



40x40x28 mm

San Ace 40 9HV type

General Specifications

- Material Frame: Aluminum, 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 60 g

Specifications

The models listed below **have 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 ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9HV0412P3K001	12	10.8 to 12.6	100	1.52	18.3	25000	0.83 29.3	1100 4.42	65	-20 to +60	40000/60°C (70000/40°C)
			0	0.2	2.4	7500	0.25 8.8	99 0.4	37		

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

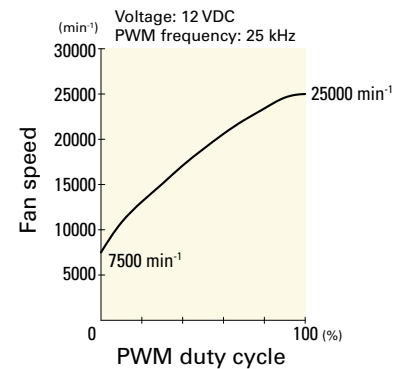
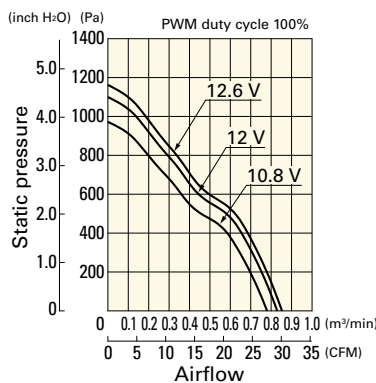
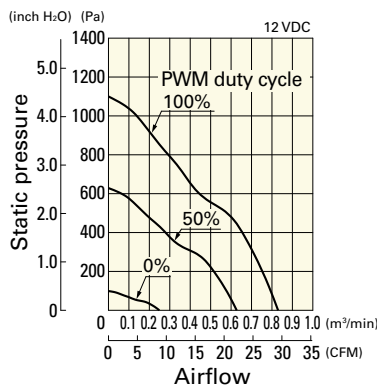
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0412P3K001 With pulse sensor with PWM control function

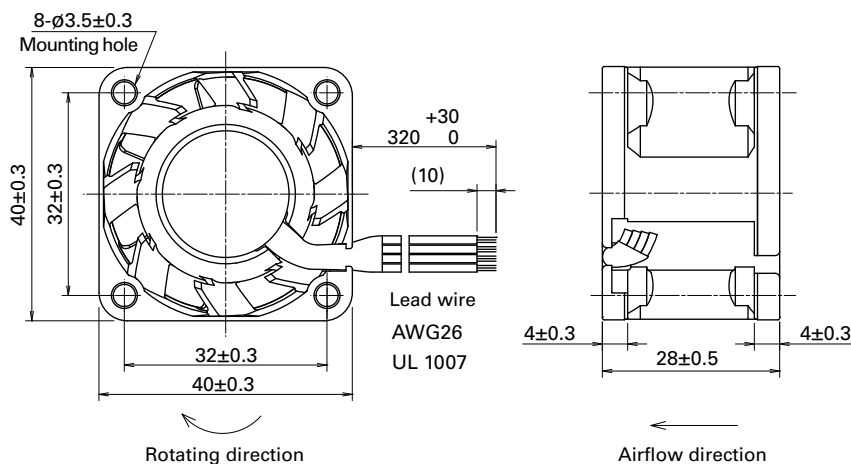
PWM duty cycle

Operating voltage range

PWM duty - Speed characteristics example

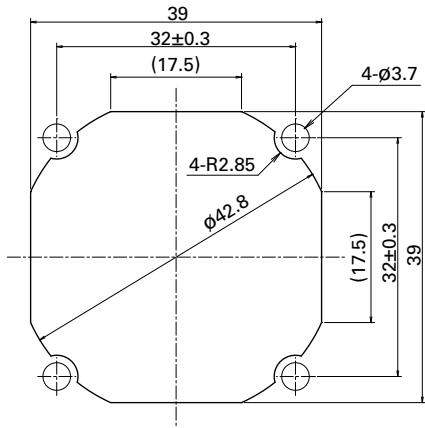


Dimensions (unit: mm)



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

Inlet side, Outlet side

**Options**

Finger guards

page: p. 558

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

40x40x28 mm



San Ace 40 9GAX 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 53 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 [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]	
9GAX0412P3S001	12	10.8 to 12.6	100	1.3	15.6	25000	0.9 31.8	1000 4.02	64	-20 to +60	30000/60°C (53000/40°C)	
			20	0.07	0.84	4400	0.155 5.5	32 0.125	21.5			
9GAX0412P3S003			100	1.3	15.6	25000	0.9 31.8	1000 4.02	64			
			0	0.11	1.32	7800	0.26 9.2	87 0.35	38			
9GAX0412P3K001			10.8 to 13.2	100	0.92	11.04	22000	0.81 28.6	800 3.21			61
				20	0.07	0.84	4200	0.15 5.3	28 0.11			21
9GAX0412P3K003		100		0.92	11.04	22000	0.81 28.6	800 3.21	61			
		0		0.1	1.2	6500	0.24 8.5	70 0.28	32			

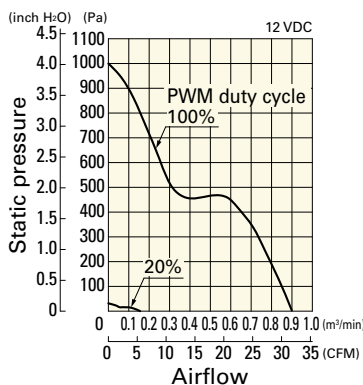
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

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

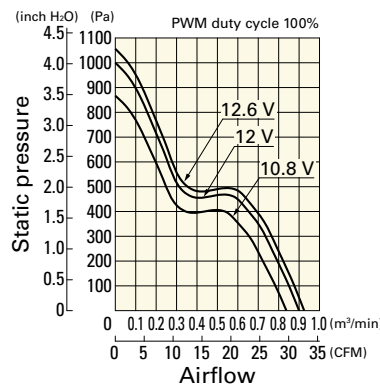
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GAX0412P3S001 With pulse sensor with PWM control function

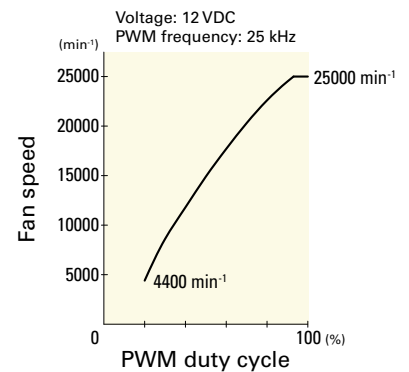
PWM duty cycle



Operating voltage range



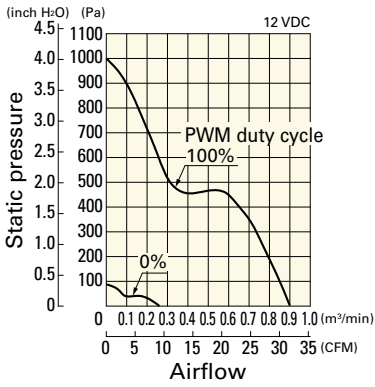
PWM duty - Speed characteristics example



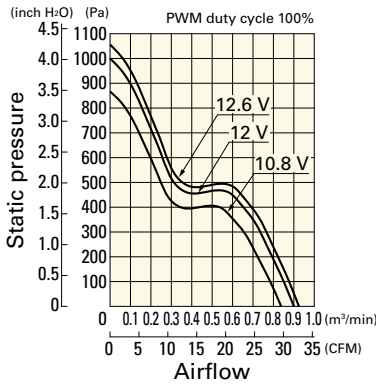
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GAX0412P3S003 With pulse sensor with PWM control function

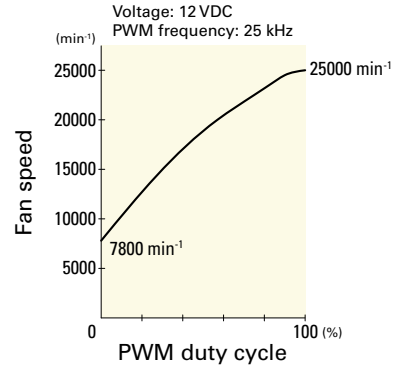
PWM duty cycle



Operating voltage range

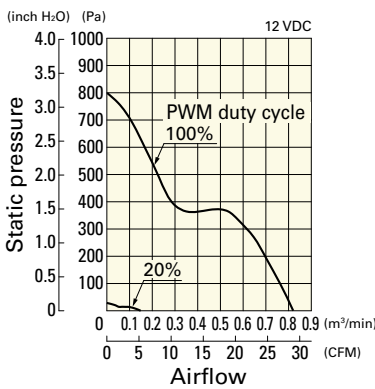


PWM duty - Speed characteristics example

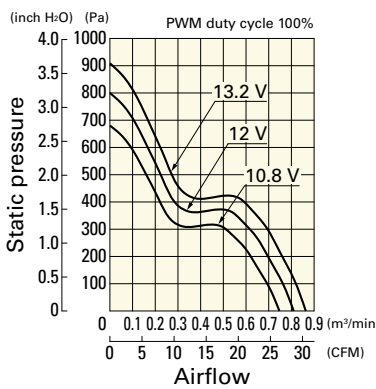


9GAX0412P3K001 With pulse sensor with PWM control function

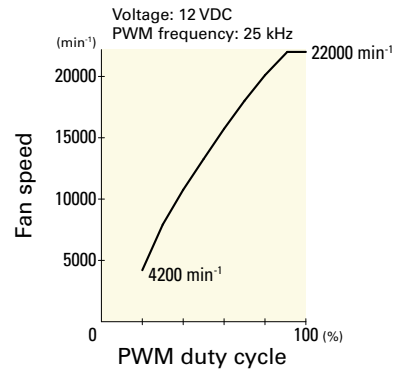
PWM duty cycle



Operating voltage range

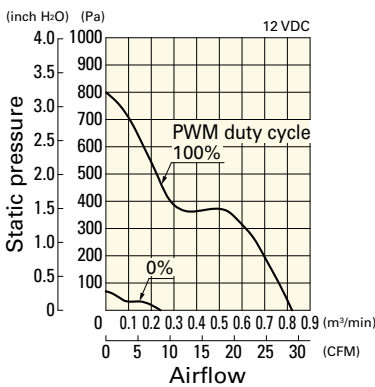


PWM duty - Speed characteristics example

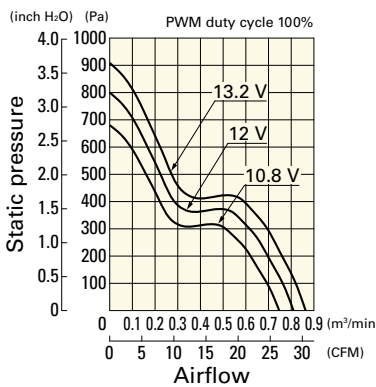


9GAX0412P3K003 With pulse sensor with PWM control function

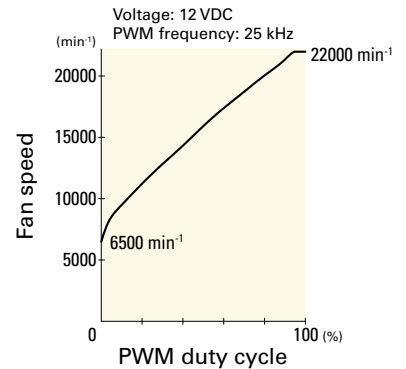
PWM duty cycle



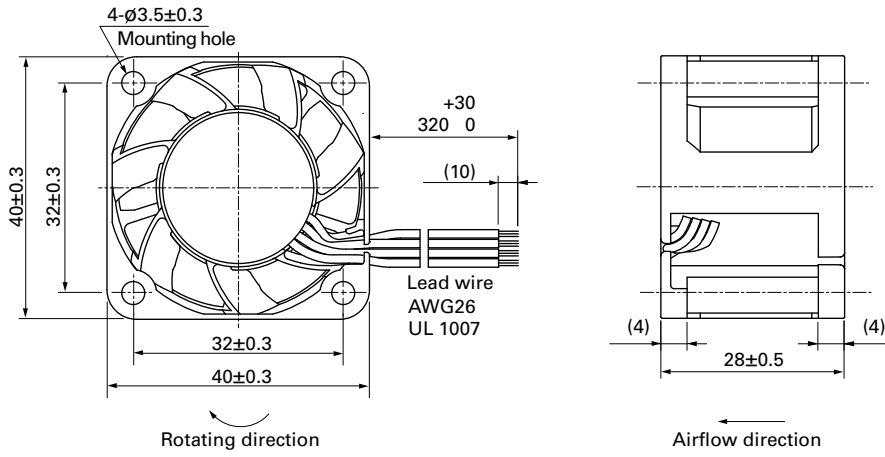
Operating voltage range



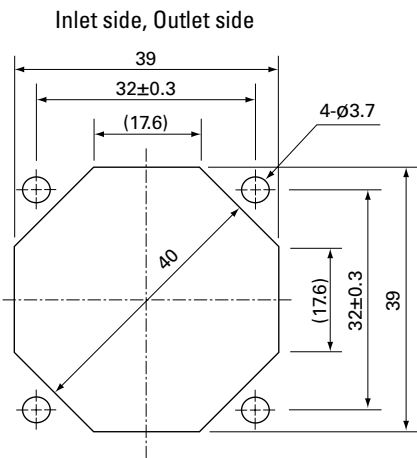
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards

page: p. 558

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



40x40x28 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 53 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 [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]				
9GA0412P3K01	12	10.8 to 13.2	100	0.92	11.04	22000	0.81 28.6	799 3.21	61	-20 to +60	30000/60°C (53000/40°C)				
			0	0.1	1.2	6500	0.23 8.12	68 0.27	32						
9GA0412P3J01			100	0.49	5.88	18000	0.67 23.7	535 2.15	54						
			0	0.05	0.6	4500	0.16 5.7	33 0.13	22						
9GA0412P3G01			100	0.39	4.68	16500	0.61 21.5	450 1.81	53						
			0	0.05	0.6	4500	0.16 5.7	33 0.13	22						
9GA0412P3H01			100	0.28	3.36	14500	0.54 19.1	347 1.39	50						
			0	0.04	0.48	3500	0.13 4.6	20 0.08	17						
9GA0412P3M01			100	0.21	2.52	12500	0.46 16.2	258 1.04	47						
			0	0.04	0.48	3500	0.13 4.6	20 0.08	17						
9GA0424P3J001			24	21.6 to 26.4	100	0.27	6.48	18000	0.67 23.7			535 2.15	54	-20 to +70	40000/60°C (70000/40°C)
9GA0424P3G001					100	0.22	5.28	16500	0.61 21.5			450 1.81	53		
9GA0424P3H001	100	0.16			3.84	14500	0.54 19.1	347 1.39	50						
9GA0424P3M001	100	0.11			2.64	12500	0.46 16.2	258 1.04	47						
	0	0.04			0.48	3500	0.13 4.6	20 0.08	17						

* 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

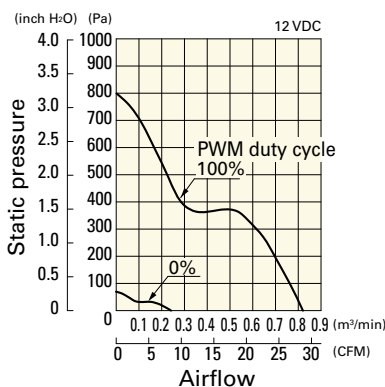
Differs according to the model. Refer to the table on p. 602. Lock sensor

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

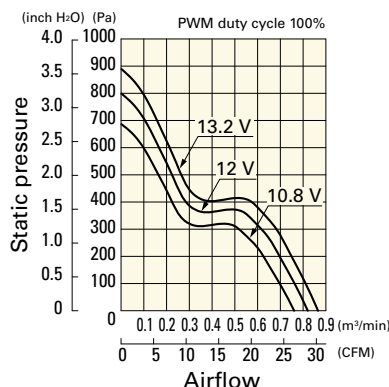
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0412P3K01 With pulse sensor with PWM control function

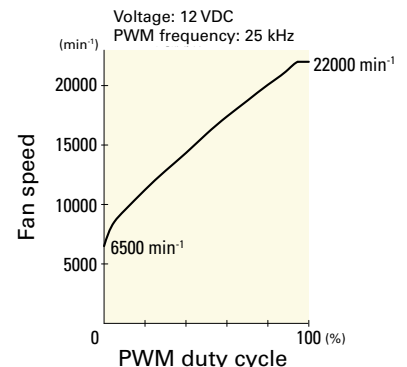
PWM duty cycle



Operating voltage range



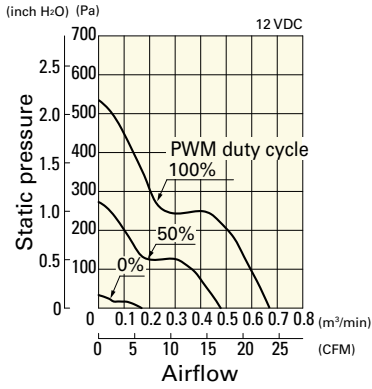
PWM duty - Speed characteristics example



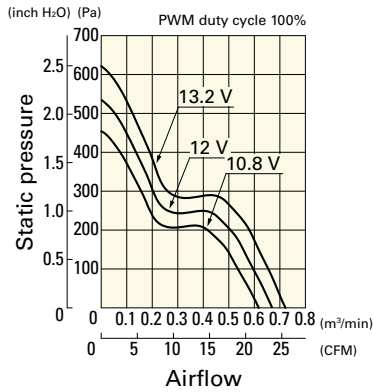
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0412P3J01 With pulse sensor with PWM control function

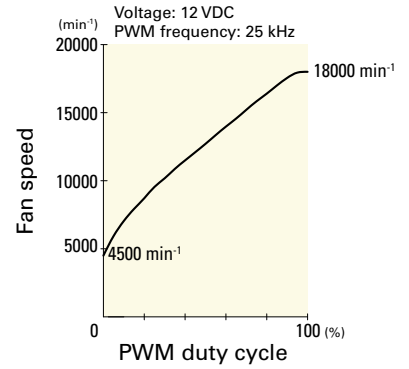
PWM duty cycle



Operating voltage range

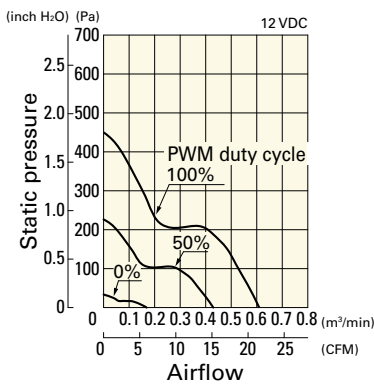


PWM duty - Speed characteristics example

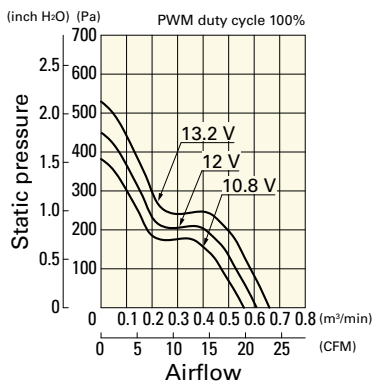


9GA0412P3G01 With pulse sensor with PWM control function

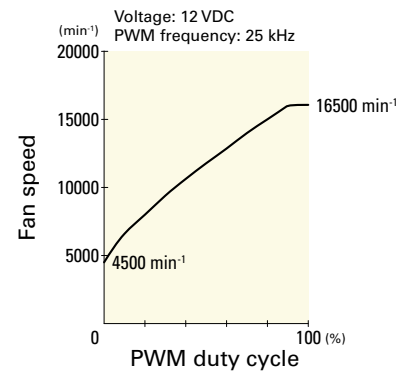
PWM duty cycle



Operating voltage range

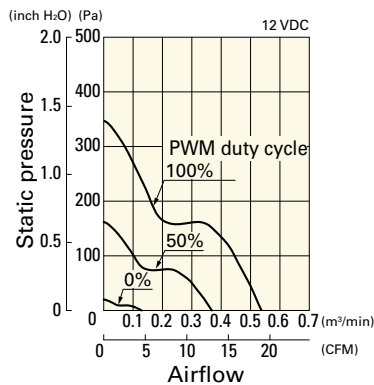


PWM duty - Speed characteristics example

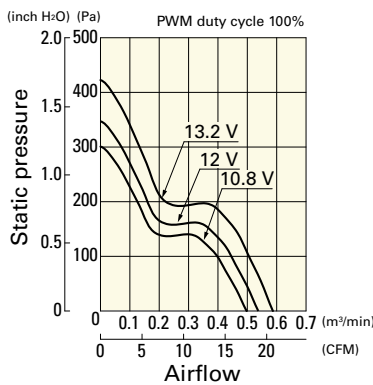


9GA0412P3H01 With pulse sensor with PWM control function

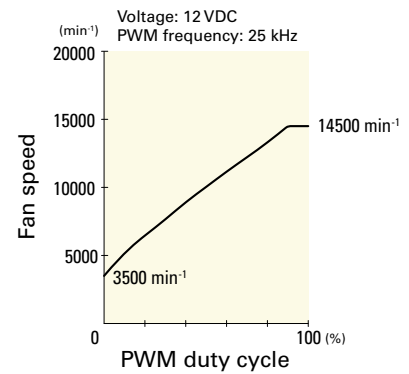
PWM duty cycle



Operating voltage range

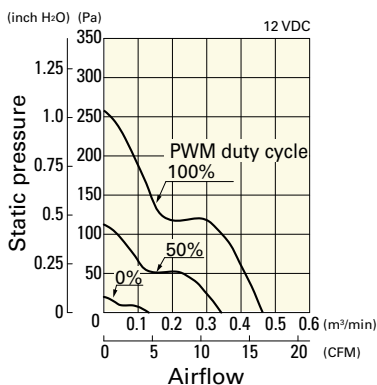


PWM duty - Speed characteristics example

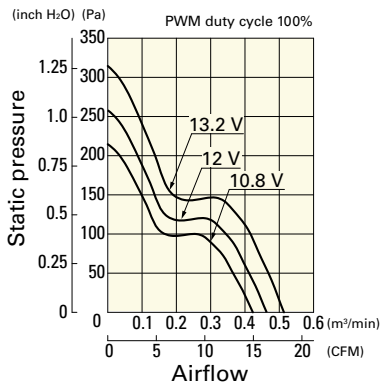


9GA0412P3M01 With pulse sensor with PWM control function

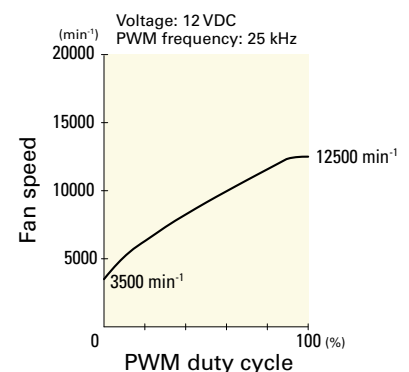
PWM duty cycle



Operating voltage range



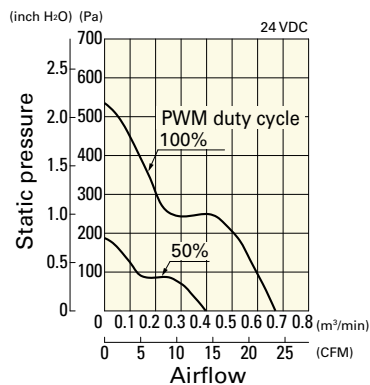
PWM duty - Speed characteristics example



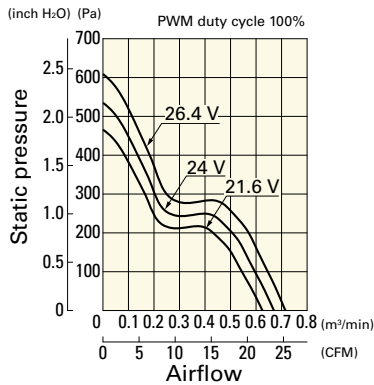
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0424P3J001 With pulse sensor with PWM control function

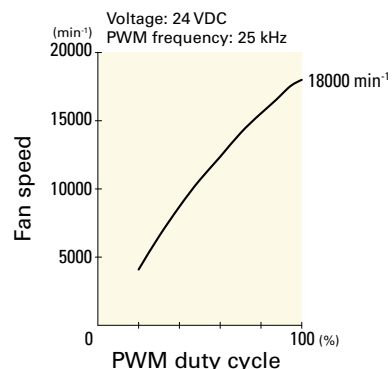
PWM duty cycle



Operating voltage range

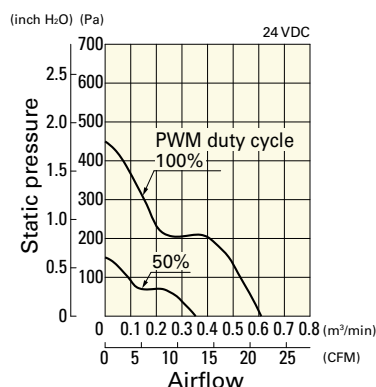


PWM duty - Speed characteristics example

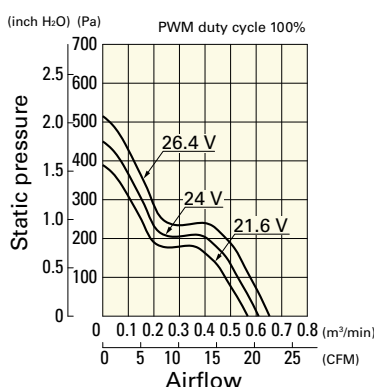


9GA0424P3G001 With pulse sensor with PWM control function

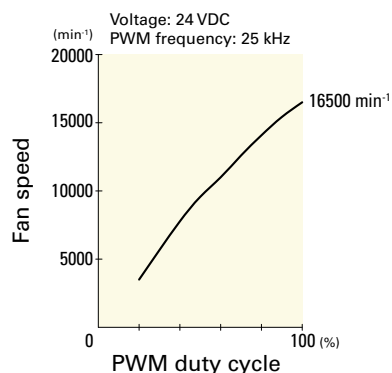
PWM duty cycle



Operating voltage range

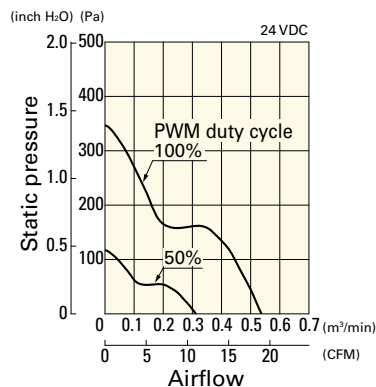


PWM duty - Speed characteristics example

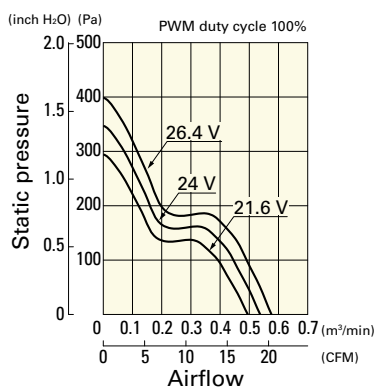


9GA0424P3H001 With pulse sensor with PWM control function

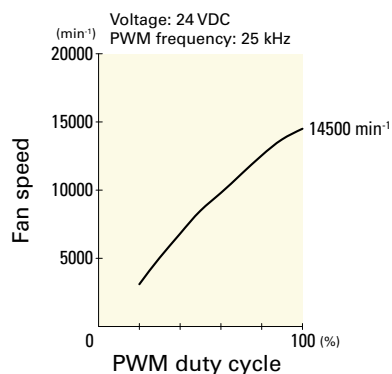
PWM duty cycle



Operating voltage range

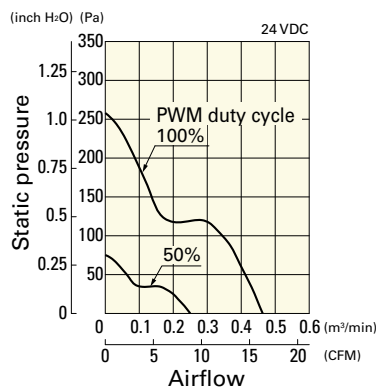


PWM duty - Speed characteristics example

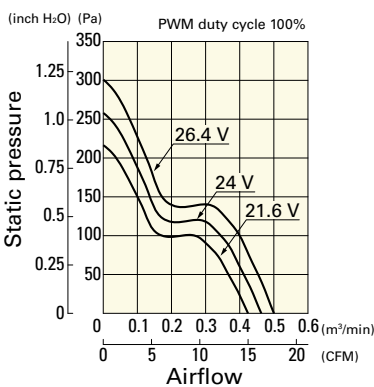


9GA0424P3M001 With pulse sensor with PWM control function

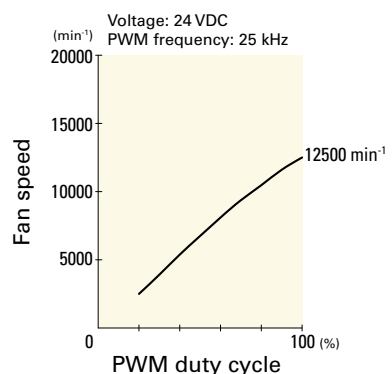
PWM duty cycle



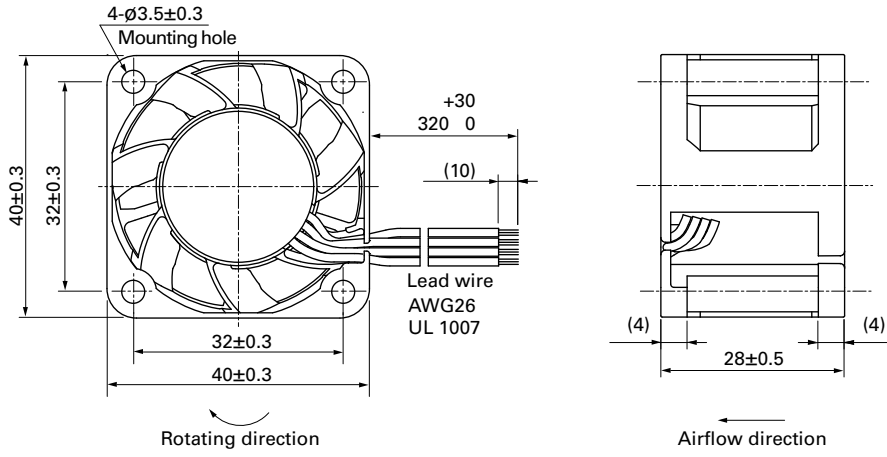
Operating voltage range



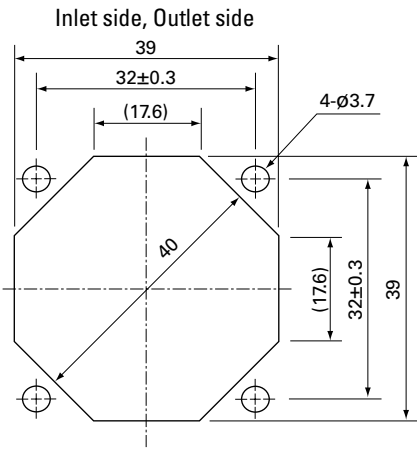
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards

page: p. 558

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

DC Fan

40x40x28 mm

San Ace 40 9GE type



General Specifications

- Material Frame: Aluminum, 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 55 g

Specifications

The models listed below **have 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 ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GE0412P3K03	12	10.8 to 13.2	100	0.84	10.08	16500	0.76 26.8	415 1.666	58	-20 to +60	40000/60°C (70000/40°C)
			0	0.07	0.84	3000	0.13 4.6	13 0.052	17		
9GE0412P3J03			100	0.65	7.8	15000	0.69 24.4	343.0 1.378	56		
			0	0.05	0.6	2650	0.12 4.2	10.7 0.042	14		
9GE0412P3G03			100	0.47	5.64	13000	0.6 21.2	260 1.044	52		
			0	0.05	0.6	2400	0.11 3.9	8.2 0.033	13		

* 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.

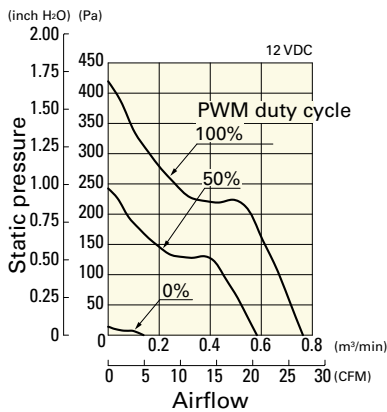
Available for all models. Lock sensor

Differs according to the model. Refer to the table on p. 605. Without sensor Pulse sensor

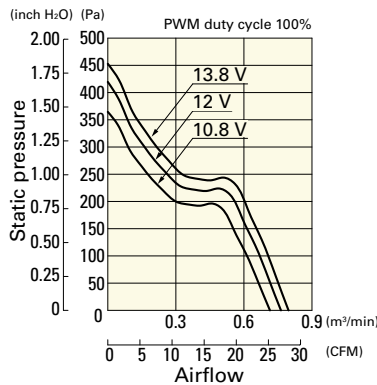
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GE0412P3K03 With pulse sensor with PWM control function

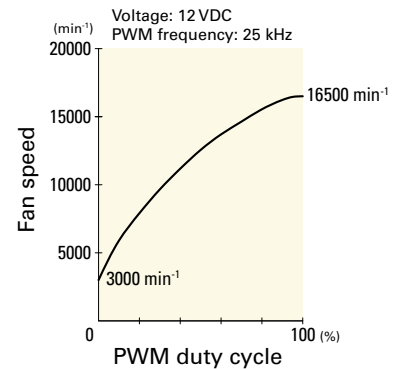
PWM duty cycle



Operating voltage range



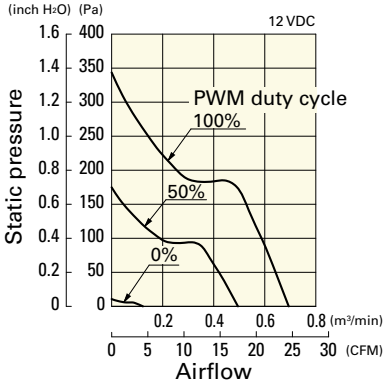
PWM duty - Speed characteristics example



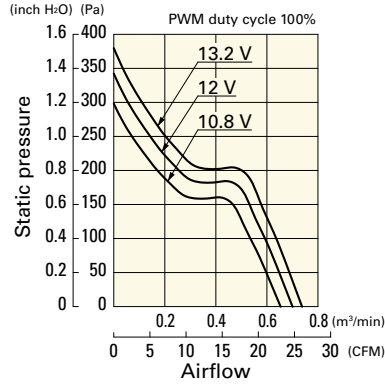
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GE0412P3J03 With pulse sensor with PWM control function

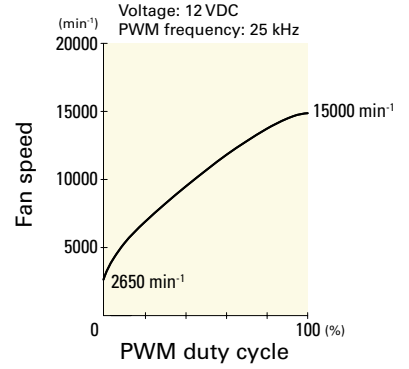
PWM duty cycle



Operating voltage range

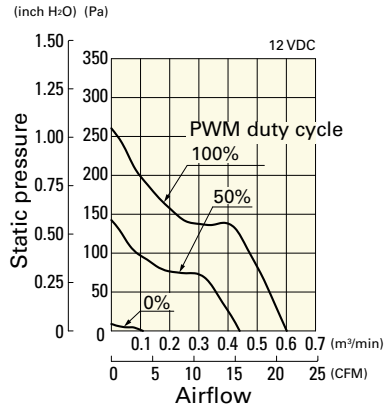


PWM duty - Speed characteristics example

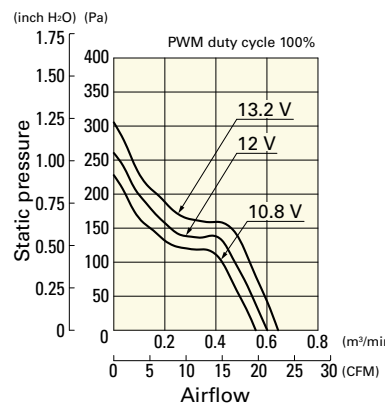


9GE0412P3G03 With pulse sensor with PWM control function

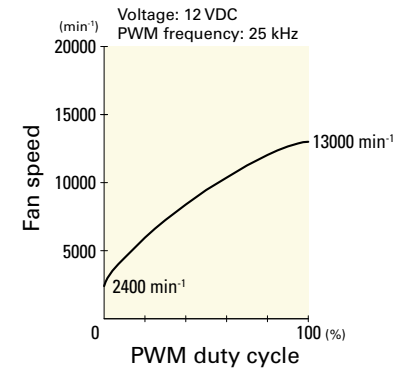
PWM duty cycle



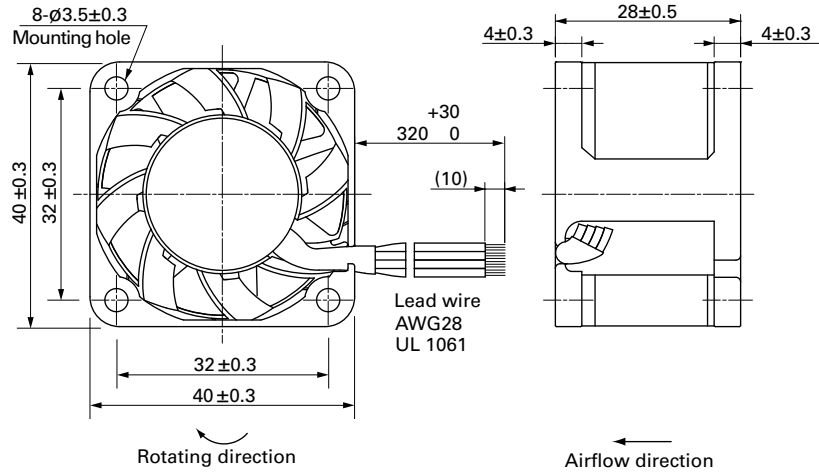
Operating voltage range

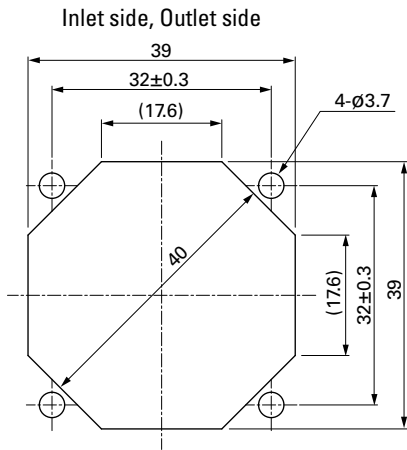


PWM duty - Speed characteristics example



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



40x40x28 mm

San Ace 40 9GV type

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 -20 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black or Blue Sensor Yellow
- Mass 50 g

Specifications

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 [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GV0412K301	12	10.8 to 12.6	0.84	10.08	16500	0.76 26.8	415 1.668	58	-20 to +60	40000/60°C (70000/40°C)
9GV0412J301			0.6	7.2	14700	0.68 24.0	330 1.325	55		
9GV0412G301		7 to 13.2	0.47	5.64	13000	0.6 21.1	260 1.044	52		
9GV0412H301			0.31	3.72	11600	0.53 18.7	207 0.831	49		
9GV0412C301			0.15	1.8	8300	0.37 13.1	100 0.402	41	-20 to +70	

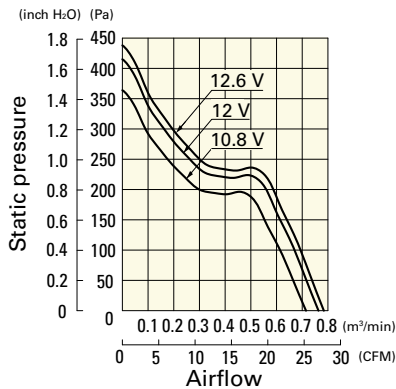
The following sensor and control options are available for selection.

Differs according to the model. Refer to the table on p. 606. Without sensor Lock sensor PWM control

Airflow - Static Pressure Characteristics

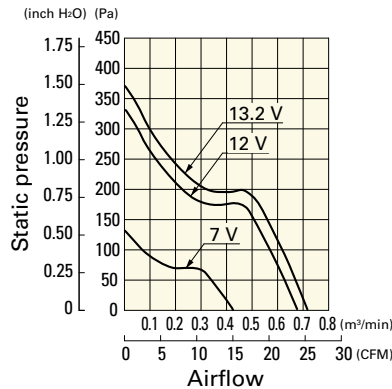
9GV0412K301 With pulse sensor

Operating voltage range



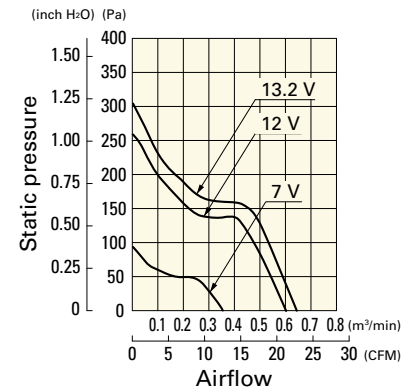
9GV0412J301 With pulse sensor

Operating voltage range



9GV0412G301 With pulse sensor

Operating voltage range



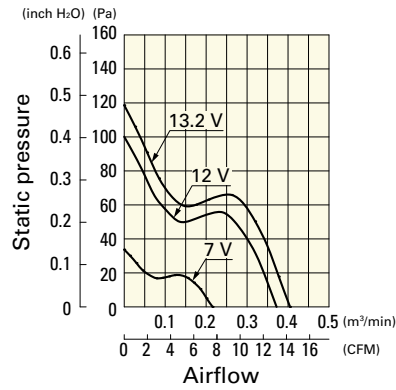
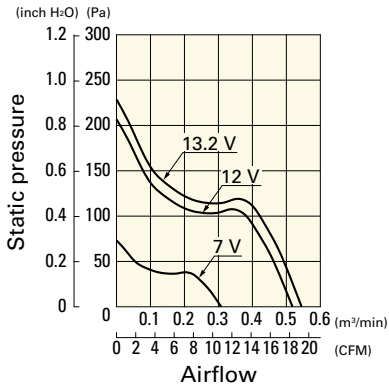
Airflow - Static Pressure Characteristics

9GV0412H301 With pulse sensor

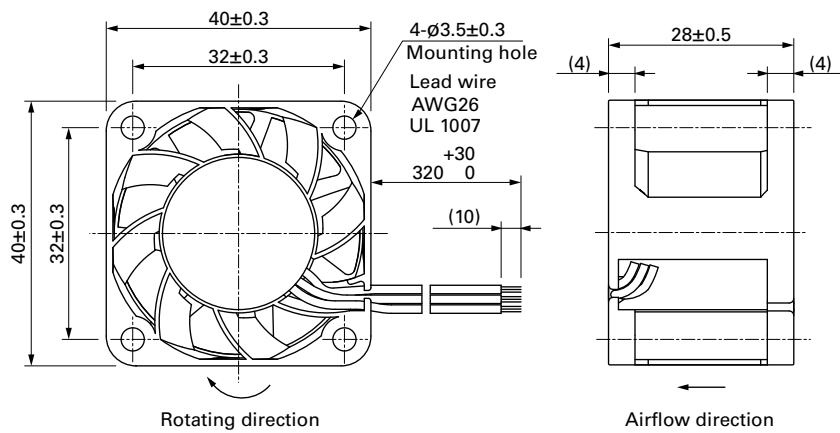
9GV0412C301 With pulse sensor

Operating voltage range

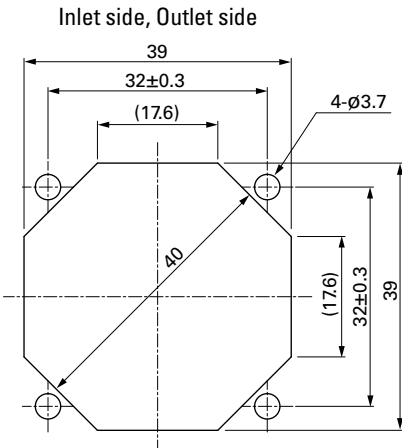
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards

page: p. 558

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

40x40x28 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 52 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 ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]		
109P0405H3013	5	4.5 to 5.5	0.68	3.4	8700	0.32 11.3	102.9 0.414	37	-20 to +70	40000/60°C (70000/40°C)		
109P0405F3013			0.28	1.4	6700	0.244 8.6	58.8 0.236	30		60000/60°C (90000/40°C)		
109P0412K3013	12	8 to 13.2	0.55	6.6	15500	0.59 20.8	340 1.365	50	-20 to +60	40000/60°C (70000/40°C)		
109P0412J3013		7 to 13.2	0.35	4.2	12500	0.46 16.2	210 0.843	44				
109P0412G3013			0.31	3.72	11500	0.42 14.8	179 0.719	42				
109P0412B3013		7 to 13.8	0.28	3.36	10300	0.38 13.4	143 0.574	40				
109P0412H3013			0.195	2.34	8700	0.32 11.3	102.9 0.414	37				
109P0412F3013		0.105	1.26	6700	0.244 8.6	58.8 0.236	30					
109P0412M3013	10.2 to 13.8	0.045	0.54	4100	0.15 5.3	21.6 0.087	20	-20 to +70	60000/60°C (90000/40°C)			
109P0424R3013	24	12 to 26.4	0.25	6	14000	0.51 18.0	263.4 1.057	47	-20 to +60	40000/60°C (70000/40°C)		
109P0424J3013			0.18	4.32	12500	0.46 16.2	210 0.843	44				
109P0424G3013			0.19	4.56	11500	0.42 14.8	179 0.719	42				
109P0424B3013			0.13	3.12	10300	0.38 13.4	143 0.574	40				
109P0424H3013		12 to 27.6	0.095	2.28	8700	0.32 11.3	102.9 0.414	37			-20 to +70	60000/60°C (90000/40°C)
109P0424F3013		14 to 27.6	0.055	1.32	6700	0.244 8.6	58.8 0.236	30				

The following sensor and control options are available for selection.

Available for all models. **Without sensor**

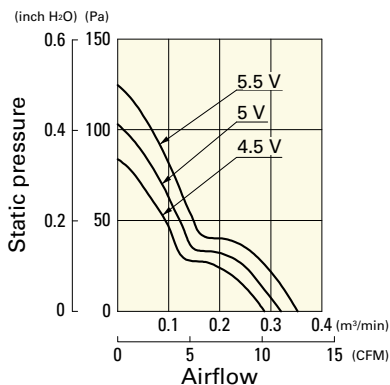
Differs according to the model. Refer to the table on pp. 595 to 596. **Lock sensor** **PWM control**

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

Airflow - Static Pressure Characteristics

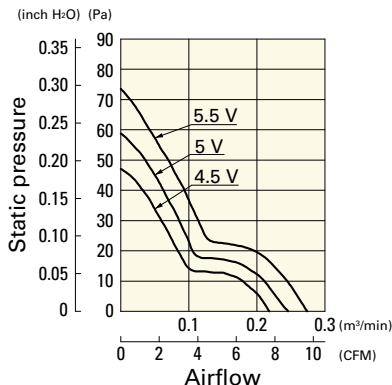
109P0405H3013 With pulse sensor

Operating voltage range



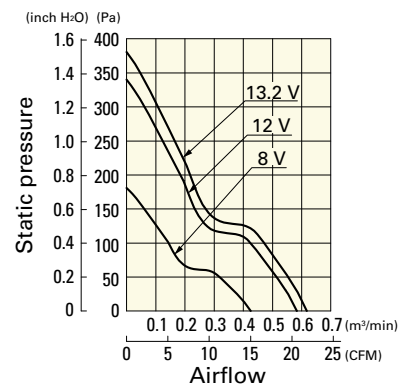
109P0405F3013 With pulse sensor

Operating voltage range



109P0412K3013 With pulse sensor

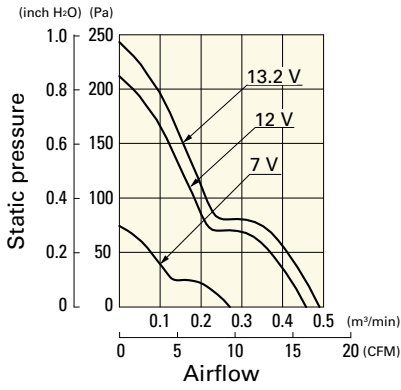
Operating voltage range



Airflow - Static Pressure Characteristics

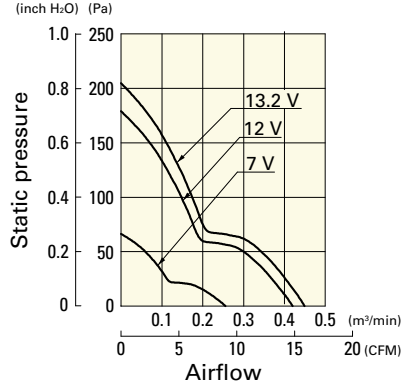
109P0412J3013 With pulse sensor

Operating voltage range



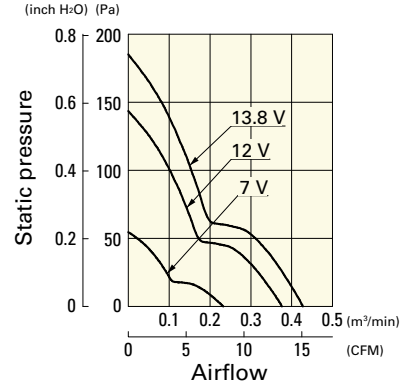
109P0412G3013 With pulse sensor

Operating voltage range



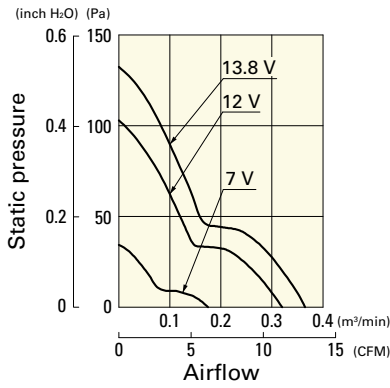
109P0412B3013 With pulse sensor

Operating voltage range



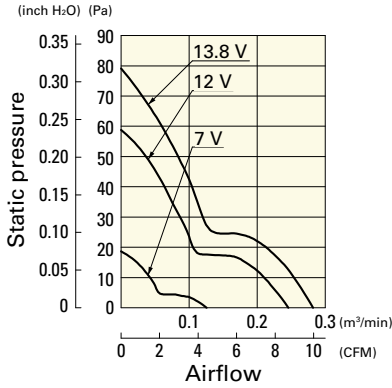
109P0412H3013 With pulse sensor

Operating voltage range



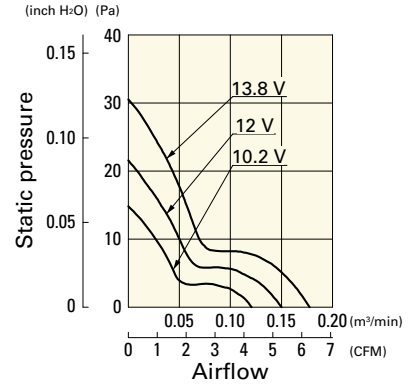
109P0412F3013 With pulse sensor

Operating voltage range



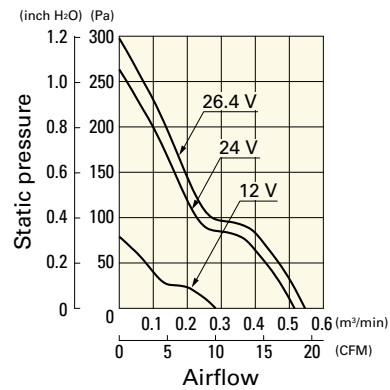
109P0412M3013 With pulse sensor

Operating voltage range



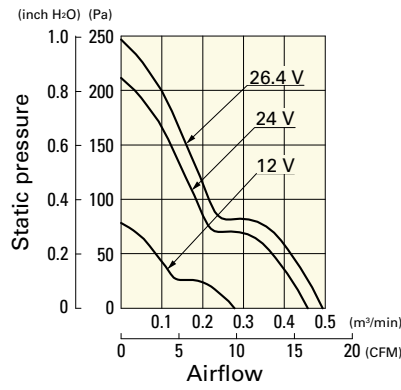
109P0424R3013 With pulse sensor

Operating voltage range



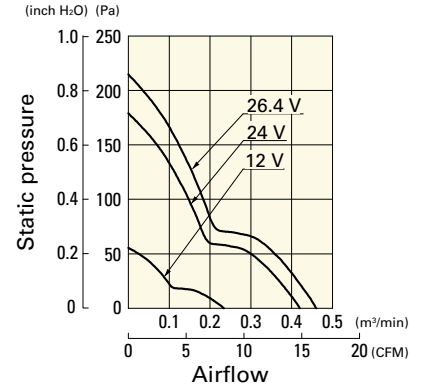
109P0424J3013 With pulse sensor

Operating voltage range



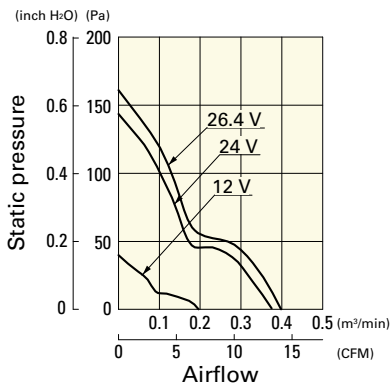
109P0424G3013 With pulse sensor

Operating voltage range



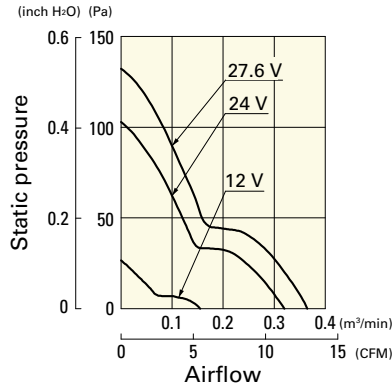
109P0424B3013 With pulse sensor

Operating voltage range



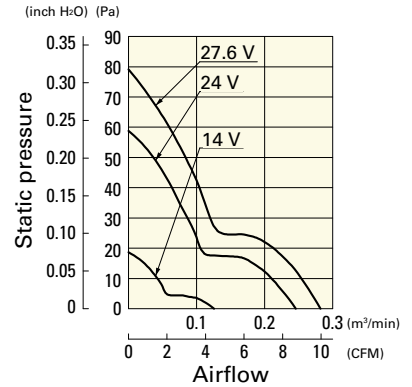
109P0424H3013 With pulse sensor

Operating voltage range

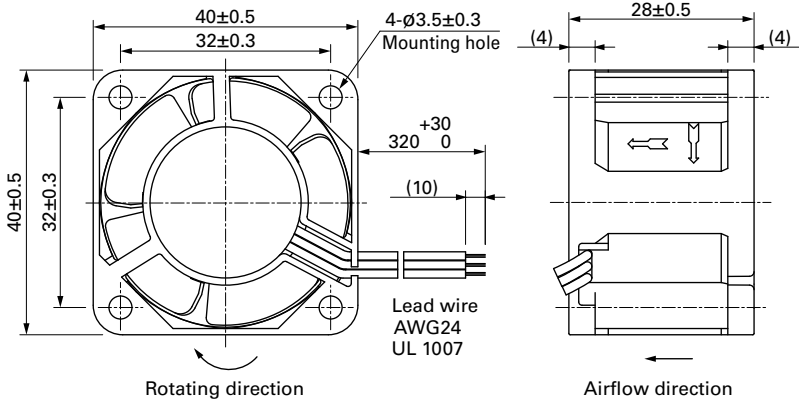


109P0424F3013 With pulse sensor

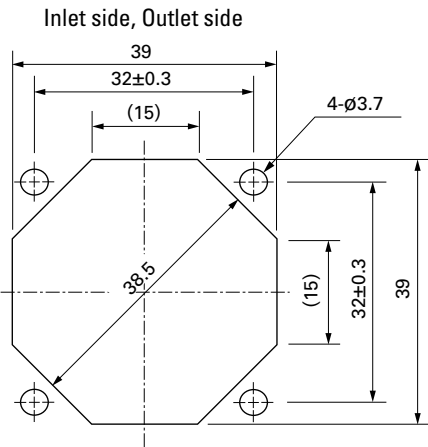
Operating voltage range



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