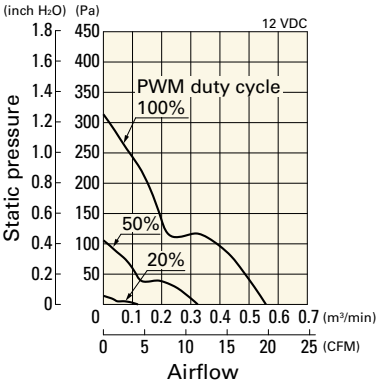
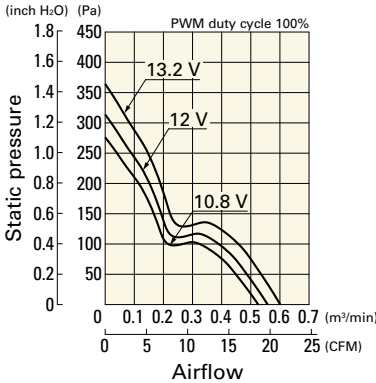


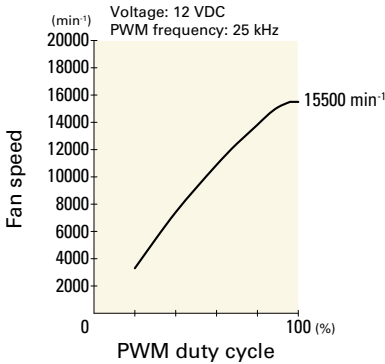
PWM duty cycle



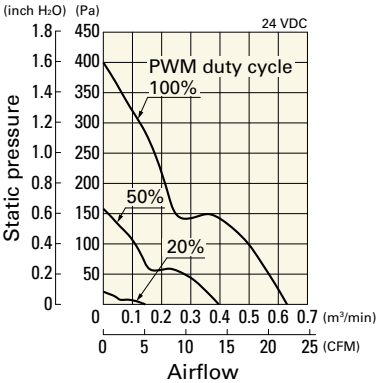
Operating voltage range



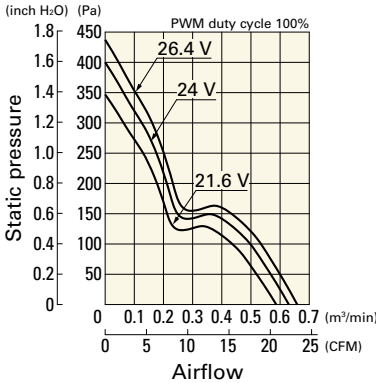
PWM duty - Speed characteristics example



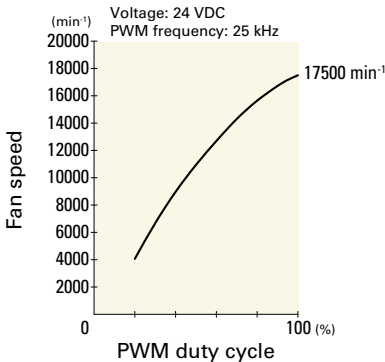
PWM duty cycle



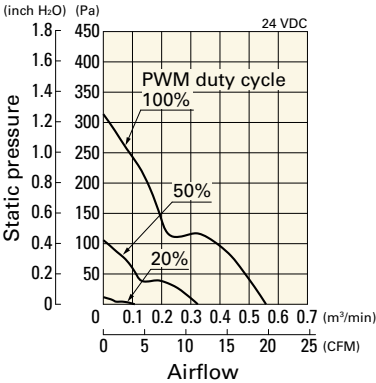
Operating voltage range



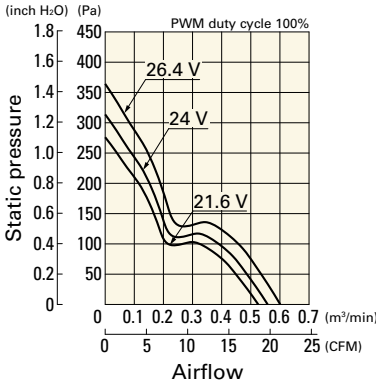
PWM duty - Speed characteristics example



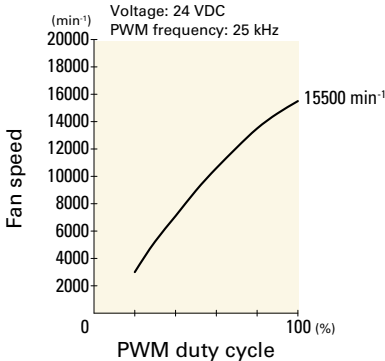
PWM duty cycle

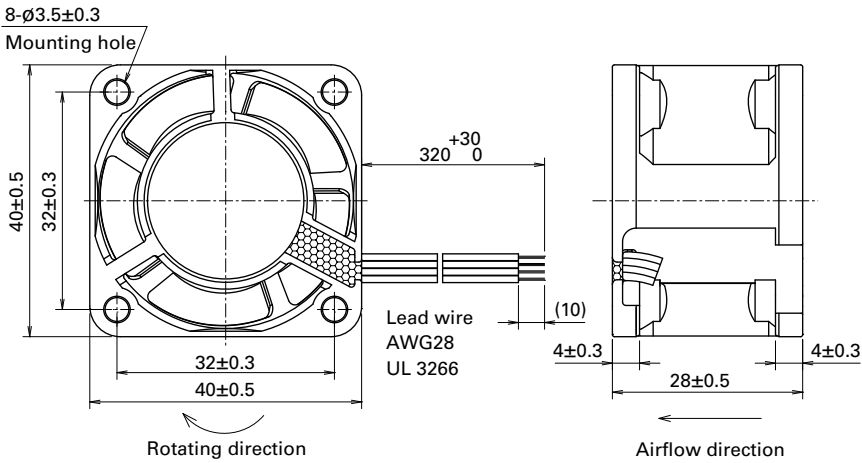


Operating voltage range

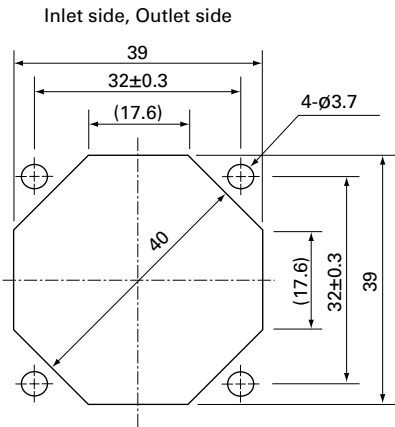


PWM duty - Speed characteristics example





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



Options

Finger guards

page: p. 598

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

60×60×25 mm

San Ace 60W 9WPA type 

IP68 



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 indoor 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 110 g
- Ingress protection IP68 For more information on IP rating, refer to p. 625.

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 [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WPA0612P4G001	12	10.8 to 13.2	100	0.93	11.16	12000	1.52 53.7	357 1.43	56	-20 to +70	40000/60°C (70000/40°C)
			20	0.09	1.08	3500	0.43 15.1	30 0.12	22		
9WPA0612P4H001		10.2 to 13.8	100	0.17	2.04	5800	0.73 25.8	83.4 0.33	36		
			20	0.04	0.48	1600	0.2 7	6.3 0.02	10		
9WPA0624P4G001	24	21.6 to 26.4	100	0.46	11.04	12000	1.52 53.7	357 1.43	56		
			20	0.05	1.2	3500	0.43 15.1	30 0.12	22		

* 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.

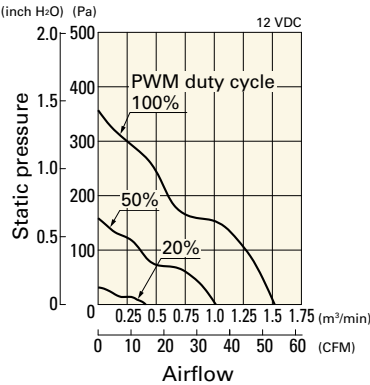
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WPA0612M4001	12	10.2 to 13.8	0.11	1.32	4000	0.51 18	39.7 0.16	26	-20 to +70	40000/60°C (70000/40°C)
9WPA0624S4001	24	21.6 to 26.4	0.17	4.08	7800	0.99 35	151 0.6	43		
9WPA0624M4001		20.4 to 27.6	0.06	1.44	4000	0.51 18	39.7 0.16	26		

Note: Sensor and control options are available for selection. Refer to the table on p. 662.

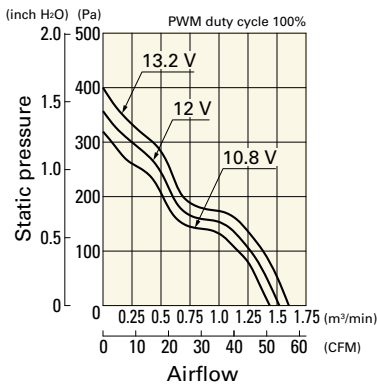
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9WPA0612P4G001 With pulse sensor with PWM control

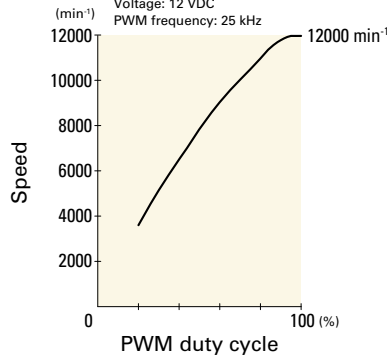
PWM duty cycle



Operating voltage range

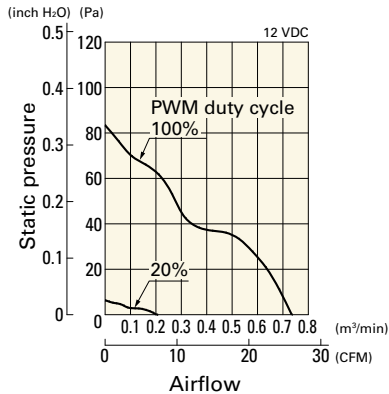


PWM duty - Speed characteristics example

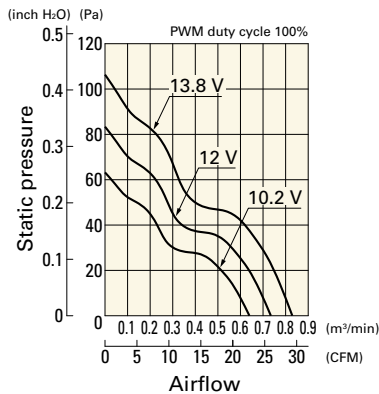


9WPA0612P4H001 With pulse sensor with PWM control

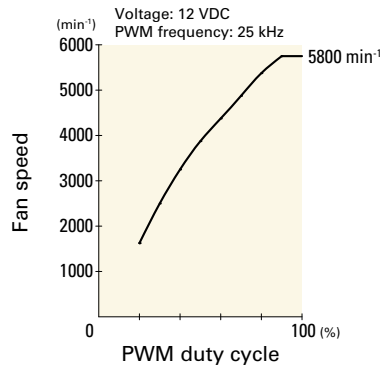
PWM duty cycle



Operating voltage range

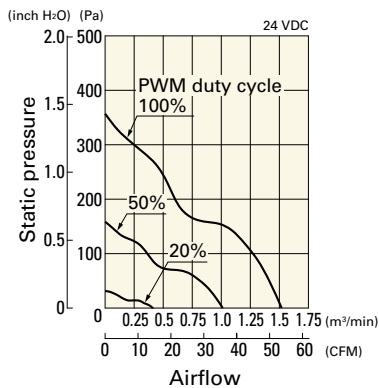


PWM duty - Speed characteristics example

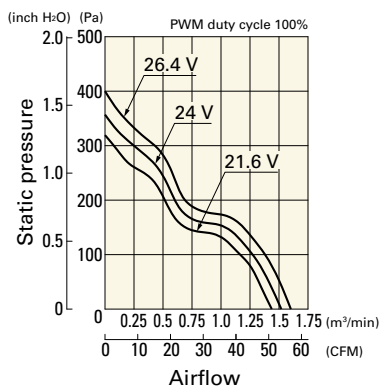


9WPA0624P4G001 With pulse sensor with PWM control

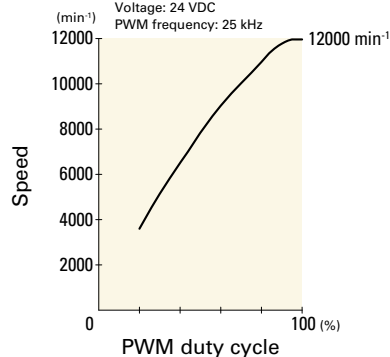
PWM duty cycle



Operating voltage range



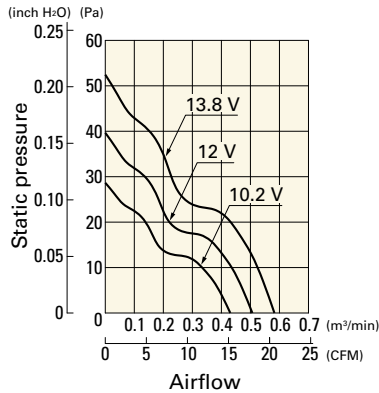
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

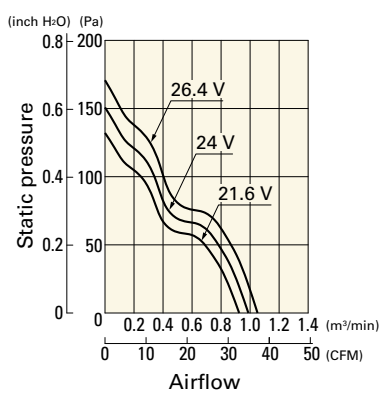
9WPA0612M4001 With pulse sensor

Operating voltage range



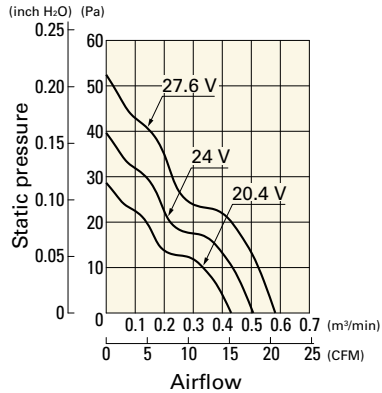
9WPA0624S4001 With pulse sensor

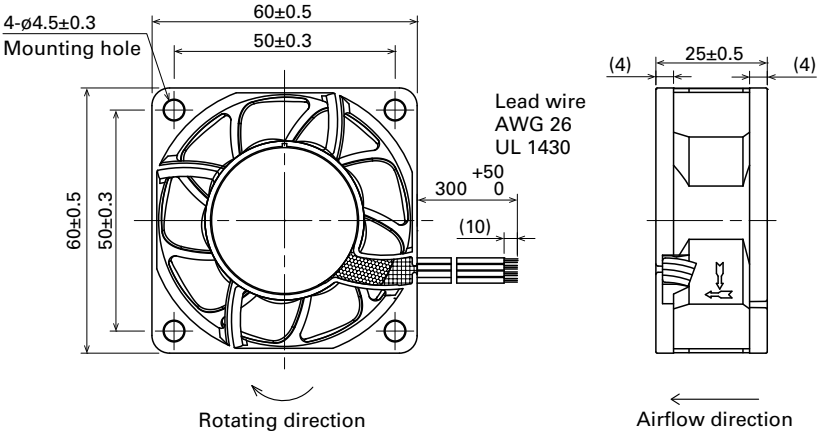
Operating voltage range



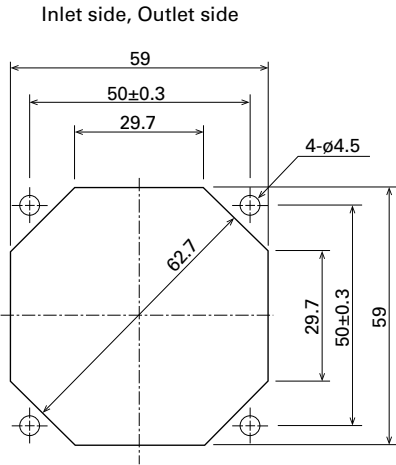
9WPA0624M4001 With pulse sensor

Operating voltage range





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



Options

Finger guards

page: p. 598

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

Resin finger guards

page: p. 605

Model no.: 109-1003G