29 0.116	28		
» 9RA1248G4001	48	36 to 55.2	0.15	7.2	4500	3.68 130	120 0.48	47		
» 9RA1248E4001			0.11	5.28	4000	3.3 116.5	96 0.386	45		
» 9RA1248A4001			0.09	4.32	3500	2.86 101.1	73 0.293	42		

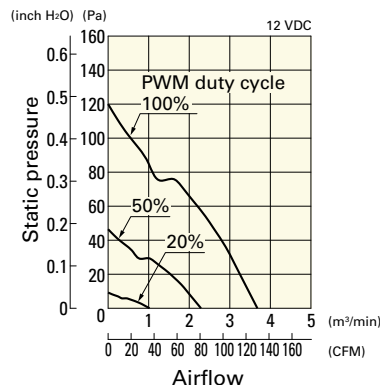
Note 1: Sensor and control options are available for selection. Refer to the table on pp. 615 to 616.

Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 630 for details.

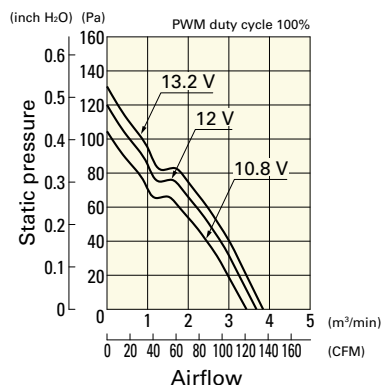
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9RA1212P4G001 With pulse sensor with PWM control function

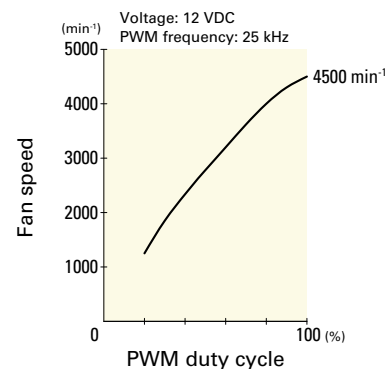
PWM duty cycle



Operating voltage range

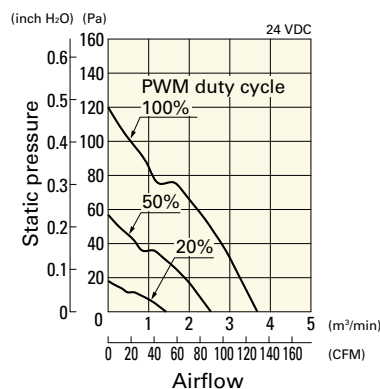


PWM duty - Speed characteristics example

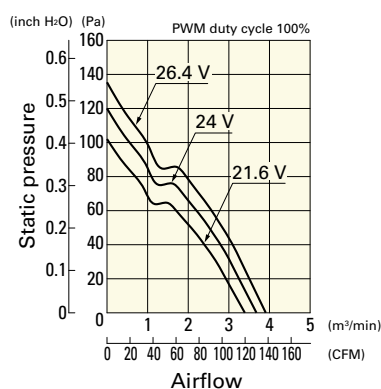


9RA1224P4G001 With pulse sensor with PWM control function

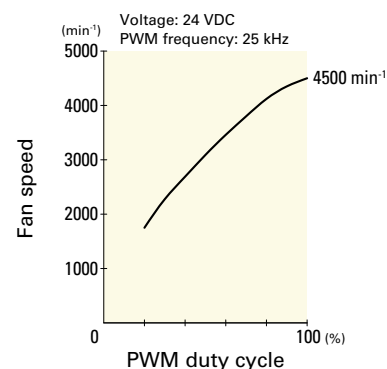
PWM duty cycle



Operating voltage range

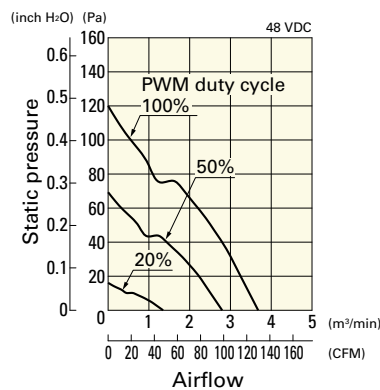


PWM duty - Speed characteristics example

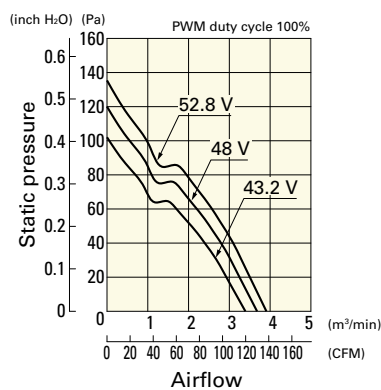


9RA1248P4G001 With pulse sensor with PWM control function

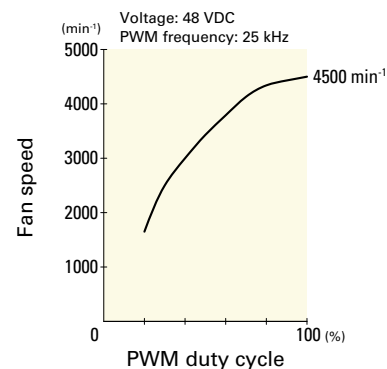
PWM duty cycle



Operating voltage range



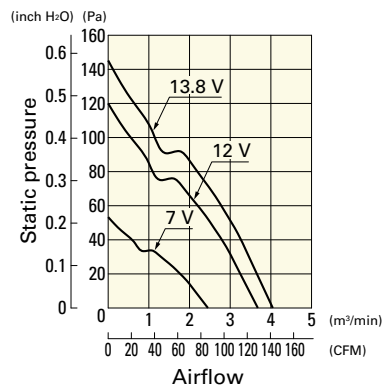
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

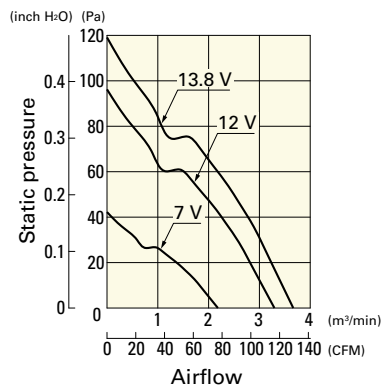
9RA1212G4001 With pulse sensor

Operating voltage range



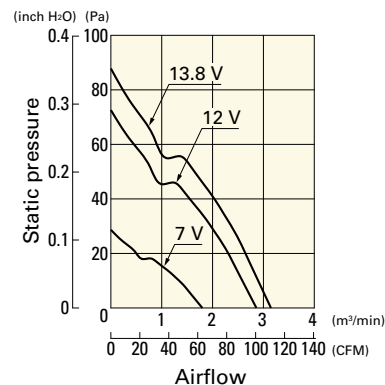
9RA1212E4001 With pulse sensor

Operating voltage range



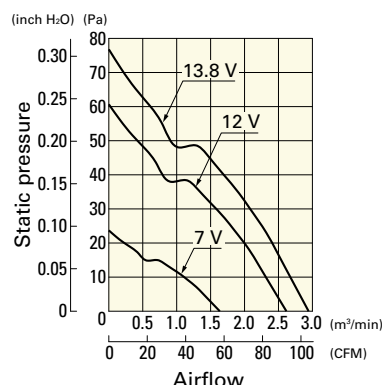
9RA1212A4001 With pulse sensor

Operating voltage range



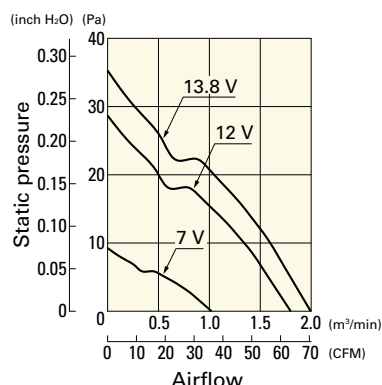
9RA1212H4001 With pulse sensor

Operating voltage range



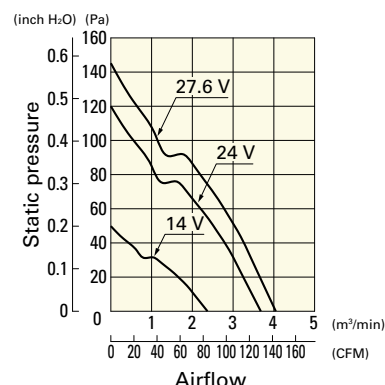
9RA1212M4001 With pulse sensor

Operating voltage range



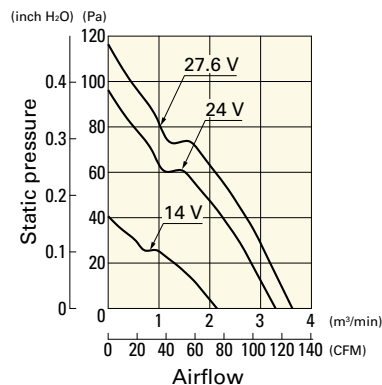
9RA1224G4001 With pulse sensor

Operating voltage range



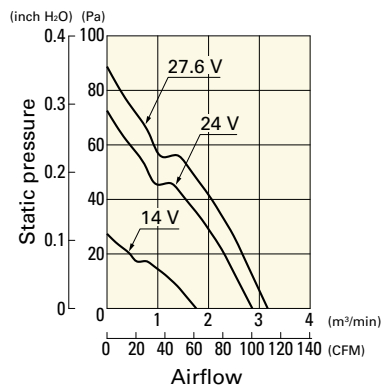
9RA1224E4001 With pulse sensor

Operating voltage range



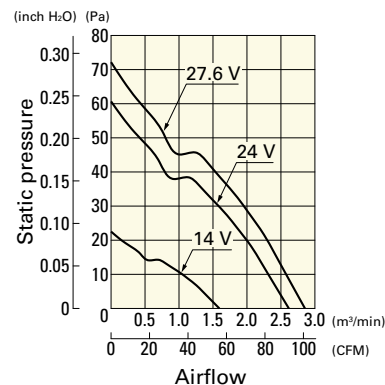
9RA1224A4001 With pulse sensor

Operating voltage range



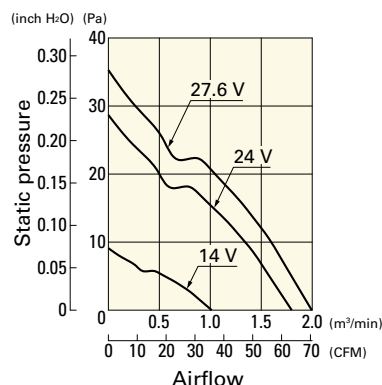
9RA1224H4001 With pulse sensor

Operating voltage range



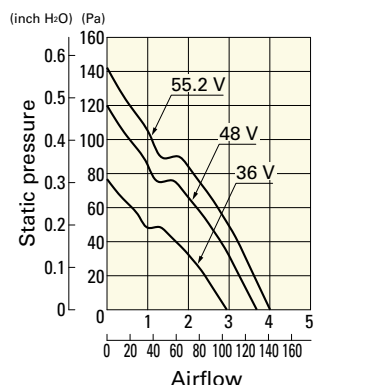
9RA1224M4001 With pulse sensor

Operating voltage range



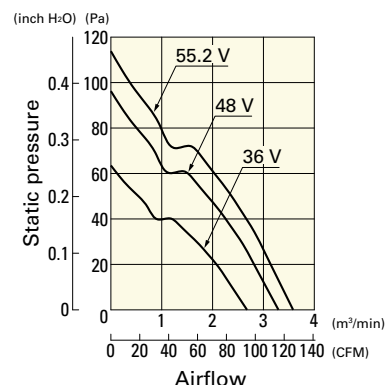
9RA1248G4001 With pulse sensor

Operating voltage range



9RA1248E4001 With pulse sensor

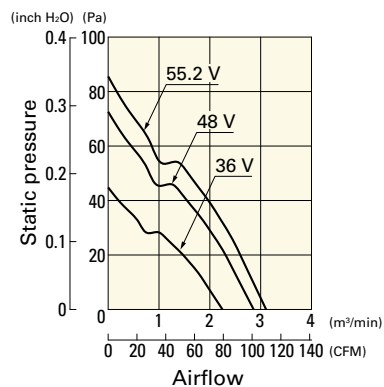
Operating voltage range



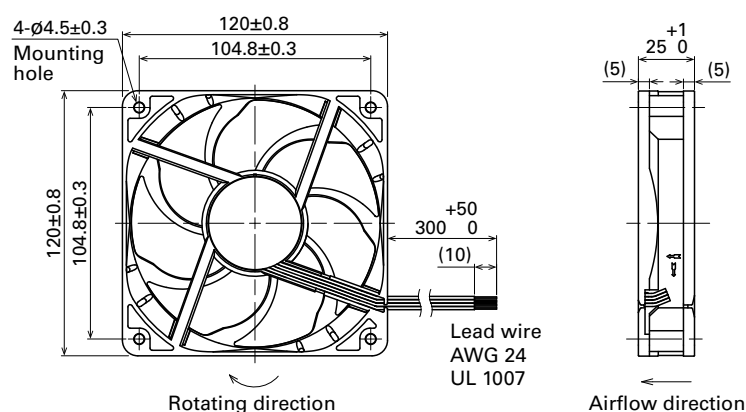
Airflow - Static Pressure Characteristics

9RA1248A4001 With pulse sensor

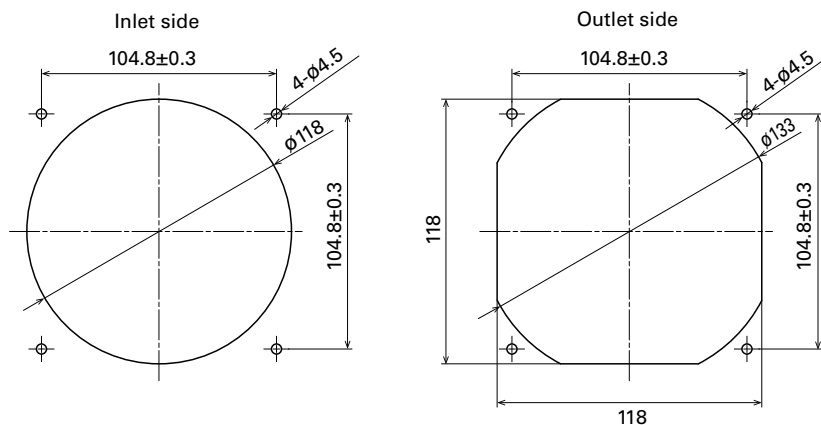
Operating voltage range



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. 565

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

Resin finger guards

page: p. 571

Model no.: 109-1000G

Resin filter kits

page: p. 572

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