



# 40x40x20 mm

**San Ace 40 9GA type** Low Power Consumption Fan

## 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. 573.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- 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 ..... 35 g

## Specifications

The models listed below **have ribs and pulse sensors with PWM control function.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GA0405P6H001	5	4.5 to 5.5	100	0.35	1.75	12400	0.33 11.7	191 0.77	40	-20 to +70	40000/60°C (70000/40°C)
9GA0405P6F001			100	0.18	0.9	8000	0.21 7.4	79.5 0.32	28		60000/60°C (90000/40°C)
9GA0412P6G001	12	10.2 to 13.8	100	0.23	2.76	16000	0.42 14.8	318 1.28	47		40000/60°C (70000/40°C)
			0	0.04	0.48	3800	0.1 3.5	17.9 0.07	14		40000/60°C (70000/40°C)
100			0.14	1.68	12400	0.33 11.7	191 0.77	40	60000/60°C (90000/40°C)		
0			0.04	0.48	3800	0.1 3.5	17.9 0.07	14			
9GA0412P6H001			100	0.08	0.96	8000	0.21 7.4	79.5 0.32	28		10
9GA0412P6F001			0	0.03	0.36	2200	0.06 2.1	6.0 0.02	10		
9GA0424P6G001	24	20.4 to 27.6	100	0.13	3.12	16000	0.42 14.8	318 1.28	47		40000/60°C (70000/40°C)
9GA0424P6H001			100	0.08	1.92	12400	0.33 11.7	191 0.77	40		60000/60°C (90000/40°C)
9GA0424P6F001			100	0.04	0.96	8000	0.21 7.4	79.5 0.32	28		

\* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

The following sensor and control options are available for selection.

Available for all models. **Without sensor** **Pulse sensor**

Differs according to the model. Refer to the table on p. 602. **Lock sensor**

The mark indicates Short LeadTime Service applicable models. See p. 626 for details.

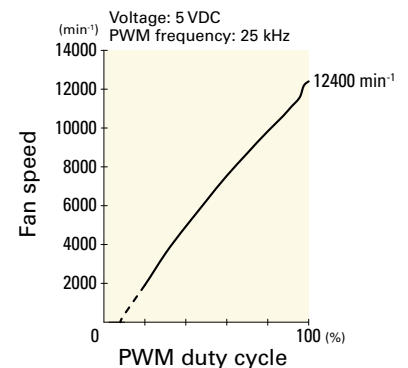
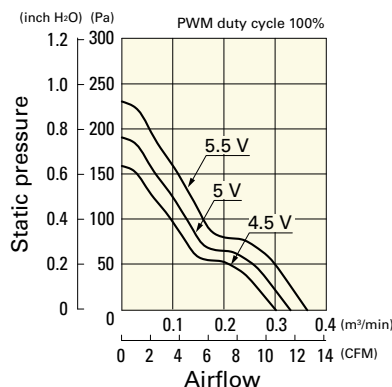
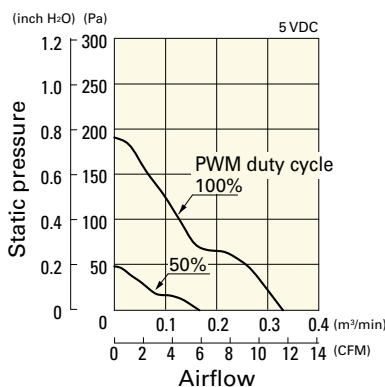
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9GA0405P6H001** With pulse sensor with PWM control function

PWM duty cycle

Operating voltage range

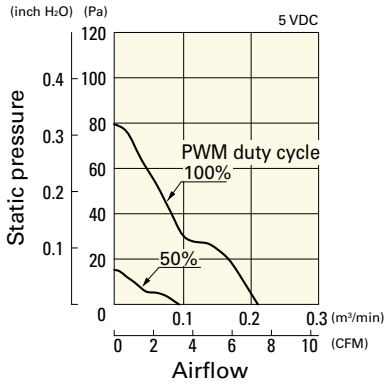
PWM duty - Speed characteristics example



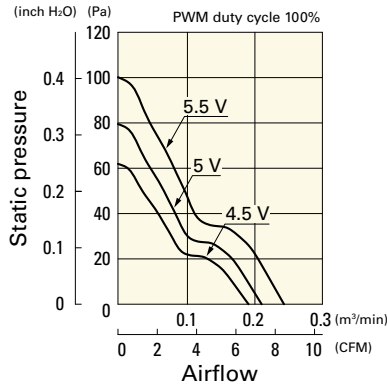
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0405P6F001** With pulse sensor with PWM control function

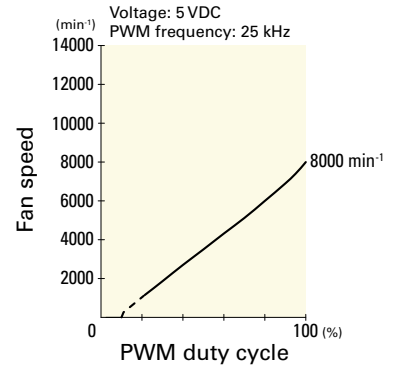
PWM duty cycle



Operating voltage range

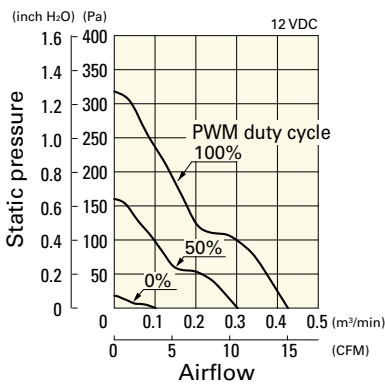


PWM duty - Speed characteristics example

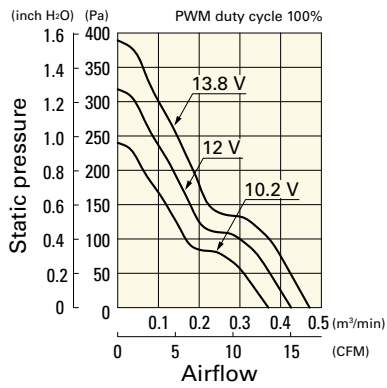


**9GA0412P6G001** With pulse sensor with PWM control function

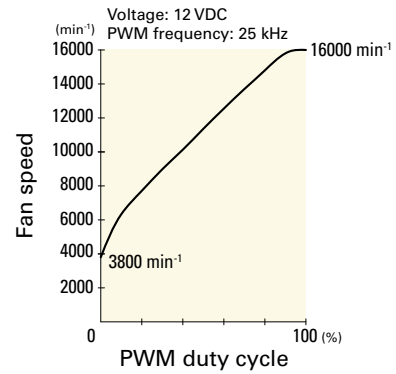
PWM duty cycle



Operating voltage range

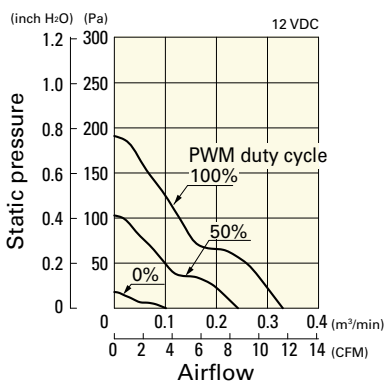


PWM duty - Speed characteristics example

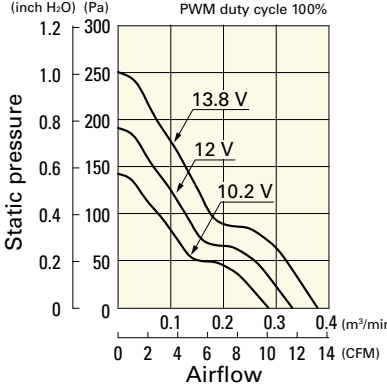


**9GA0412P6H001** With pulse sensor with PWM control function

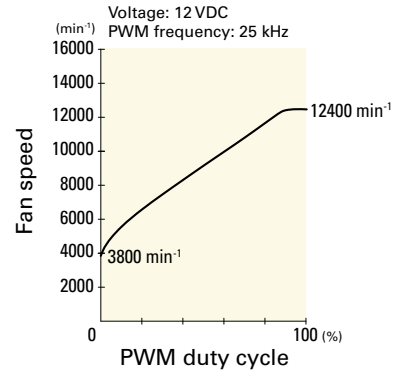
PWM duty cycle



Operating voltage range

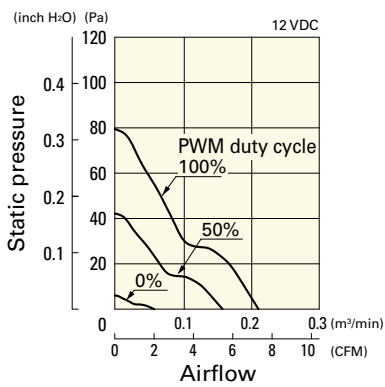


PWM duty - Speed characteristics example

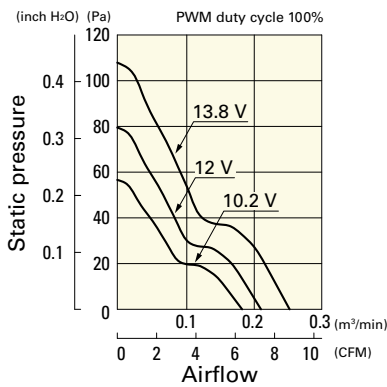


**9GA0412P6F001** With pulse sensor with PWM control function

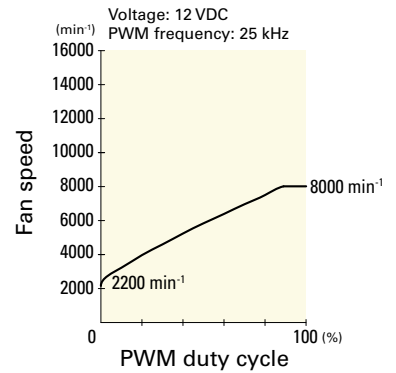
PWM duty cycle



Operating voltage range



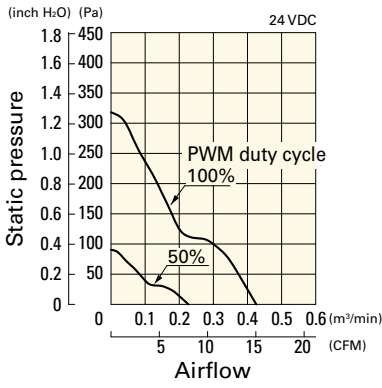
PWM duty - Speed characteristics example



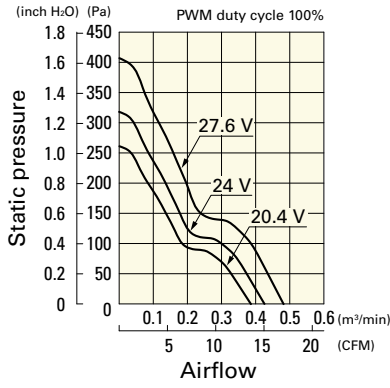
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

**9GA0424P6G001** With pulse sensor with PWM control function

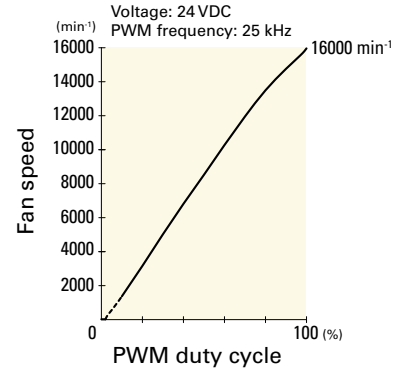
PWM duty cycle



Operating voltage range

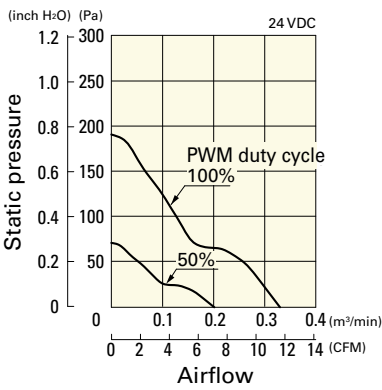


PWM duty - Speed characteristics example

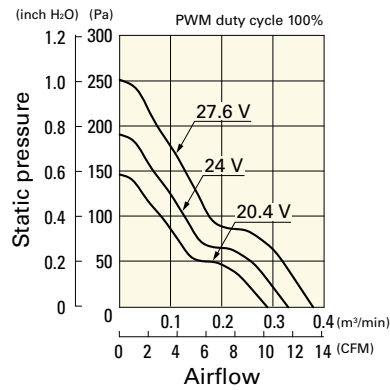


**9GA0424P6H001** With pulse sensor with PWM control function

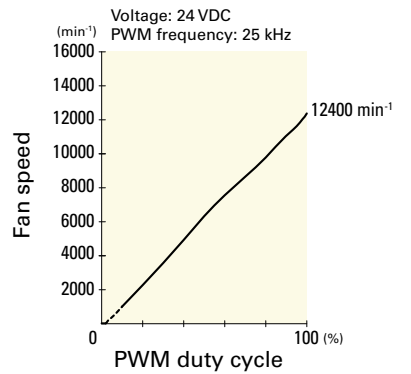
PWM duty cycle



Operating voltage range

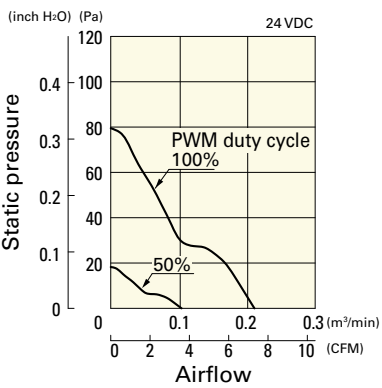


PWM duty - Speed characteristics example

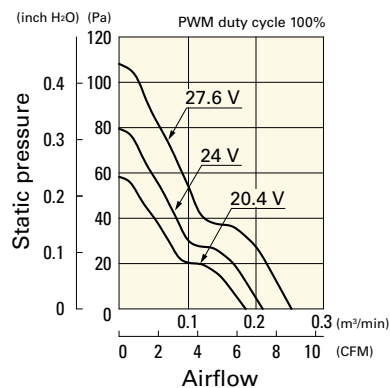


**9GA0424P6F001** With pulse sensor with PWM control function

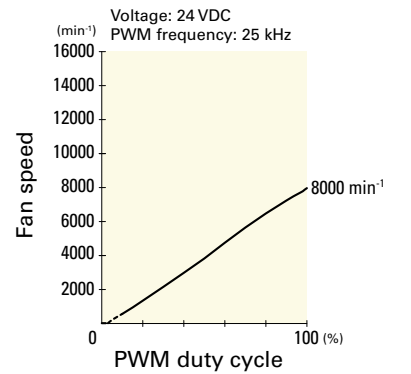
PWM duty cycle



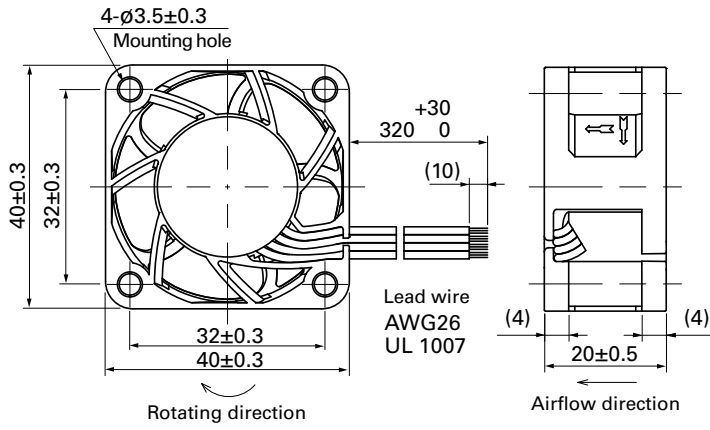
Operating voltage range



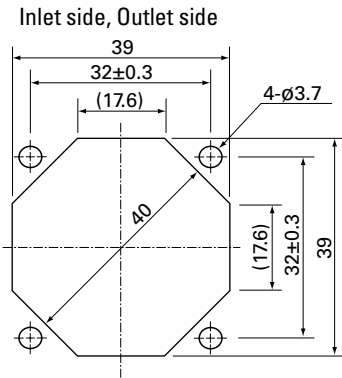
PWM duty - Speed characteristics example



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 558

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

DC Fan

# 40x40x20 mm



San Ace 40 9P 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. 573.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- 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 ..... 45 g

## Specifications

The models listed below **have ribs and pulse sensors.**

Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
» 109P0405J601	5	4.5 to 5.5	0.46	2.3	9800	0.28 9.9	98.5 0.396	39	-20 to +70	40000/60°C (70000/40°C)
» 109P0405H601			0.32	1.6	8000	0.225 8.0	65.7 0.264	33		
» 109P0405F601			0.25	1.25	6500	0.183 6.5	45.1 0.181	28		
» 109P0405M601			0.12	0.6	5000	0.136 4.8	26.5 0.106	24		
» 109P0412G601	12	7 to 13.8	0.28	3.36	12500	0.35 12.4	153.8 0.618	44	-20 to +60	40000/60°C (70000/40°C)
» 109P0412D601			0.18	2.16	11000	0.31 10.9	124 0.498	42		
» 109P0412E601			0.13	1.56	9200	0.26 9.2	87.3 0.351	37		
» 109P0412H601			0.11	1.32	8000	0.225 8.0	65.7 0.264	33		
» 109P0412F601			0.09	1.08	6500	0.183 6.5	45.1 0.181	28		
» 109P0412M601			0.06	0.72	5000	0.136 4.8	26.5 0.106	24		
» 109P0424G601	24	12 to 27.6	0.15	3.6	12500	0.35 12.4	153.8 0.618	44	-20 to +60	40000/60°C (70000/40°C)
» 109P0424D601			0.13	3.12	11000	0.31 10.9	124 0.498	42		
» 109P0424H601			0.07	1.68	8300	0.233 8.2	69.6 0.28	35		
» 109P0424F601			0.06	1.44	6500	0.183 6.5	45.1 0.181	28		
» 109P0424B601		20.4 to 27.6	0.06	1.44	5200	0.14 4.9	28.3 0.114	25	-20 to +70	60000/60°C (90000/40°C)

The following sensor and control options are available for selection.

Available for all models. Without sensor

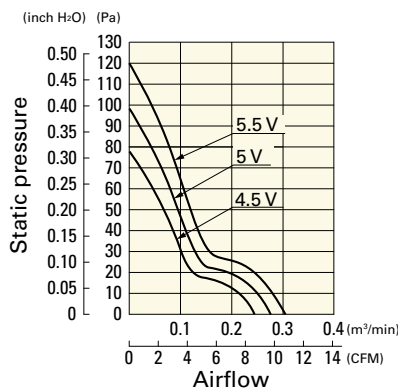
Differs according to the model. Refer to the table on pp. 595 to 596. Lock sensor

The » mark indicates Short LeadTime Service applicable models. See p. 626 for details.

## Airflow - Static Pressure Characteristics

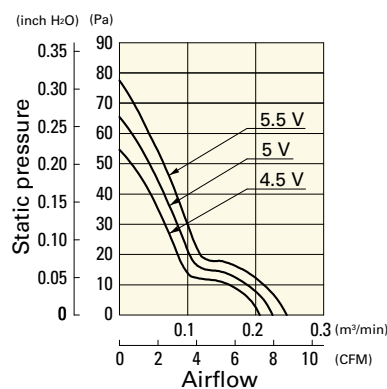
**109P0405J601** With pulse sensor

Operating voltage range



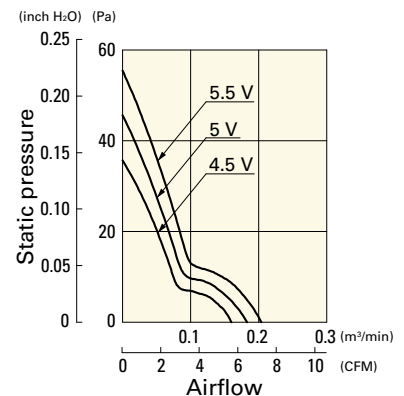
**109P0405H601** With pulse sensor

Operating voltage range



**109P0405F601** With pulse sensor

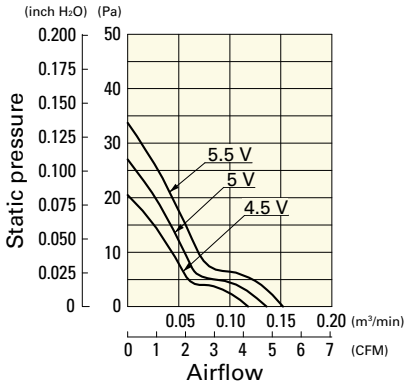
Operating voltage range



# Airflow - Static Pressure Characteristics

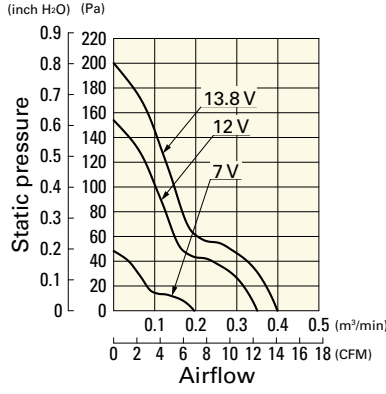
**109P0405M601** With pulse sensor

Operating voltage range



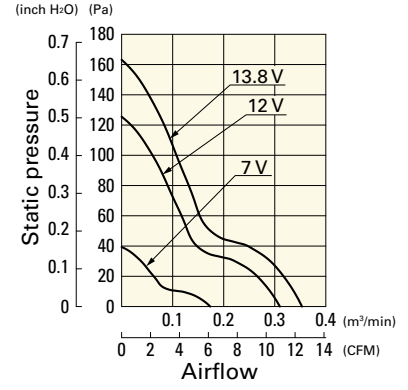
**109P0412G601** With pulse sensor

Operating voltage range



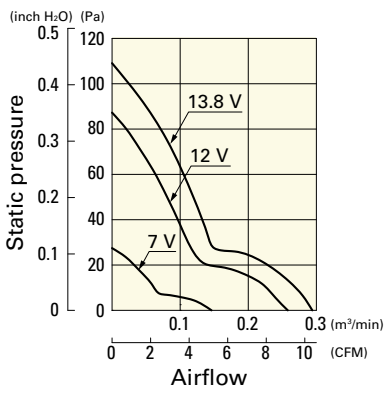
**109P0412D601** With pulse sensor

Operating voltage range



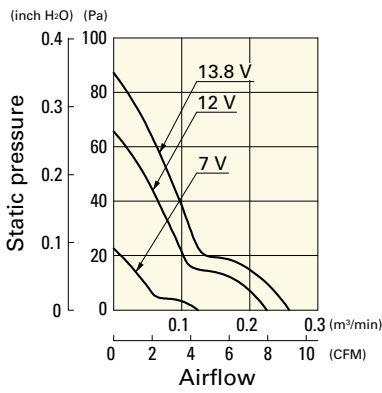
**109P0412E601** With pulse sensor

Operating voltage range



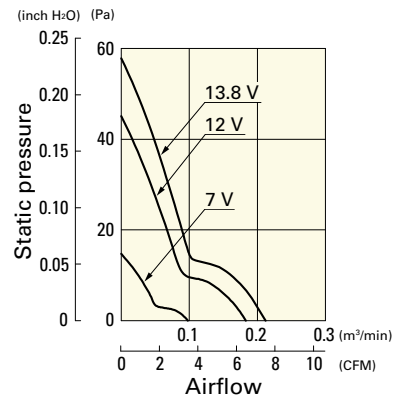
**109P0412H601** With pulse sensor

Operating voltage range



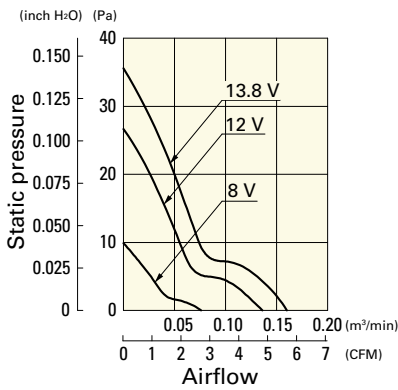
**109P0412F601** With pulse sensor

Operating voltage range



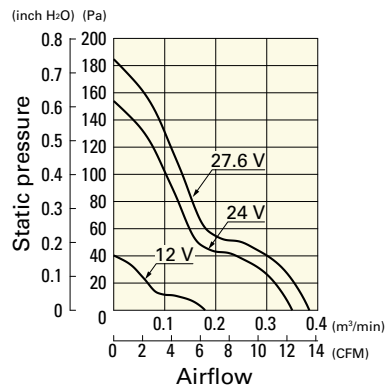
**109P0412M601** With pulse sensor

Operating voltage range



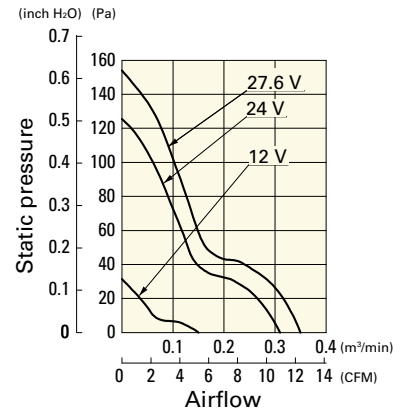
**109P0424G601** With pulse sensor

Operating voltage range



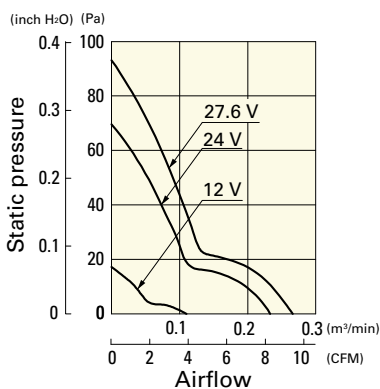
**109P0424D601** With pulse sensor

Operating voltage range



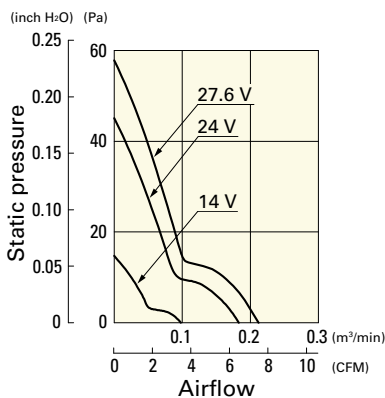
**109P0424H601** With pulse sensor

Operating voltage range



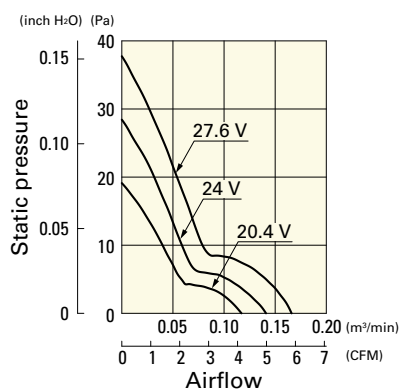
**109P0424F601** With pulse sensor

Operating voltage range

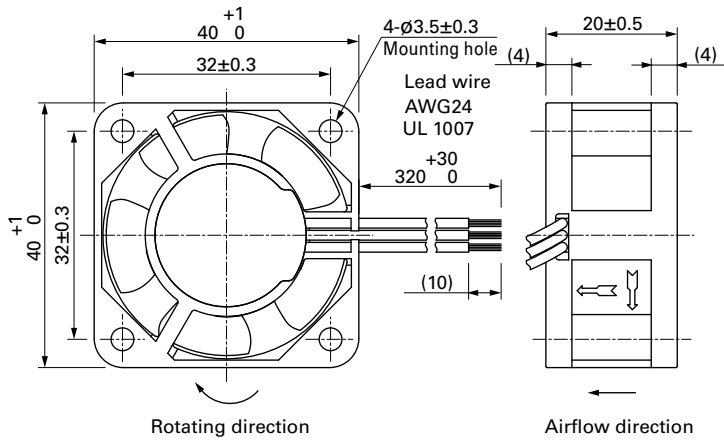


**109P0424B601** With pulse sensor

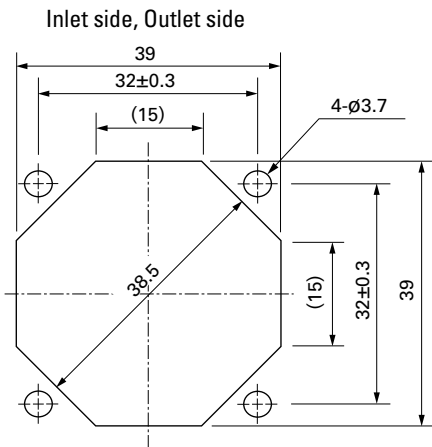
Operating voltage range



**Dimensions (unit: mm)**



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



**Options**

Finger guards

page: p. 558

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