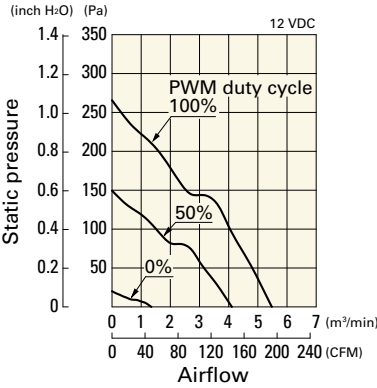
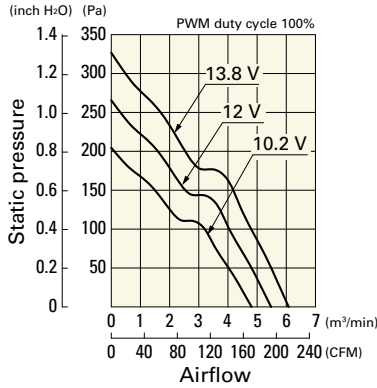


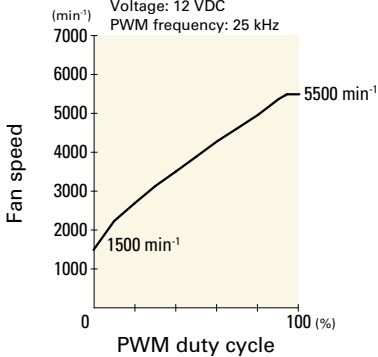
PWM duty cycle



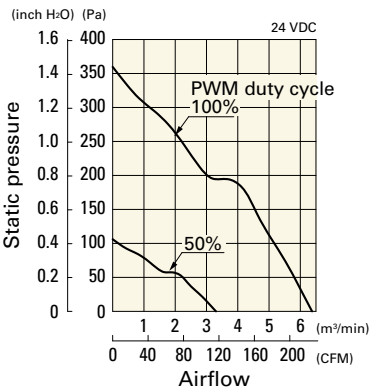
Operating voltage range



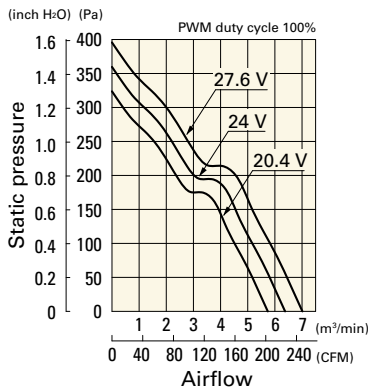
PWM duty - Speed characteristics example



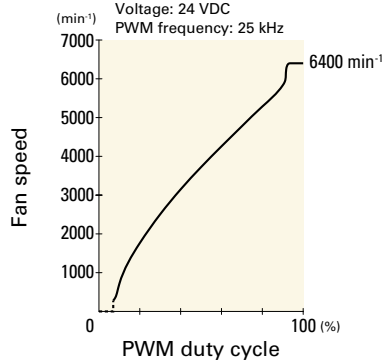
PWM duty cycle



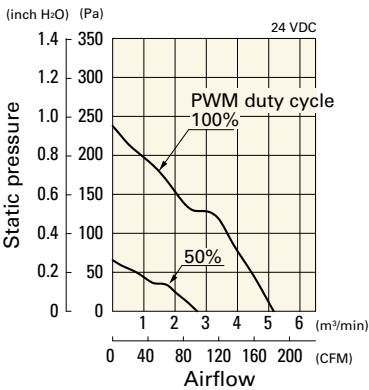
Operating voltage range



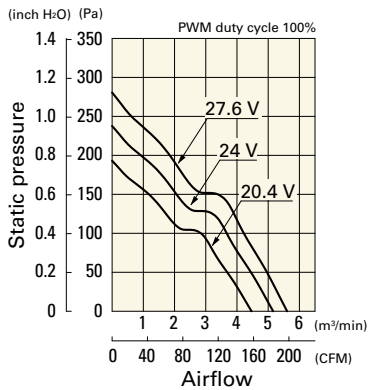
PWM duty - Speed characteristics example



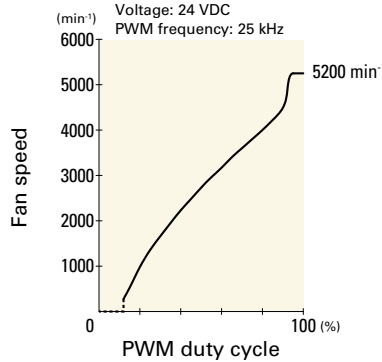
PWM duty cycle



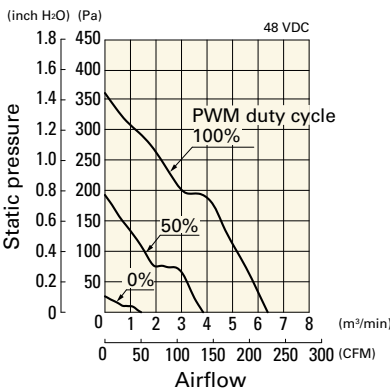
Operating voltage range



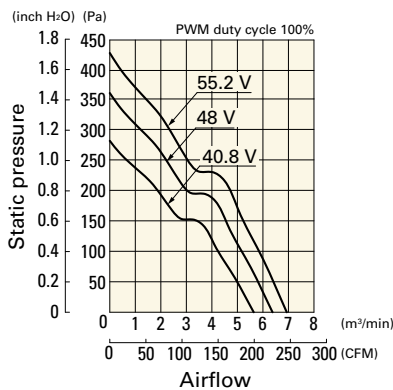
PWM duty - Speed characteristics example



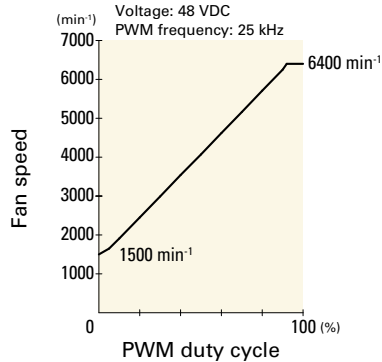
PWM duty cycle

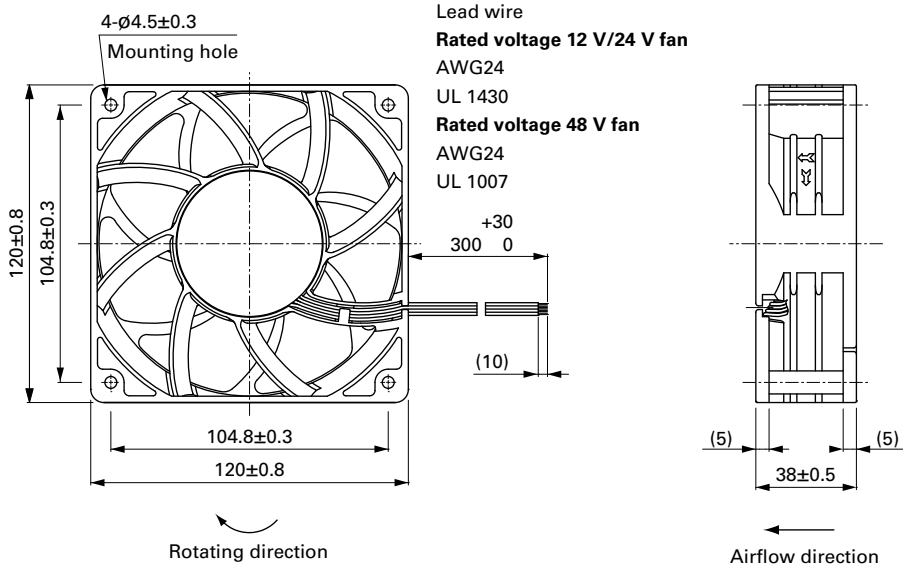


Operating voltage range

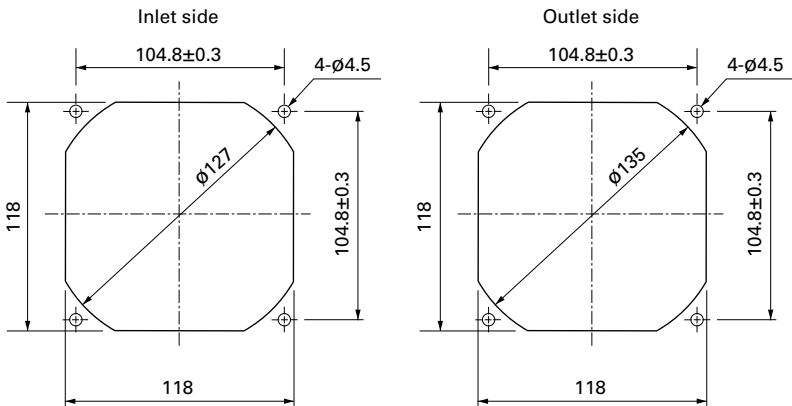


PWM duty - Speed characteristics example





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



Options

Finger guards page: p. 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 9RA type  



DC Fan 120 mm sq. D

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. 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
(For models without PWM control, there is no speed control wiring.)
- Mass 320 g

Specifications

The models listed below **have ribs and a pulse sensor with PWM control**. 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]
9RA1212P1K001	12	10.8 to 13.2	100	0.96	11.5	4700	4.5 158	170 0.683	50	-20 to +70	30000/60°C (53000/40°C)
			25	0.12	1.4	1800	1.7 60	24 0.096	25		
9RA1224P1K001	24	21.6 to 26.4	100	0.48	11.5	4700	4.5 158	170 0.683	50		
			25	0.06	1.4	1800	1.7 60	24 0.096	25		
9RA1248P1K001	48	43.2 to 52.8	100	0.25	12.0	4700	4.5 158	170 0.683	50		
			25	0.04	1.9	1500	1.4 50	17 0.069	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.

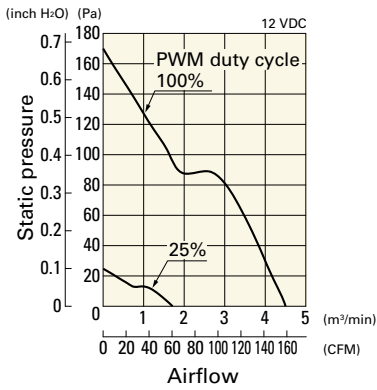
The models listed below **have ribs and a pulse sensor**. For models without ribs, append "1" to the end of model numbers.

Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9RA1212G1001	12	7 to 13.8	0.70	8.4	4200	4.0 141	135 0.542	46	-20 to +70	40000/60°C (70000/40°C)
9RA1212E1001			0.47	5.6	3600	3.4 120	100 0.402	43		
9RA1212H1001			0.25	3.0	3000	2.8 99	70 0.281	37		
9RA1224G1001	24	14 to 27.6	0.35	8.4	4200	4.0 141	135 0.542	46		
9RA1224E1001			0.24	5.8	3600	3.4 120	100 0.402	43		
9RA1224H1001			0.13	3.1	3000	2.8 99	70 0.281	37		
9RA1248G1001	48	40.8 to 55.2	0.18	8.6	4200	4.0 141	135 0.542	46		
9RA1248E1001			0.12	5.8	3600	3.4 120	100 0.402	43		
9RA1248H1001			0.07	3.4	3000	2.8 99	70 0.281	37		

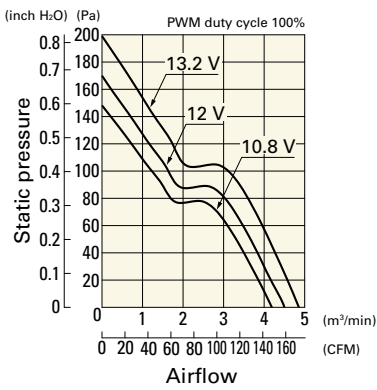
Note: Sensor and control options are available for selection. Refer to the table on p. 657 to 658.

9RA1212P1K001 With pulse sensor with PWM control

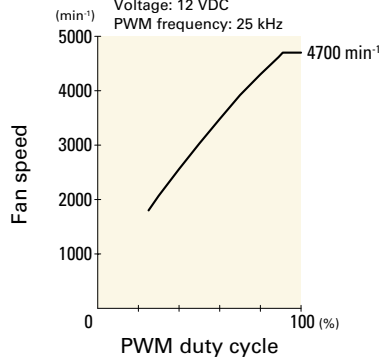
PWM duty cycle



Operating voltage range

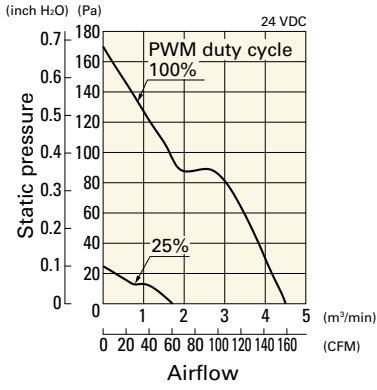


PWM duty - Speed characteristics example

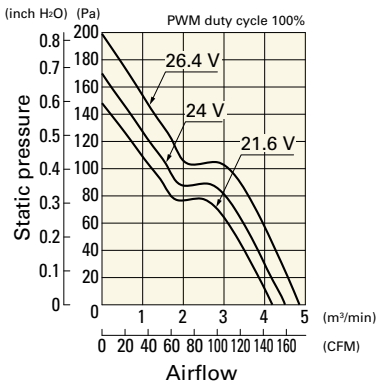


9RA1224P1K001 With pulse sensor with PWM control

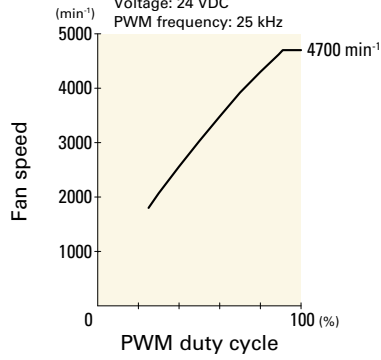
PWM duty cycle



Operating voltage range

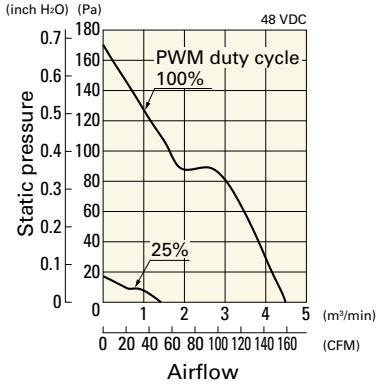


PWM duty - Speed characteristics example

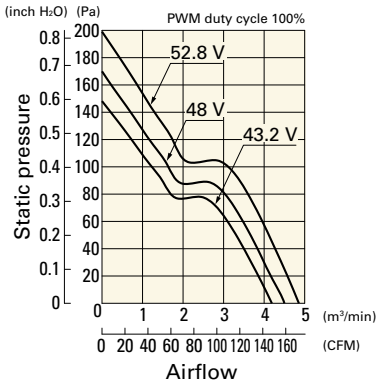


9RA1248P1K001 With pulse sensor with PWM control

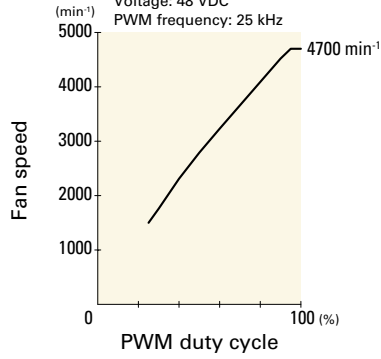
PWM duty cycle



Operating voltage range

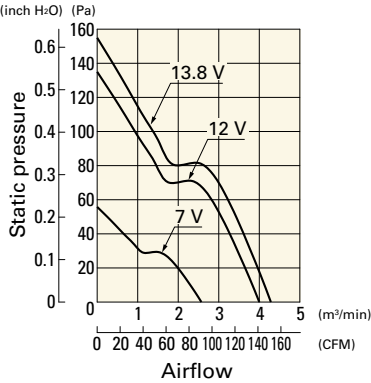


PWM duty - Speed characteristics example



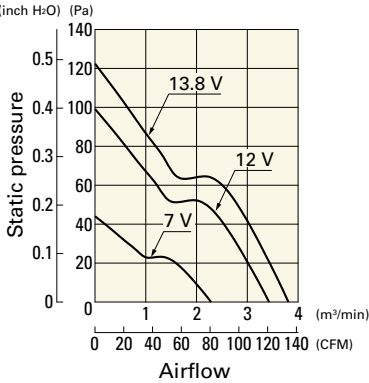
9RA1212G1001 With pulse sensor

Operating voltage range



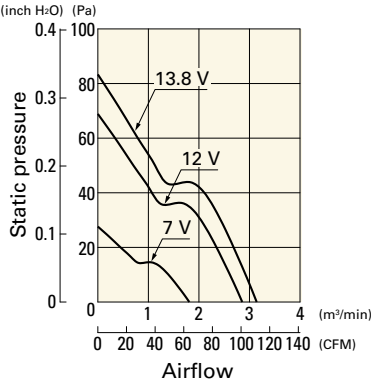
9RA1212E1001 With pulse sensor

Operating voltage range



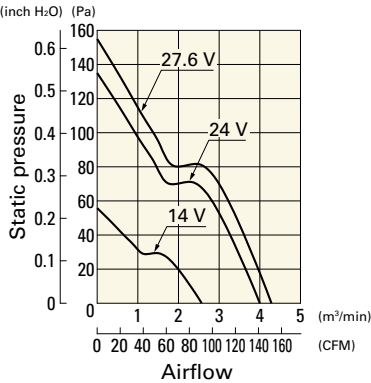
9RA1212H1001 With pulse sensor

Operating voltage range



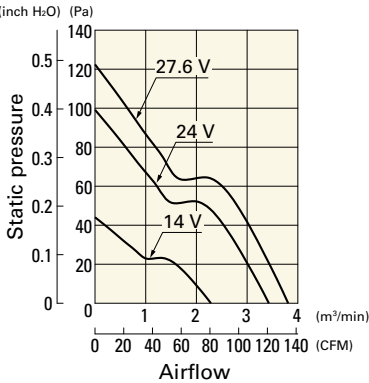
9RA1224G1001 With pulse sensor

Operating voltage range



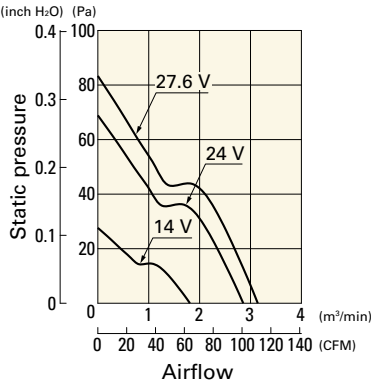
9RA1224E1001 With pulse sensor

Operating voltage range



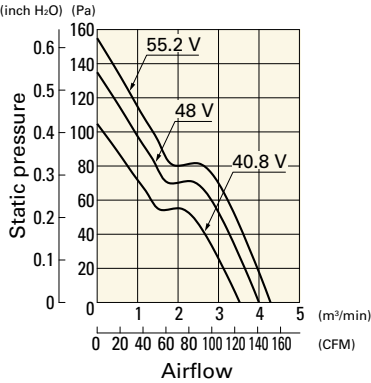
9RA1224H1001 With pulse sensor

Operating voltage range



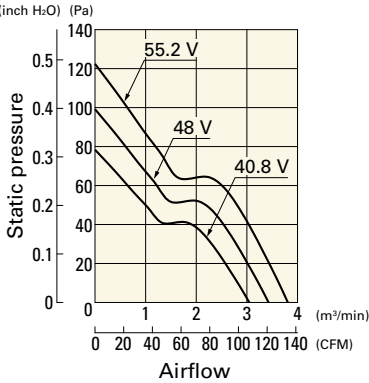
9RA1248G1001 With pulse sensor

Operating voltage range



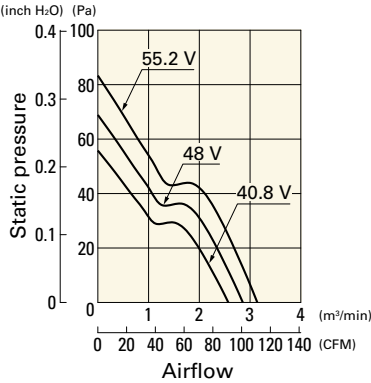
9RA1248E1001 With pulse sensor

Operating voltage range



9RA1248H1001 With pulse sensor

Operating voltage range



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

