DC Fan

36×36×28 mm

San Ace 36 9HV 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. 599.
- 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.**

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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HV3612P3K001	12	10.8 to 13.2	100	1.75	21.0	32500	0.72	25.4	1400	5.62	67	-20 to +60	30000/60˚C
			20	0.05	0.6	6000	0.12	4.2	47.2	0.19	26		(53000/40˚C)

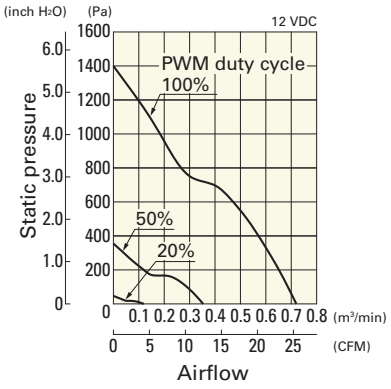
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

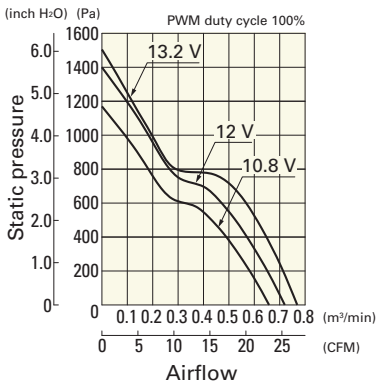
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV3612P3K001 With pulse sensor with PWM control function

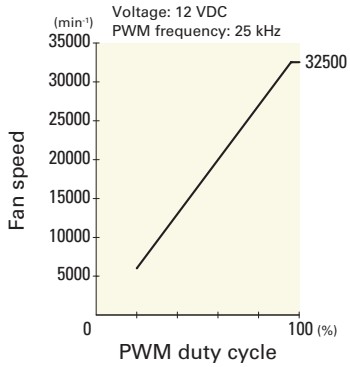
PWM duty cycle



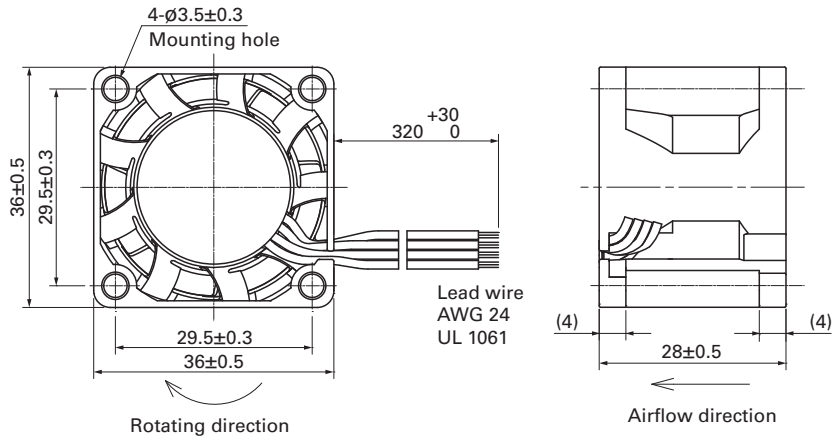
Operating voltage range



PWM duty - Speed characteristics example

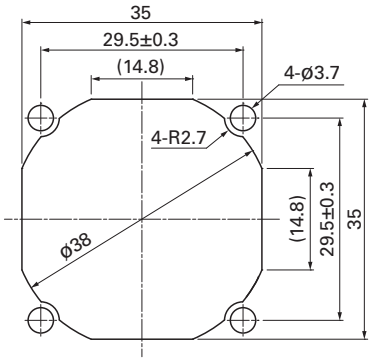


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

Model no.: 109-1050

DC Fan

36×36×28 mm

San Ace 36 9GX 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. 599.
- 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 ..... 46 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GX3612P3K001	12	10.8 to 13.2	100	1.3	15.6	24000	0.69	24.4	838	3.367	66	-10 to +60	40000/60˚C (70000/40˚C)
			0	0.07	0.84	3200	0.09	3.2	14.0	0.056	32		

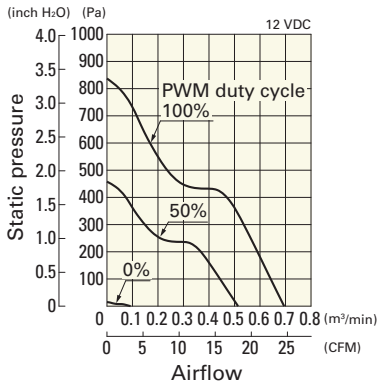
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

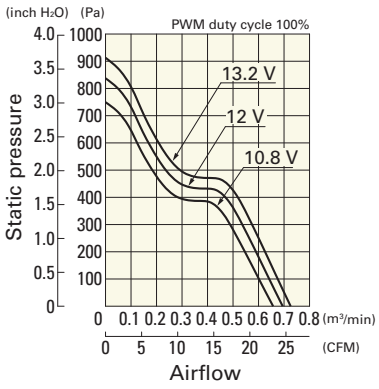
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GX3612P3K001 With pulse sensor with PWM control function

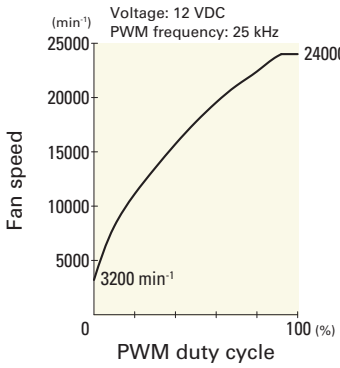
PWM duty cycle



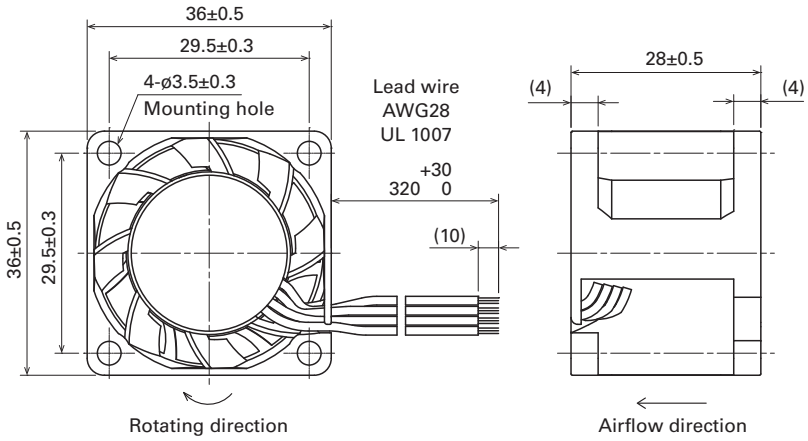
Operating voltage range



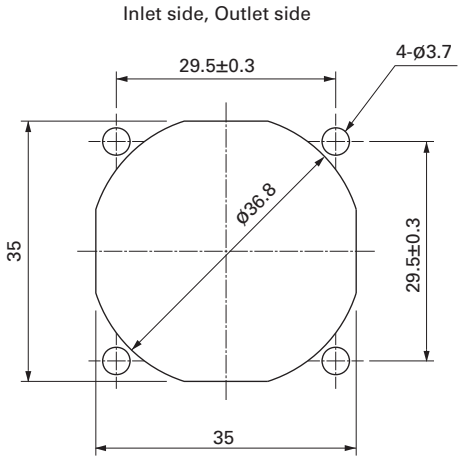
PWM duty - Speed characteristics example



Dimensions (unit: mm)



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



Options

Finger guards page: p. 584

Model no.: 109-1050

DC Fan

36×36×28 mm

San Ace 36 9GV 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. 599.
- 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 Sensor Yellow
- Mass ..... 46 g

Specifications

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

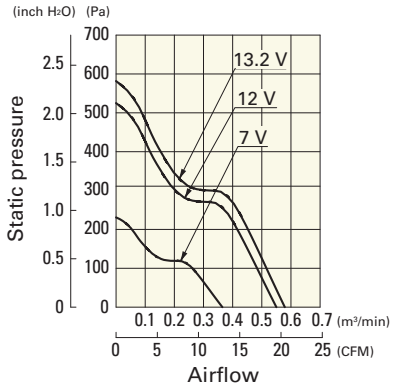
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV3612J301	12	7.0 to 13.2	0.75	9.0	19000	0.55	19.4	525	2.108	58.5	-20 to +60	40000/60˚C (70000/40˚C)
9GV3612G301			0.34	4.08	14000	0.4	14.1	275	1.104	52.0		

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

Airflow - Static Pressure Characteristics

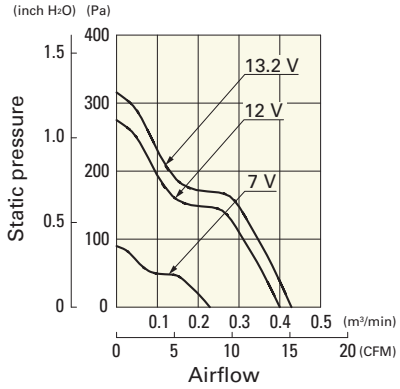
9GV3612J301 With pulse sensor

Operating voltage range

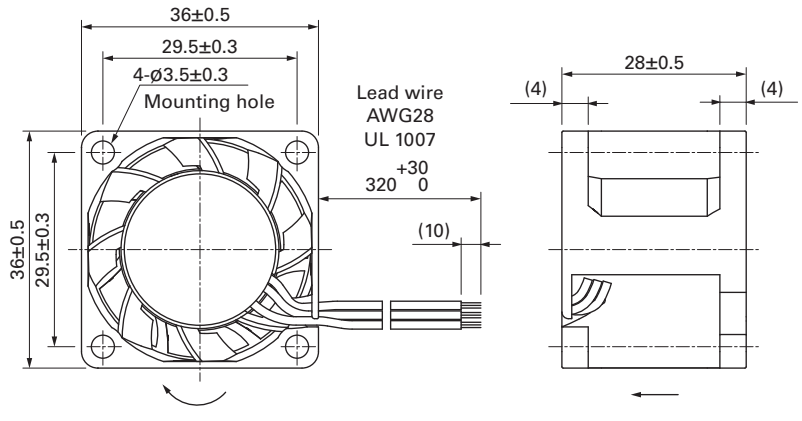


9GV3612G301 With pulse sensor

Operating voltage range

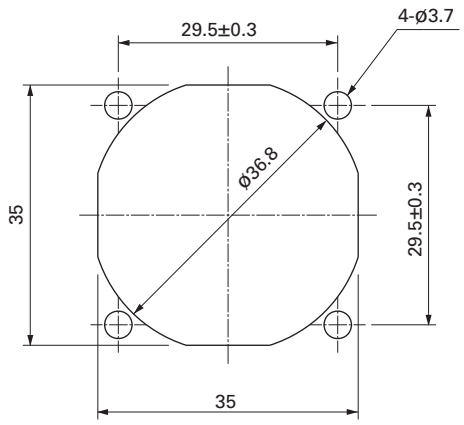


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

Model no.: 109-1050

DC Fan

38×38×28 mm

San Ace 38 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. 599.
- 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 ..... 52 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0312P3K001	12	10.8 to 13.2	100	0.62	7.4	25000	0.6	21.2	800	3.21	59.0	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.06	0.7	3000	0.07	2.5	11	0.04	15.0		
9GA0312P3J001			100	0.52	6.2	23500	0.57	20.1	720	2.89	57.5		
			0	0.06	0.7	3000	0.07	2.5	11	0.04	15.0		
9GA0312P3G001			100	0.33	4.0	19000	0.45	15.9	460	1.85	53.0		
			0	0.06	0.7	3000	0.07	2.5	11	0.04	15.0		

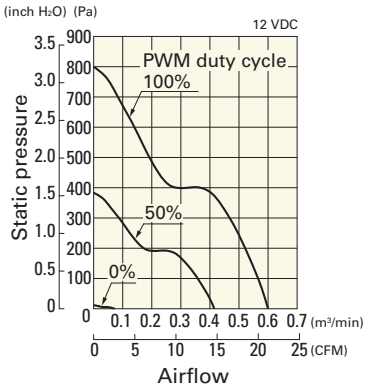
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 628.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

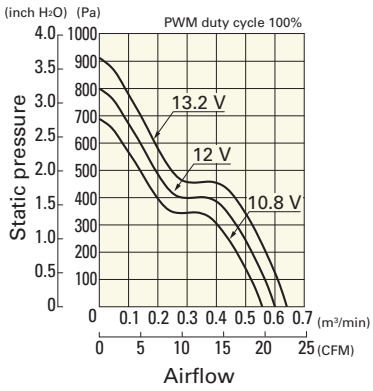
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0312P3K001 With pulse sensor with PWM control function

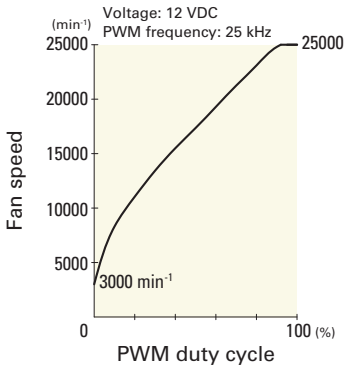
PWM duty cycle



Operating voltage range



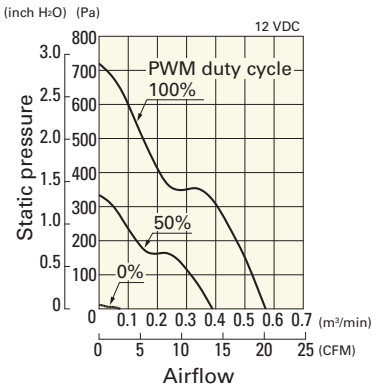
PWM duty - Speed characteristics example



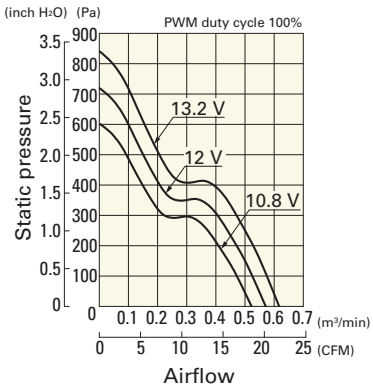
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0312P3J001 With pulse sensor with PWM control function

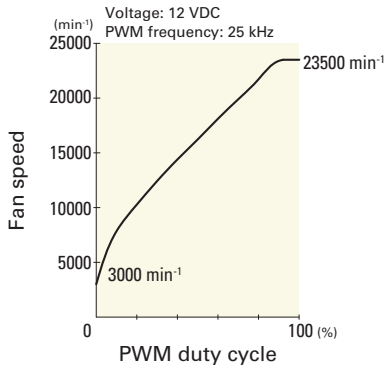
PWM duty cycle



Operating voltage range

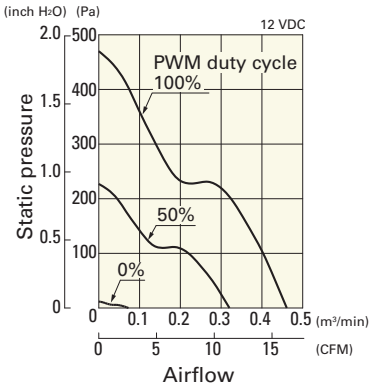


PWM duty - Speed characteristics example

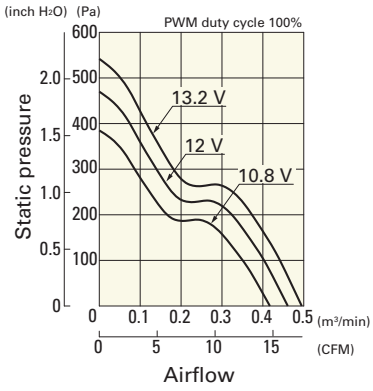


9GA0312P3G001 With pulse sensor with PWM control function

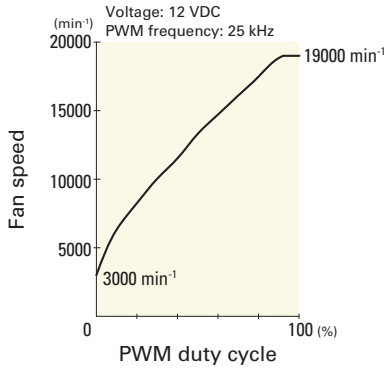
PWM duty cycle



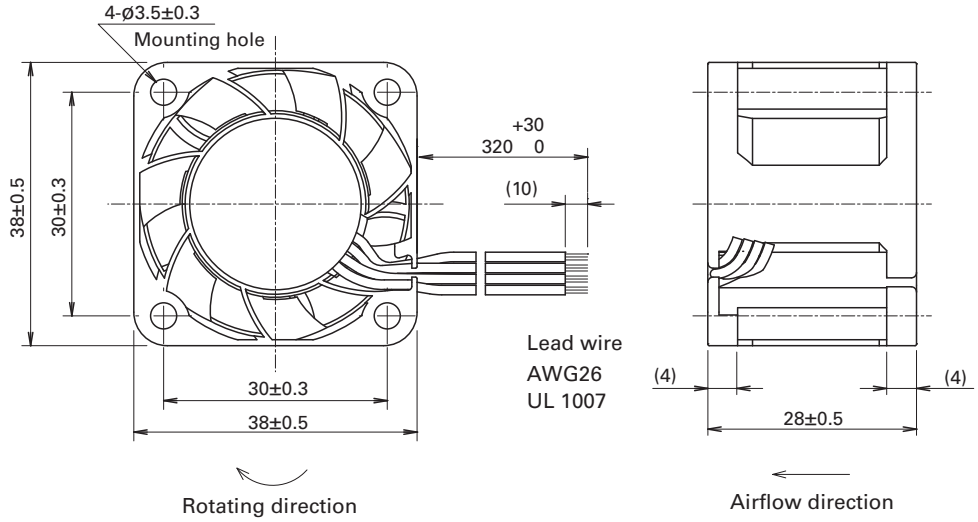
Operating voltage range



PWM duty - Speed characteristics example

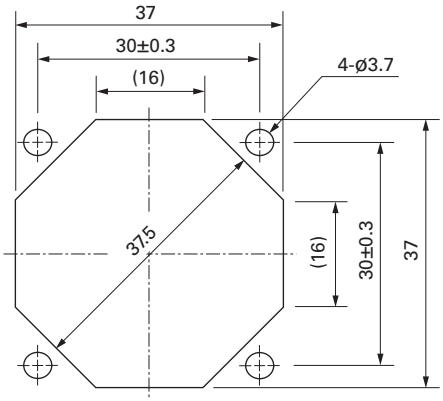


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

Model no.: 109-1065

38×38×28 mm

San Ace 38 9GV 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. 599.
- 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 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.

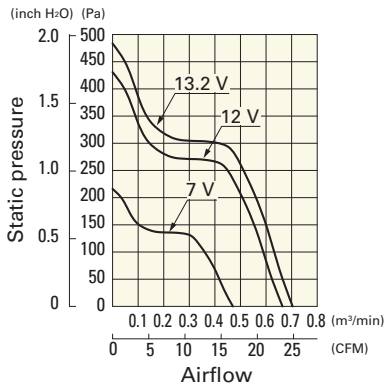
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV0312K301	12	7 to 13.2	0.79	9.48	18200	0.65	23	425	1.707	59	-20 to +60	40000/60˚C (70000/40˚C)
9GV0312J301			0.6	7.2	15900	0.57	20	315	1.265	54		
9GV0312G301			0.4	4.8	13500	0.48	17	220	0.924	50		
9GV0312E301		4.5 to 13.2	0.21	2.52	10500	0.37	13.1	130	0.522	43		
9GV0312H301			0.16	1.92	7000	0.24	8.5	60	0.241	34		

Note: Sensor and control options are available for selection. Refer to the table on p. 632.

Airflow - Static Pressure Characteristics

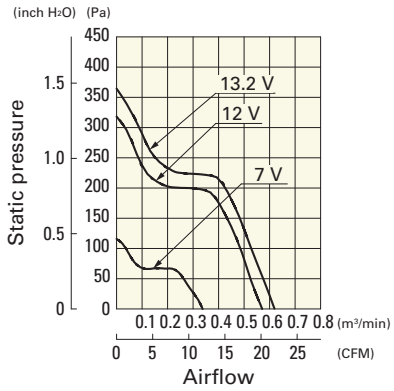
9GV0312K301 With pulse sensor

Operating voltage range



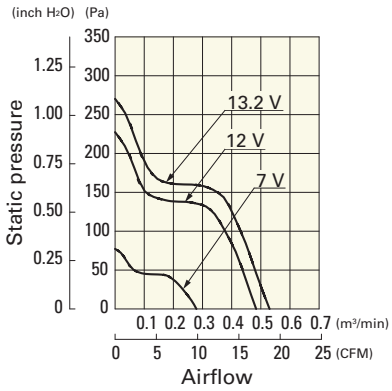
9GV0312J301 With pulse sensor

Operating voltage range



9GV0312G301 With pulse sensor

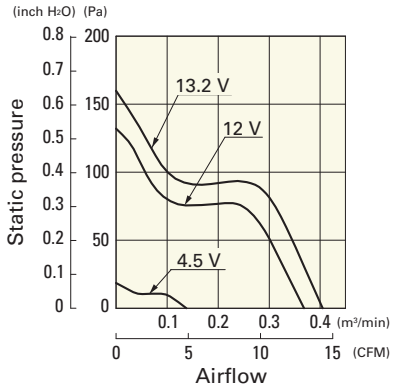
Operating voltage range



Airflow - Static Pressure Characteristics

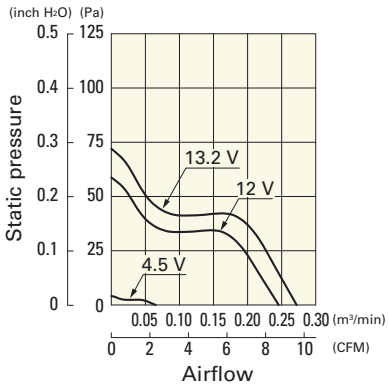
9GV0312E301 With pulse sensor

Operating voltage range

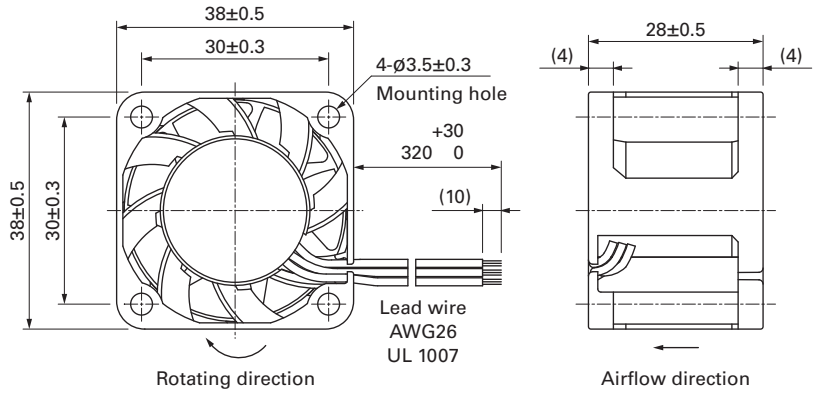


9GV0312H301 With pulse sensor

Operating voltage range

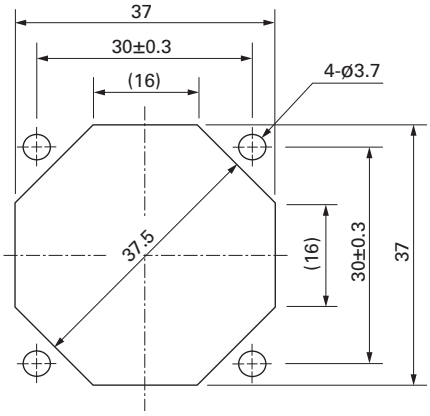


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

Model no.: 109-1065

40×40×10 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. 599.
- 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 ..... 19 g

Specifications

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

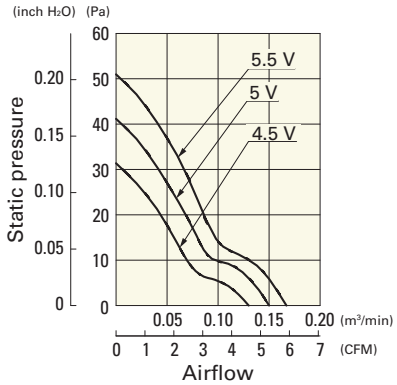
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P0405H901	5	4.5 to 5.5	0.16	0.8	6200	0.15	5.3	41.2	0.165	25	-10 to +60	40000/60˚C (70000/40˚C)
109P0405M901			0.11	0.55	5000	0.12	4.2	27	0.108	21		
109P0412H901	12	7 to 13.8	0.07	0.84	6200	0.15	5.3	41.2	0.165	25		
109P0412M901			0.06	0.72	5000	0.12	4.2	27	0.108	21		
109P0424H901	24	20.4 to 27.6	0.04	0.96	6200	0.15	5.3	41.2	0.165	25		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 621 to 622.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

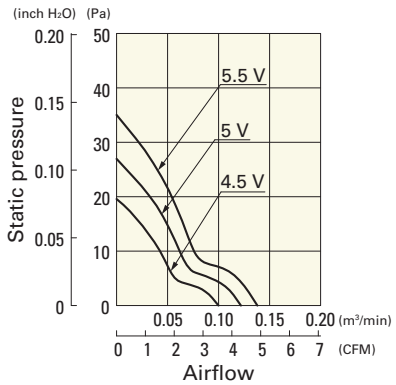
109P0405H901 With pulse sensor

Operating voltage range



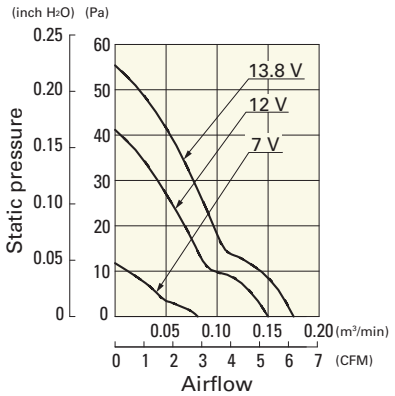
109P0405M901 With pulse sensor

Operating voltage range



109P0412H901 With pulse sensor

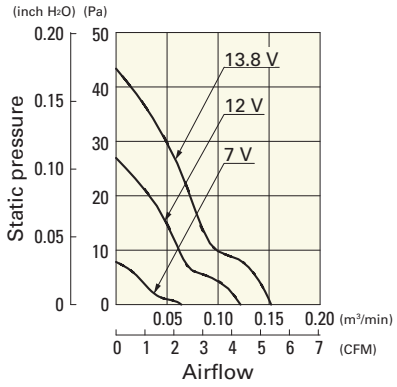
Operating voltage range



Airflow - Static Pressure Characteristics

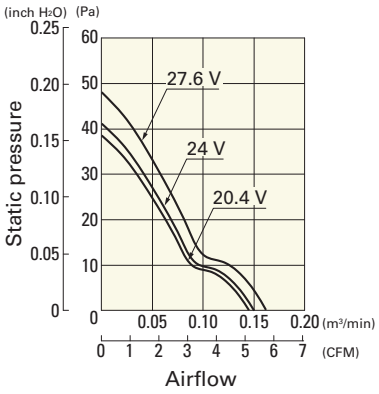
109P0412M901 With pulse sensor

Operating voltage range

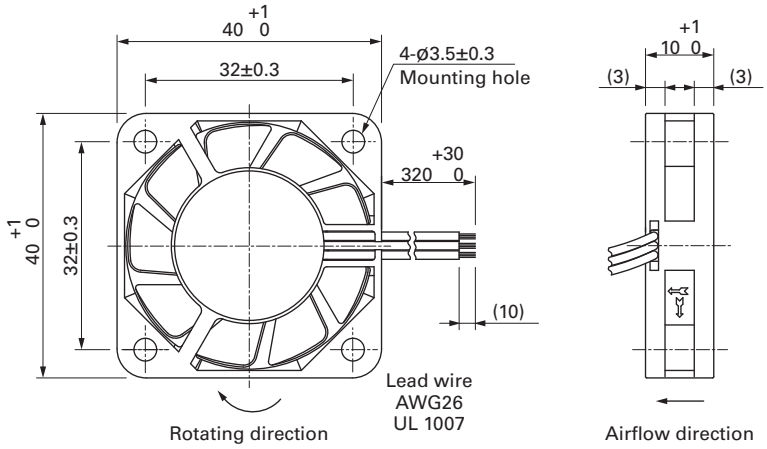


109P0424H901 With pulse sensor

Operating voltage range

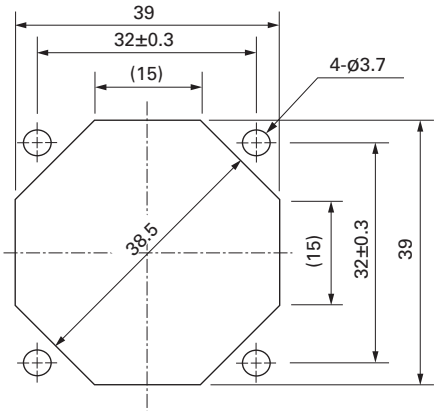


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

40×40×15 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. 599.
- 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 (For models without PWM control function, there is no speed control wiring.)
- Mass ..... 28 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0412P7G001	12	10.2 to 13.8	100	0.17	2.04	13100	0.36	12.7	192	0.77	42	-20 to +70	40000/60˚C (70000/40˚C)

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

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

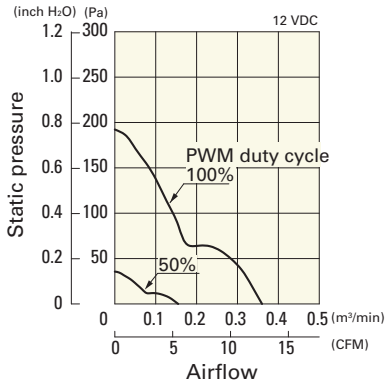
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0412G7001	12	7 to 13.8	0.17	2.04	13100	0.36	12.7	192	0.77	42	-20 to +70	40000/60˚C (70000/40˚C)
9GA0412H7001			0.06	0.72	7300	0.2	7.1	59.6	0.24	28		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 628.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

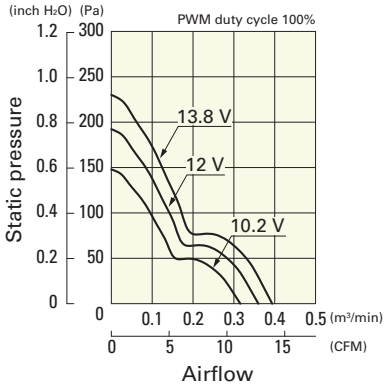
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0412P7G001 With pulse sensor with PWM control function

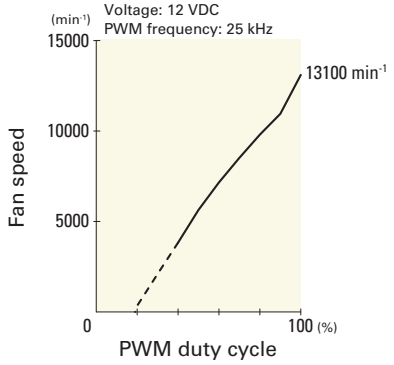
PWM duty cycle



Operating voltage range



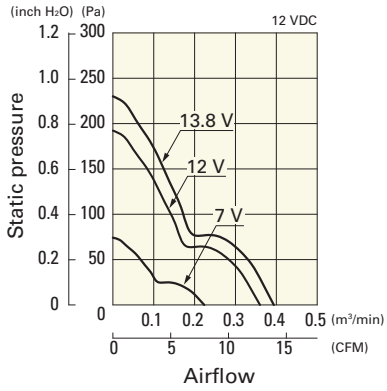
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

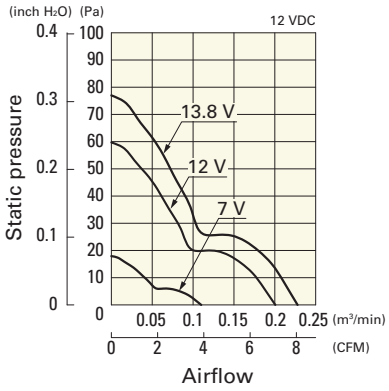
9GA0412G7001 With pulse sensor

Operating voltage range

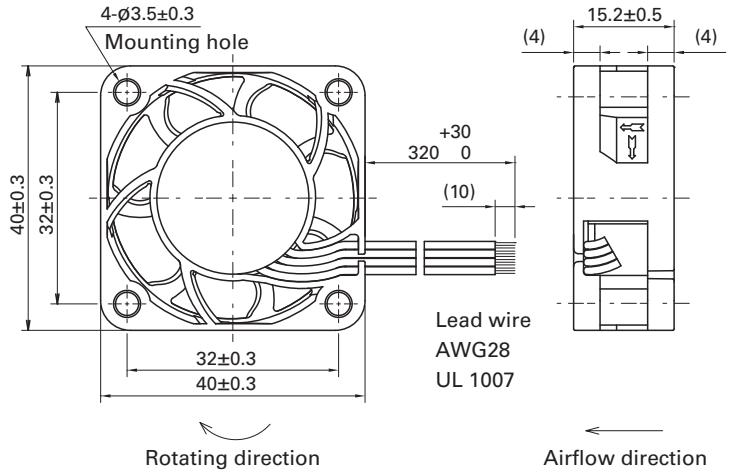


9GA0412H7001 With pulse sensor

Operating voltage range

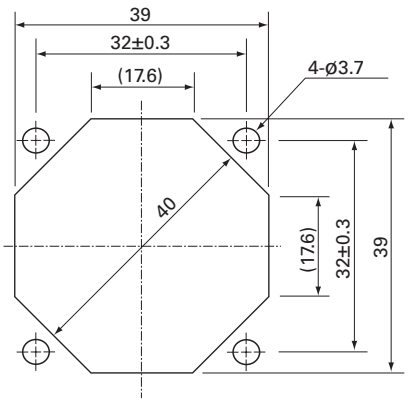


Dimensions (unit: mm) (With pulse sensor with PWM control function)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

40×40×15 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. 599.
- 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 ..... 32 g

Specifications

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

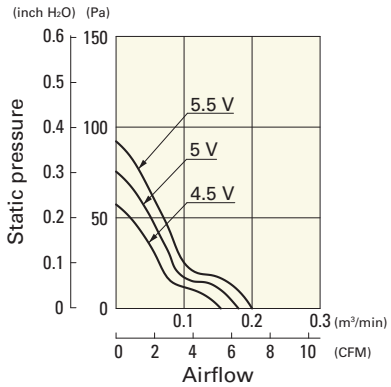
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P0405H701	5	4.5 to 5.5	0.28	1.4	7700	0.18	6.4	75.5	0.303	28	-20 to +60	60000/60˚C
109P0405M701			0.21	1.05	6500	0.15	5.3	52.9	0.213	24	-20 to +70	(90000/40˚C)
109P0412R701	12	7 to 13.8	0.13	1.56	9700	0.227	8.0	111.9	0.449	34		40000/60˚C (70000/40˚C)
109P0412S701		10.2 to 13.8	0.18	2.16	8600	0.2	7.06	92.1	0.369	32		60000/60˚C (90000/40˚C)
109P0412H701			0.13	1.56	7700	0.18	6.4	75.5	0.303	28		
109P0412M701			0.095	1.14	6500	0.15	5.3	52.9	0.213	24		
109P0424H701	24	20.4 to 27.6	0.08	1.92	7700	0.18	6.4	75.5	0.303	28		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 621 to 622.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

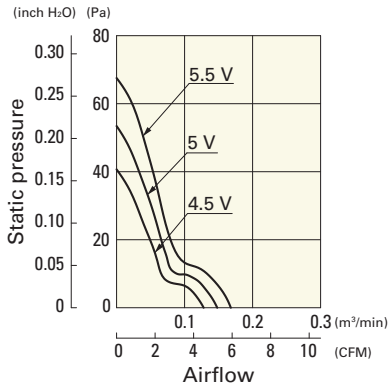
109P0405H701 With pulse sensor

Operating voltage range



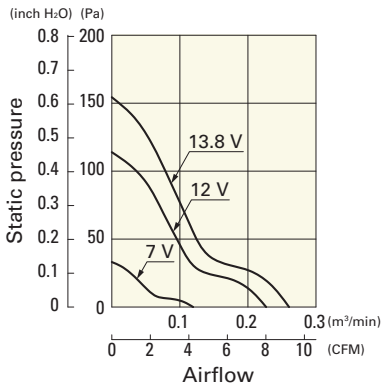
109P0405M701 With pulse sensor

Operating voltage range



109P0412R701 With pulse sensor

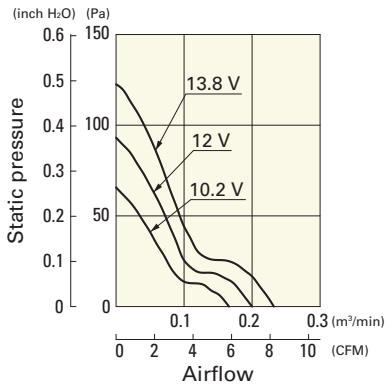
Operating voltage range



Airflow - Static Pressure Characteristics

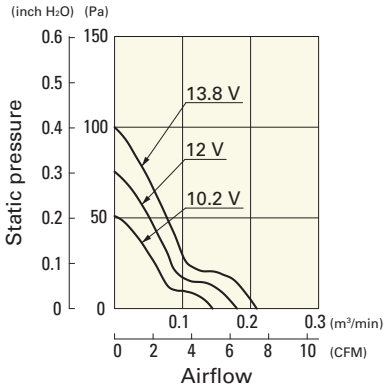
109P0412S701 With pulse sensor

Operating voltage range



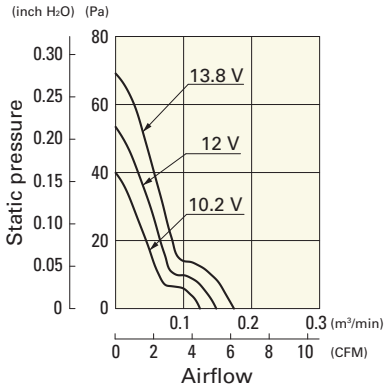
109P0412H701 With pulse sensor

Operating voltage range



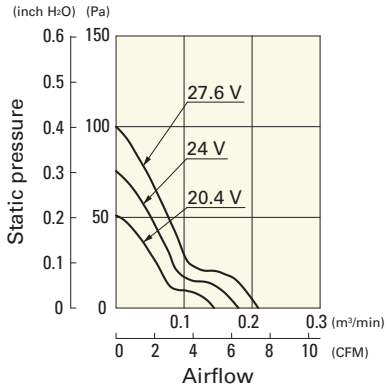
109P0412M701 With pulse sensor

Operating voltage range

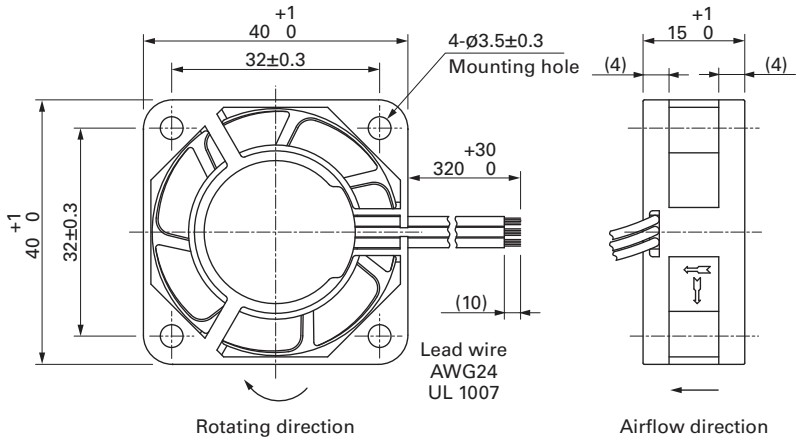


109P0424H701 With pulse sensor

Operating voltage range

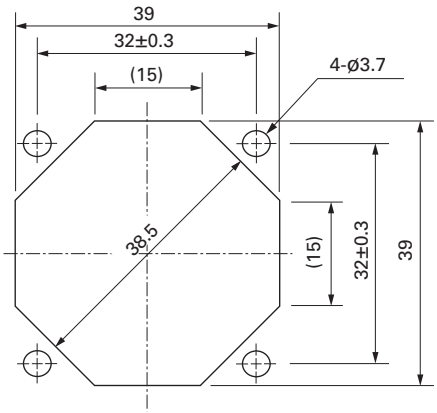


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

DC Fan

40×40×20 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. 599.
- 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	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	60000/60˚C (90000/40˚C)
9GA0405P6F001			100	0.18	0.9	8000	0.21	7.4	79.5	0.32	28		
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		
9GA0412P6H001			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		
9GA0412P6F001			100	0.08	0.96	8000	0.21	7.4	79.5	0.32	28		
			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		

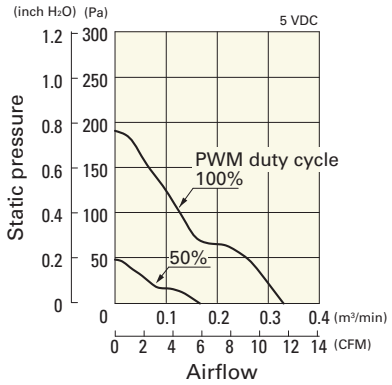
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 628.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

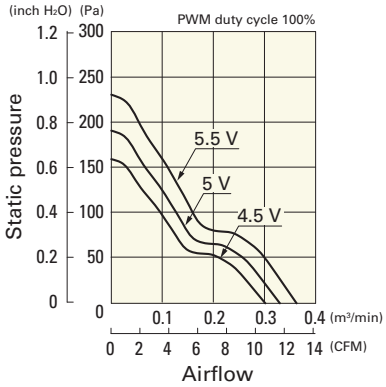
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0405P6H001 With pulse sensor with PWM control function

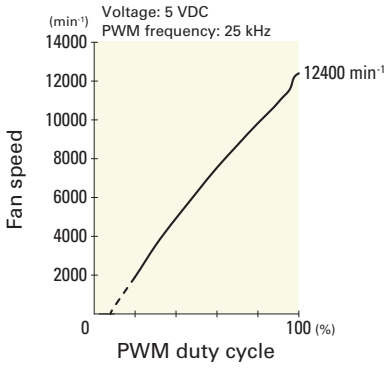
PWM duty cycle



Operating voltage range



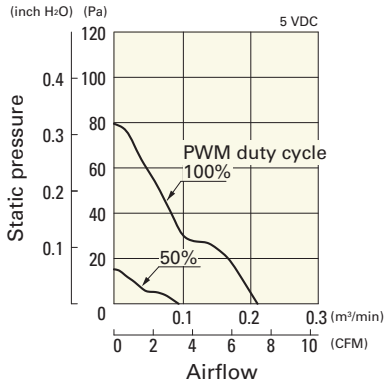
PWM duty - Speed characteristics example



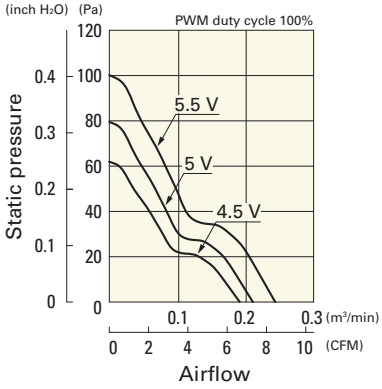
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0405P6F001 With pulse sensor with PWM control function

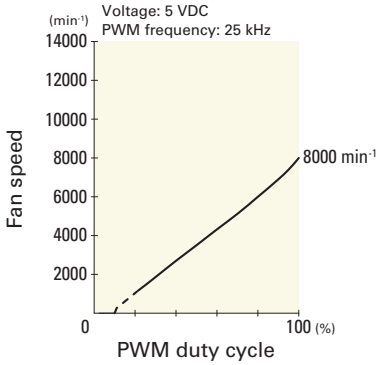
PWM duty cycle



Operating voltage range

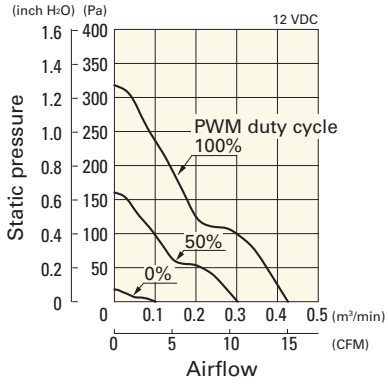


PWM duty - Speed characteristics example

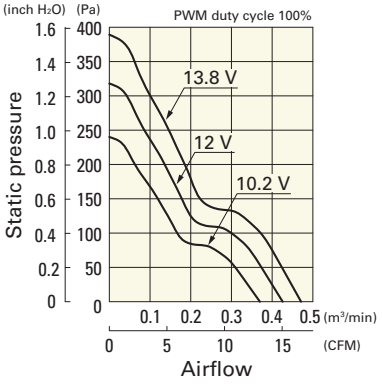


9GA0412P6G001 With pulse sensor with PWM control function

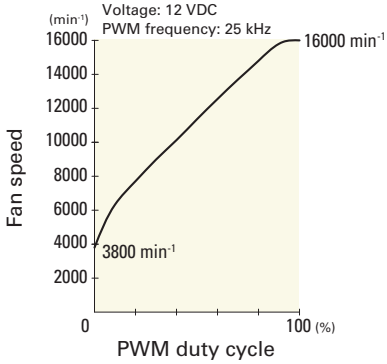
PWM duty cycle



Operating voltage range

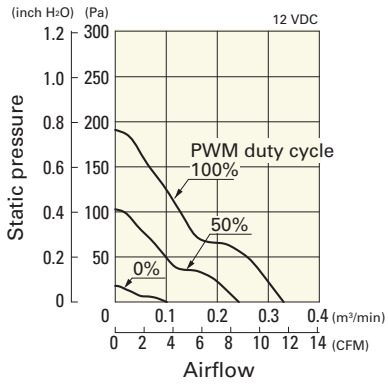


PWM duty - Speed characteristics example

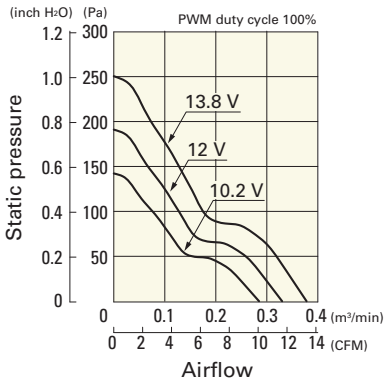


9GA0412P6H001 With pulse sensor with PWM control function

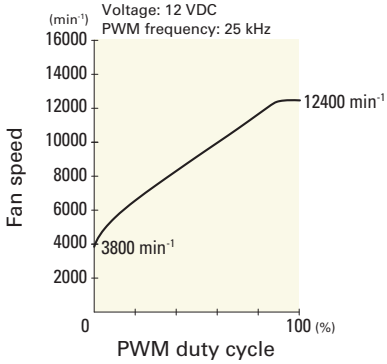
PWM duty cycle



Operating voltage range

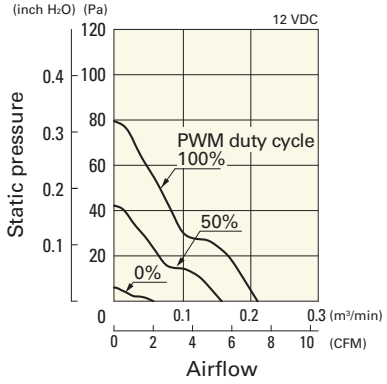


PWM duty - Speed characteristics example

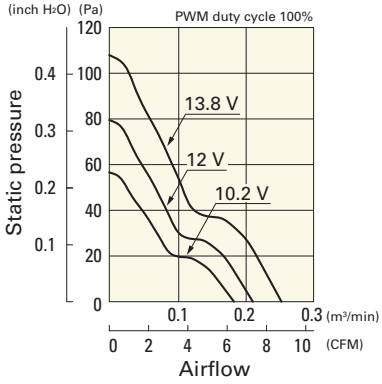


9GA0412P6F001 With pulse sensor with PWM control function

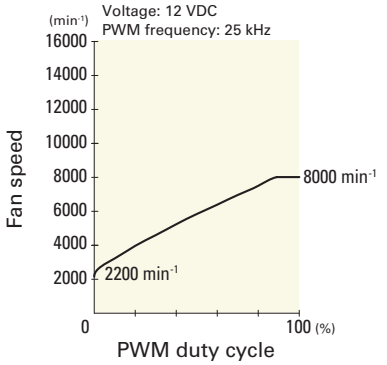
PWM duty cycle



Operating voltage range



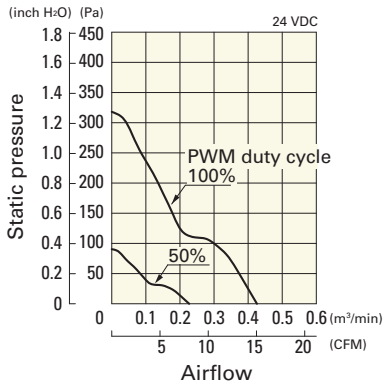
PWM duty - Speed characteristics example



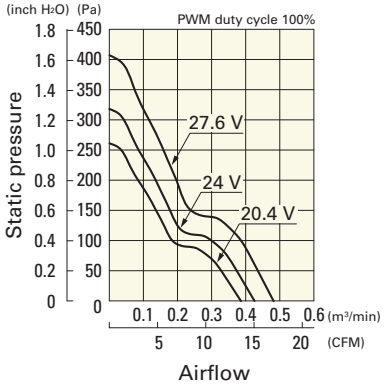
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0424P6G001 With pulse sensor with PWM control function

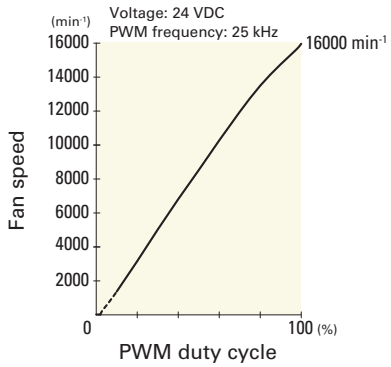
PWM duty cycle



Operating voltage range

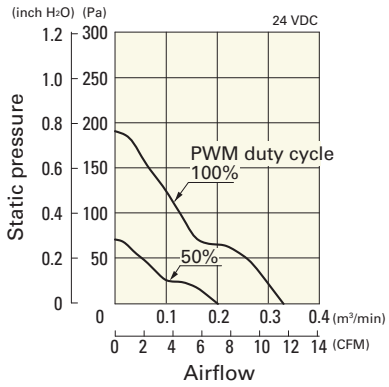


PWM duty - Speed characteristics example

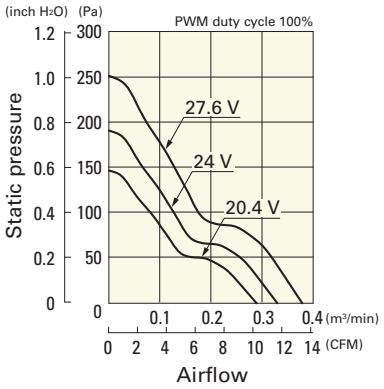


9GA0424P6H001 With pulse sensor with PWM control function

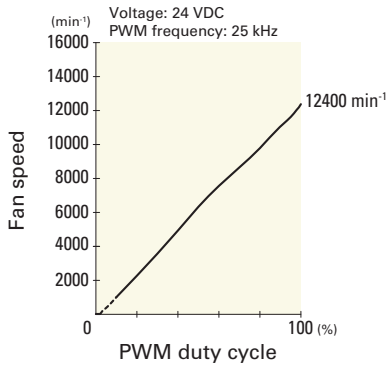
PWM duty cycle



Operating voltage range

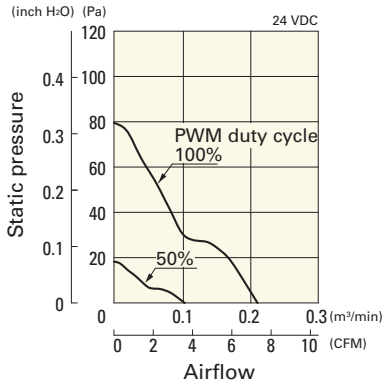


PWM duty - Speed characteristics example

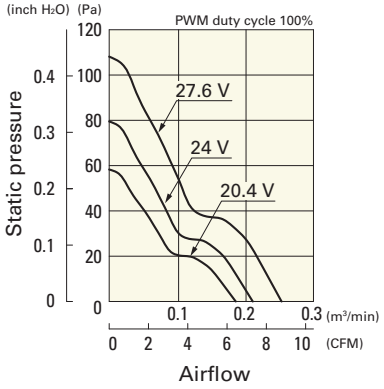


9GA0424P6F001 With pulse sensor with PWM control function

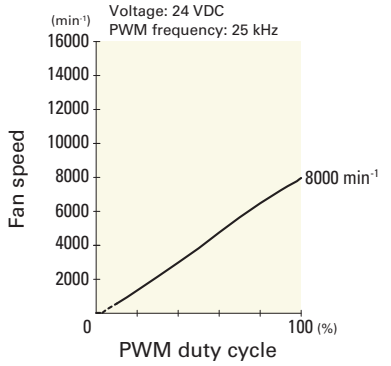
PWM duty cycle



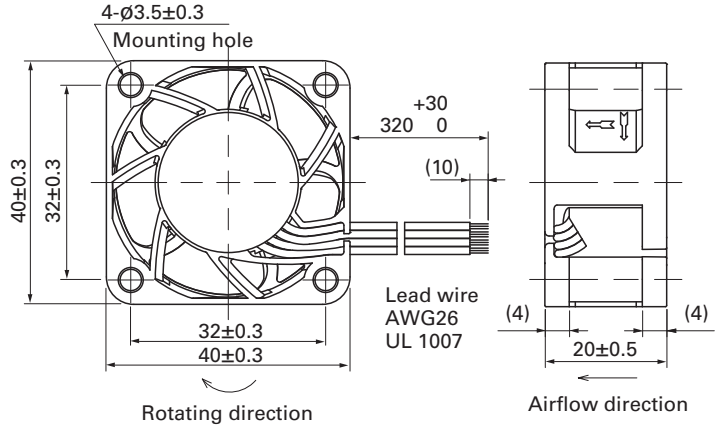
Operating voltage range



PWM duty - Speed characteristics example

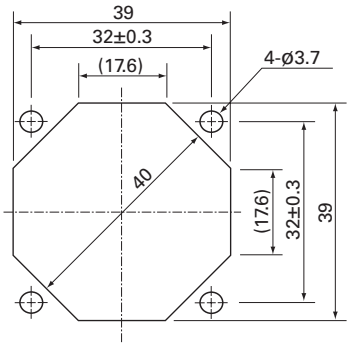


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

DC Fan

40×40×20 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. 599.
- 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.**

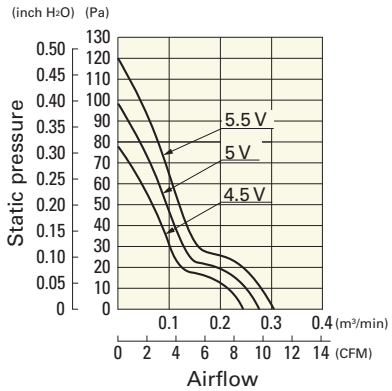
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P0405J601	5	4.5 to 5.5	0.46	2.3	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		60000/60˚C (90000/40˚C)
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	-20 to +70	60000/60˚C (90000/40˚C)
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		8 to 13.8	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	-20 to +70	60000/60˚C (90000/40˚C)
109P0424F601		14 to 27.6	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		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 621 to 622.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

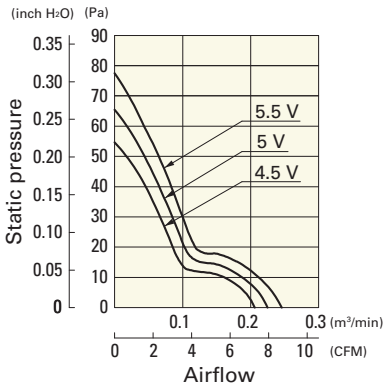
109P0405J601 With pulse sensor

Operating voltage range



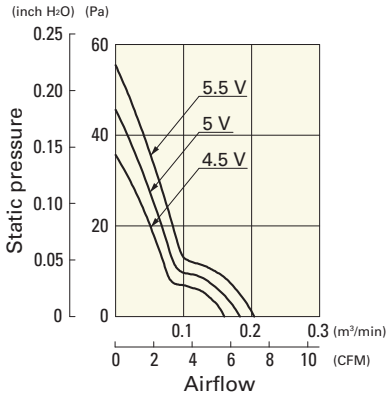
109P0405H601 With pulse sensor

Operating voltage range



109P0405F601 With pulse sensor

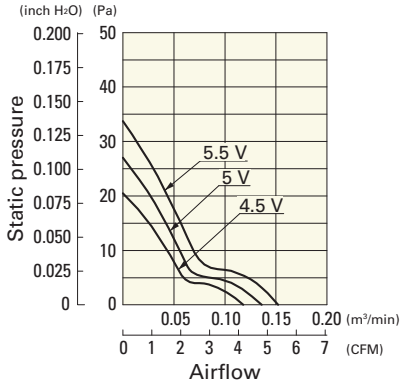
Operating voltage range



Airflow - Static Pressure Characteristics

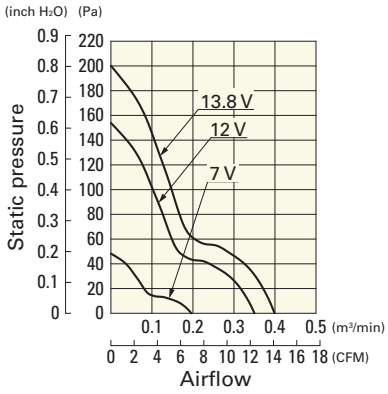
109P0405M601 With pulse sensor

Operating voltage range



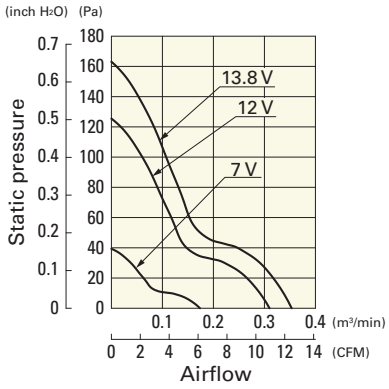
109P0412G601 With pulse sensor

Operating voltage range



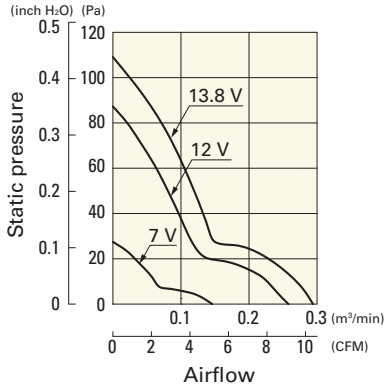
109P0412D601 With pulse sensor

Operating voltage range



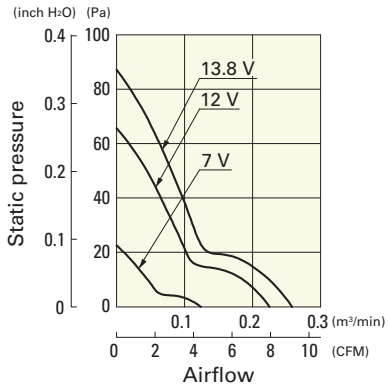
109P0412E601 With pulse sensor

Operating voltage range



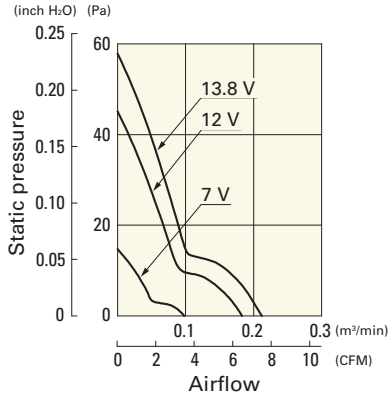
109P0412H601 With pulse sensor

Operating voltage range



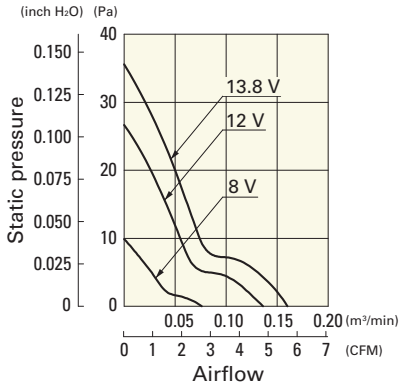
109P0412F601 With pulse sensor

Operating voltage range



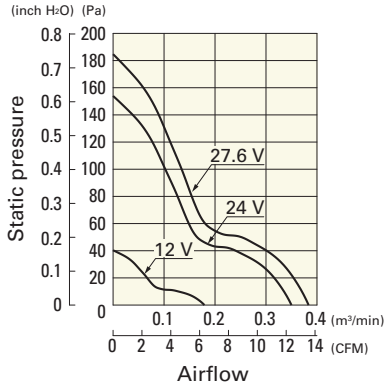
109P0412M601 With pulse sensor

Operating voltage range



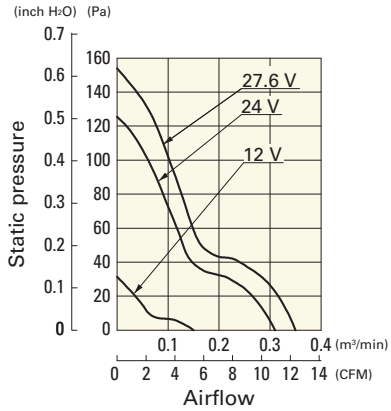
109P0424G601 With pulse sensor

Operating voltage range



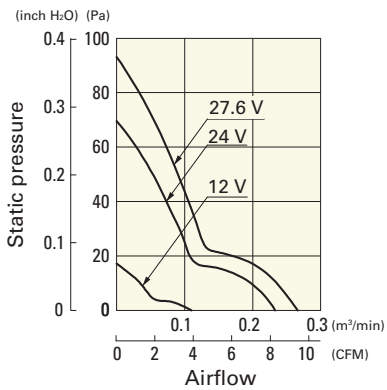
109P0424D601 With pulse sensor

Operating voltage range



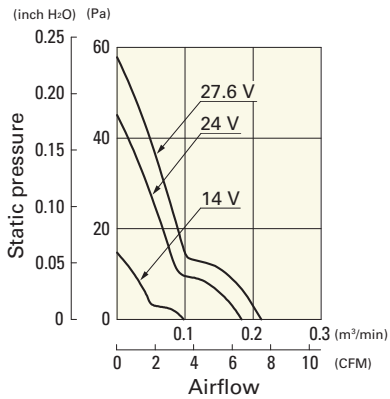
109P0424H601 With pulse sensor

Operating voltage range



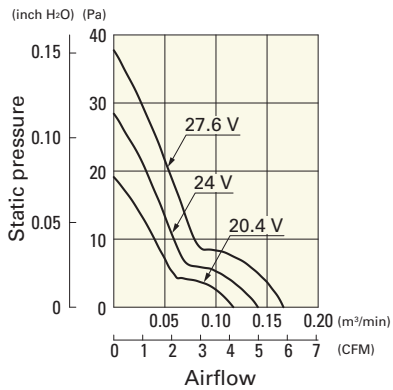
109P0424F601 With pulse sensor

Operating voltage range

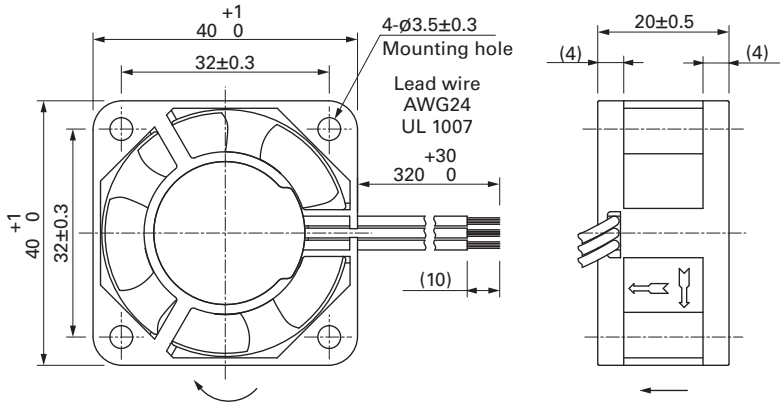


109P0424B601 With pulse sensor

Operating voltage range

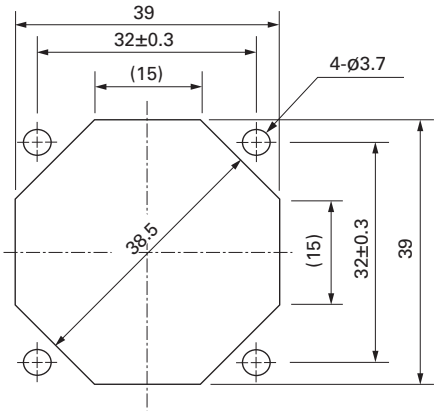


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

40×40×28 mm

San Ace 40 9HVA 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. 599.
- 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 ..... 57 g

Specifications

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

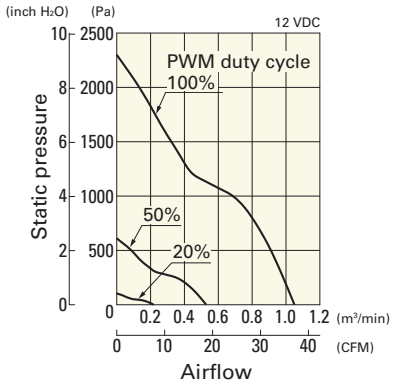
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HVA0412P3J001	12	10.2 to 13.8	100	2.6	31.2	38000	1.05	37.1	2300	9.24	71	-20 to +70	30000/60˚C
			20	0.12	1.4	8000	0.22	7.8	101	0.41	34		(53000/40˚C)

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

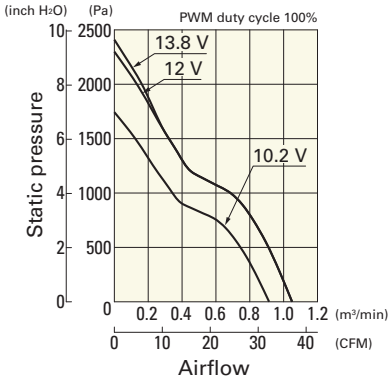
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HVA0412P3J001 With pulse sensor with PWM control function

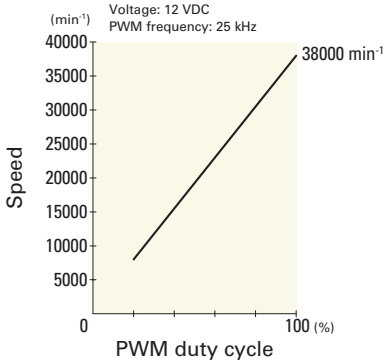
PWM duty cycle



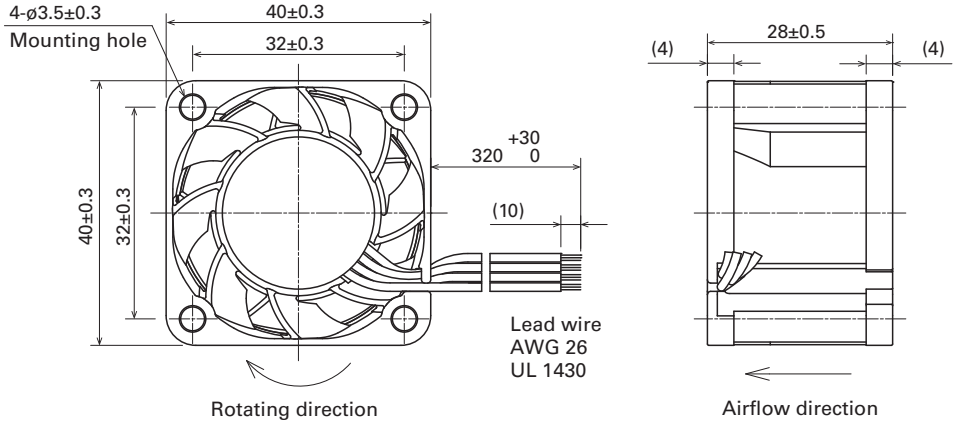
Operating voltage range



PWM duty - Speed characteristics example

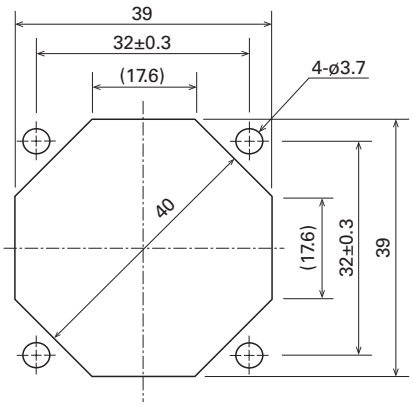


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

40×40×28 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. 599.
- 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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	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		

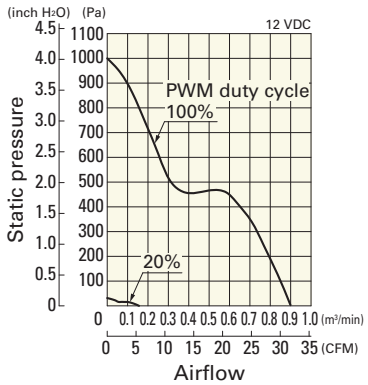
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The ≫ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

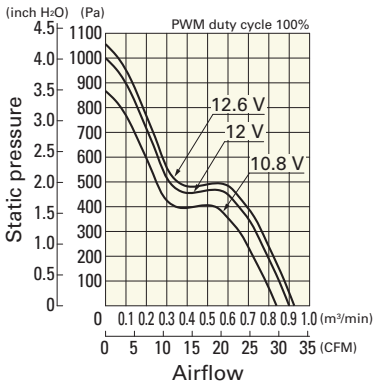
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GAX0412P3S001 With pulse sensor with PWM control function

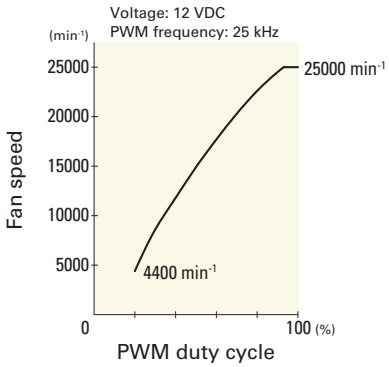
PWM duty cycle



Operating voltage range



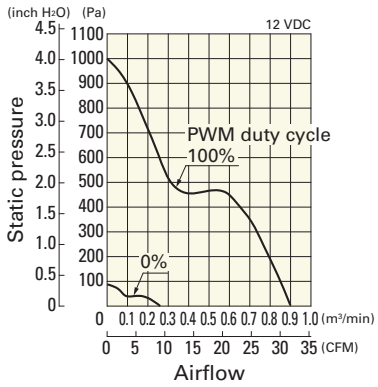
PWM duty - Speed characteristics example



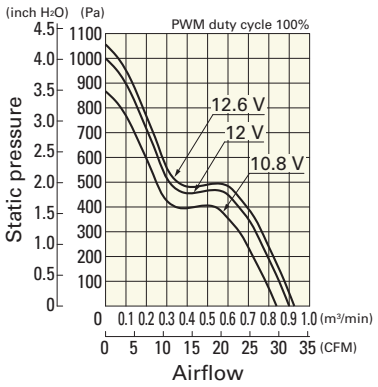
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GAX0412P3S003 With pulse sensor with PWM control function

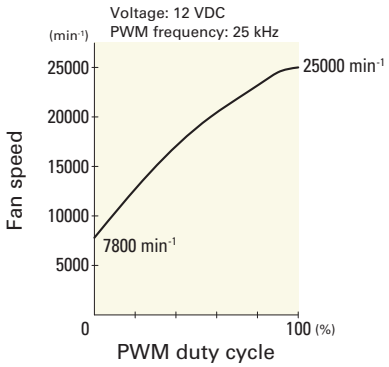
PWM duty cycle



Operating voltage range

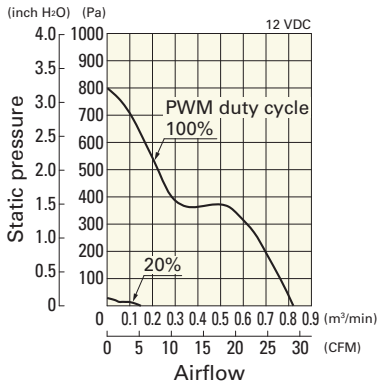


PWM duty - Speed characteristics example

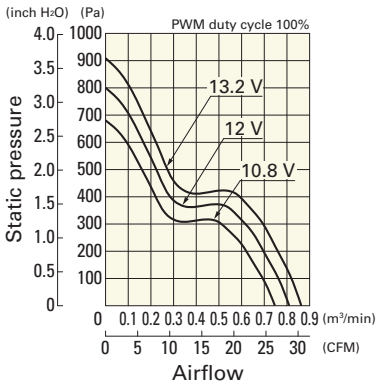


9GAX0412P3K001 With pulse sensor with PWM control function

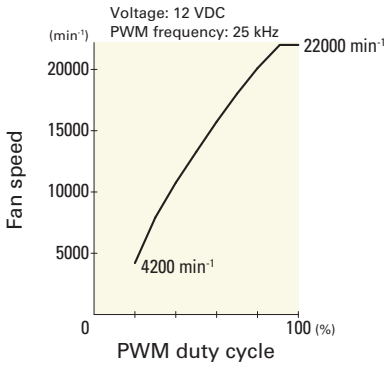
PWM duty cycle



Operating voltage range

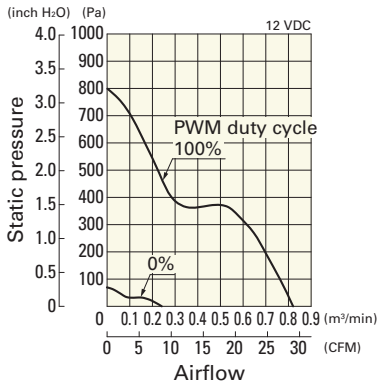


PWM duty - Speed characteristics example

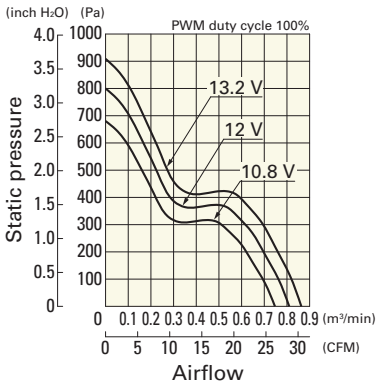


9GAX0412P3K003 With pulse sensor with PWM control function

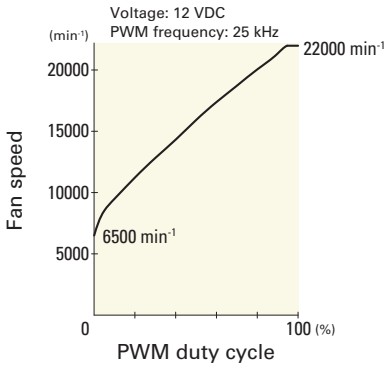
PWM duty cycle



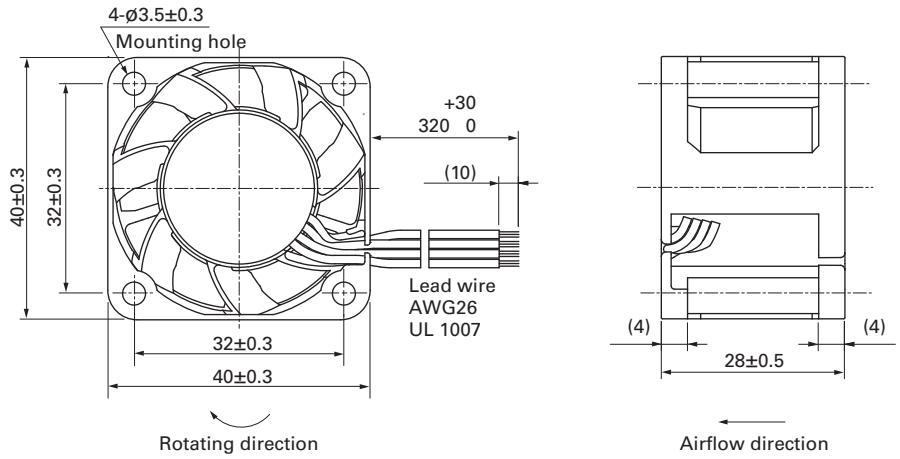
Operating voltage range



PWM duty - Speed characteristics example

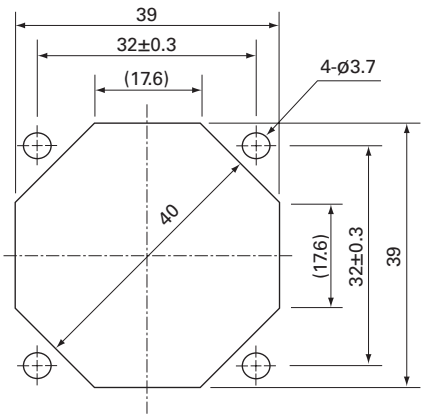


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

DC Fan

40×40×28 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. 599.
- 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.**

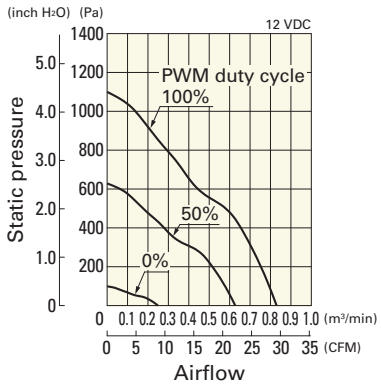
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HV0412P3K001	12	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
			0	0.2	2.4	7500	0.25	8.8	99	0.4	37		(70000/40˚C)

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

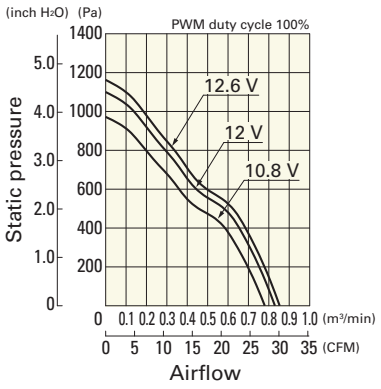
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0412P3K001 With pulse sensor with PWM control function

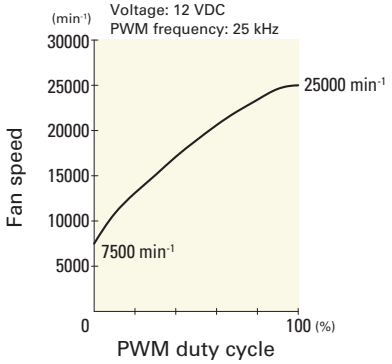
PWM duty cycle



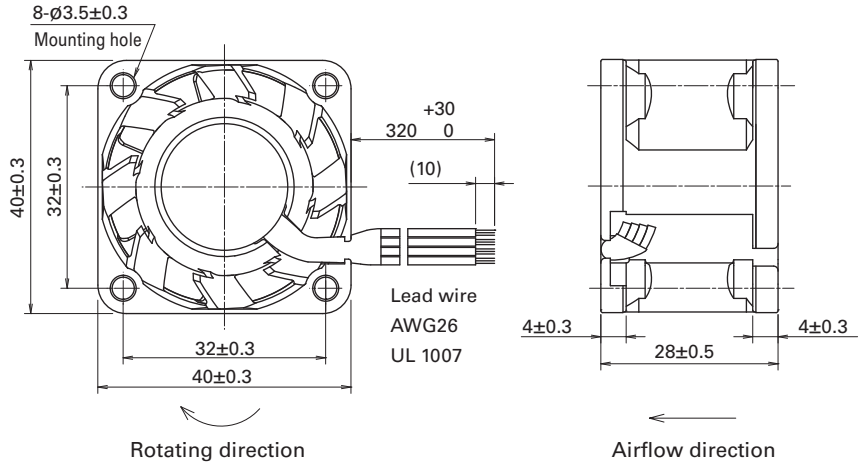
Operating voltage range



PWM duty - Speed characteristics example

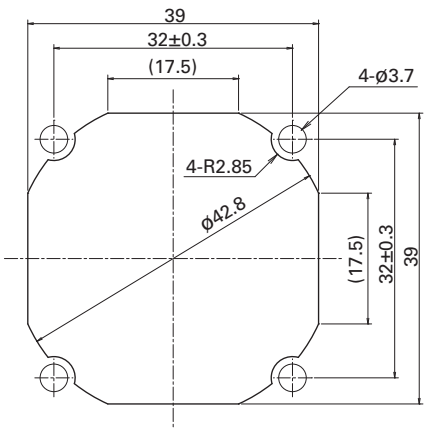


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

DC Fan

40×40×28 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. 599.
- 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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	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	-20 to +70	40000/60˚C (70000/40˚C)
			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		
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		

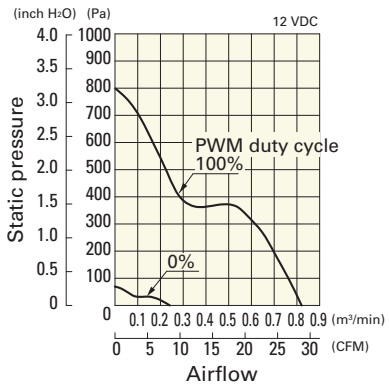
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 628.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

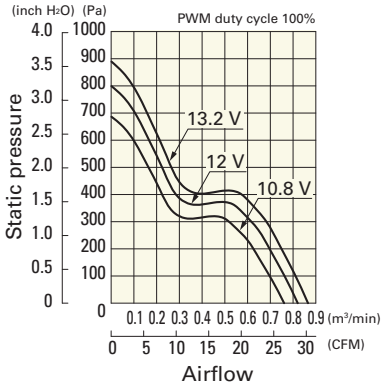
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0412P3K01 With pulse sensor with PWM control function

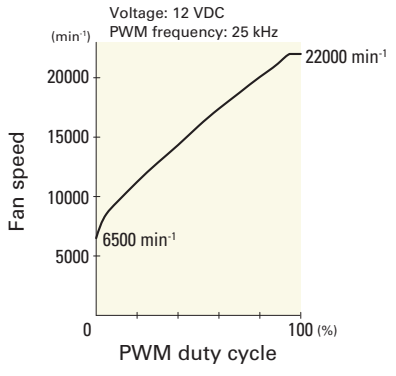
PWM duty cycle



Operating voltage range



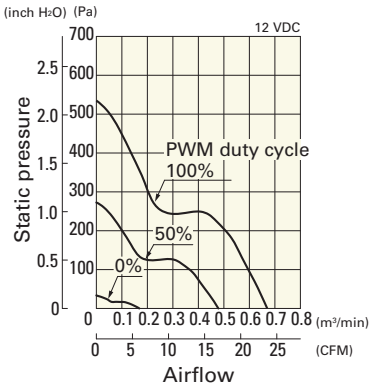
PWM duty - Speed characteristics example



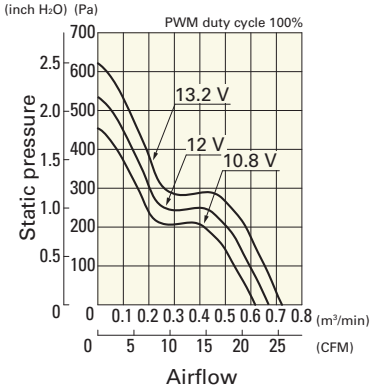
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0412P3J01 With pulse sensor with PWM control function

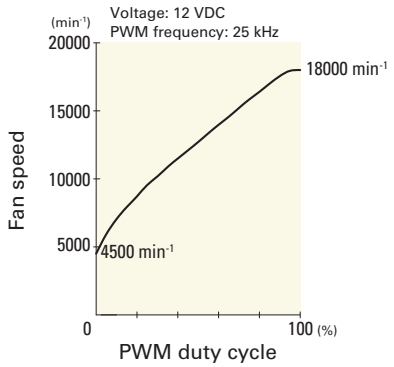
PWM duty cycle



Operating voltage range

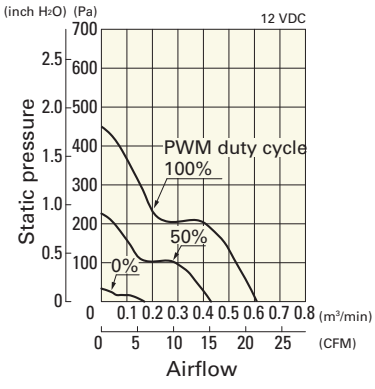


PWM duty - Speed characteristics example

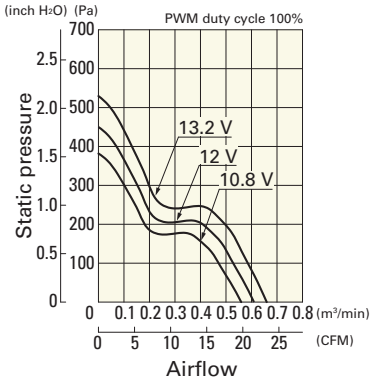


9GA0412P3G01 With pulse sensor with PWM control function

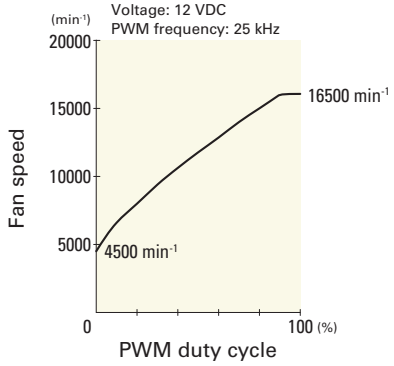
PWM duty cycle



Operating voltage range

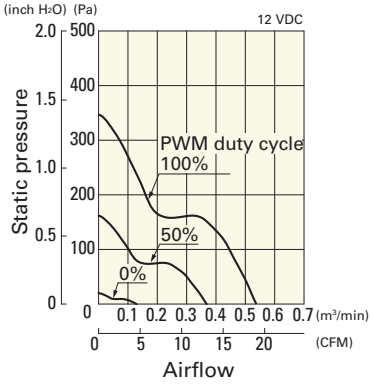


PWM duty - Speed characteristics example

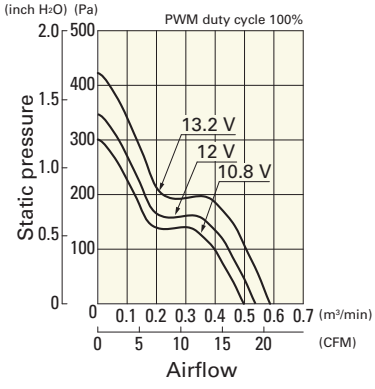


9GA0412P3H01 With pulse sensor with PWM control function

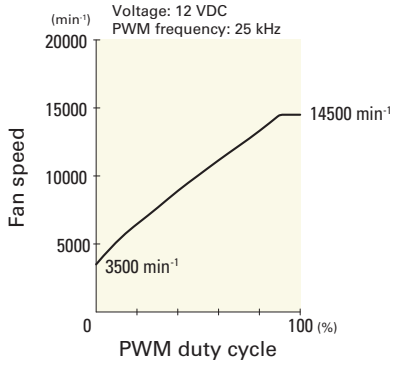
PWM duty cycle



Operating voltage range

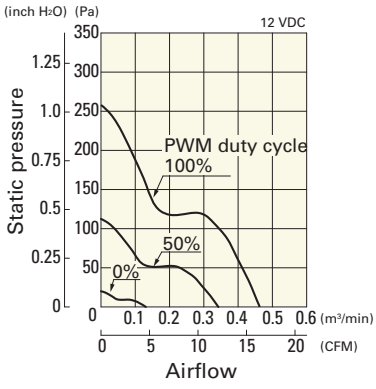


PWM duty - Speed characteristics example

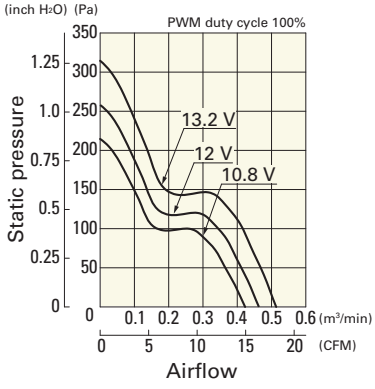


9GA0412P3M01 With pulse sensor with PWM control function

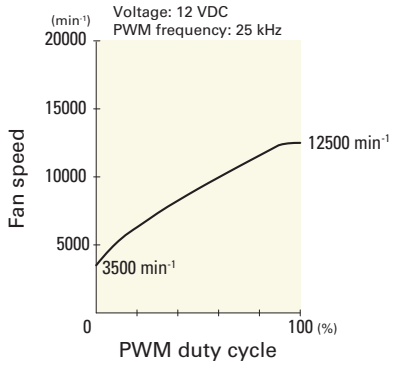
PWM duty cycle



Operating voltage range



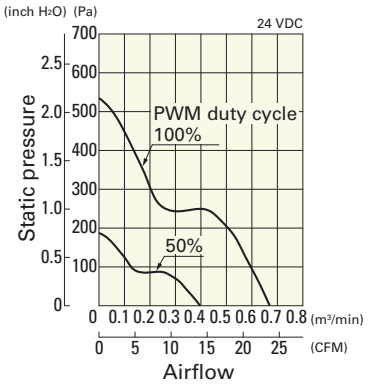
PWM duty - Speed characteristics example



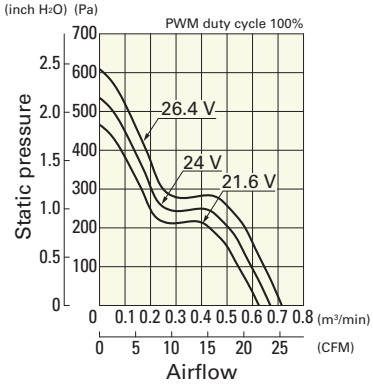
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0424P3J001 With pulse sensor with PWM control function

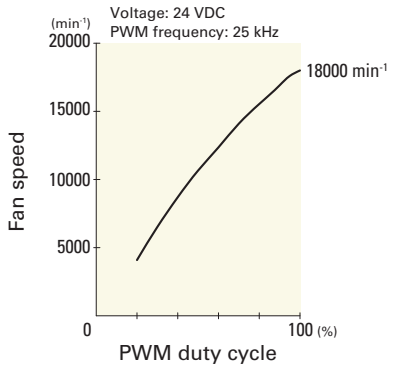
PWM duty cycle



Operating voltage range

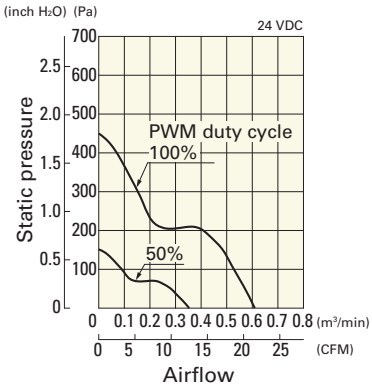


PWM duty - Speed characteristics example

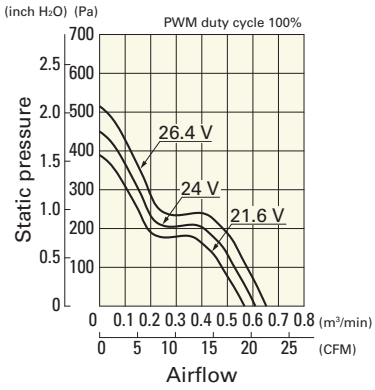


9GA0424P3G001 With pulse sensor with PWM control function

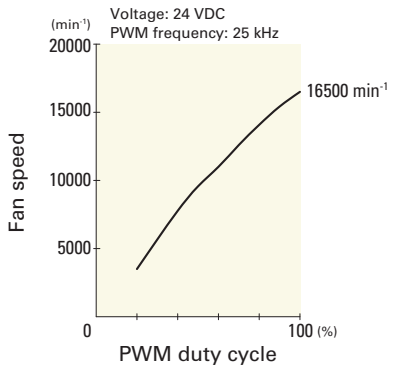
PWM duty cycle



Operating voltage range

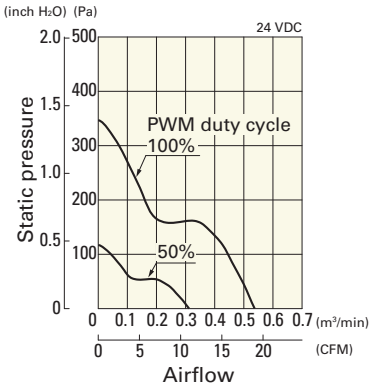


PWM duty - Speed characteristics example

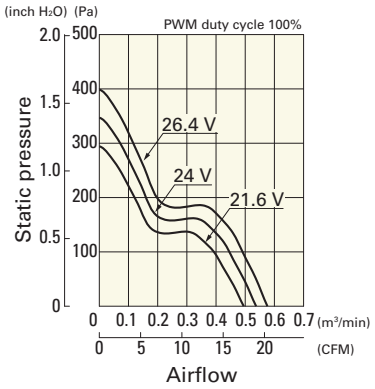


9GA0424P3H001 With pulse sensor with PWM control function

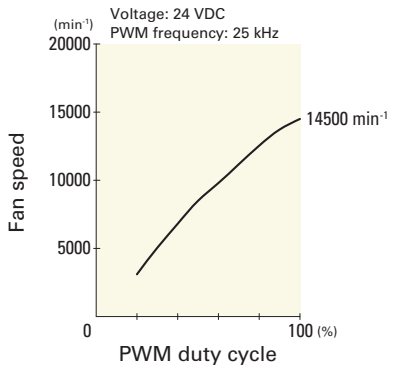
PWM duty cycle



Operating voltage range

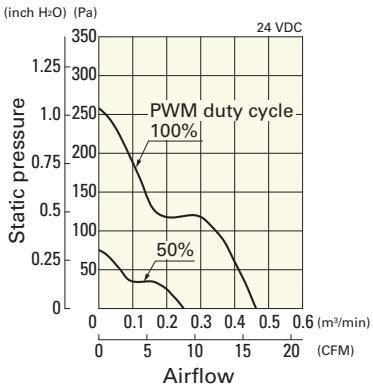


PWM duty - Speed characteristics example

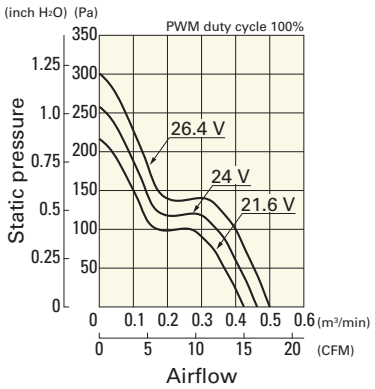


9GA0424P3M001 With pulse sensor with PWM control function

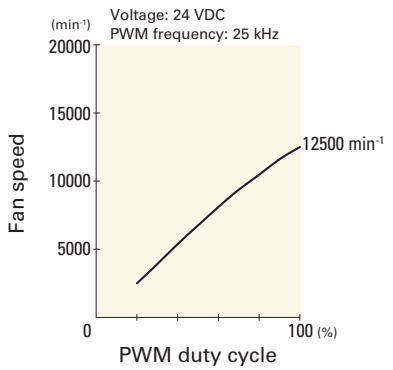
PWM duty cycle



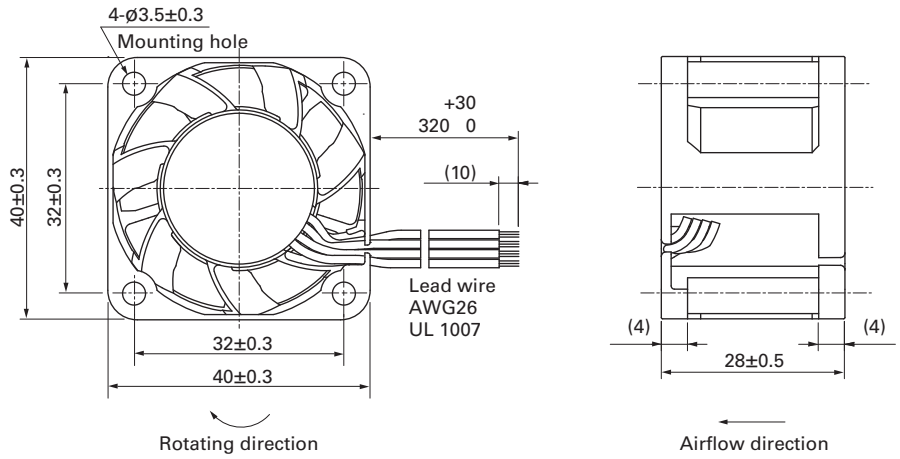
Operating voltage range



PWM duty - Speed characteristics example

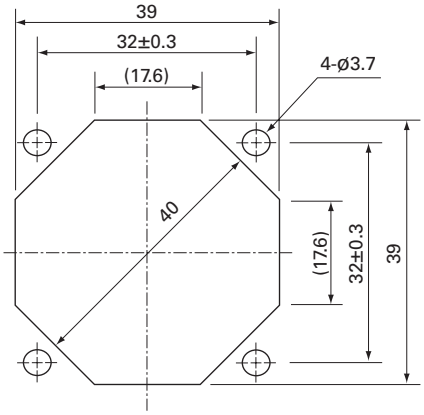


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

DC Fan

40×40×28 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. 599.
- 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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	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		

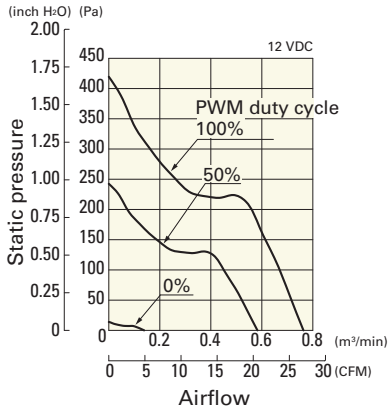
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 631.

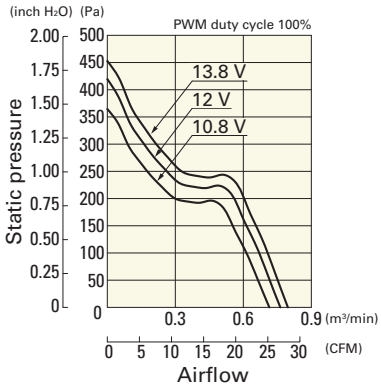
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GE0412P3K03 With pulse sensor with PWM control function

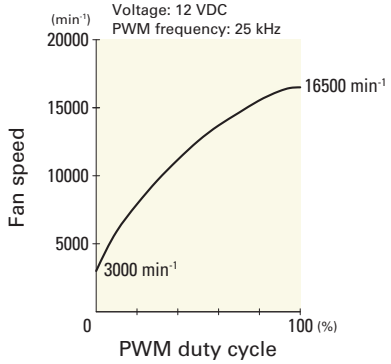
PWM duty cycle



Operating voltage range



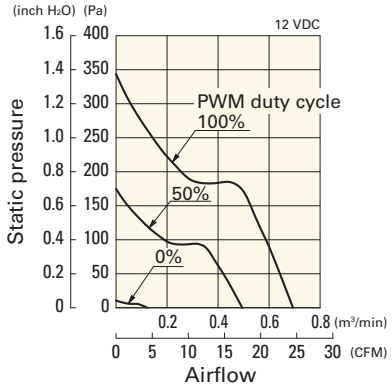
PWM duty - Speed characteristics example



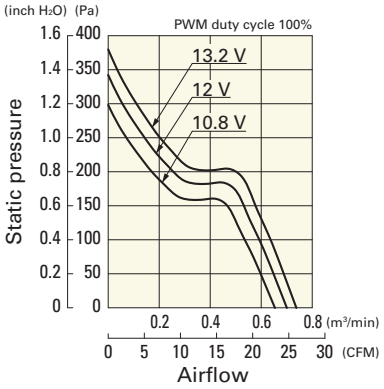
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GE0412P3J03 With pulse sensor with PWM control function

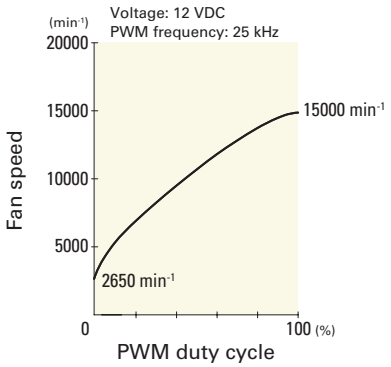
PWM duty cycle



Operating voltage range

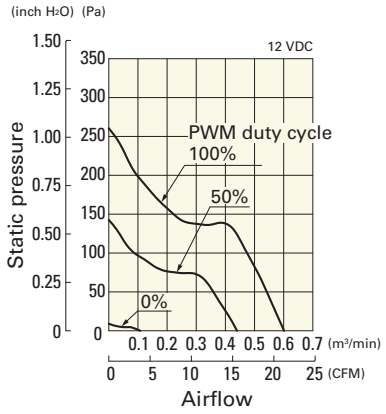


PWM duty - Speed characteristics example

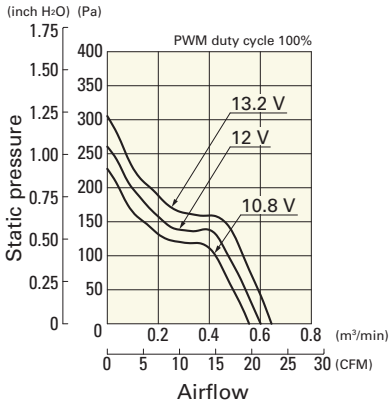


9GE0412P3G03 With pulse sensor with PWM control function

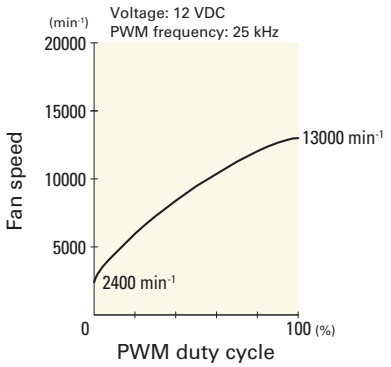
PWM duty cycle



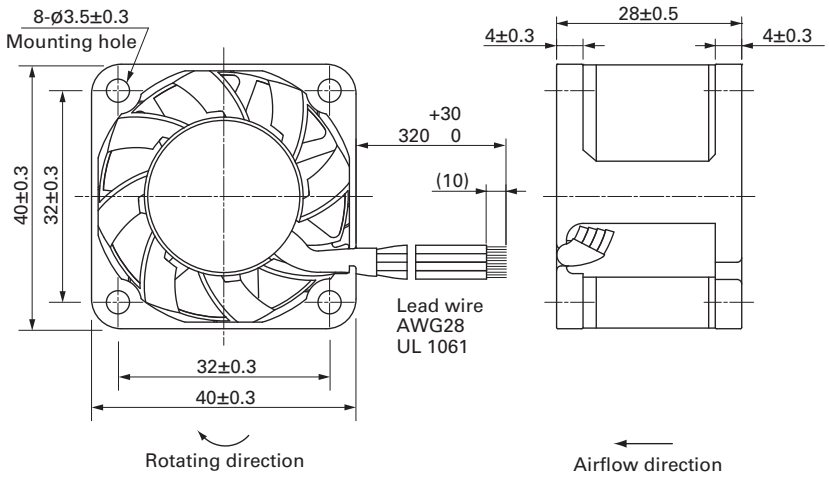
Operating voltage range



PWM duty - Speed characteristics example

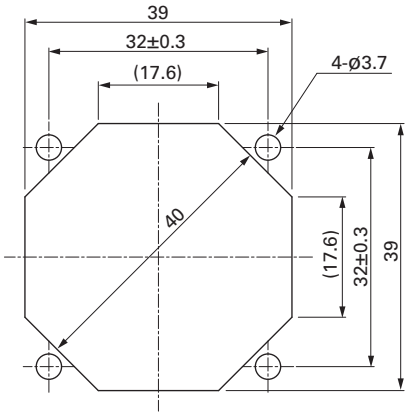


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

40×40×28 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. 599.
- 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.

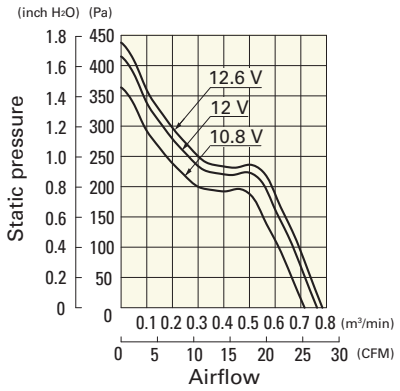
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV0412K301	12	10.8 to 12.6	0.84	10.08	16500	0.76	26.8	415	1.668	58	-20 to +60	40000/60˚C (70000/40˚C)
9GV0412J301		7 to 13.2	0.6	7.2	14700	0.68	24.0	330	1.325	55		
9GV0412G301			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	

Note: Sensor and control options are available for selection. Refer to the table on p. 632.

Airflow - Static Pressure Characteristics

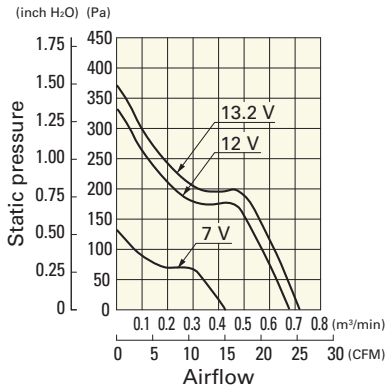
9GV0412K301 With pulse sensor

Operating voltage range



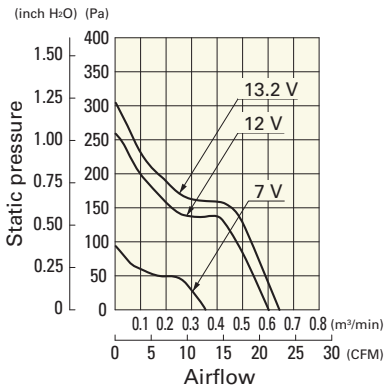
9GV0412J301 With pulse sensor

Operating voltage range



9GV0412G301 With pulse sensor

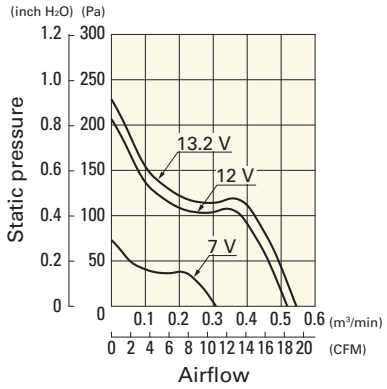
Operating voltage range



Airflow - Static Pressure Characteristics

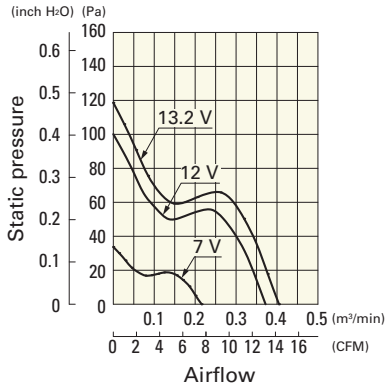
9GV0412H301 With pulse sensor

Operating voltage range

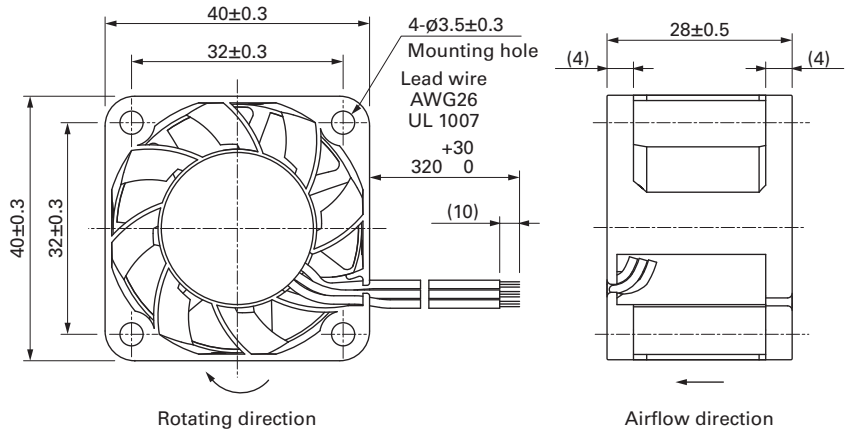


9GV0412C301 With pulse sensor

Operating voltage range

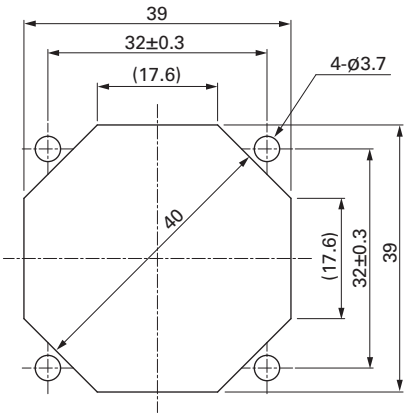


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

40×40×28 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. 599.
- 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.**

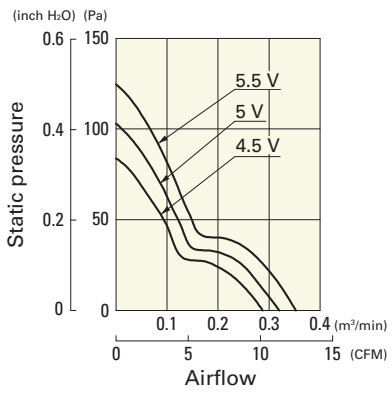
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P0405H3013	5	4.5 to 5.5	0.68	3.4	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		
109P0412J3013		7 to 13.2	0.35	4.2	12500	0.46	16.2	210	0.843	44	-20 to +60	40000/60˚C (70000/40˚C)
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	-20 to +70	60000/60˚C (90000/40˚C)
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		
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		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 621 to 622.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

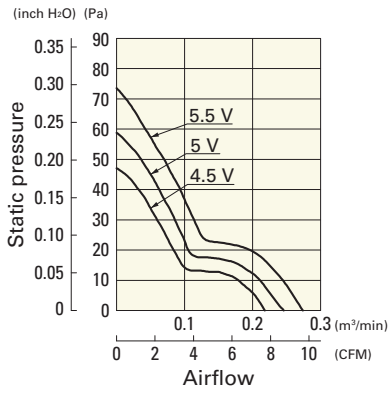
109P0405H3013 With pulse sensor

Operating voltage range



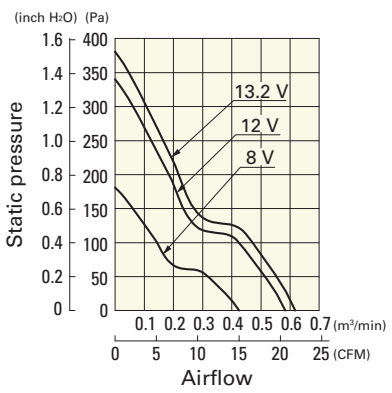
109P0405F3013 With pulse sensor

Operating voltage range



109P0412K3013 With pulse sensor

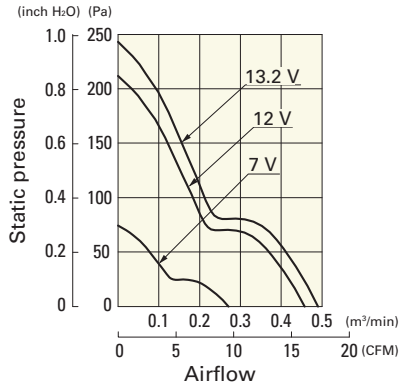
Operating voltage range



Airflow - Static Pressure Characteristics

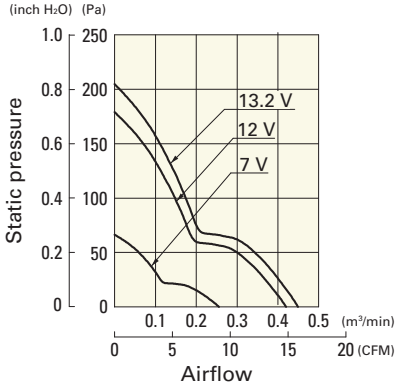
109P0412J3013 With pulse sensor

Operating voltage range



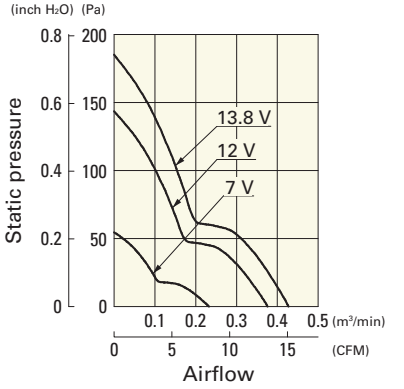
109P0412G3013 With pulse sensor

Operating voltage range



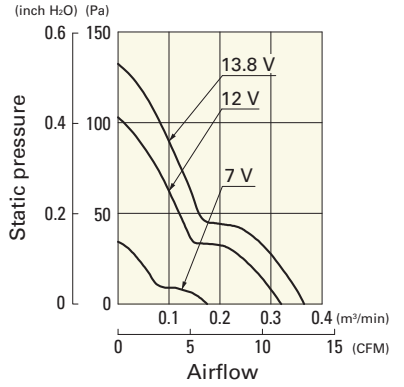
109P0412B3013 With pulse sensor

Operating voltage range



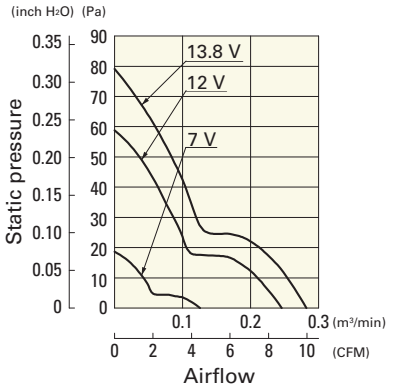
109P0412H3013 With pulse sensor

Operating voltage range



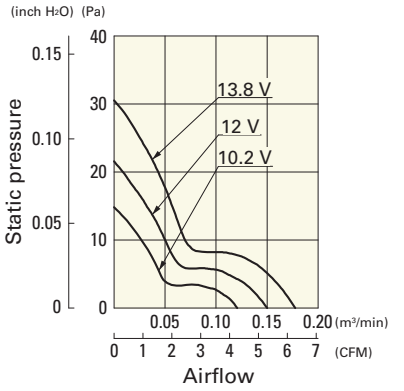
109P0412F3013 With pulse sensor

Operating voltage range



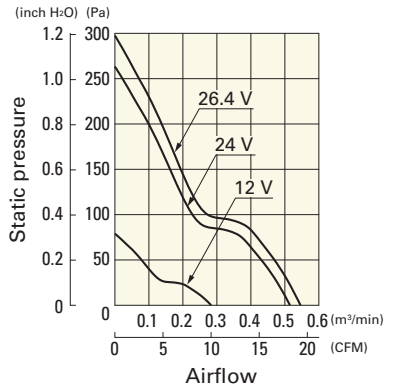
109P0412M3013 With pulse sensor

Operating voltage range



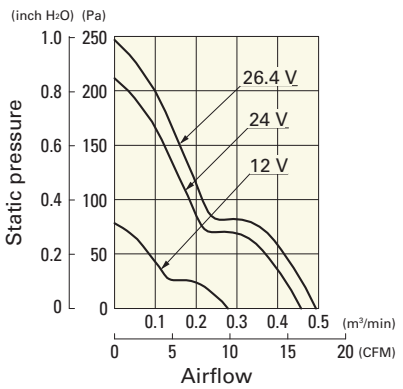
109P0424R3013 With pulse sensor

Operating voltage range



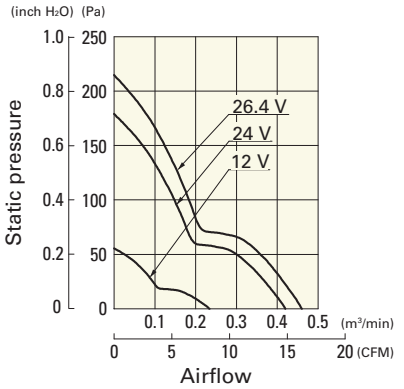
109P0424J3013 With pulse sensor

Operating voltage range



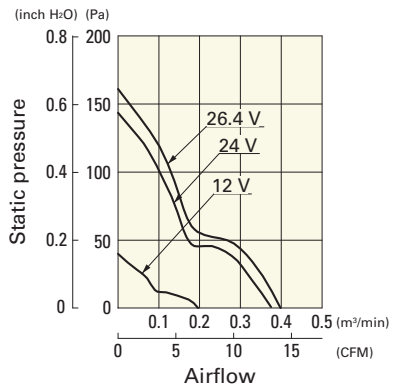
109P0424G3013 With pulse sensor

Operating voltage range



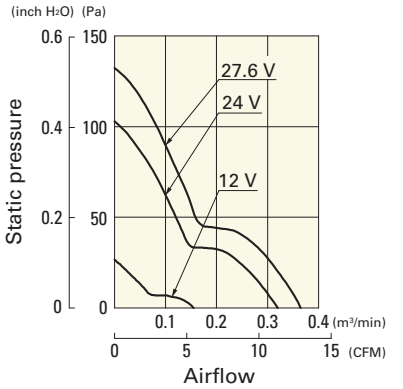
109P0424B3013 With pulse sensor

Operating voltage range



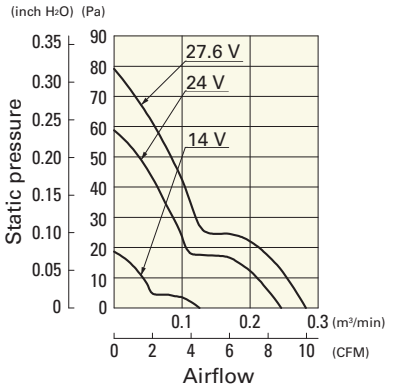
109P0424H3013 With pulse sensor

Operating voltage range

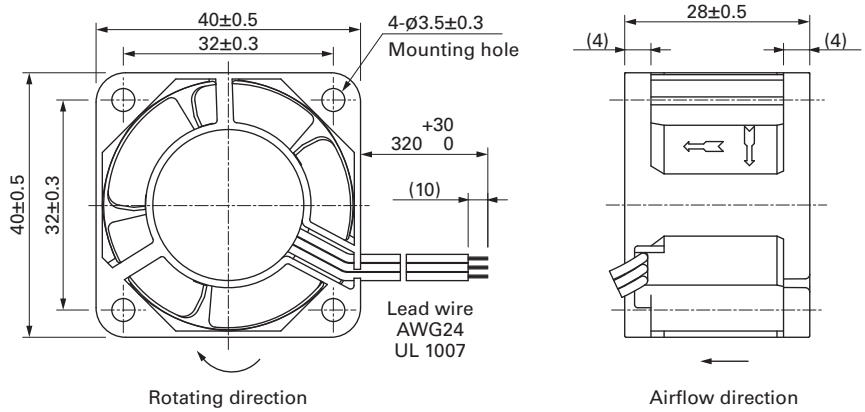


109P0424F3013 With pulse sensor

Operating voltage range

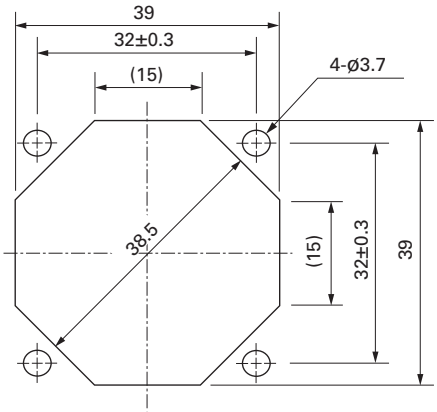


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

DC Fan

52×52×15 mm

San Ace 52 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. 599.
- 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 ..... 40 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0512P7G001	12	10.2 to 13.8	100	0.13	1.56	7800	0.5	17.7	91.5	0.367	38	-20 to +70	40000/60˚C (70000/40˚C)
9GA0512P7A001			100	0.08	0.96	6300	0.4	14.1	59	0.237	32		
9GA0512P7H001			100	0.05	0.6	4300	0.275	9.7	27.5	0.11	22		
9GA0512P7M001			100	0.04	0.48	3400	0.215	7.6	17	0.068	16		
9GA0524P7G001	24	20.4 to 27.6	100	0.07	1.68	7800	0.5	17.7	91.5	0.367	38		
9GA0524P7A001			100	0.05	1.2	6300	0.4	14.1	59.0	0.237	32		
9GA0524P7H001			100	0.03	0.72	4300	0.275	9.7	27.5	0.11	22		
9GA0524P7M001			100	0.02	0.48	3400	0.215	7.6	17.0	0.068	16		

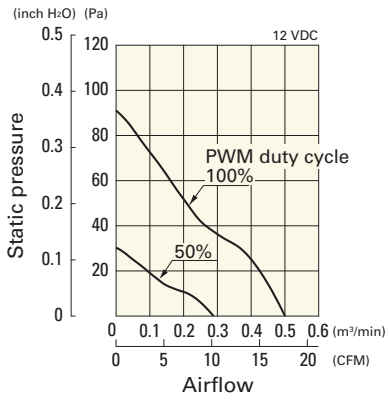
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 628 to 629.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

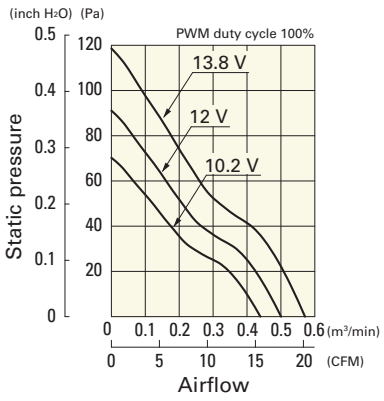
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0512P7G001 With pulse sensor with PWM control function

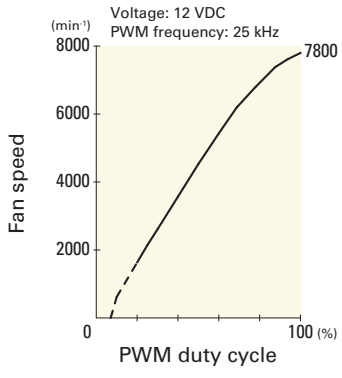
PWM duty cycle



Operating voltage range



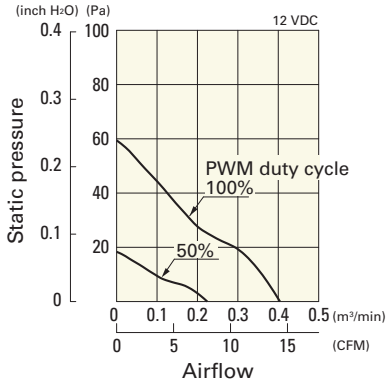
PWM duty - Speed characteristics example



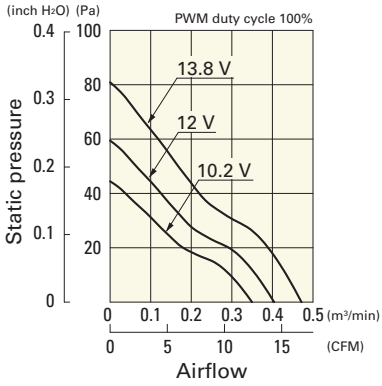
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0512P7A001 With pulse sensor with PWM control function

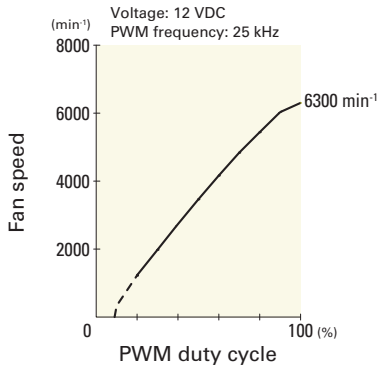
PWM duty cycle



Operating voltage range

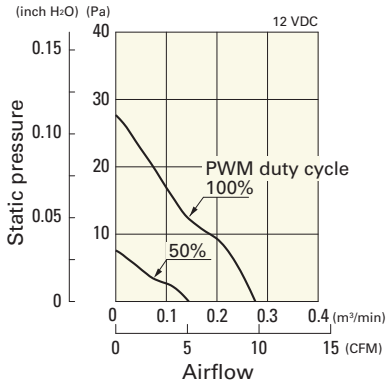


PWM duty - Speed characteristics example

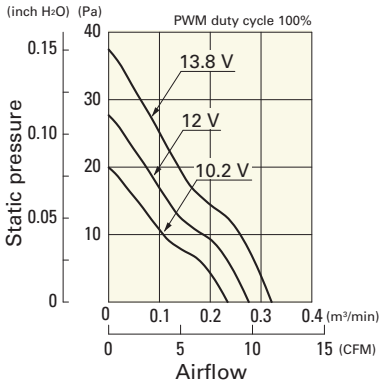


9GA0512P7H001 With pulse sensor with PWM control function

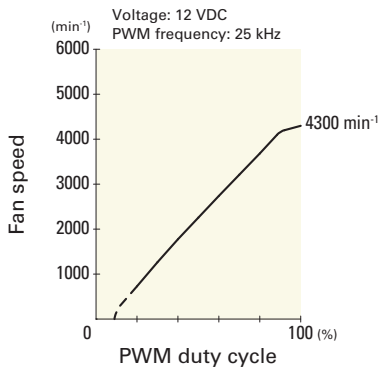
PWM duty cycle



Operating voltage range

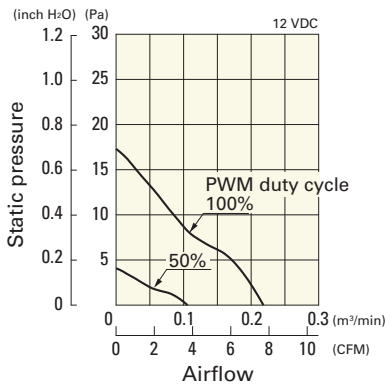


PWM duty - Speed characteristics example

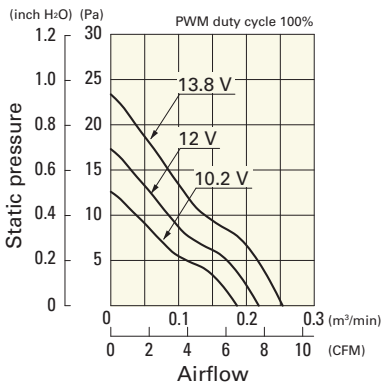


9GA0512P7M001 With pulse sensor with PWM control function

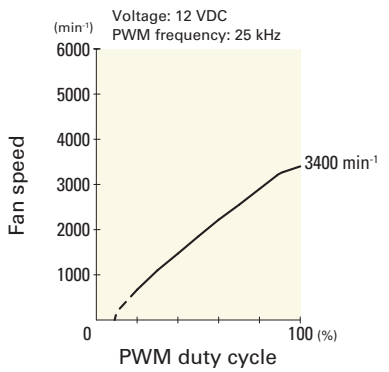
PWM duty cycle



Operating voltage range

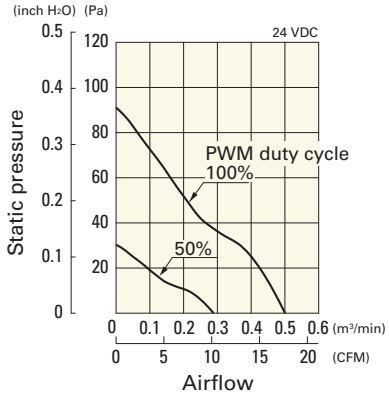


PWM duty - Speed characteristics example

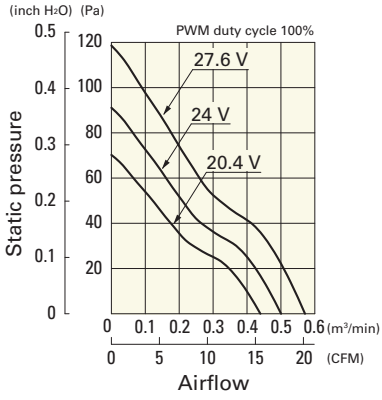


9GA0524P7G001 With pulse sensor with PWM control function

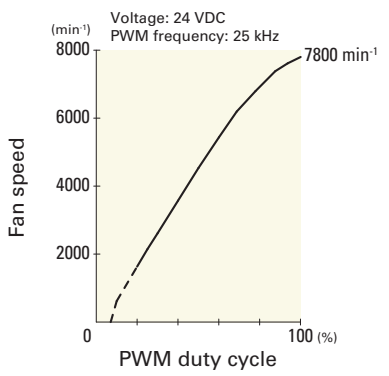
PWM duty cycle



Operating voltage range



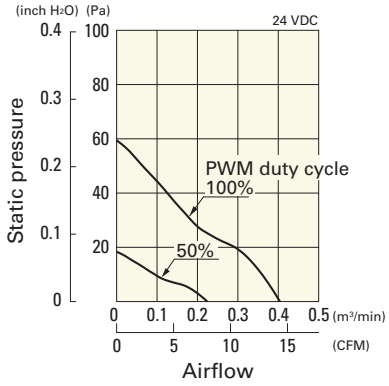
PWM duty - Speed characteristics example



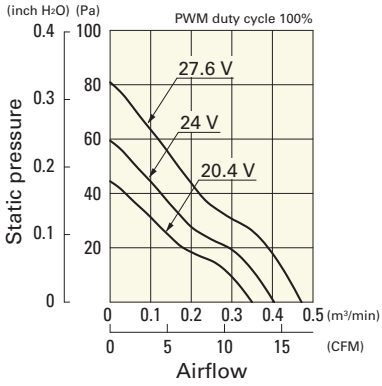
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0524P7A001 With pulse sensor with PWM control function

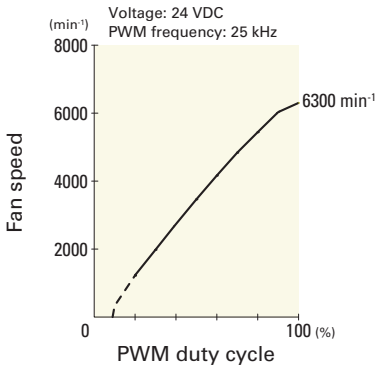
PWM duty cycle



Operating voltage range

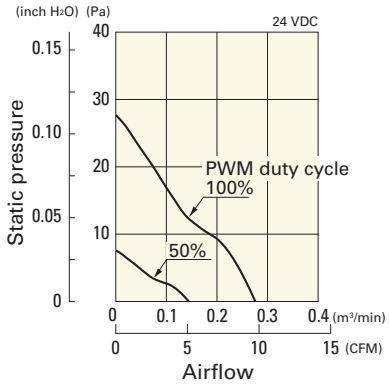


PWM duty - Speed characteristics example

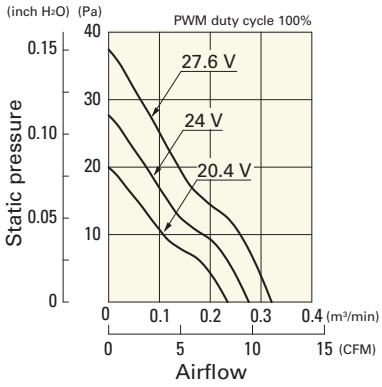


9GA0524P7H001 With pulse sensor with PWM control function

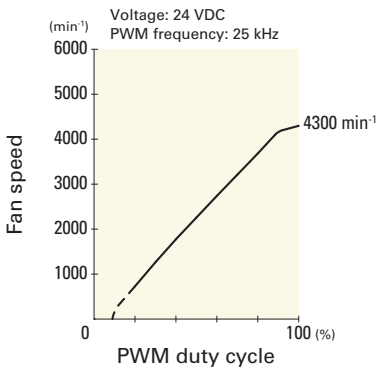
PWM duty cycle



Operating voltage range

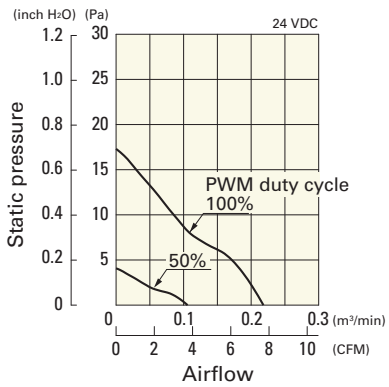


PWM duty - Speed characteristics example

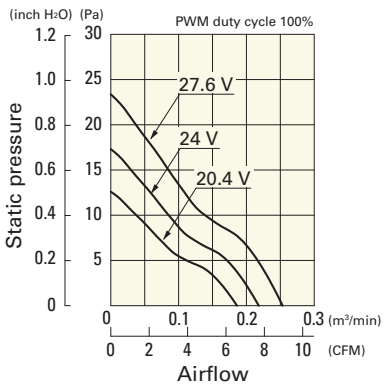


9GA0524P7M001 With pulse sensor with PWM control function

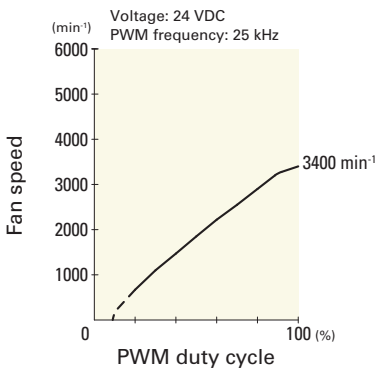
PWM duty cycle



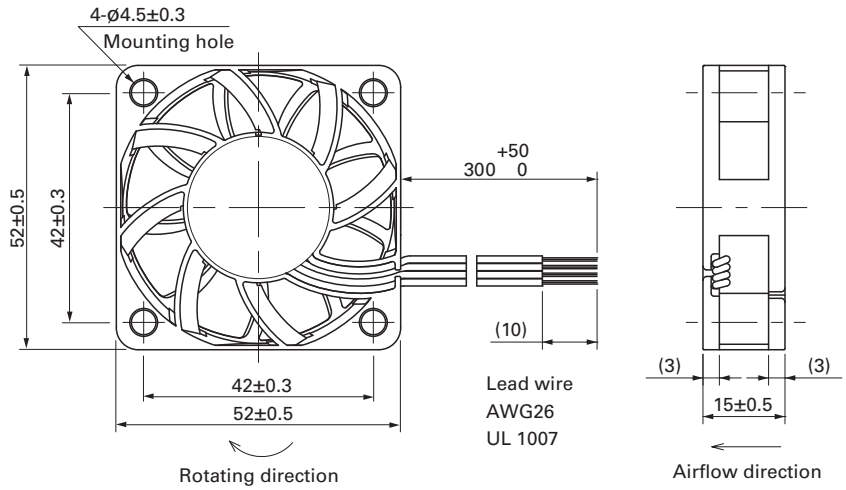
Operating voltage range



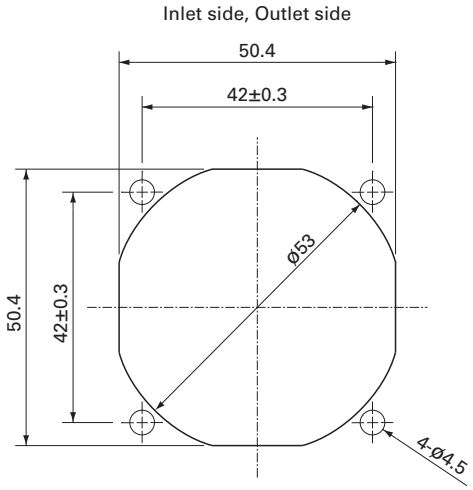
PWM duty - Speed characteristics example



Dimensions (unit: mm)



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



Options

Finger guards page: p. 584

Model no.: 109-149, 109-149E

DC Fan

52×52×15 mm

San Ace 52 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. 599.
- 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 ..... 55 g

Specifications

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

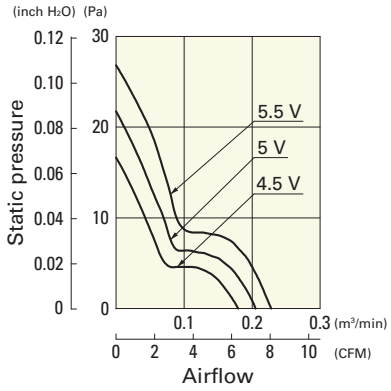
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P0505M701	5	4.5 to 5.5	0.15	0.75	3700	0.205	7.24	21.4	0.086	22	-20 to +70	60000/60˚C (90000/40˚C)

Note 1: Sensor and control options are available for selection. Refer to the table on p. 622.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

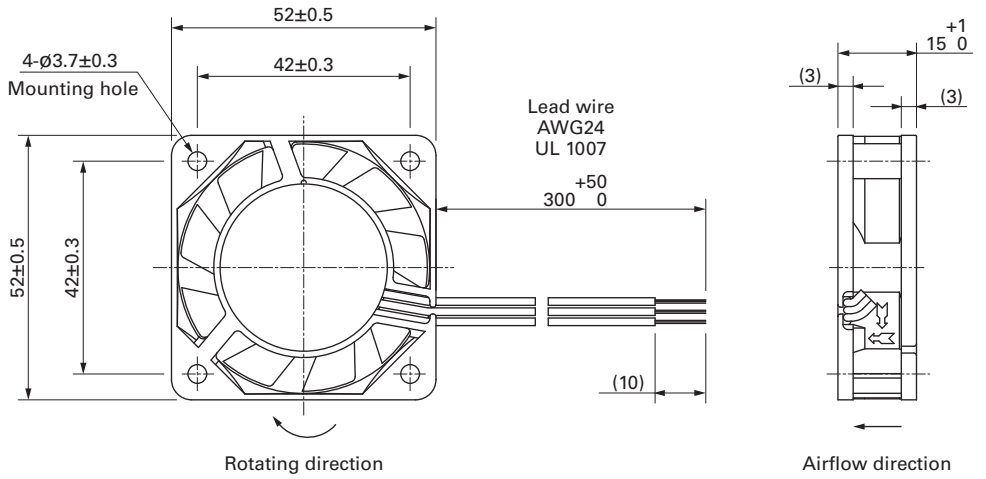
Airflow - Static Pressure Characteristics

109P0505M701 With pulse sensor

Operating voltage range

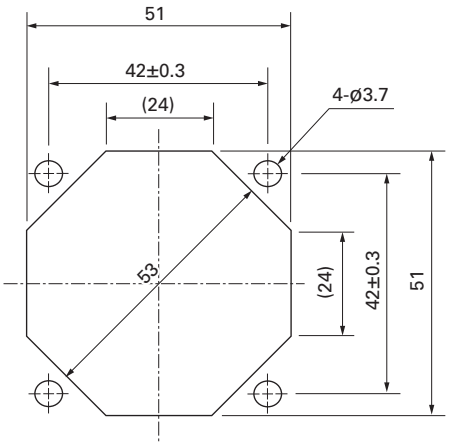


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

Model no.: 109-149, 109-149E

DC Fan

60×60×10 mm

San Ace 60 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. 599.
- 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
- Mass ..... 35 g

Specifications

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

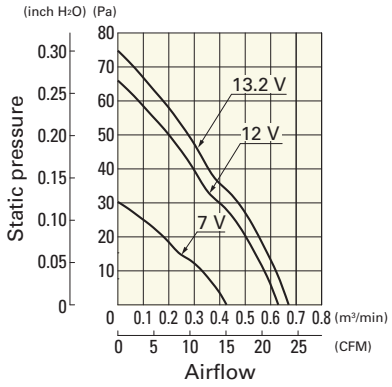
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0612G9001	12	7.0 to 13.2	0.27	3.24	6200	0.62	21.9	66	0.26	43	-20 to +60	40000/60˚C (70000/40˚C)
9GA0612H9001		7.0 to 13.8	0.14	1.68	5000	0.5	17.6	42.9	0.17	37	-20 to +70	
9GA0612L9001			0.03	0.36	2300	0.23	8.1	9.1	0.037	17	-10 to +70	

Note 1: Sensor and control options are available for selection. Refer to the table on p. 629.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

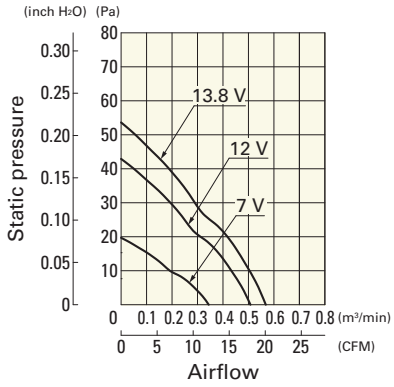
9GA0612G9001 With pulse sensor

Operating voltage range



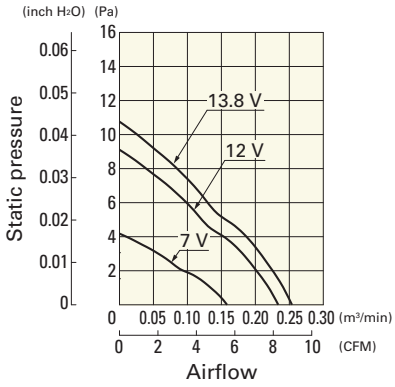
9GA0612H9001 With pulse sensor

Operating voltage range

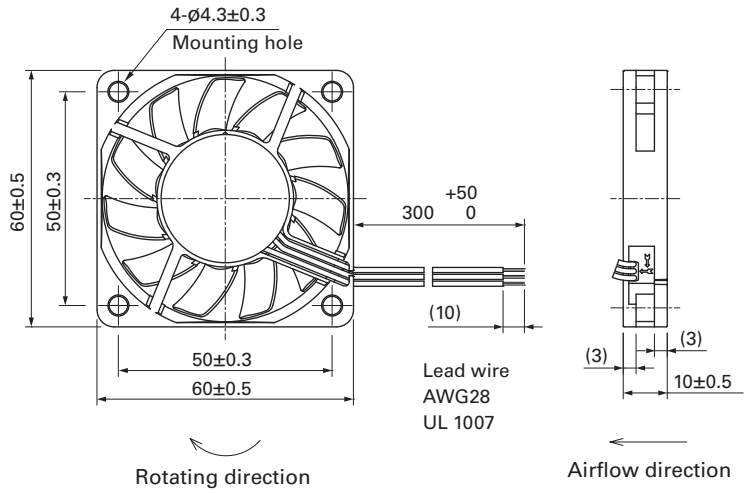


9GA0612L9001 With pulse sensor

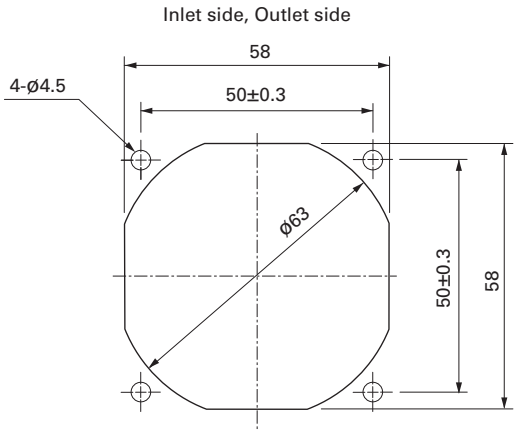
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 584

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

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1003G

DC Fan

60×60×15 mm

San Ace 60 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. 599.
- 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 (For models without PWM control function, there is no speed control wiring.)
- Mass ..... 50 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0612P7G01	12	10.2 to 13.8	100	0.16	1.92	5900	0.68	24	80	0.32	38	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.05	0.6	1500	0.17	6.0	5.2	0.02	10		
9GA0612P7H01			100	0.1	1.2	4900	0.56	19.7	55.6	0.223	34		
			0	0.03	0.36	1300	0.15	5.3	3.9	0.015	8		
9GA0624P7G01	24	20.4 to 27.6	100	0.08	1.92	5900	0.68	24.0	80	0.32	38		

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

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

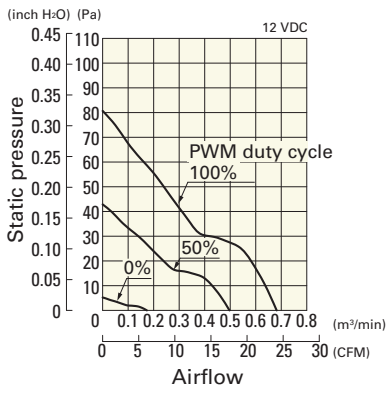
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0612G701	12	6 to 13.8	0.16	1.92	5900	0.68	24	80	0.32	38	-20 to +70	40000/60˚C (70000/40˚C)
9GA0612H701			0.1	1.2	4900	0.56	19.7	55.6	0.223	34		
9GA0612M701			0.08	0.96	3900	0.45	15.9	35.3	0.142	28		60000/60˚C (90000/40˚C)
9GA0612L701			0.03	0.36	2800	0.31	10.9	18	0.072	17		
9GA0624M701	24	12 to 27.6	0.05	1.2	3900	0.45	15.9	35.3	0.142	28		40000/60˚C (70000/40˚C)

Note 1: Sensor and control options are available for selection. Refer to the table on p. 629.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

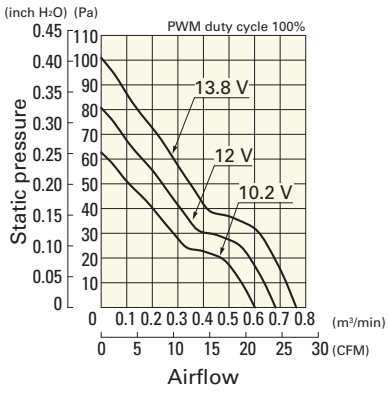
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0612P7G01 With pulse sensor with PWM control function

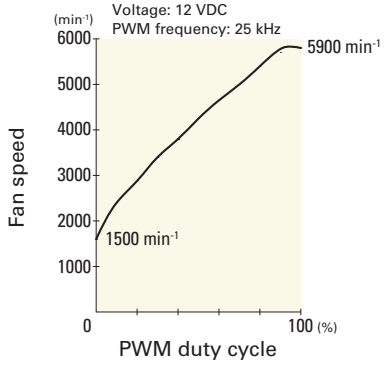
PWM duty cycle



Operating voltage range



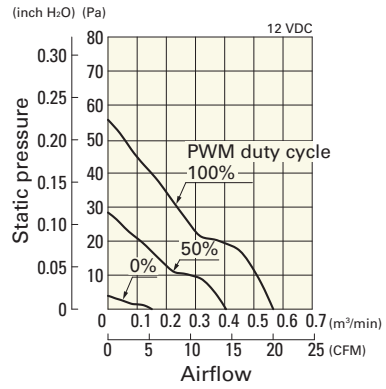
PWM duty - Speed characteristics example



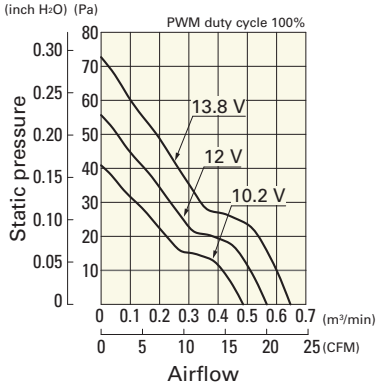
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0612P7H01 With pulse sensor with PWM control function

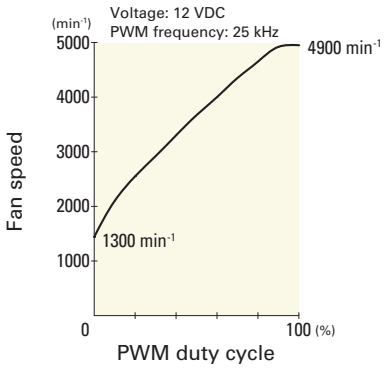
PWM duty cycle



Operating voltage range

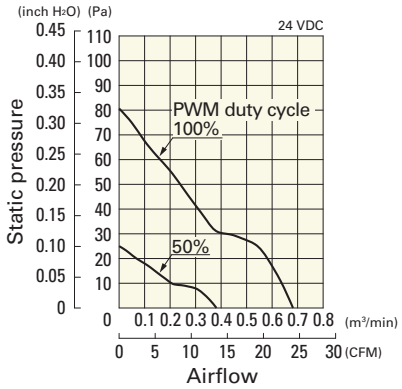


PWM duty - Speed characteristics example

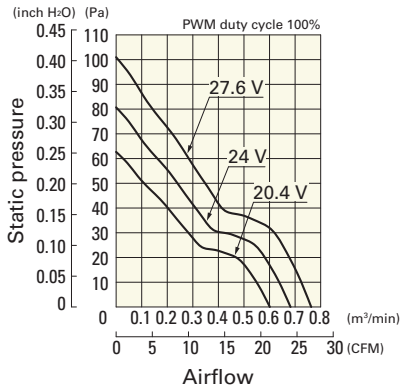


9GA0624P7G01 With pulse sensor with PWM control function

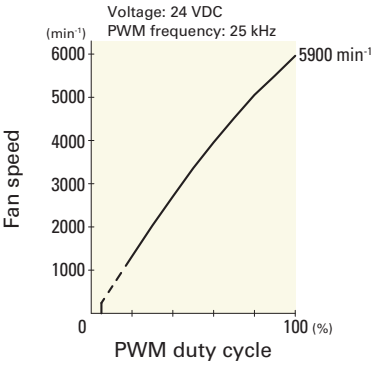
PWM duty cycle



Operating voltage range



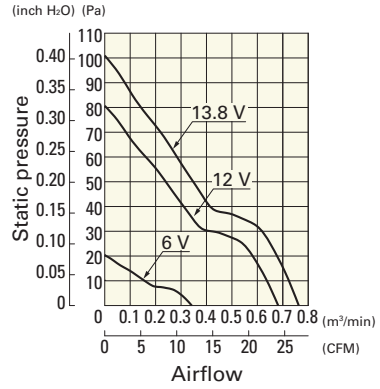
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

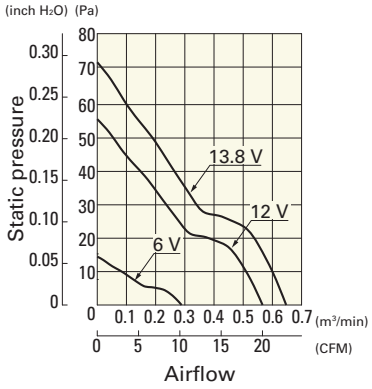
9GA0612G701 With pulse sensor

Operating voltage range



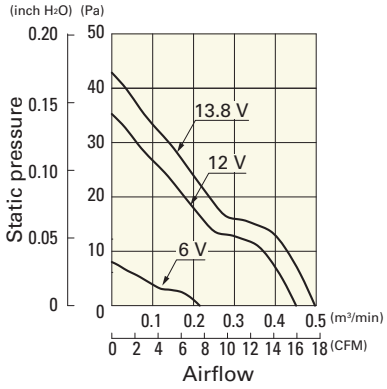
9GA0612H701 With pulse sensor

Operating voltage range



9GA0612M701 With pulse sensor

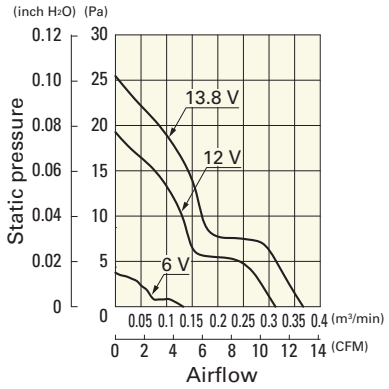
Operating voltage range



Airflow - Static Pressure Characteristics

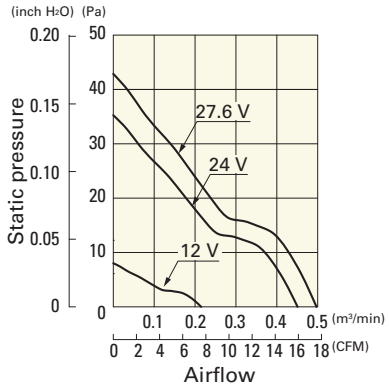
9GA0612L701 With pulse sensor

Operating voltage range

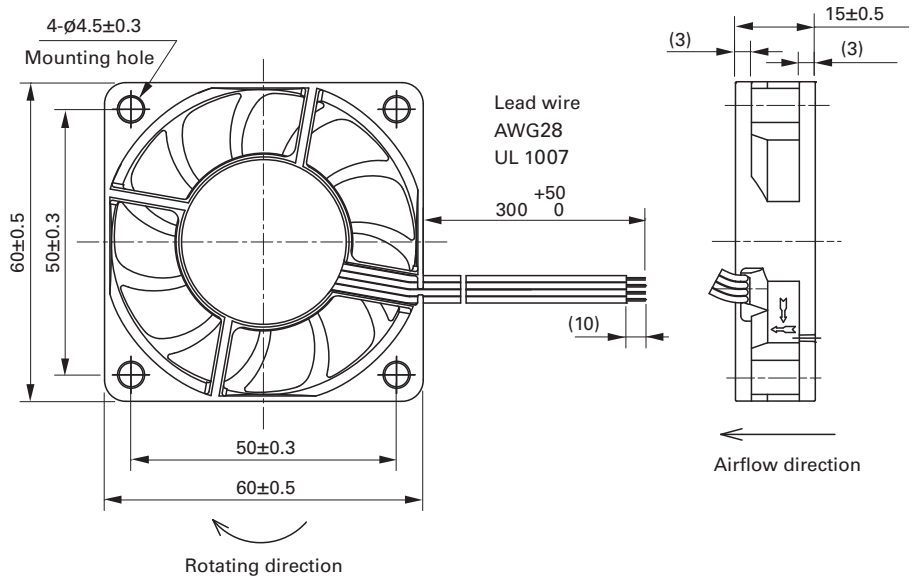


9GA0624M701 With pulse sensor

Operating voltage range

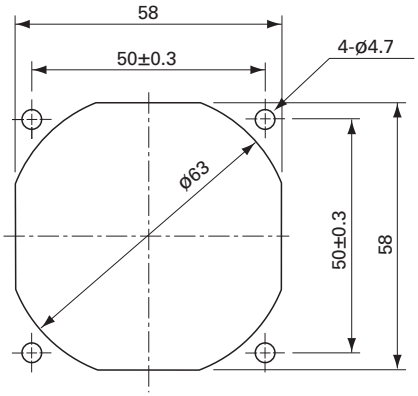


Dimensions (unit: mm) (With pulse sensor with PWM control function)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

Resin finger guards page: p. 591

Model no.: 109-1003G

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

60×60×20 mm

San Ace 60 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. 599.
- 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 (For models without PWM control function, there is no speed control wiring.)
- Mass ..... 70 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0612P6G001	12	10.8 to 13.2	100	0.26	3.12	6850	0.88	31.1	125	0.5	43	-20 to +70	40000/60˚C (70000/40˚C)
9GA0612P6S001			100	0.15	1.8	5500	0.7	24.7	81	0.33	36		
9GA0624P6G001	24	21.6 to 26.4	100	0.12	2.88	6850	0.88	31.1	125	0.5	43		
9GA0624P6S001			100	0.07	1.68	5500	0.7	24.7	81	0.33	36		

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

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

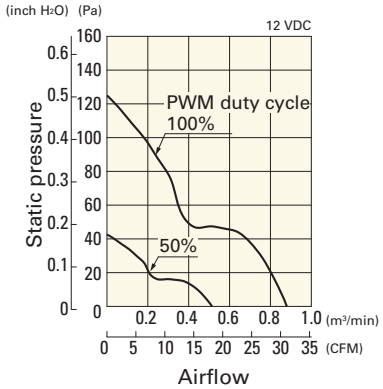
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0612H6001	12	10.8 to 13.2	0.09	1.08	4100	0.52	18.4	45	0.18	29	-20 to +70	60000/60˚C (90000/40˚C)
9GA0612M6001			0.05	0.6	2700	0.34	12.0	20	0.08	18		
9GA0624H6001	24	21.6 to 26.4	0.04	0.96	4100	0.52	18.4	45	0.18	29		
9GA0624M6001			0.03	0.72	2700	0.34	12.0	20	0.08	18		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 629.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

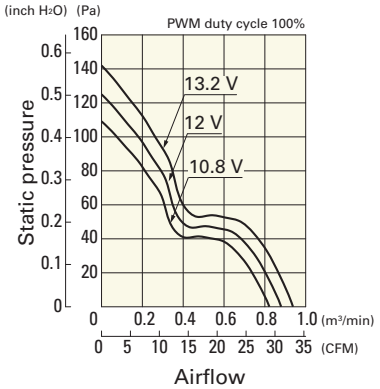
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0612P6G001 With pulse sensor with PWM control function

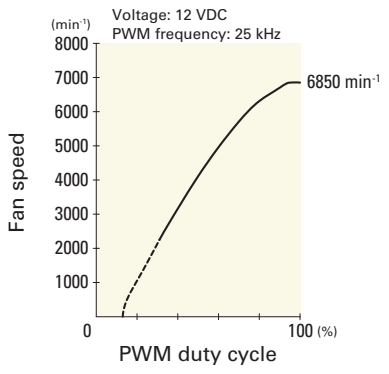
PWM duty cycle



Operating voltage range



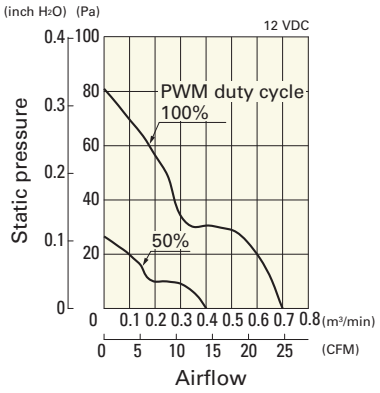
PWM duty - Speed characteristics example



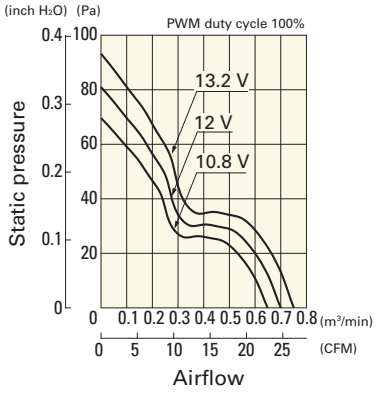
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0612P6S001 With pulse sensor with PWM control function

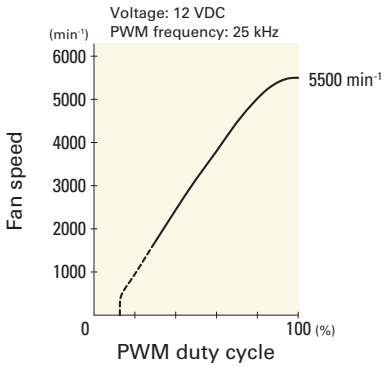
PWM duty cycle



Operating voltage range

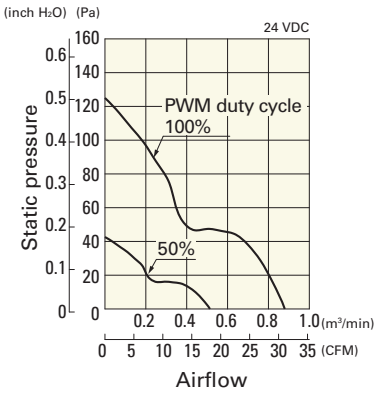


PWM duty - Speed characteristics example

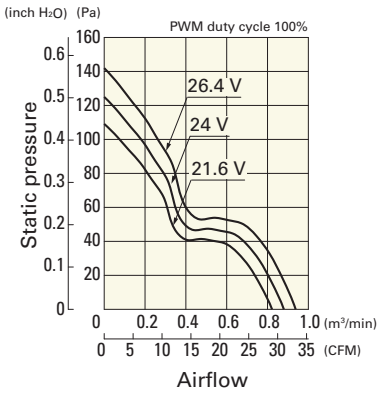


9GA0624P6G001 With pulse sensor with PWM control function

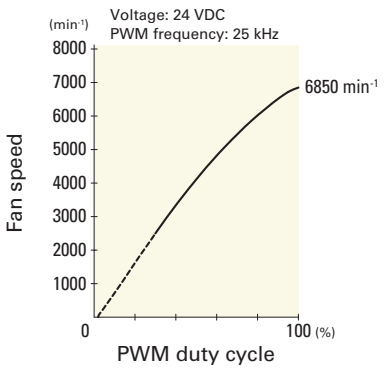
PWM duty cycle



Operating voltage range

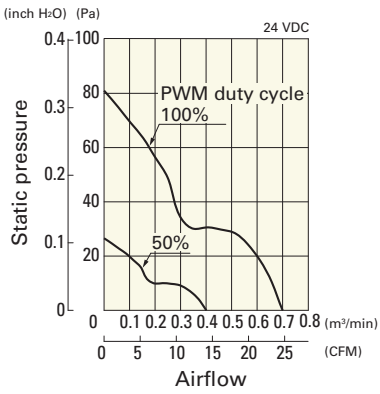


PWM duty - Speed characteristics example

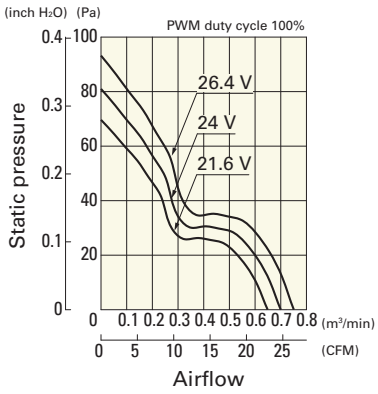


9GA0624P6S001 With pulse sensor with PWM control function

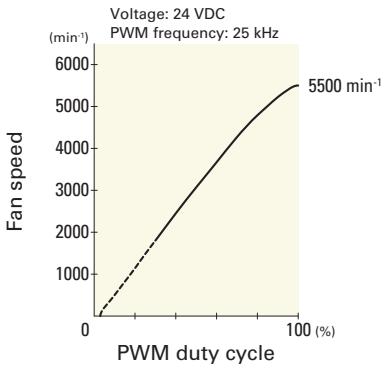
PWM duty cycle



Operating voltage range



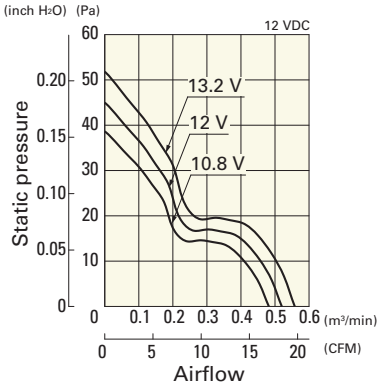
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

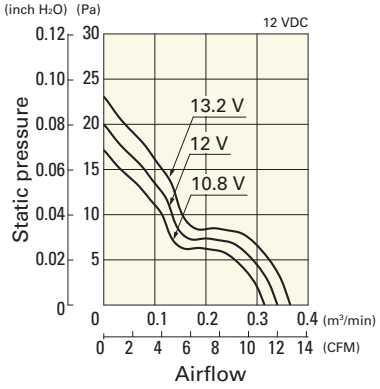
9GA0612H6001 With pulse sensor

Operating voltage range



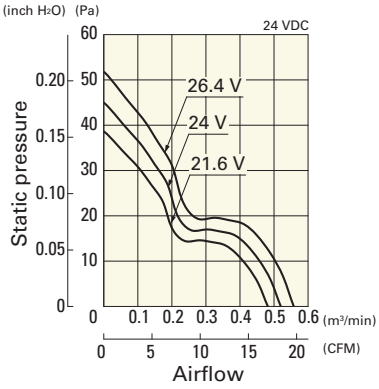
9GA0612M6001 With pulse sensor

Operating voltage range



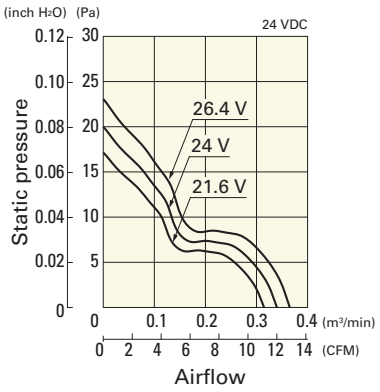
9GA0624H6001 With pulse sensor

Operating voltage range

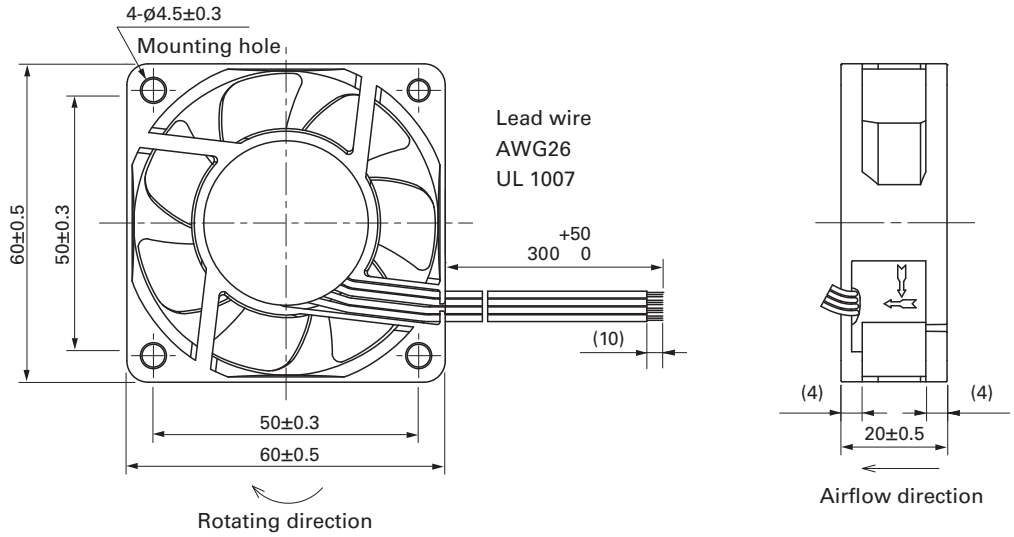


9GA0624M6001 With pulse sensor

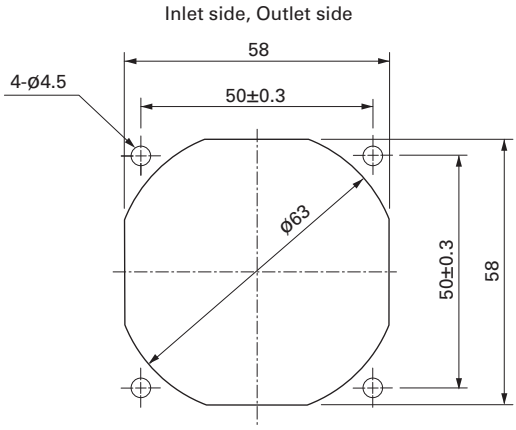
Operating voltage range



Dimensions (unit: mm) (With pulse sensor with PWM control function)



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



Options

Finger guards page: p. 584

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

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1003G

60×60×25 mm

San Ace 60 9G 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. 599.
- 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 ..... 90 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9G0612P4S001	12	10.2 to 13.8	100	0.67	8.04	11000	1.4	49.4	300	1.2	53	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.07	0.84	3300	0.42	14.8	27	0.11	19		
9G0612P4H001			100	0.5	6.0	9500	1.21	42.7	224	0.9	49		
			0	0.06	0.72	2850	0.36	12.7	20.2	0.08	18		
9G0624P4S001	24	20.4 to 27.6	100	0.34	8.16	11000	1.4	49.4	300	1.2	53		
			0	0.04	0.96	3300	0.42	14.8	27	0.11	19		
9G0624P4H001			100	0.25	6.0	9500	1.21	42.7	224	0.9	49		
			0	0.04	0.96	2850	0.36	12.7	20.2	0.08	18		
9G0624P4F001			100	0.17	4.08	7800	1.0	35.3	150	0.6	43		
			20	0.03	0.72	1800	0.23	8.1	8	0.03	14		
9G0648P4S001	48	36 to 72	100	0.18	8.64	11000	1.4	49.4	305	1.22	53		
			0	0.02	0.96	3300	0.42	14.8	27.4	0.11	19		

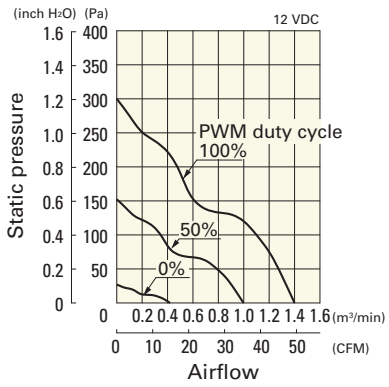
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 626.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

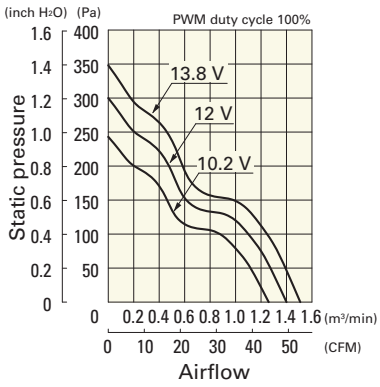
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9G0612P4S001 With pulse sensor with PWM control function

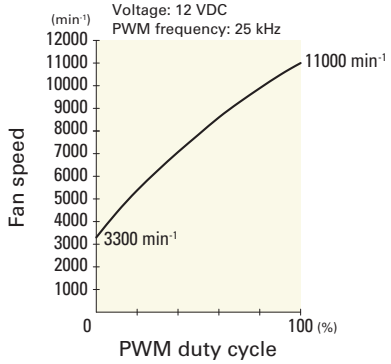
PWM duty cycle



Operating voltage range



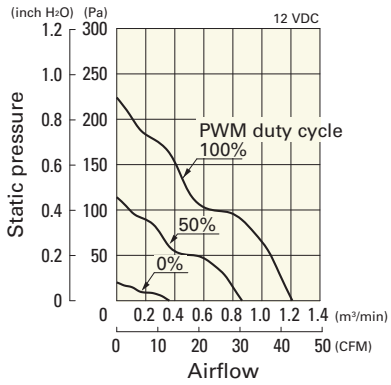
PWM duty - Speed characteristics example



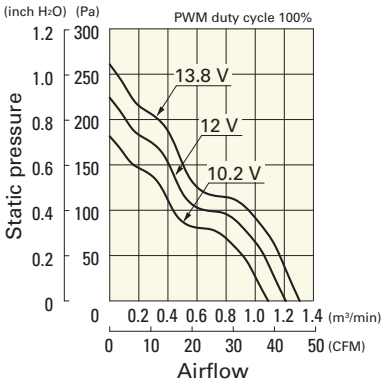
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9G0612P4H001 With pulse sensor with PWM control function

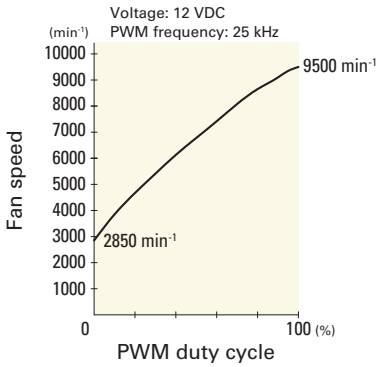
PWM duty cycle



Operating voltage range

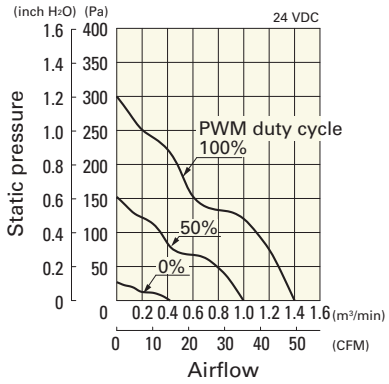


PWM duty - Speed characteristics example

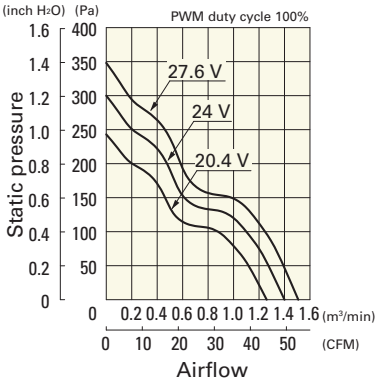


9G0624P4S001 With pulse sensor with PWM control function

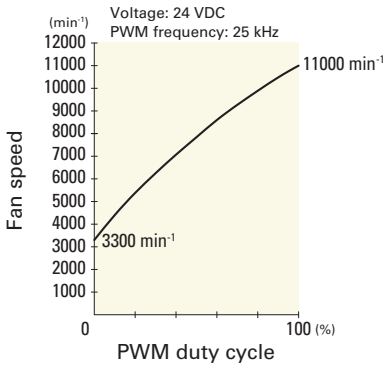
PWM duty cycle



Operating voltage range

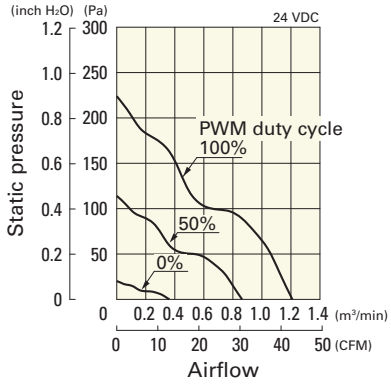


PWM duty - Speed characteristics example

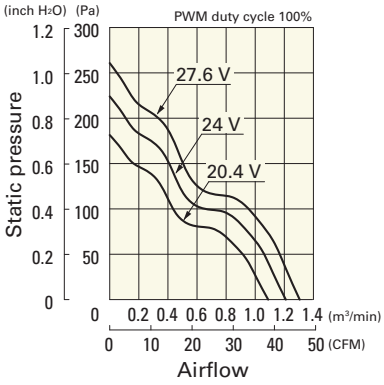


9G0624P4H001 With pulse sensor with PWM control function

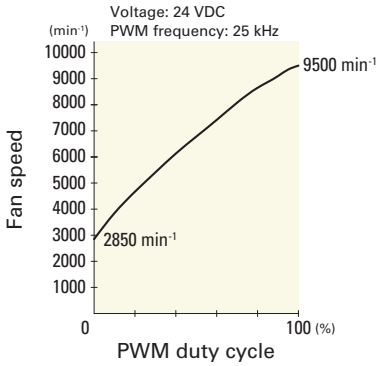
PWM duty cycle



Operating voltage range

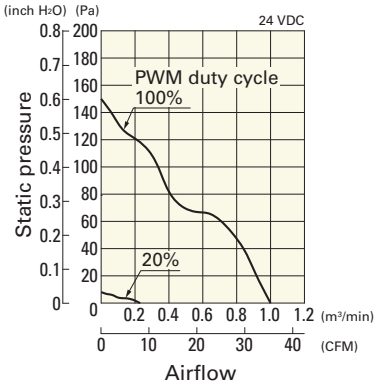


PWM duty - Speed characteristics example

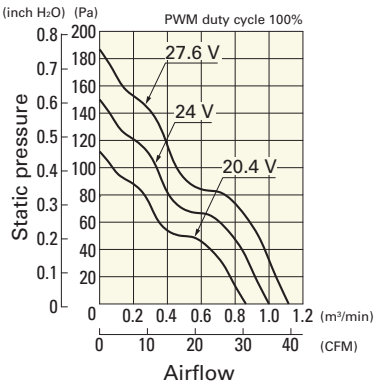


9G0624P4F001 With pulse sensor with PWM control function

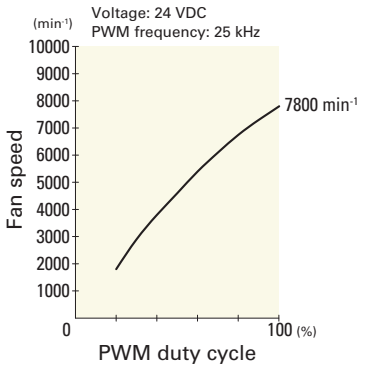
PWM duty cycle



Operating voltage range



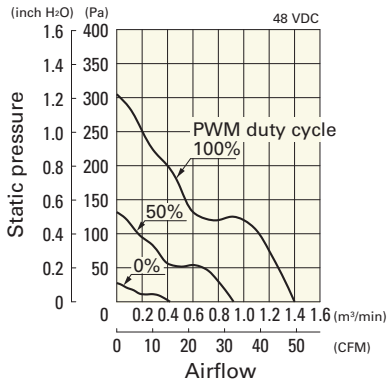
PWM duty - Speed characteristics example



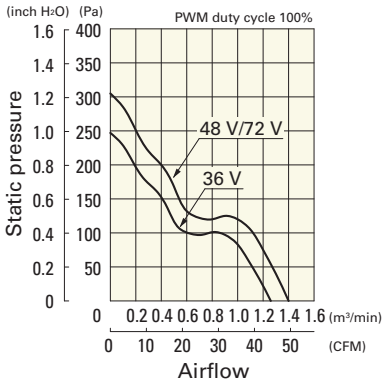
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9G0648P4S001 With pulse sensor with PWM control function

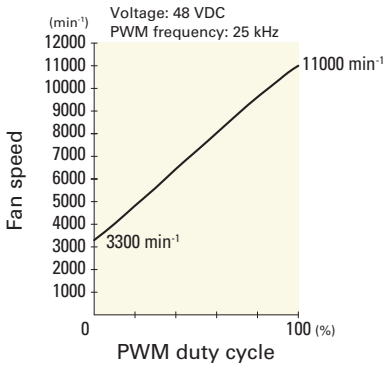
PWM duty cycle



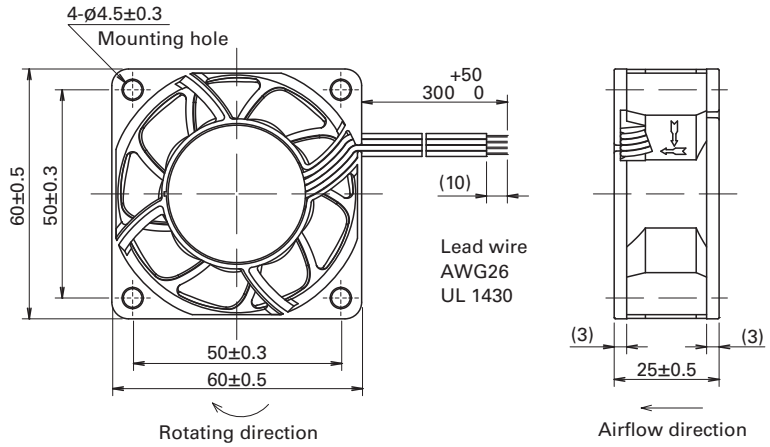
Operating voltage range



PWM duty - Speed characteristics example

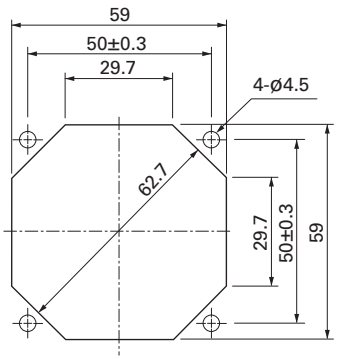


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

Resin finger guards page: p. 591

Model no.: 109-1003G

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

DC Fan

60×60×25 mm

San Ace 60 9R 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. 599.
- 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 ..... 90 g

Specifications

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

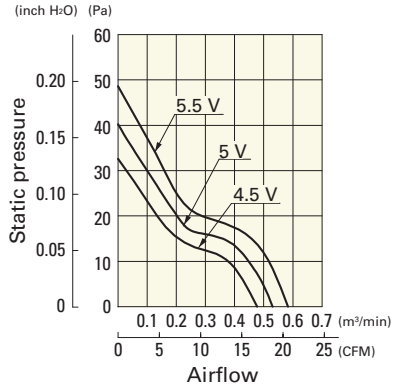
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109R0605H401	5	4.5 to 5.5	0.34	1.7	3800	0.53	18.7	40.2	0.161	28	-20 to +70	60000/60˚C (90000/40˚C)
109R0605F401			0.2	1.0	3200	0.44	15.5	29.4	0.118	24	-20 to +60	
109R0605M401			0.13	0.65	2600	0.36	12.7	19.6	0.079	20	-20 to +70	
109R0612J401	12	10.8 to 13.2	0.47	5.64	7600	1.06	37.1	155.0	0.622	44	-20 to +60	40000/60˚C (70000/40˚C)
109R0612G401			0.24	2.88	5600	0.78	27.5	87.3	0.351	39	-20 to +70	60000/60˚C (90000/40˚C)
109R0612D401		10.2 to 13.8	0.21	2.52	5150	0.72	25.4	73.5	0.295	37		
109R0612S401		6 to 13.8	0.17	2.04	4600	0.65	23.0	56.8	0.228	33		
109R0612H401			0.11	1.32	3800	0.53	18.7	40.1	0.161	28		
109R0612F401			0.09	1.08	3200	0.44	15.5	29.4	0.118	24		
109R0612M401		7 to 13.8	0.06	0.72	2600	0.36	12.7	19.6	0.079	20		
109R0624J401	24	21.6 to 26.4	0.24	5.76	7600	1.06	37.1	155.0	0.622	44	-20 to +60	40000/60˚C (70000/40˚C)
109R0624G401		20.4 to 27.6	0.13	3.12	5600	0.78	27.5	87.3	0.351	39	-20 to +70	
109R0624D401		12 to 27.6	0.12	2.88	5150	0.72	25.4	73.5	0.295	37		
109R0624S401			0.08	1.92	4600	0.65	23.0	56.8	0.228	33		60000/60˚C (90000/40˚C)
109R0624H401			0.06	1.44	3800	0.53	18.7	40.2	0.161	28		
109R0624F401			0.05	1.2	3200	0.44	15.5	29.4	0.118	24		
109R0624M401		14 to 27.6	0.04	0.96	2600	0.36	12.7	19.6	0.079	20		
109R0648J401	48	43.2 to 52.8	0.12	5.76	7600	1.06	37.1	155.0	0.622	44	-20 to +60	40000/60˚C (70000/40˚C)
109R0648G401		43 to 53	0.07	3.36	5600	0.78	27.5	87.3	0.351	39		
109R0648H401		40 to 53	0.04	1.92	3800	0.53	18.7	40.2	0.161	28	-20 to +70	60000/60˚C (90000/40˚C)

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 622 to 623.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

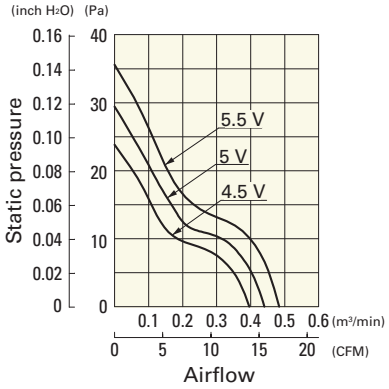
109R0605H401 With pulse sensor

Operating voltage range



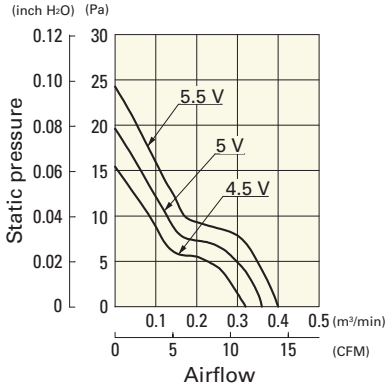
109R0605F401 With pulse sensor

Operating voltage range



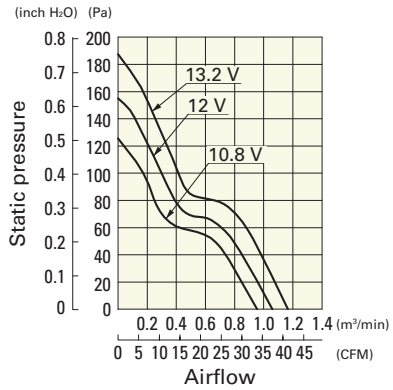
109R0605M401 With pulse sensor

Operating voltage range



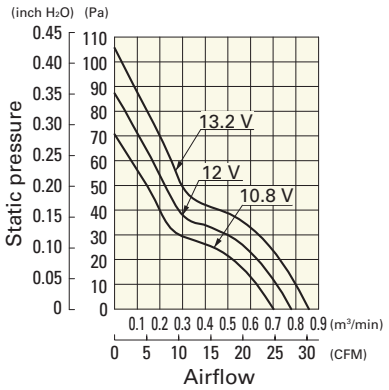
109R0612J401 With pulse sensor

Operating voltage range



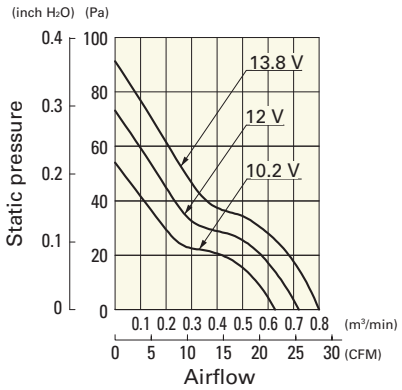
109R0612G401 With pulse sensor

Operating voltage range



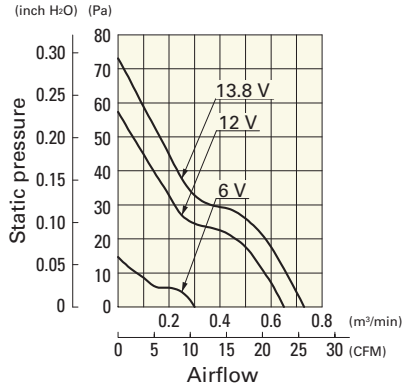
109R0612D401 With pulse sensor

Operating voltage range



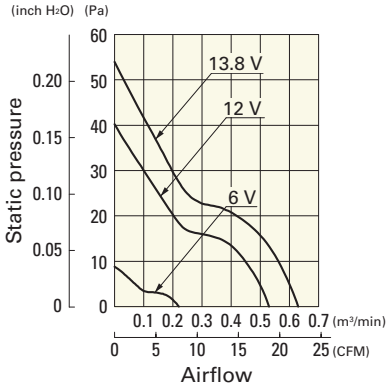
109R0612S401 With pulse sensor

Operating voltage range



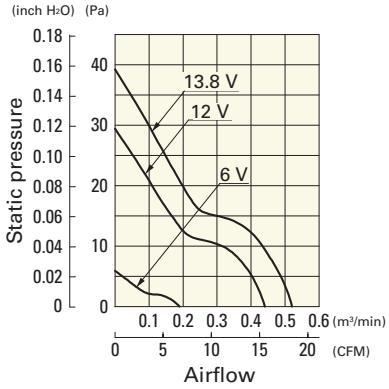
109R0612H401 With pulse sensor

Operating voltage range



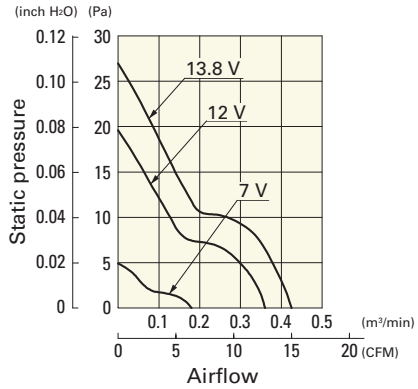
109R0612F401 With pulse sensor

Operating voltage range



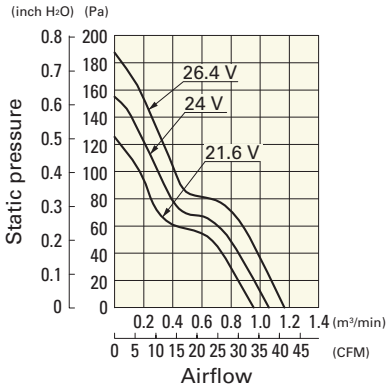
109R0612M401 With pulse sensor

Operating voltage range



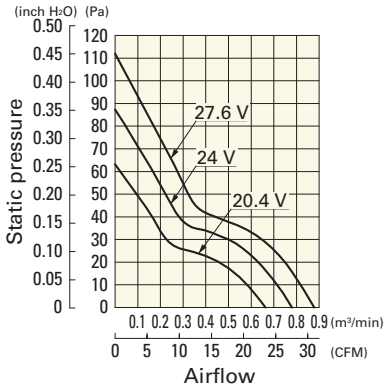
109R0624J401 With pulse sensor

Operating voltage range



109R0624G401 With pulse sensor

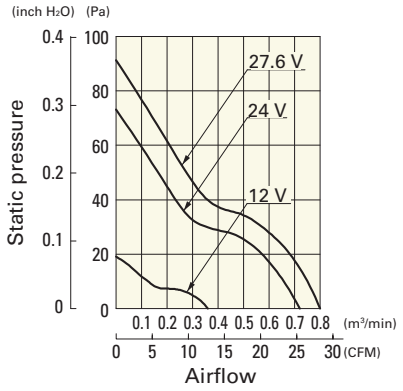
Operating voltage range



Airflow - Static Pressure Characteristics

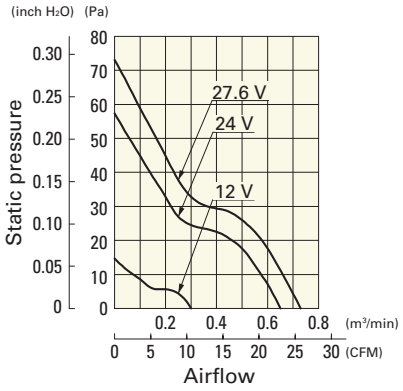
109R0624D401 With pulse sensor

Operating voltage range



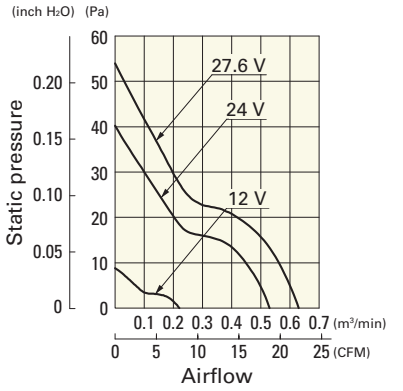
109R0624S401 With pulse sensor

Operating voltage range



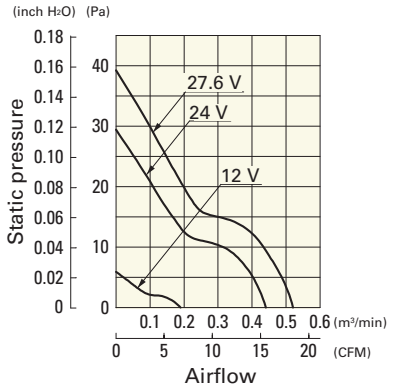
109R0624H401 With pulse sensor

Operating voltage range



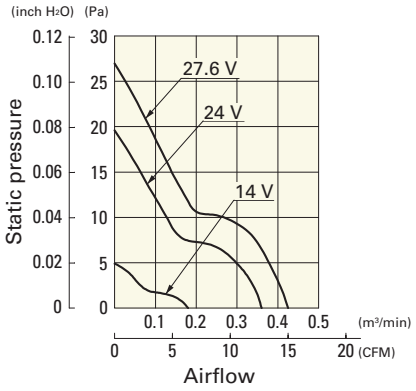
109R0624F401 With pulse sensor

Operating voltage range



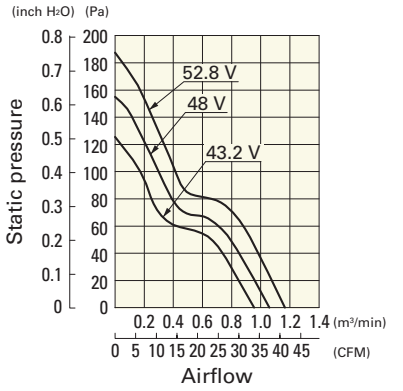
109R0624M401 With pulse sensor

Operating voltage range



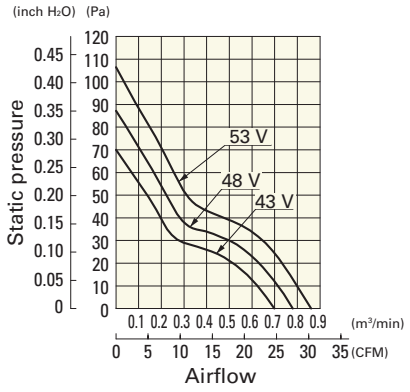
109R0648J401 With pulse sensor

Operating voltage range



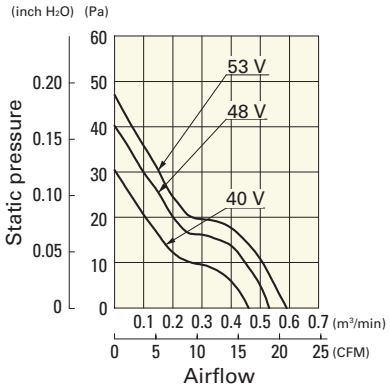
109R0648G401 With pulse sensor

Operating voltage range

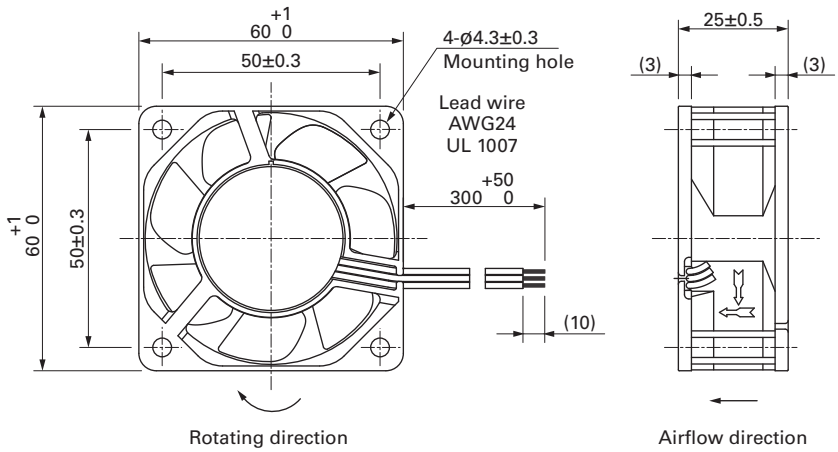


109R0648H401 With pulse sensor

Operating voltage range

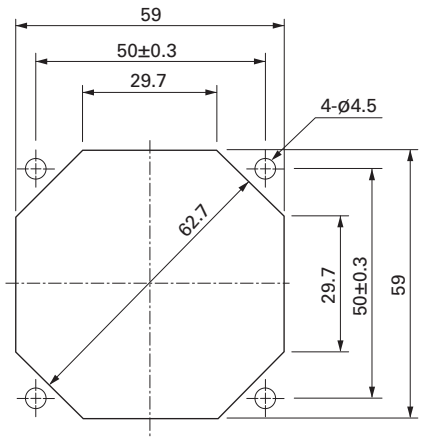


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

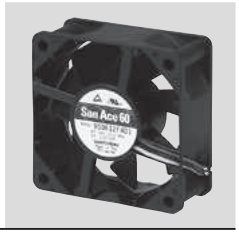
Resin finger guards page: p. 591

Model no.: 109-1003G

DC Fan

60×60×25 mm

San Ace 60 9S type Silent Fan



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. 599.
- 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
- Mass ..... 55 g

Specifications

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

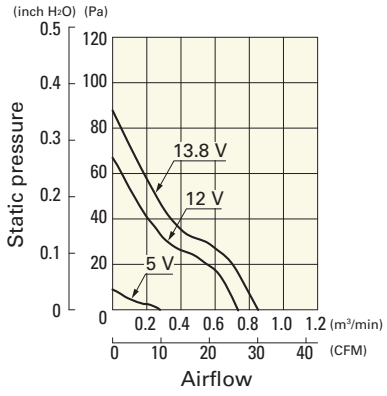
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9S0612S401	12	5.0 to 13.8	0.2	2.4	5000	0.74	26.1	65.7	0.26	31	-10 to +70	40000/60˚C (70000/40˚C)
9S0612H401			0.11	1.32	3900	0.58	20.5	40.0	0.16	24		
9S0612F401		6.0 to 13.8	0.08	0.96	3300	0.49	17.3	29.3	0.12	20		
9S0612M401			0.07	0.84	2700	0.4	14.1	19.7	0.08	16		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 635 to 636.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

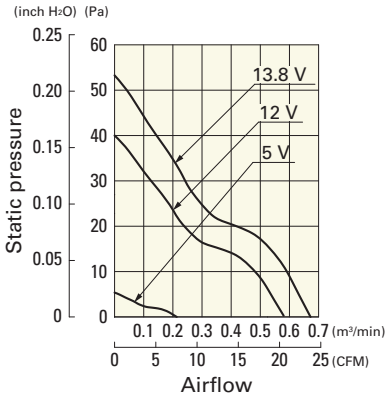
9S0612S401 With pulse sensor

Operating voltage range



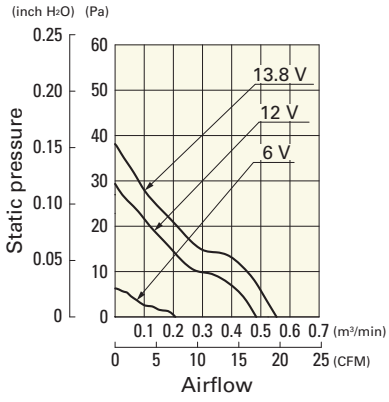
9S0612H401 With pulse sensor

Operating voltage range



9S0612F401 With pulse sensor

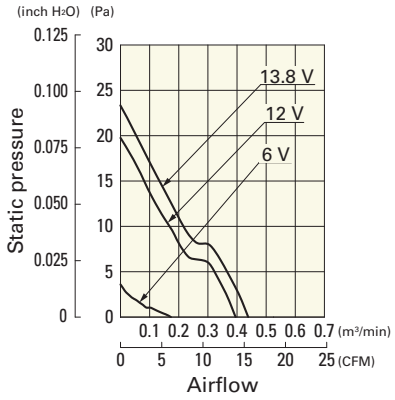
Operating voltage range



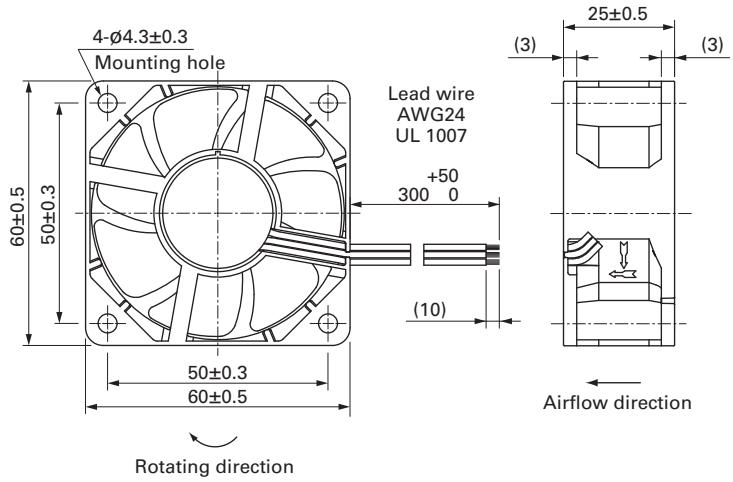
Airflow - Static Pressure Characteristics

9S0612M401 With pulse sensor

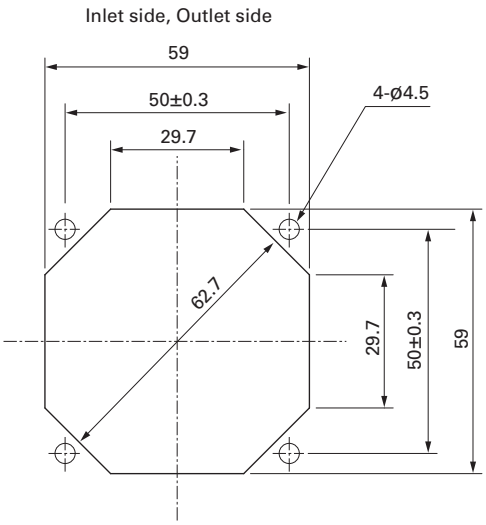
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

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

Resin finger guards page: p. 591

Model no.: 109-1003G

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

DC Fan

60×60×25 mm

San Cooler 60 9A 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. 599.
- 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 ..... 80 g

Specifications

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

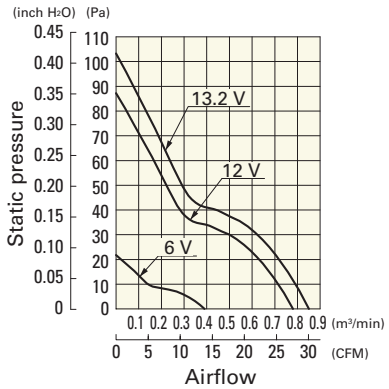
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9A0612G401	12	6 to 13.2	0.24	2.88	5600	0.78	27.6	87.3	0.351	39	-20 to +60	30000/60˚C (53000/40˚C)
9A0612S401		6 to 13.8	0.17	2.04	4600	0.65	23.0	56.8	0.228	33	-20 to +70	40000/60˚C (70000/40˚C)
9A0612H401			0.11	1.32	3800	0.53	18.7	40.2	0.161	28		
9A0612F401			0.09	1.08	3200	0.44	15.5	29.4	0.118	24		
9A0612M401		7 to 13.8	0.06	0.72	2600	0.36	12.7	19.6	0.079	20		
9A0624G401	24	12 to 27.6	0.13	3.12	5600	0.78	27.6	87.3	0.351	39	-20 to +60	30000/60˚C (53000/40˚C)
9A0624S401			0.08	1.92	4600	0.65	23.0	56.8	0.228	33	-20 to +70	40000/60˚C (70000/40˚C)
9A0624H401			0.06	1.44	3800	0.53	18.7	40.2	0.161	28		
9A0624F401			0.05	1.2	3200	0.44	15.5	29.4	0.118	24		
9A0624M401		14 to 27.6	0.04	0.96	2600	0.36	12.7	19.6	0.079	20		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 623 to 624.
Note 2: The mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

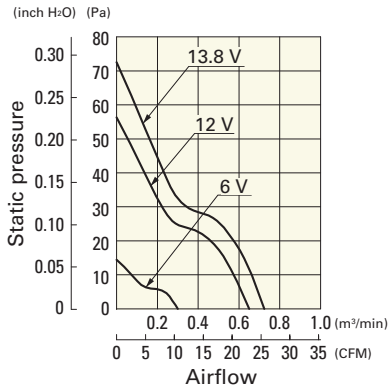
9A0612G401 With pulse sensor

Operating voltage range



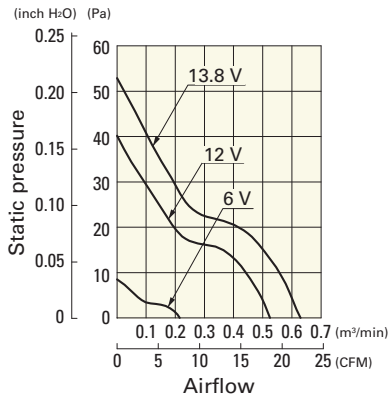
9A0612S401 With pulse sensor

Operating voltage range



9A0612H401 With pulse sensor

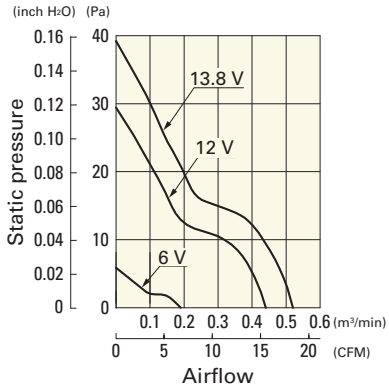
Operating voltage range



Airflow - Static Pressure Characteristics

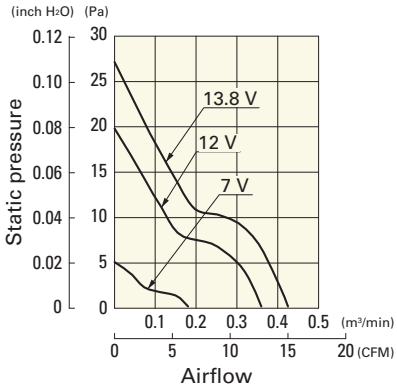
9A0612F401 With pulse sensor

Operating voltage range



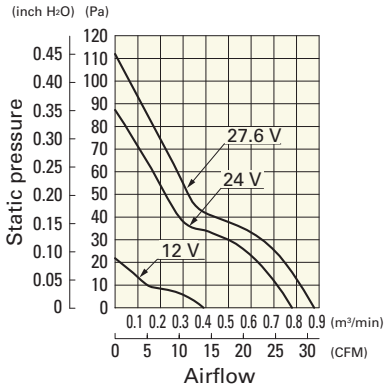
9A0612M401 With pulse sensor

Operating voltage range



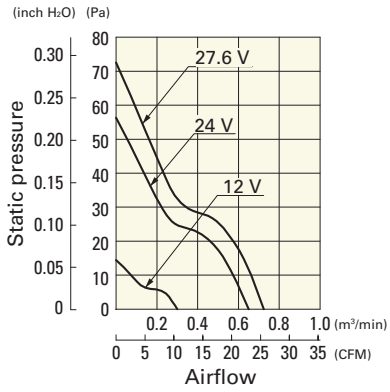
9A0624G401 With pulse sensor

Operating voltage range



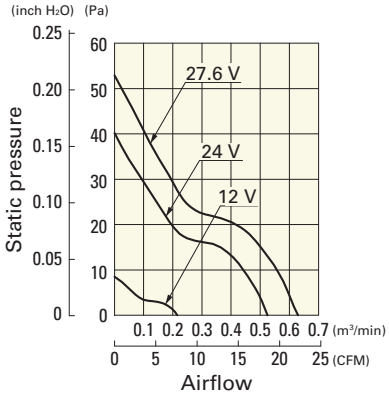
9A0624S401 With pulse sensor

Operating voltage range



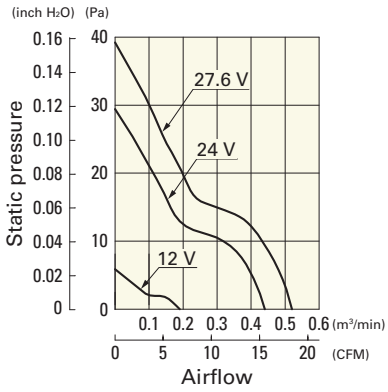
9A0624H401 With pulse sensor

Operating voltage range



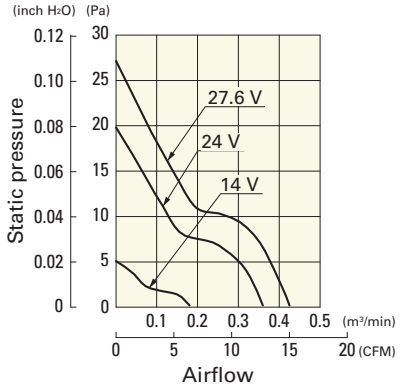
9A0624F401 With pulse sensor

Operating voltage range

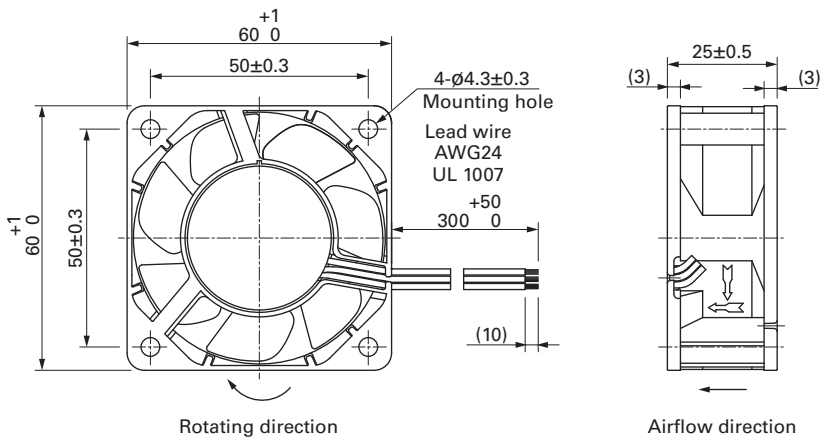


9A0624M401 With pulse sensor

Operating voltage range

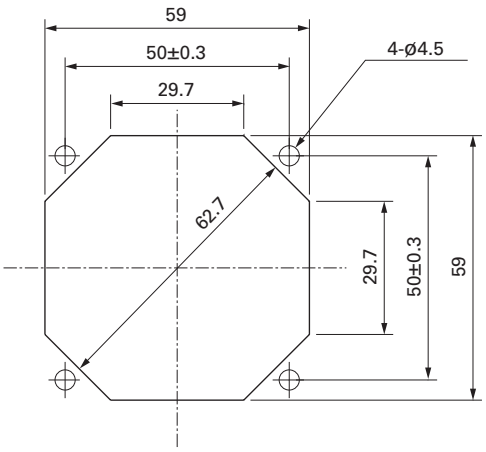


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1003G

60×60×38 mm

San Ace 60 9HV 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. 599.
- 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 ..... 135 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HV0612P1J001	12	10.8 to 12.6	100	2.7	32.4	21700	1.88	66.4	1750	7.0	68	-20 to +70	40000/60˚C (70000/40˚C)
			20	0.17	2.04	5300	0.43	15.2	102	0.41	34		

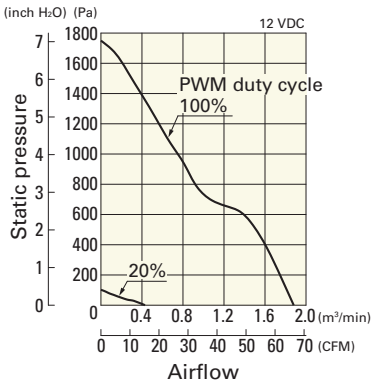
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The ≫ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

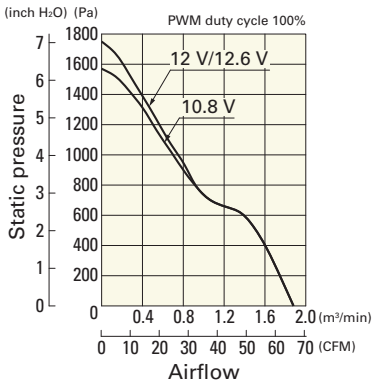
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0612P1J001 With pulse sensor with PWM control function

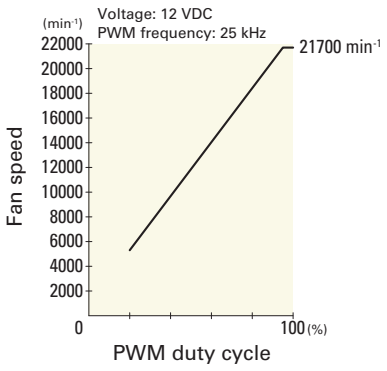
PWM duty cycle



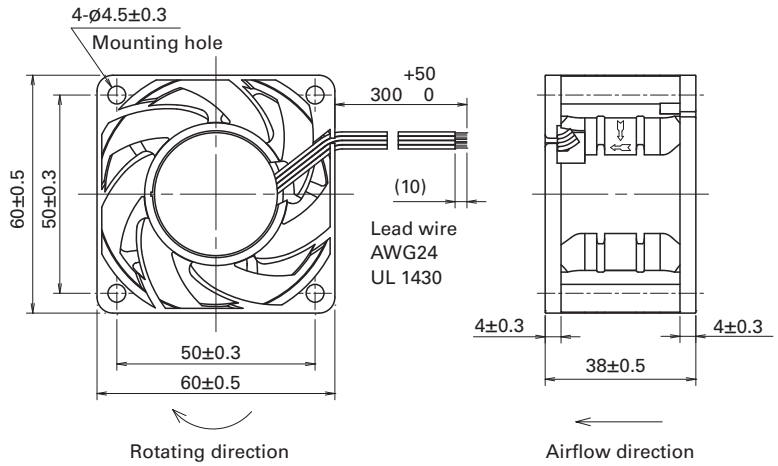
Operating voltage range



PWM duty - Speed characteristics example

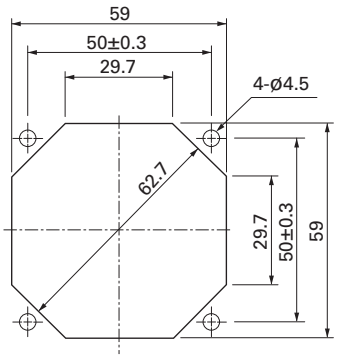


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1003G

60×60×38 mm

San Ace 60 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. 599.
- 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 ..... 130 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0612P1J03	12	10.8 to 12.6	100	1.5	18.0	17500	1.75	62	820	3.3	63	-20 to +60	40000/60˚C (70000/40˚C)
			20	0.1	1.2	4000	0.4	14	43	0.17	24		
9GA0612P1K03		10.8 to 13.2	100	0.95	11.4	14800	1.5	53	600	2.4	59	-20 to +70	
			20	0.1	1.2	4000	0.4	14	43	0.17	24		
9GA0612P1K60			100	0.95	11.4	14800	1.5	53	675	2.7	59	-20 to +60	
			0	0.05	0.6	1480	0.134	4.7	8.3	0.03	16		
9GA0612P1H03			100	0.55	6.6	11500	1.15	40	375	1.5	52	-20 to +70	
			20	0.06	0.72	2600	0.27	9.5	20	0.08	19		
9GA0624P1J03	24	21.6 to 25.2	100	0.75	18.0	17500	1.75	62	820	3.3	63	-20 to +60	
			20	0.1	2.4	6200	0.63	22	104	0.42	35		
9GA0624P1K03		21.6 to 26.4	100	0.5	12	14800	1.5	53.0	600	2.4	59	-20 to +70	
			20	0.06	1.44	5000	0.5	17.7	70	0.28	28		

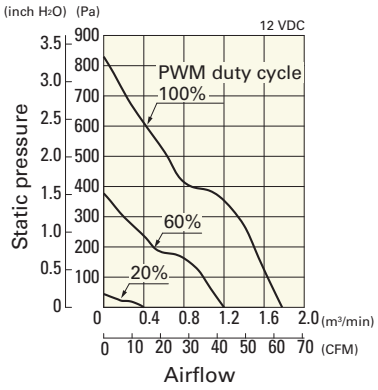
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 629.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

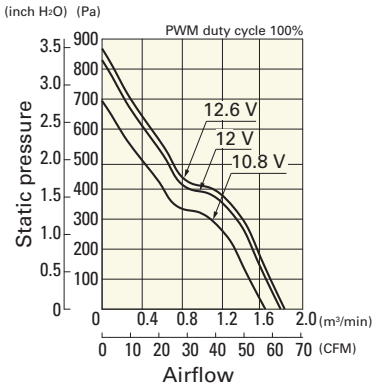
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0612P1J03 With pulse sensor with PWM control function

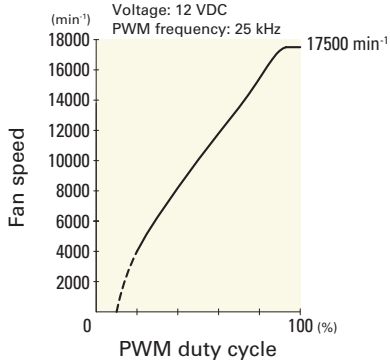
PWM duty cycle



Operating voltage range



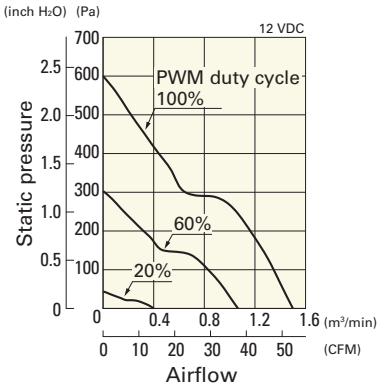
PWM duty - Speed characteristics example



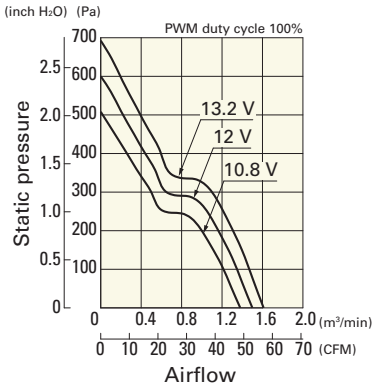
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0612P1K03 With pulse sensor with PWM control function

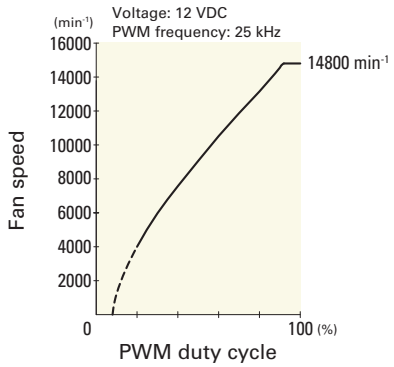
PWM duty cycle



Operating voltage range

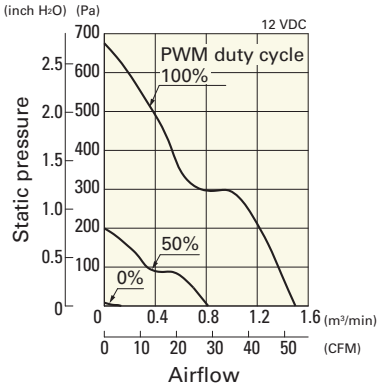


PWM duty - Speed characteristics example

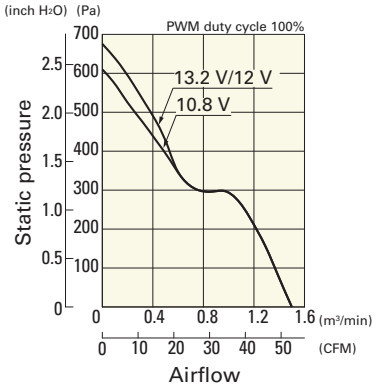


9GA0612P1K60 With pulse sensor with PWM control function

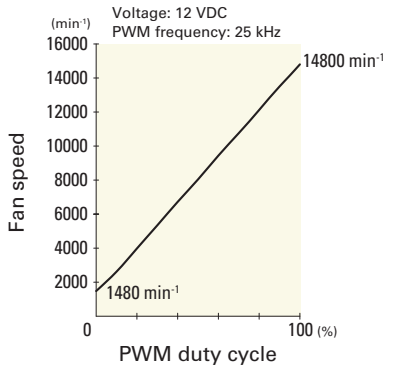
PWM duty cycle



Operating voltage range

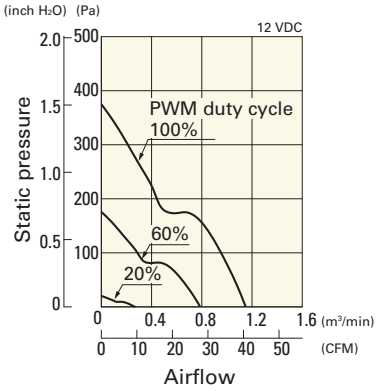


PWM duty - Speed characteristics example

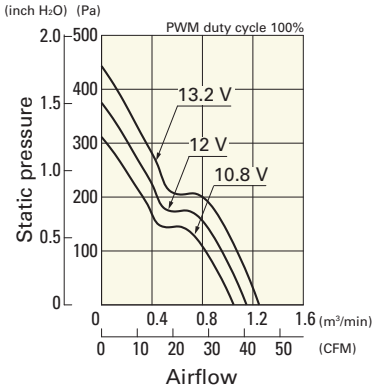


9GA0612P1H03 With pulse sensor with PWM control function

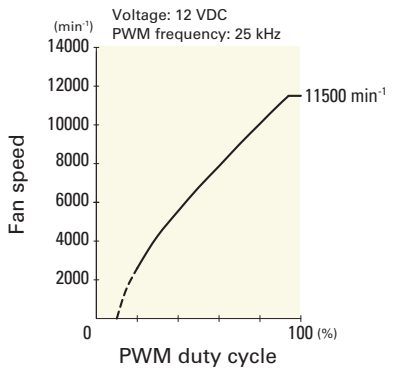
PWM duty cycle



Operating voltage range

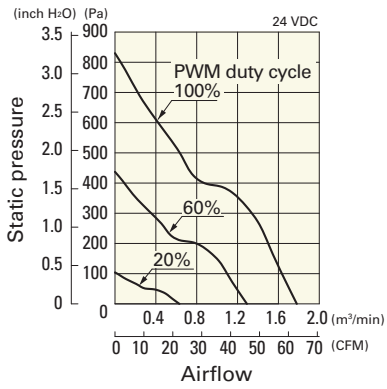


PWM duty - Speed characteristics example

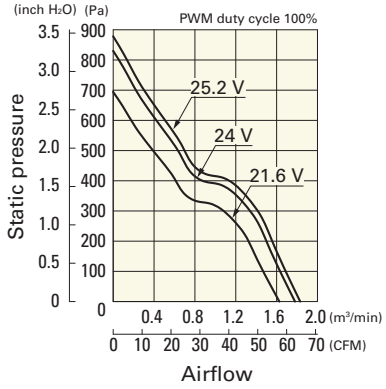


9GA0624P1J03 With pulse sensor with PWM control function

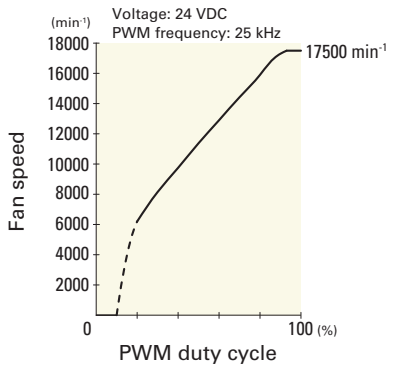
PWM duty cycle



Operating voltage range



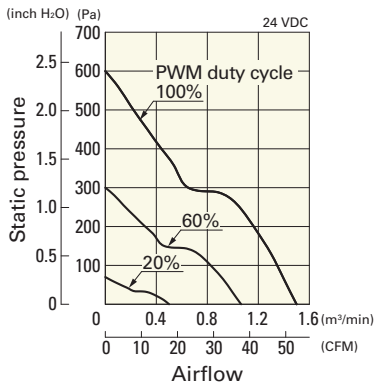
PWM duty - Speed characteristics example



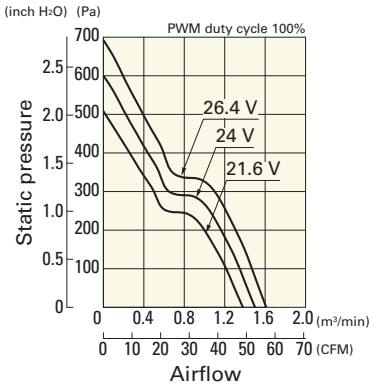
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0624P1K03 With pulse sensor with PWM control function

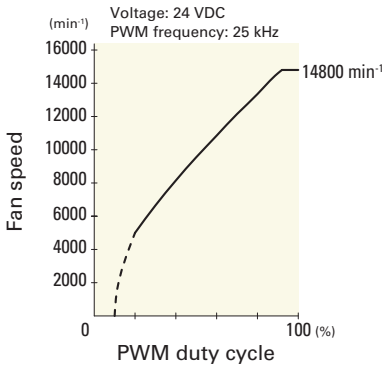
PWM duty cycle



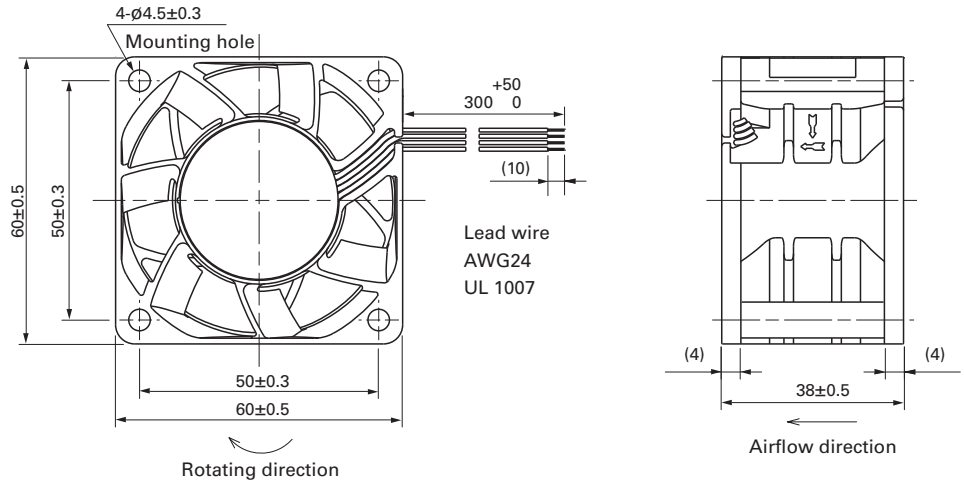
Operating voltage range



PWM duty - Speed characteristics example

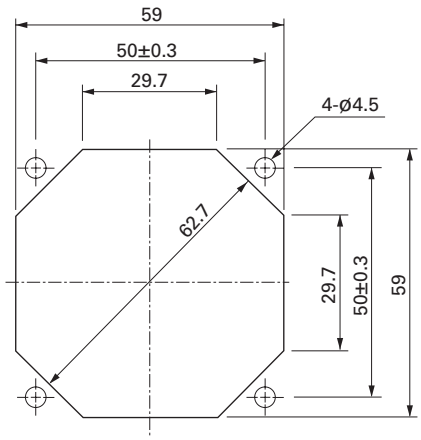


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

Resin finger guards page: p. 591

Model no.: 109-1003G

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

DC Fan

60×60×38 mm

San Ace 60 9GV 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. 599.
- 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 ..... 130 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.

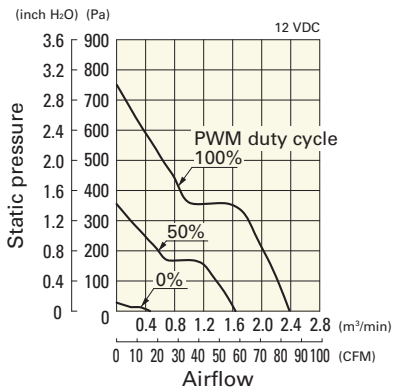
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV0612P1G03	12	8.0 to 13.8	100	2.8	33.6	16000	2.37	84	751	3.02	66	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.12	1.5	3100	0.44	15	26	0.10	25		
9GV0624P1G03	24	20.4 to 27.6	100	1.4	33.6	16000	2.37	84	751	3.02	66		
			0	0.12	2.88	6000	0.89	31	105	0.42	38		
9GV0648P1H03	48	38 to 57	100	0.5	24	14500	2.15	76	617	2.48	63		
			0	0.08	3.84	6000	0.89	31	105	0.42	38		

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

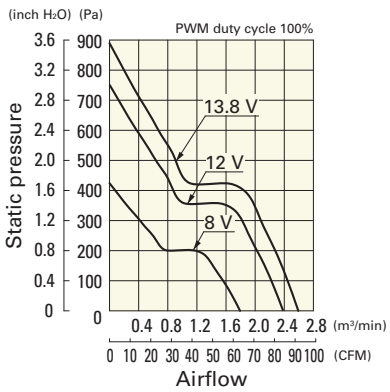
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0612P1G03 With pulse sensor with PWM control function

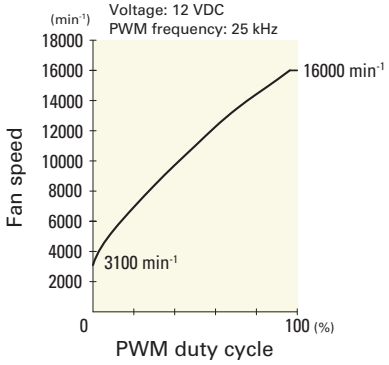
PWM duty cycle



Operating voltage range



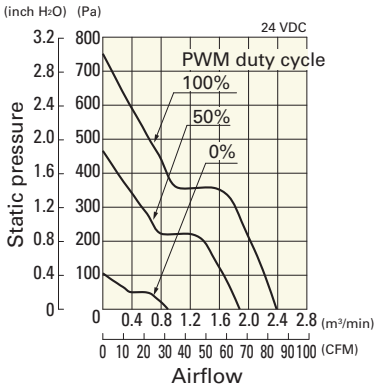
PWM duty - Speed characteristics example



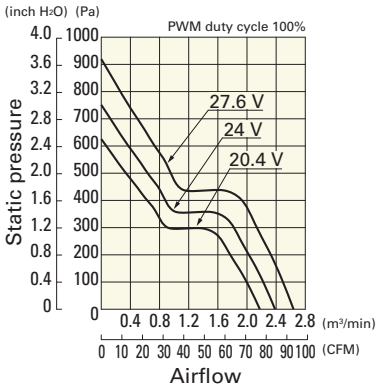
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0624P1G03 With pulse sensor with PWM control function

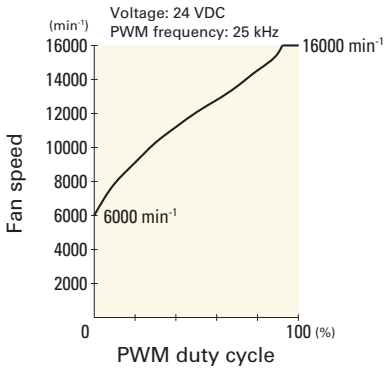
PWM duty cycle



Operating voltage range

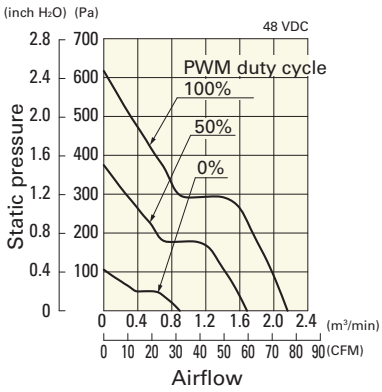


PWM duty - Speed characteristics example

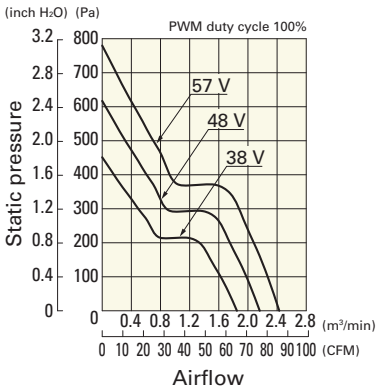


9GV0648P1H03 With pulse sensor with PWM control function

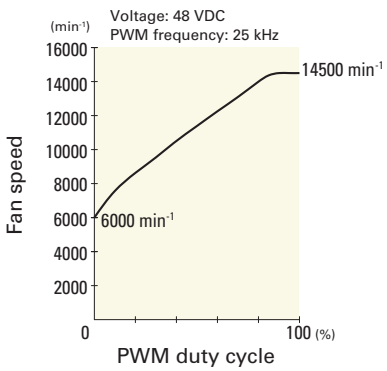
PWM duty cycle



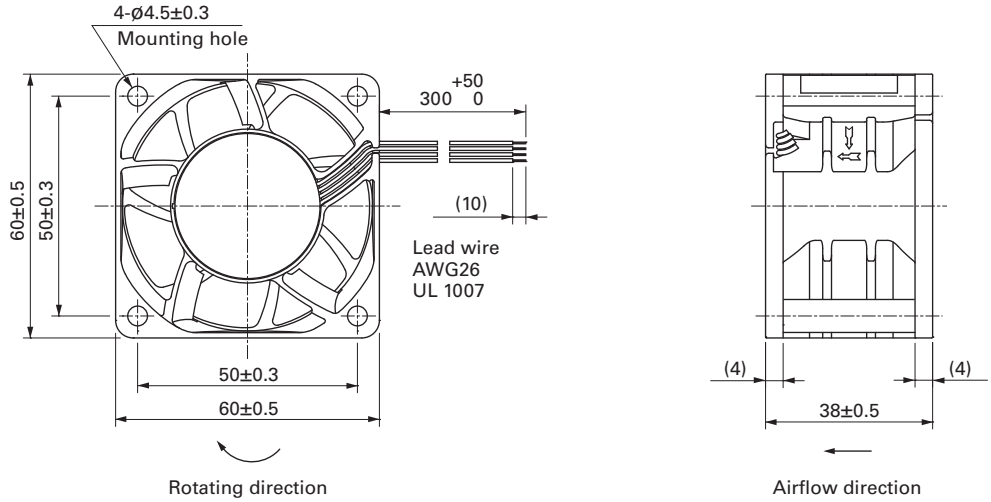
Operating voltage range



PWM duty - Speed characteristics example

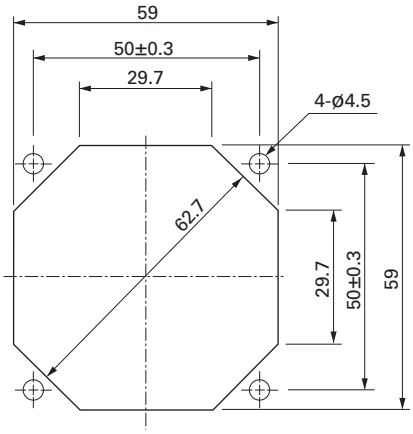


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

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

Resin filter kits page: p. 592

Model no.: 109-1003F13 (13PPI), 109-1003F20 (20PPI),
109-1003F30 (30PPI), 109-1003F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1003G

70×70×38 mm

San Ace 70 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. 599.
- 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 ..... 170 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0712P1G001	12	10.8 to 13.2	100	2.6	31.2	16500	2.65	93.6	860	3.45	65	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.16	1.92	4400	0.7	24.7	61	0.24	30		
9GA0712P1H001			100	1.1	13.2	12000	1.92	67.8	455	1.83	57		
			0	0.07	0.84	2500	0.4	14.1	20	0.08	19		

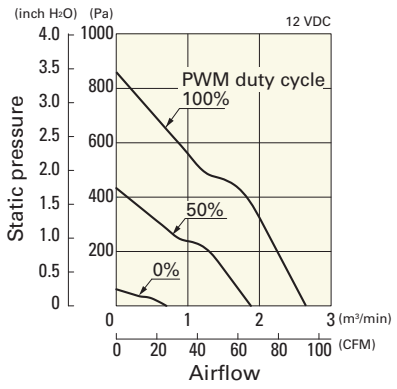
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The mark indicates Short Lead Time Service applicable models. See p. 654 for details.

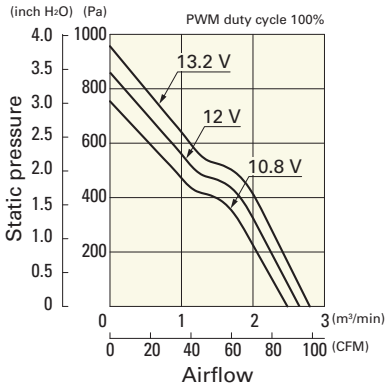
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0712P1G001 With pulse sensor with PWM control function

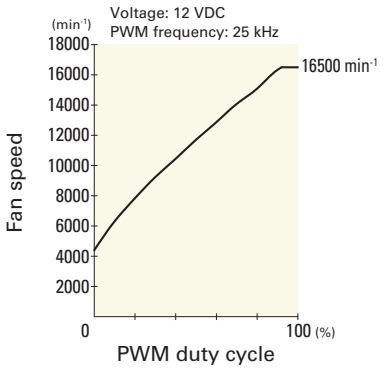
PWM duty cycle



Operating voltage range



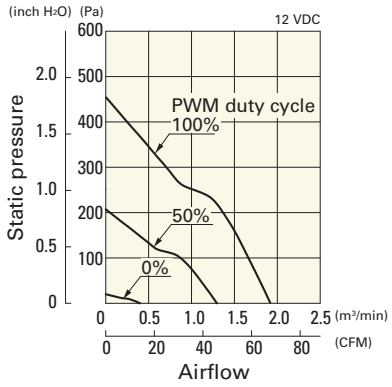
PWM duty - Speed characteristics example



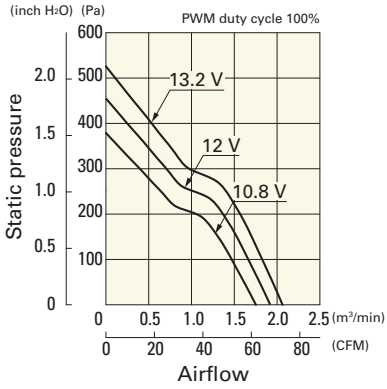
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0712P1H001 With pulse sensor with PWM control function

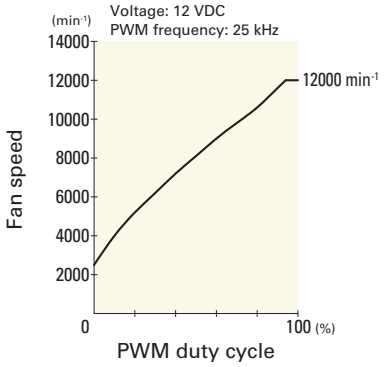
PWM duty cycle



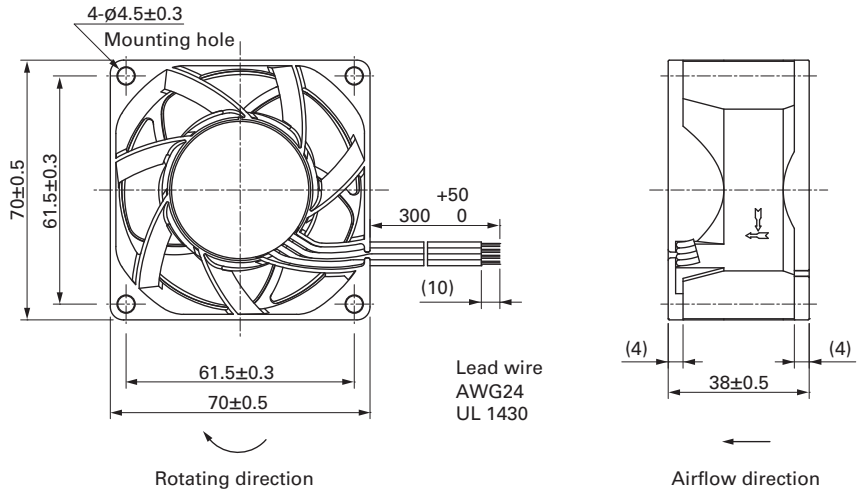
Operating voltage range



PWM duty - Speed characteristics example

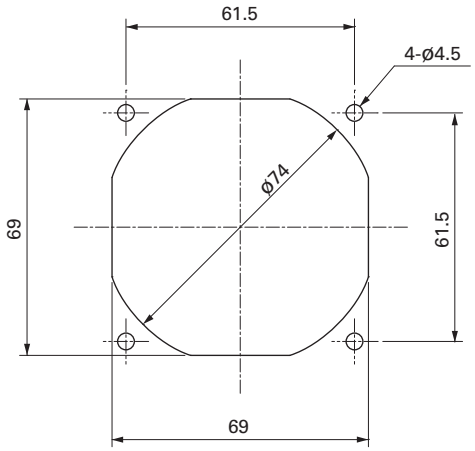


Dimensions (unit: mm) (With ribs)

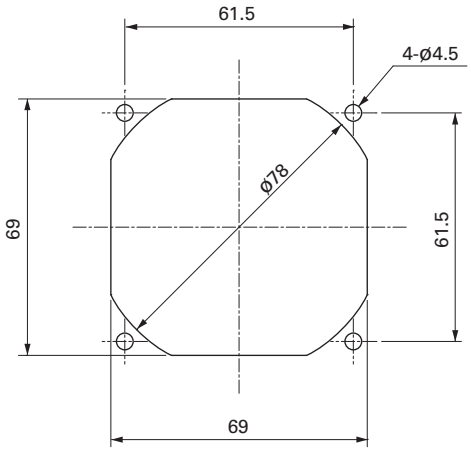


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

Inlet side



Outlet side



Options

Finger guards page: p. 584

Model no.: 109-1128

80×80×15 mm

San Ace 80 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. 599.
- 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 (For models without PWM control function, there is no speed control wiring.)
- Mass ..... 65 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0812P7G001	12	10.2 to 13.8	100	0.29	3.48	6100	1.44	50.9	84.0	0.34	41	-20 to +70	40000/60˚C (70000/40˚C)
9GA0812P7S001			100	0.17	2.04	5000	1.18	41.7	56.4	0.23	37		
9GA0824P7G001	24	20.4 to 27.6	100	0.13	3.12	6100	1.44	50.9	84.0	0.34	41		
9GA0824P7S001			100	0.08	1.92	5000	1.18	41.7	56.4	0.23	37		

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

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

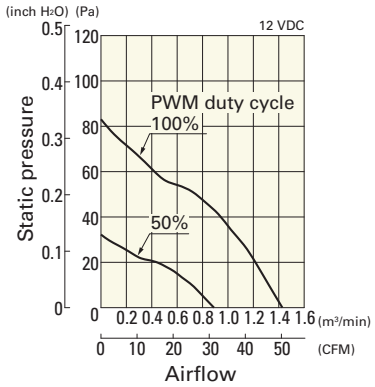
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0812H7001	12	6 to 13.2	0.09	1.08	3800	0.89	31.4	32.6	0.13	29	-20 to +70	40000/60˚C (70000/40˚C)
9GA0824H7001	24	12 to 26.4	0.05	1.2	3800	0.89	31.4	32.6	0.13	29		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 629 to 630.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

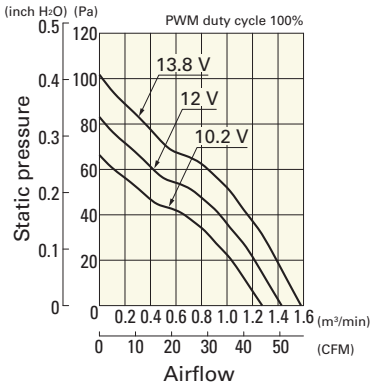
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P7G001 With pulse sensor with PWM control function

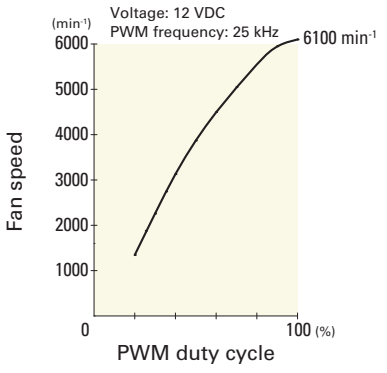
PWM duty cycle



Operating voltage range



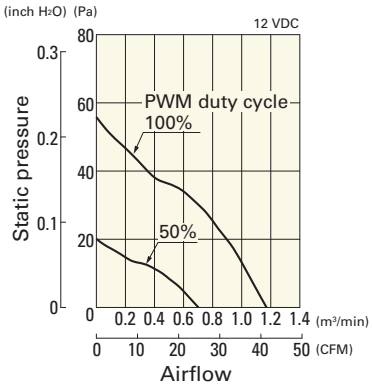
PWM duty - Speed characteristics example



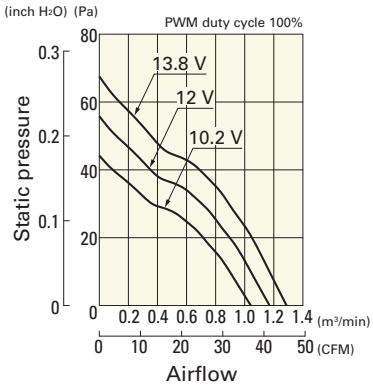
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P7S001 With pulse sensor with PWM control function

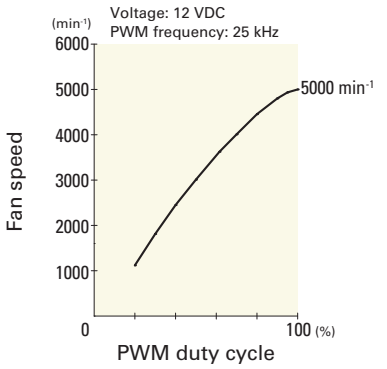
PWM duty cycle



Operating voltage range

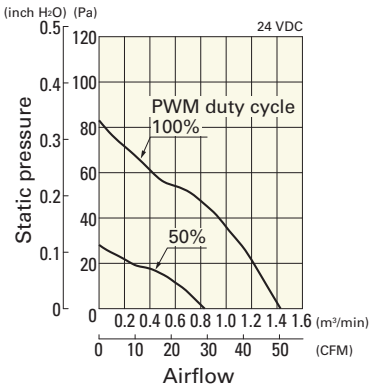


PWM duty - Speed characteristics example

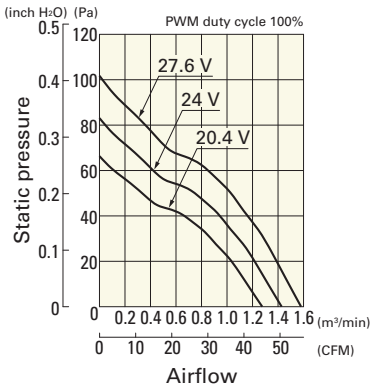


9GA0824P7G001 With pulse sensor with PWM control function

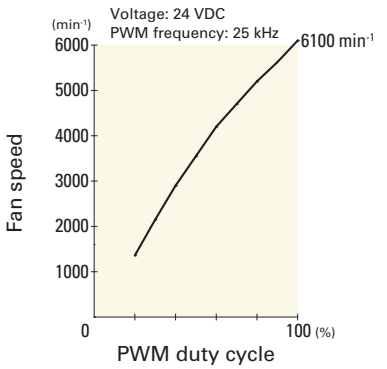
PWM duty cycle



Operating voltage range

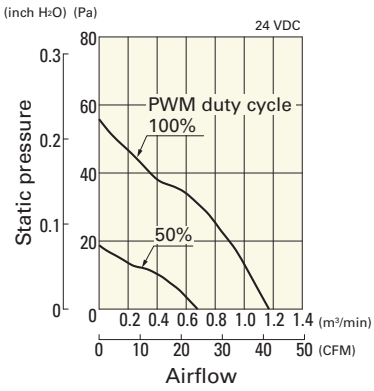


PWM duty - Speed characteristics example

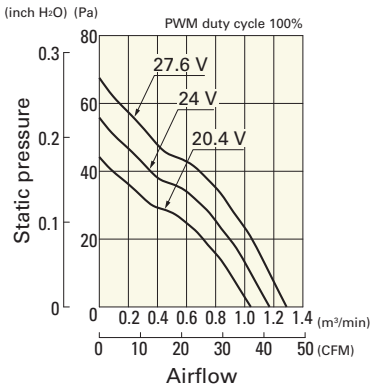


9GA0824P7S001 With pulse sensor with PWM control function

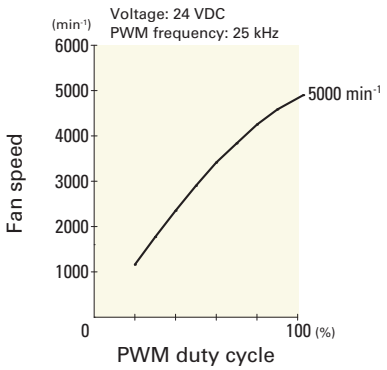
PWM duty cycle



Operating voltage range



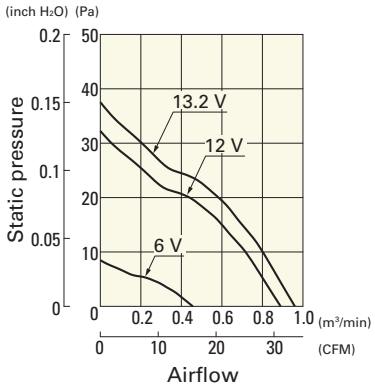
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

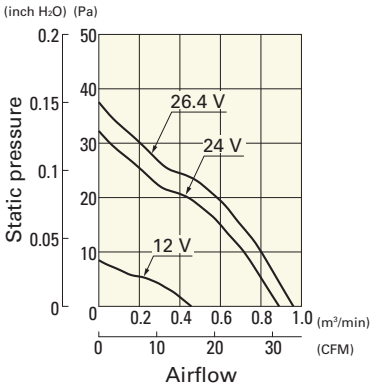
9GA0812H7001 With pulse sensor

Operating voltage range

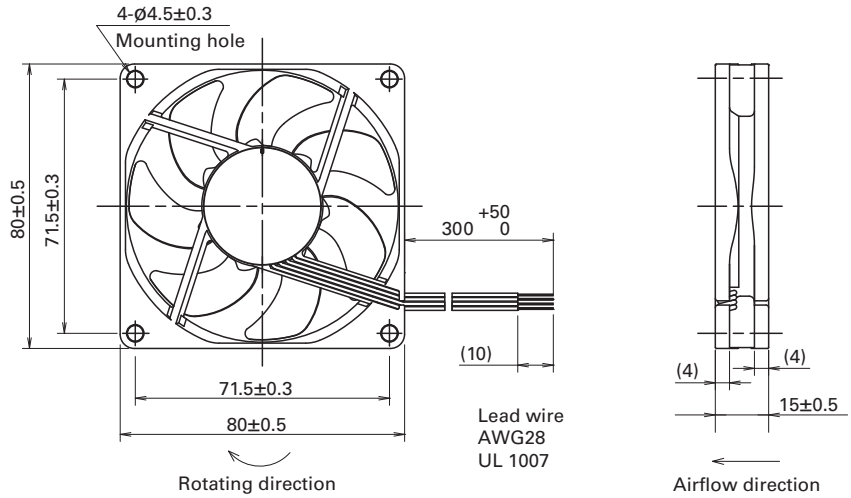


9GA0824H7001 With pulse sensor

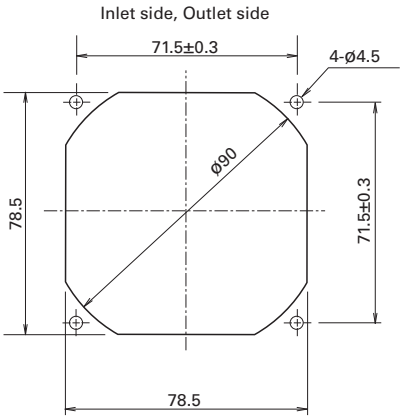
Operating voltage range



Dimensions (unit: mm) (With pulse sensor with PWM control function)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591

Model no.: 109-1002G

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

DC Fan

80×80×15 mm

San Ace 80 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. 599.
- 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 ..... 68 g

Specifications

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

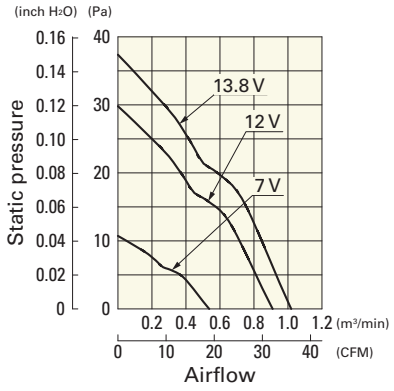
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P0812H701	12	7 to 13.8	0.2	2.4	3100	0.91	32.1	29.4	0.118	31	-20 to +70	40000/60˚C (70000/40˚C)
109P0812M701			0.09	1.08	2000	0.57	20.1	12.6	0.051	21		60000/60˚C (90000/40˚C)
109P0824H701	24	14 to 27.6	0.1	2.4	3100	0.91	32.1	29.4	0.118	31		40000/60˚C (70000/40˚C)
109P0824M701			0.05	1.2	2000	0.57	20.1	12.6	0.051	21		60000/60˚C (90000/40˚C)

Note 1: Sensor and control options are available for selection. Refer to the table on p. 622.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

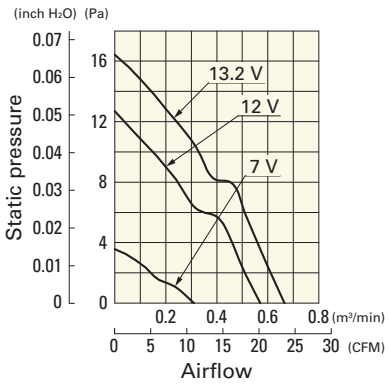
109P0812H701 With pulse sensor

Operating voltage range



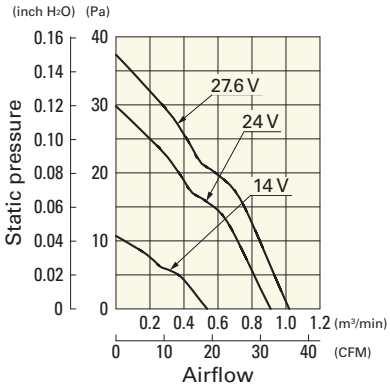
109P0812M701 With pulse sensor

Operating voltage range



109P0824H701 With pulse sensor

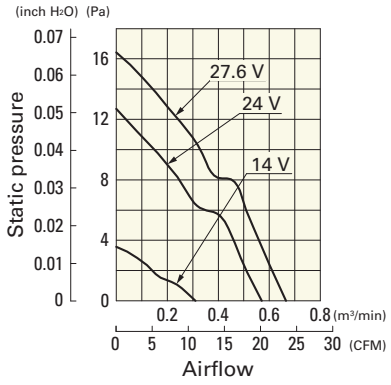
Operating voltage range



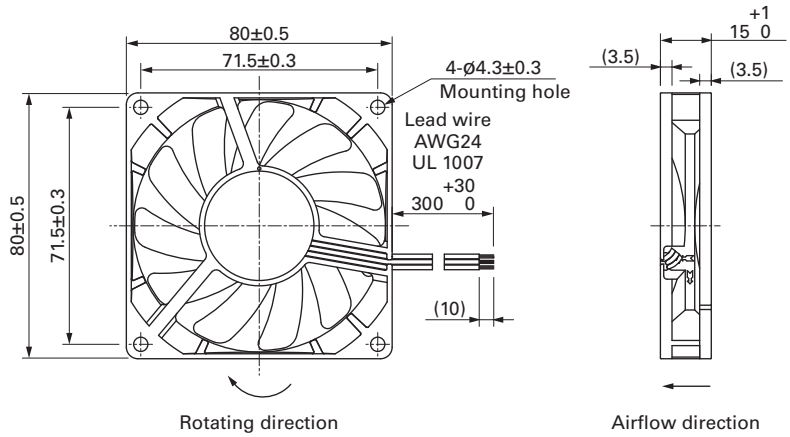
Airflow - Static Pressure Characteristics

109P0824M701 With pulse sensor

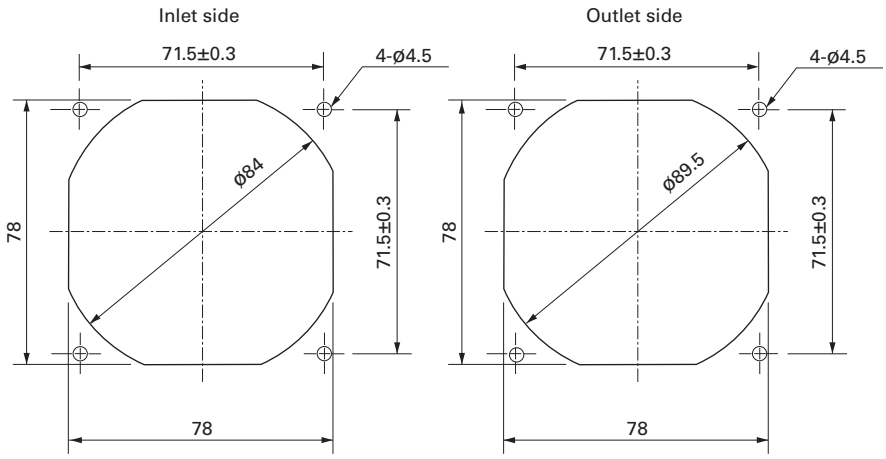
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591

Model no.: 109-1002G

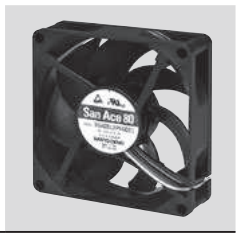
Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

DC Fan

80×80×20 mm

San Ace 80 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. 599.
- 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 ..... 80 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0812P6G001	12	10.2 to 13.8	100	0.3	3.6	5850	1.72	60.78	110	0.44	45	-20 to +70	40000/60˚C (70000/40˚C)
9GA0812P6M001			100	0.06	0.72	2900	0.84	29.68	27	0.11	26.5		60000/60˚C (90000/40˚C)
9GA0824P6G001	24	20.4 to 27.6	100	0.15	3.6	5850	1.72	60.78	110	0.44	45		40000/60˚C (70000/40˚C)
9GA0824P6M001			100	0.03	0.72	2900	0.84	29.68	27	0.11	26.5		60000/60˚C (90000/40˚C)

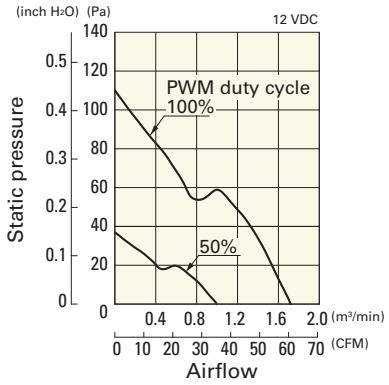
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 630.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

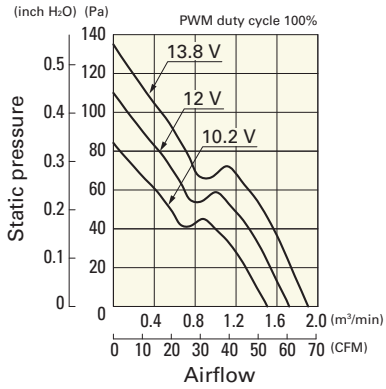
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P6G001 With pulse sensor with PWM control function

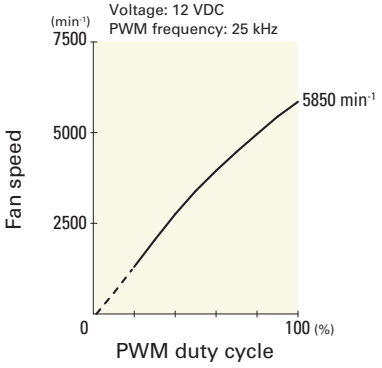
PWM duty cycle



Operating voltage range



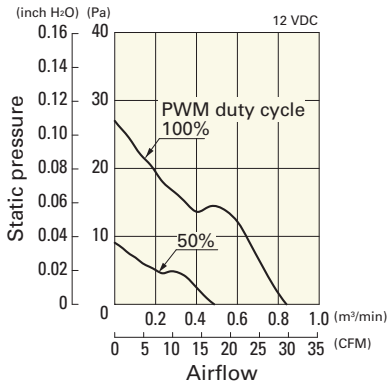
PWM duty - Speed characteristics example



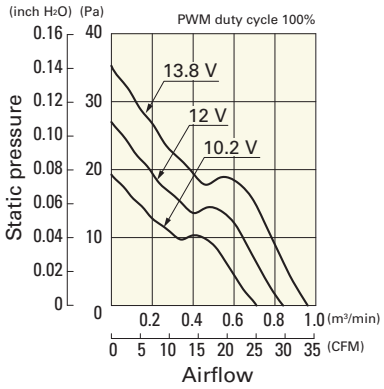
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P6M001 With pulse sensor with PWM control function

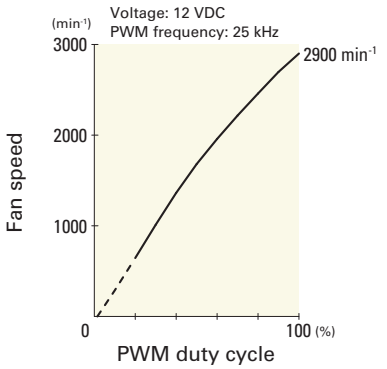
PWM duty cycle



Operating voltage range

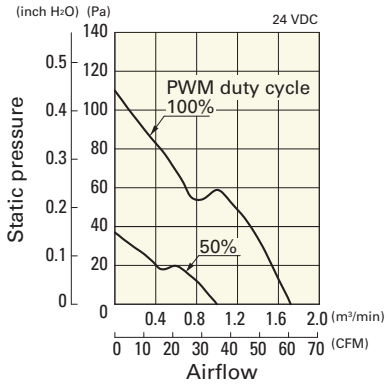


PWM duty - Speed characteristics example

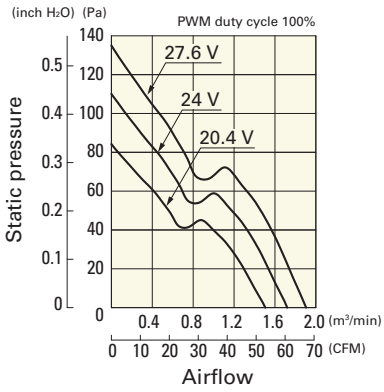


9GA0824P6G001 With pulse sensor with PWM control function

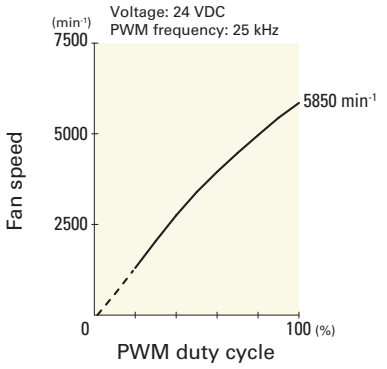
PWM duty cycle



Operating voltage range

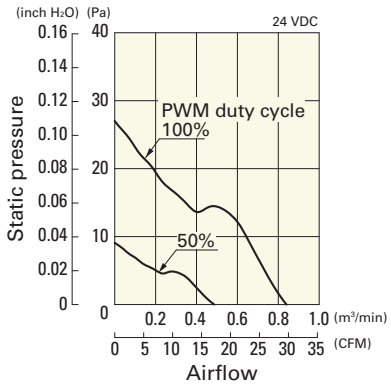


PWM duty - Speed characteristics example

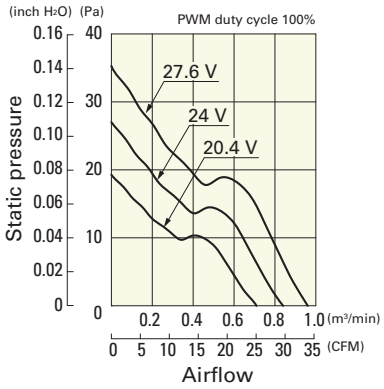


9GA0824P6M001 With pulse sensor with PWM control function

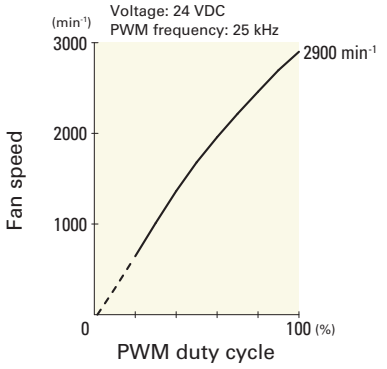
PWM duty cycle



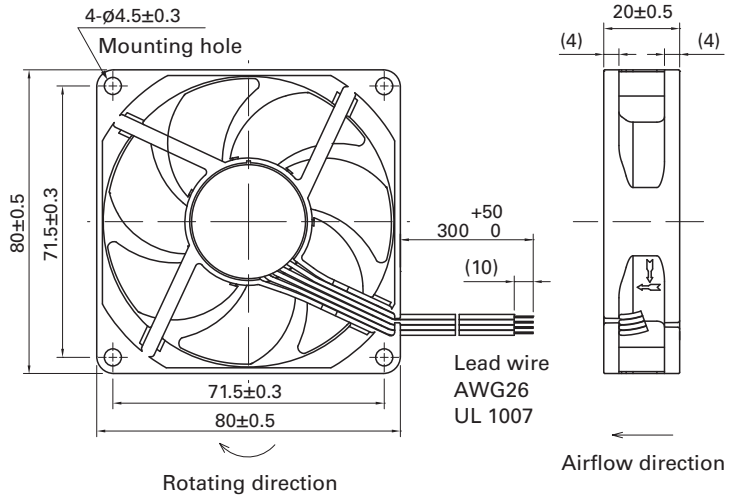
Operating voltage range



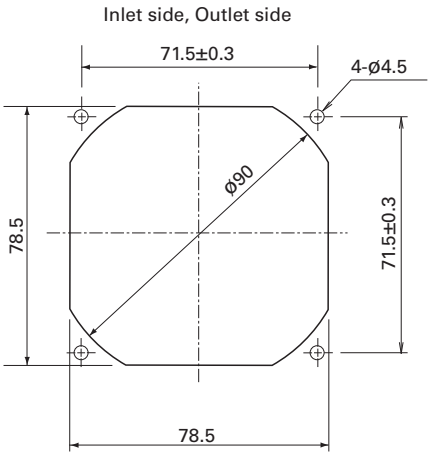
PWM duty - Speed characteristics example



Dimensions (unit: mm)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1002G

80×80×20 mm

San Ace 80 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. 599.
- 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 ..... 100 g

Specifications

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

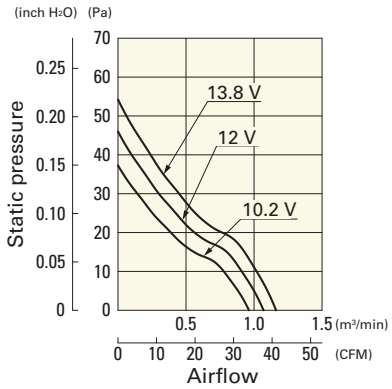
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P0812C601	12	10.2 to 13.8	0.29	3.48	3700	1.07	37.8	46	0.185	39	-20 to +60	60000/60˚C (90000/40˚C)
109P0812H601			0.21	2.52	2900	0.84	29.7	29.4	0.118	31	-20 to +70	
109P0812M601			0.13	1.56	2300	0.67	23.7	18.6	0.075	25		
109P0824H601	24	20.4 to 27.6	0.12	2.88	2900	0.84	29.7	29.4	0.118	31		
109P0824M601			0.07	1.68	2300	0.67	23.7	18.6	0.075	25		
109P0848C601	48	38 to 57.6	0.08	3.84	3700	1.07	37.8	46	0.185	39		40000/60˚C (70000/40˚C)
109P0848H601			0.05	2.4	2900	0.84	29.7	29.4	0.118	31	-20 to +60	

Note 1: Sensor and control options are available for selection. Refer to the table on p. 622.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

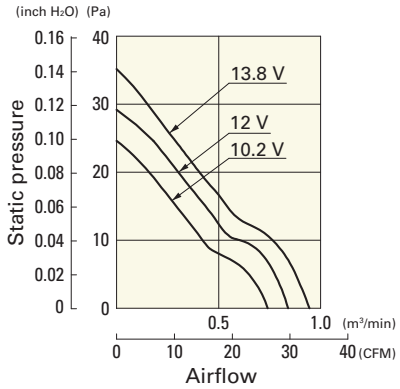
109P0812C601 With pulse sensor

Operating voltage range



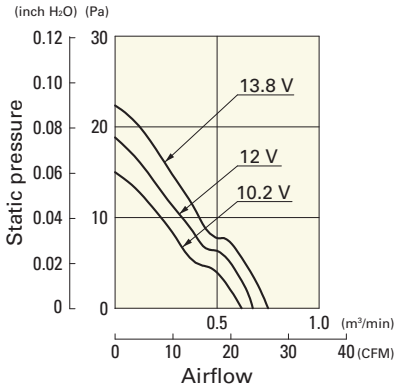
109P0812H601 With pulse sensor

Operating voltage range



109P0812M601 With pulse sensor

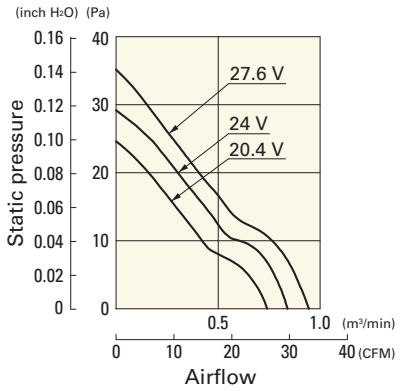
Operating voltage range



Airflow - Static Pressure Characteristics

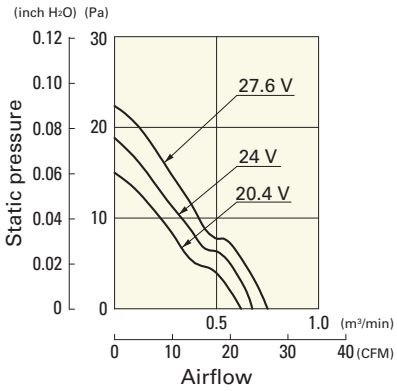
109P0824H601 With pulse sensor

Operating voltage range



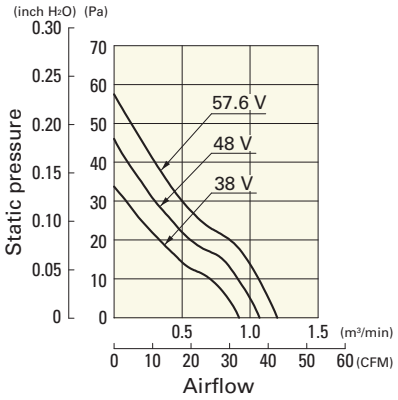
109P0824M601 With pulse sensor

Operating voltage range



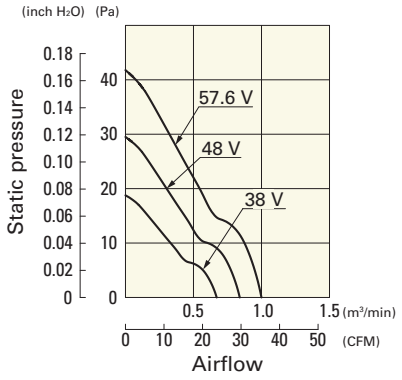
109P0848C601 With pulse sensor

Operating voltage range

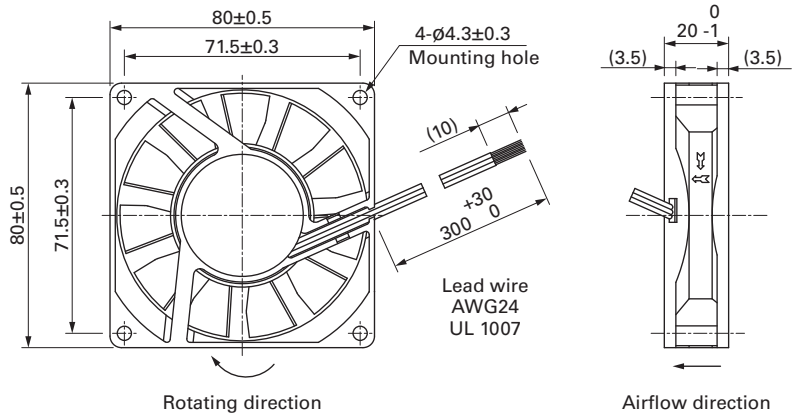


109P0848H601 With pulse sensor

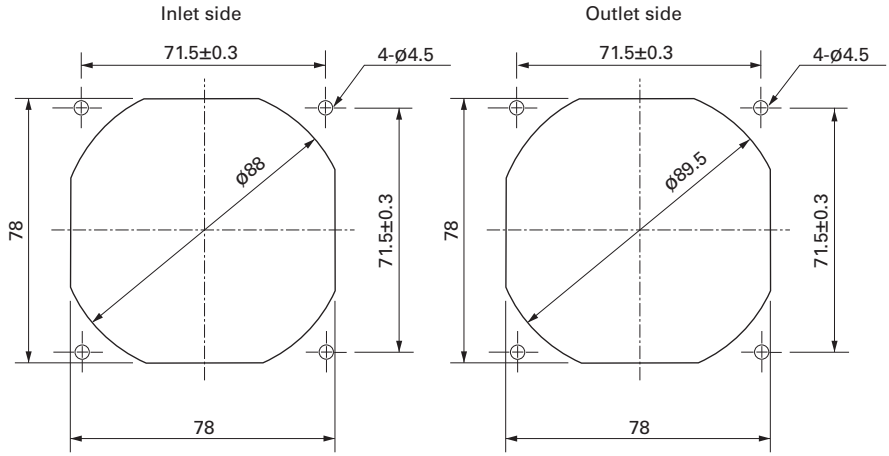
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1002G

DC Fan

80×80×25 mm

San Ace 80 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. 599.
- 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 ..... 110 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0812P4J001	12	10.8 to 13.2	100	0.6	7.2	7400	2.07	73.0	177.6	0.7	48	-20 to +70	40000/60˚C (70000/40˚C)
			25	0.08	0.96	2500	0.69	24.3	20.2	0.08	21		
9GA0812P4G001			100	0.48	5.76	6800	1.91	67.4	150	0.6	45		
			25	0.06	0.72	1500	0.42	14.8	7.2	0.02	17		
9GA0812P4H001			100	0.22	2.64	5200	1.46	51.5	87.7	0.35	37		
			25	0.06	0.72	1600	0.44	15.5	8.3	0.03	17		
9GA0824P4J001	24	21.6 to 26.4	100	0.28	6.72	7400	2.07	73.0	177.6	0.7	48		
			25	0.06	1.44	2800	0.78	27.5	25.4	0.1	23		
9GA0824P4G001			100	0.21	5.04	6800	1.91	67.4	150	0.6	45		
			25	0.04	0.96	2100	0.58	20.4	14.3	0.05	19		
9GA0824P4H001			100	0.1	2.4	5200	1.46	51.5	87.7	0.35	37		
			25	0.02	0.48	1500	0.42	14.8	7.2	0.02	17		

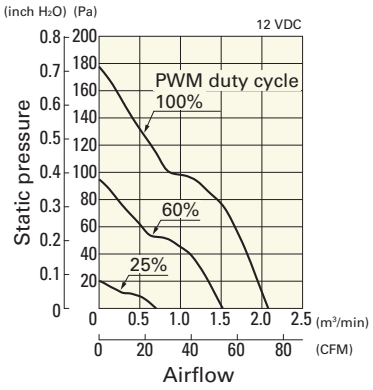
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 629 to 630.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

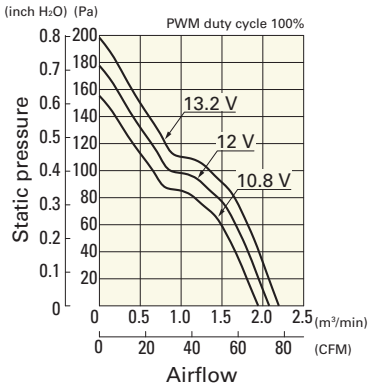
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P4J001 With pulse sensor with PWM control function

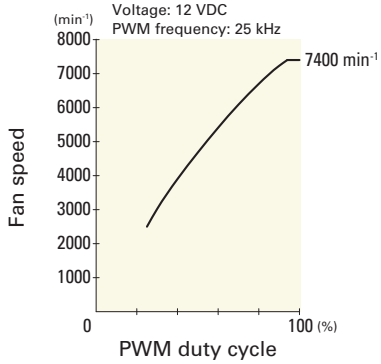
PWM duty cycle



Operating voltage range



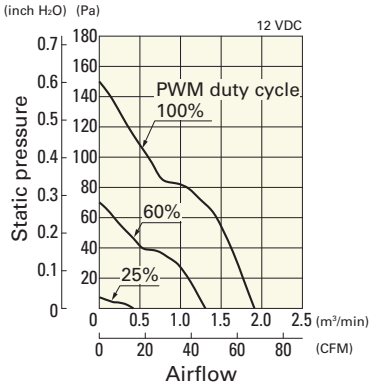
PWM duty - Speed characteristics example



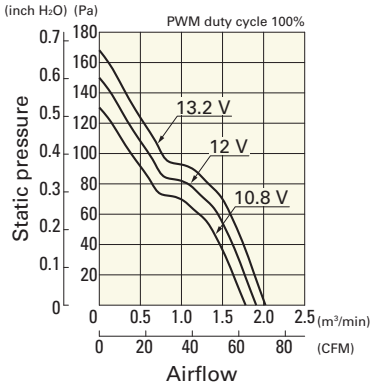
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P4G001 With pulse sensor with PWM control function

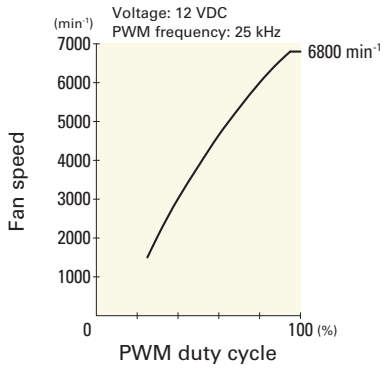
PWM duty cycle



Operating voltage range

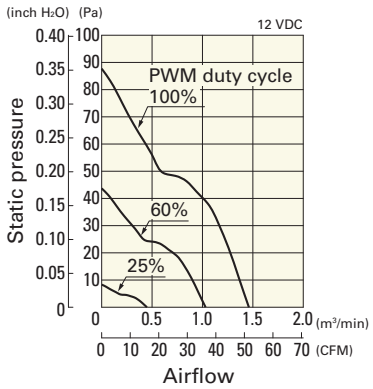


PWM duty - Speed characteristics example

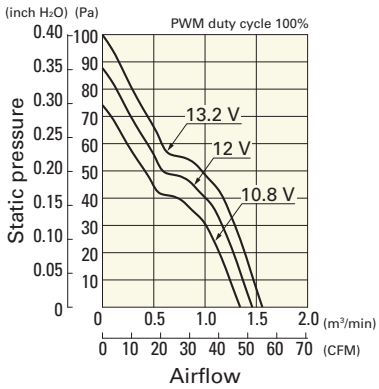


9GA0812P4H001 With pulse sensor with PWM control function

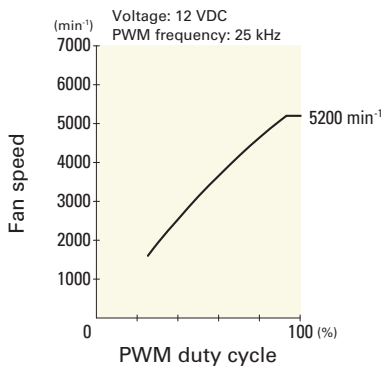
PWM duty cycle



Operating voltage range

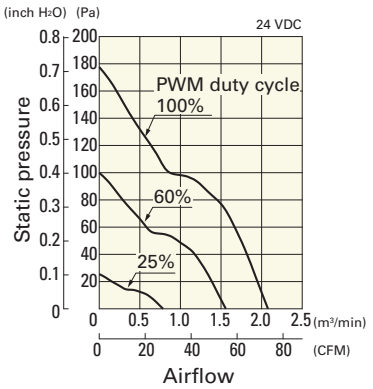


PWM duty - Speed characteristics example

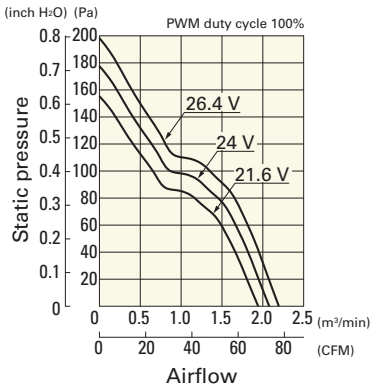


9GA0824P4J001 With pulse sensor with PWM control function

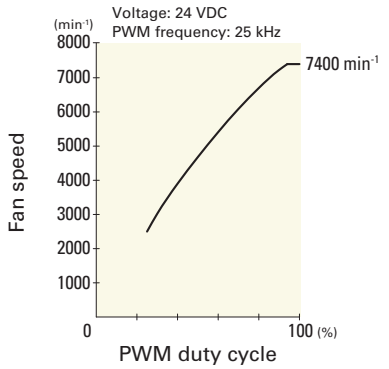
PWM duty cycle



Operating voltage range

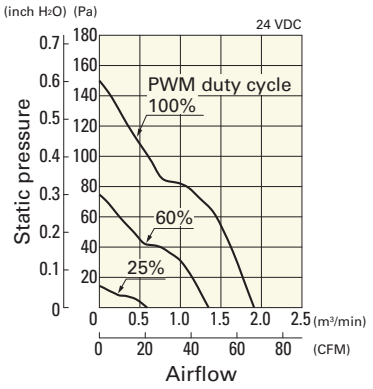


PWM duty - Speed characteristics example

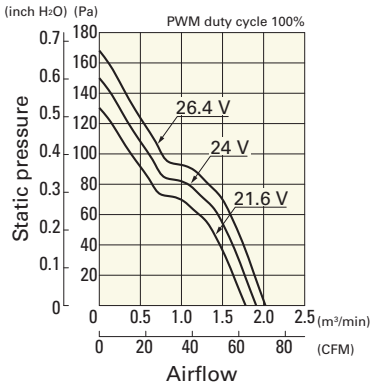


9GA0824P4G001 With pulse sensor with PWM control function

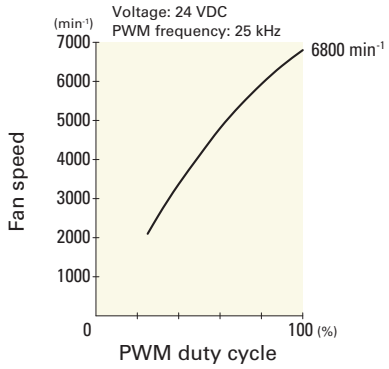
PWM duty cycle



Operating voltage range



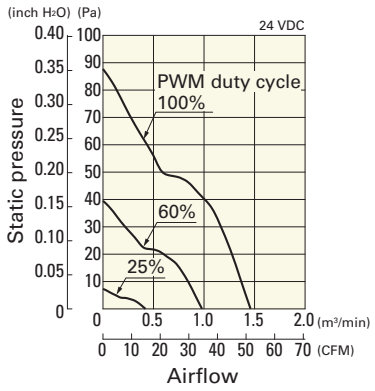
PWM duty - Speed characteristics example



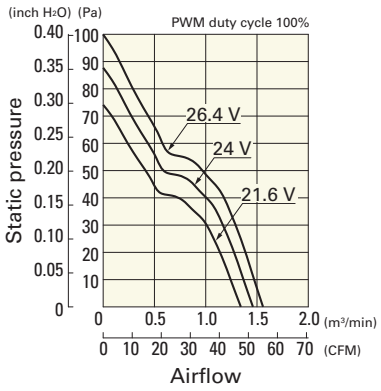
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0824P4H001 With pulse sensor with PWM control function

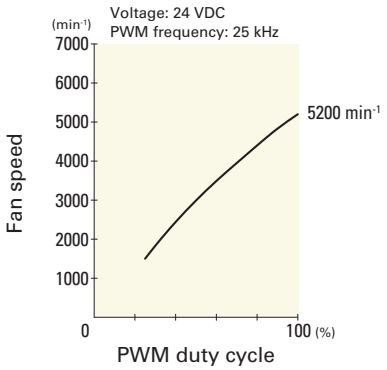
PWM duty cycle



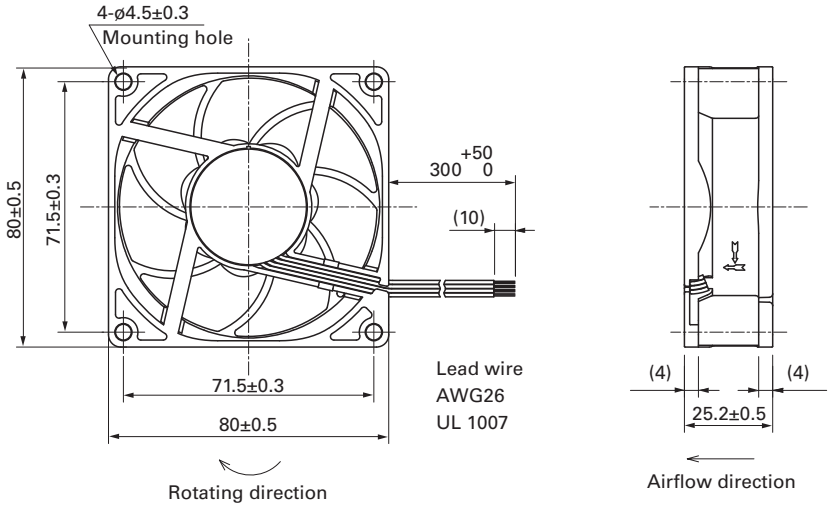
Operating voltage range



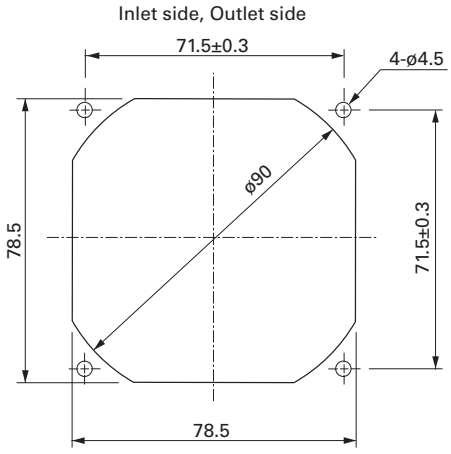
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591

Model no.: 109-1002G

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

80×80×25 mm

San Ace 80 9GV 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. 599.
- 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 ..... 125 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV0848P4K03	48	43 to 53	100	0.22	10.56	5600	2.12	74.8	173.0	0.69	52	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.04	1.92	1500	0.57	20.1	12.4	0.05	19		

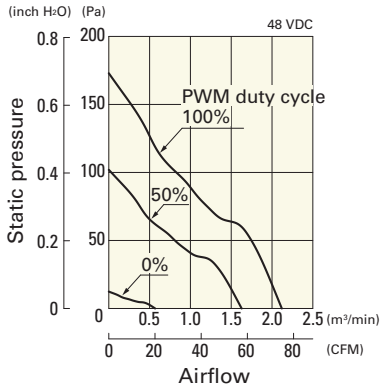
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 632.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

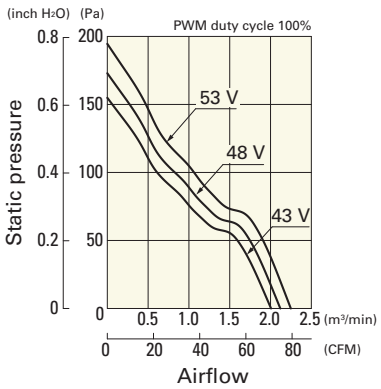
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0848P4K03 With pulse sensor with PWM control function

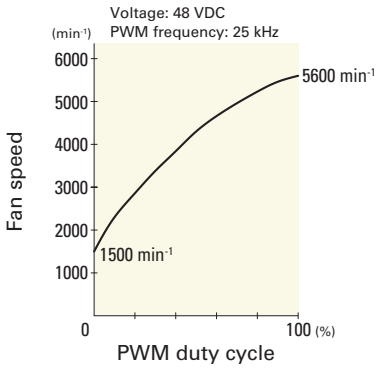
PWM duty cycle



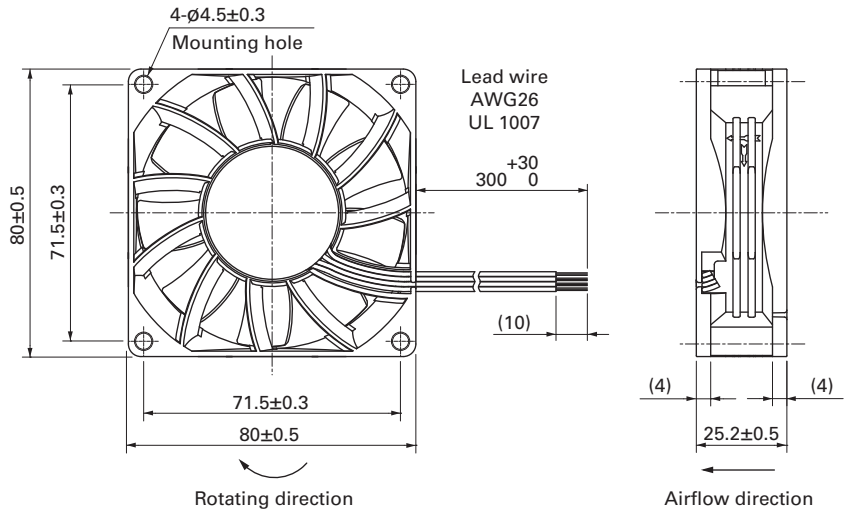
Operating voltage range



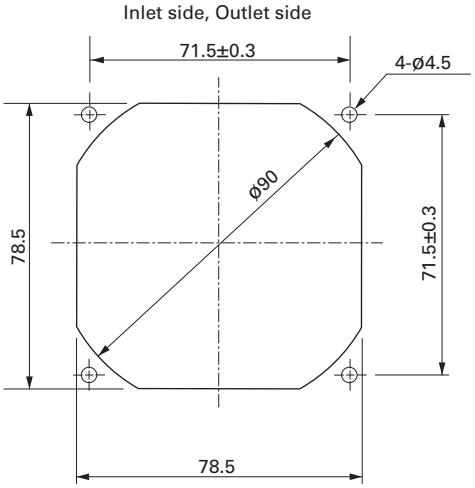
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1002G

80×80×25 mm

San Ace 80 9R type

Model 109R0812E401 is not certified.

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. 599.
- 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 ..... 110 g

Specifications

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

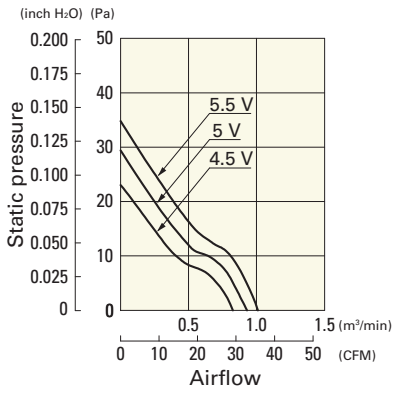
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109R0805F401	5	4.5 to 5.5	0.25	1.25	2600	0.92	32.5	28.4	0.114	26	-20 to +70	60000/60˚C (90000/40˚C)
109R0805M401			0.17	0.85	2350	0.83	29.3	22.5	0.09	23		
109R0812G401	12	10.8 to 13.2	0.37	4.44	4500	1.5	53.0	80.4	0.323	40	-20 to +60	40000/60˚C (70000/40˚C)
109R0812E401		6 to 13.8	0.24	2.88	3700	1.31	46.3	57.8	0.232	35		
109R0812S401			0.18	2.16	3400	1.2	42.4	48.0	0.193	34	-20 to +70	60000/60˚C (90000/40˚C)
109R0812H401			0.13	1.56	2900	1.03	36.4	35.3	0.142	29		
109R0812F401			0.11	1.32	2600	0.92	32.5	28.4	0.114	26		
109R0812M401			0.09	1.08	2350	0.83	29.3	22.5	0.09	23		
109R0812L401		7 to 13.8	0.06	0.72	1850	0.65	23.0	14.7	0.059	20		
109R0824G401	24	20.4 to 26.4	0.2	4.8	4500	1.5	53.0	80.4	0.323	40	-20 to +60	40000/60˚C (70000/40˚C)
109R0824S401		12 to 27.6	0.1	2.4	3400	1.2	42.4	48.0	0.193	34	-20 to +70	60000/60˚C (90000/40˚C)
109R0824H401			0.07	1.68	2900	1.03	36.4	35.3	0.142	29		
109R0824F401			0.06	1.44	2600	0.92	32.5	28.4	0.114	26		
109R0824M401			0.05	1.2	2350	0.83	29.3	22.5	0.09	23		
109R0824L401		14 to 27.6	0.04	0.96	1850	0.65	23.0	14.7	0.059	20		
109R0848K401	48	40.8 to 55.2	0.1	4.8	4600	1.56	55.1	88.4	0.355	41	-20 to +60	40000/60˚C (70000/40˚C)
109R0848S401			0.06	2.88	3400	1.2	42.4	48.0	0.193	34	-20 to +70	60000/60˚C (90000/40˚C)

Note 1: Sensor and control options are available for selection. Refer to the table on p. 623.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

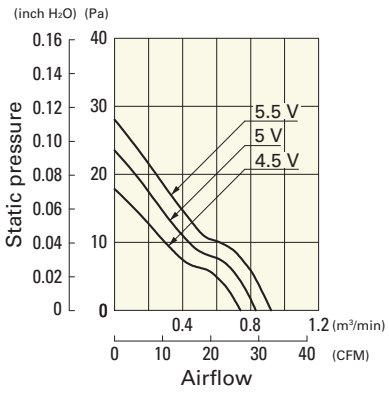
109R0805F401 With pulse sensor

Operating voltage range



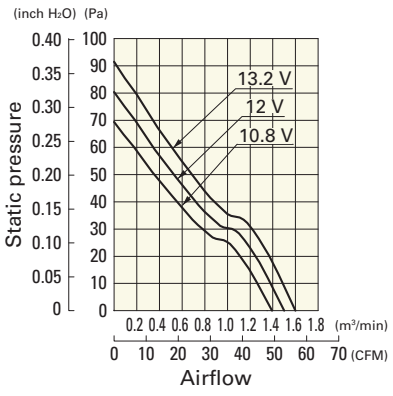
109R0805M401 With pulse sensor

Operating voltage range



109R0812G401 With pulse sensor

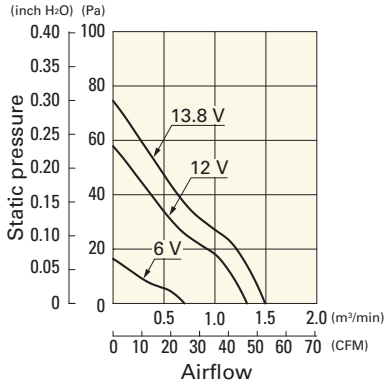
Operating voltage range



Airflow - Static Pressure Characteristics

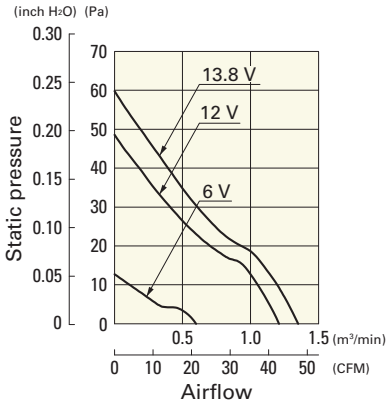
109R0812E401 With pulse sensor

Operating voltage range



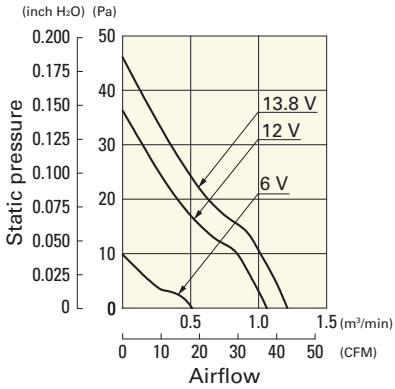
109R0812S401 With pulse sensor

Operating voltage range



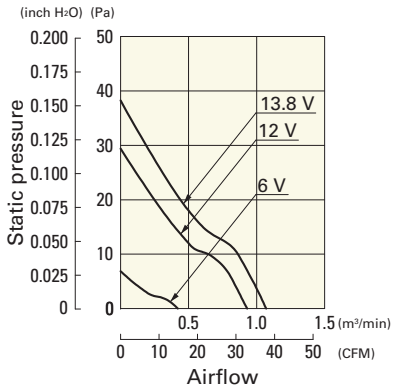
109R0812H401 With pulse sensor

Operating voltage range



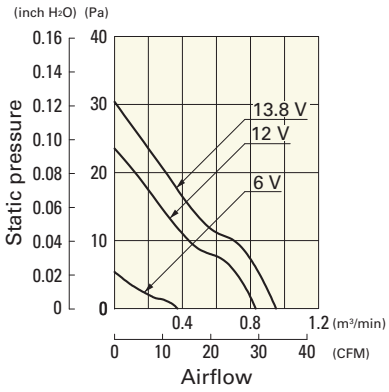
109R0812F401 With pulse sensor

Operating voltage range



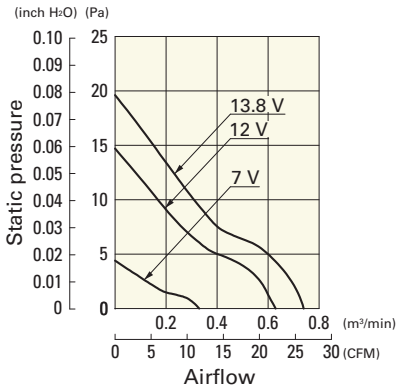
109R0812M401 With pulse sensor

Operating voltage range



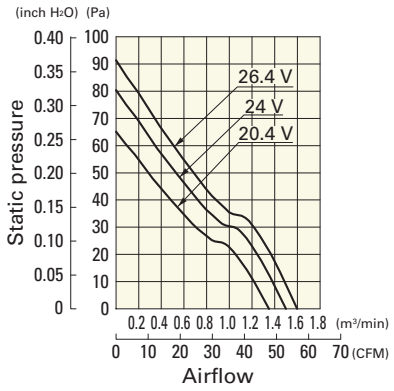
109R0812L401 With pulse sensor

Operating voltage range



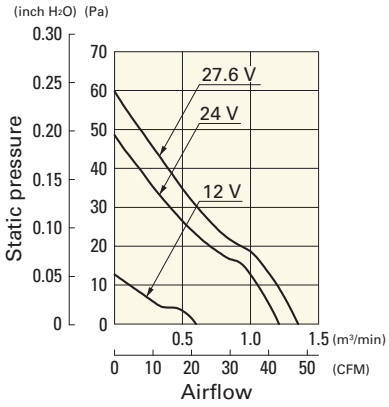
109R0824G401 With pulse sensor

Operating voltage range



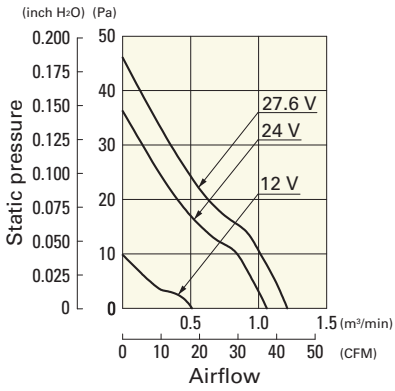
109R0824S401 With pulse sensor

Operating voltage range



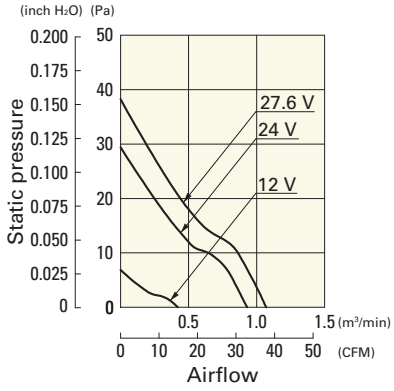
109R0824H401 With pulse sensor

Operating voltage range



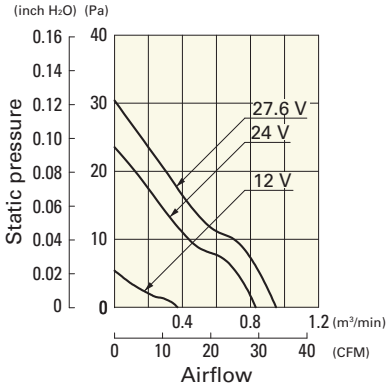
109R0824F401 With pulse sensor

Operating voltage range



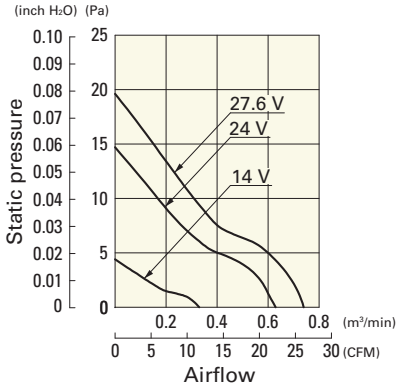
109R0824M401 With pulse sensor

Operating voltage range



109R0824L401 With pulse sensor

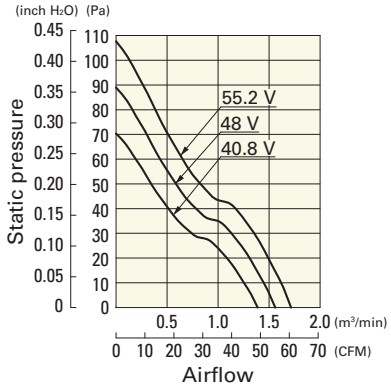
Operating voltage range



Airflow - Static Pressure Characteristics

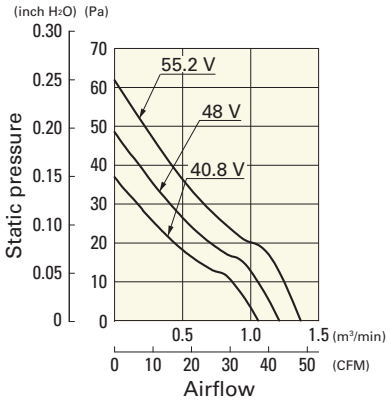
109R0848K401 With pulse sensor

Operating voltage range

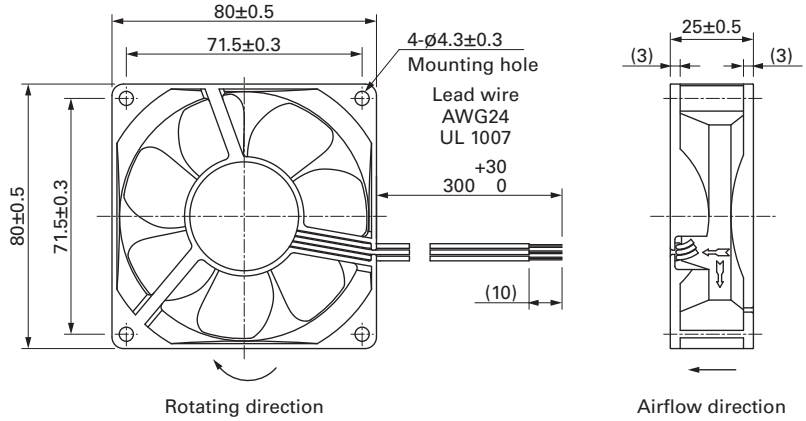


109R0848S401 With pulse sensor

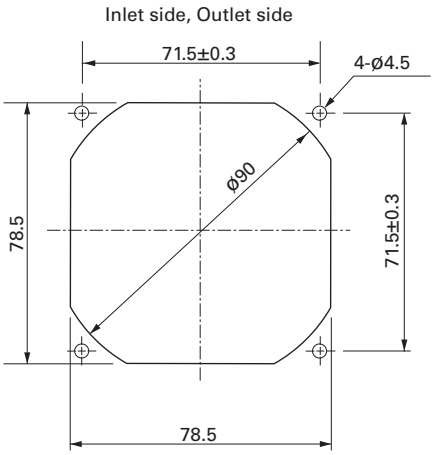
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591

Model no.: 109-1002G

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

DC Fan

80×80×25 mm

San Ace 80 9S type Silent Fan

Model 9S0812H401 is not TÜV certified.

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. 599.
- 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
- Mass ..... 75 g

Specifications

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

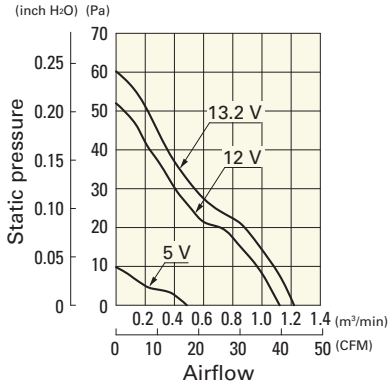
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9S0812H401	12	5.0 to 13.2	0.23	2.76	3400	1.12	39.5	52.15	0.2	31	-10 to +70	40000/60˚C (70000/40˚C)
9S0812F401		5.0 to 13.8	0.11	1.32	2800	0.93	32.8	35.5	0.143	24		
9S0812M401			0.08	0.96	2500	0.83	29.3	27.5	0.11	22		
9S0812L401		6.0 to 13.8	0.05	0.6	2000	0.66	23.3	18.1	0.073	16		
9S0824M401	24	10 to 26.4	0.06	1.44	2500	0.83	29.3	27.5	0.11	22		
9S0824L401			0.04	0.96	2000	0.66	23.3	18.1	0.073	16		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

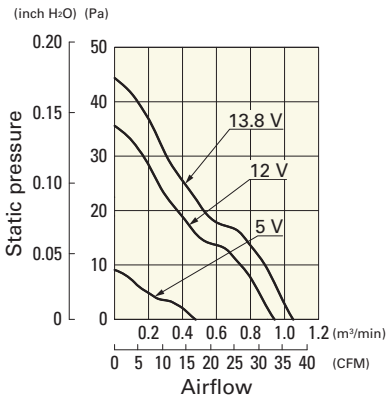
9S0812H401 With pulse sensor

Operating voltage range



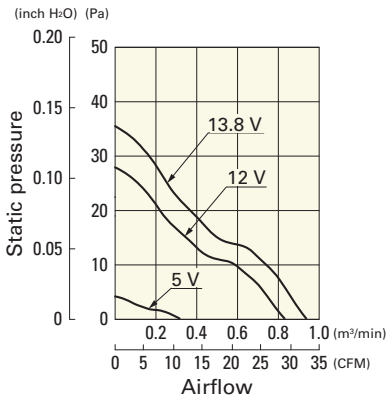
9S0812F401 With pulse sensor

Operating voltage range



9S0812M401 With pulse sensor

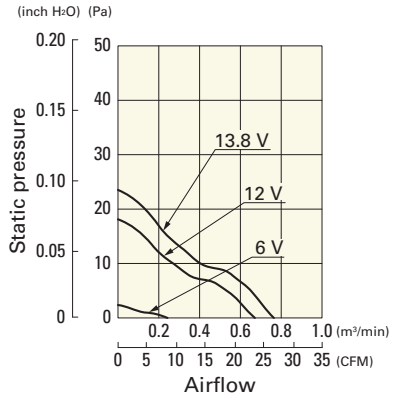
Operating voltage range



Airflow - Static Pressure Characteristics

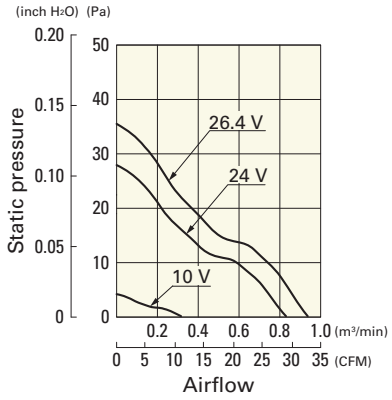
9S0812L401 With pulse sensor

Operating voltage range



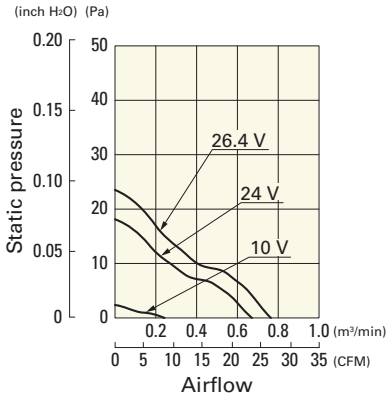
9S0824M401 With pulse sensor

Operating voltage range

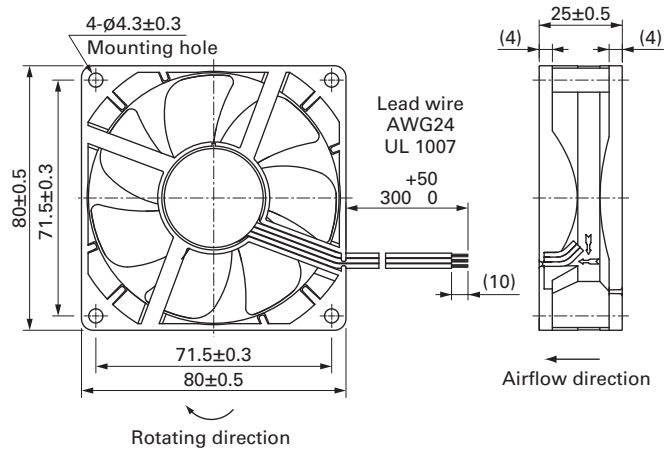


9S0824L401 With pulse sensor

Operating voltage range

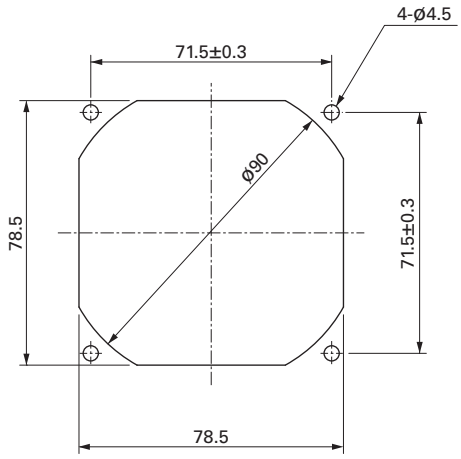


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591

Model no.: 109-1002G

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

DC Fan

80×80×25 mm

San Cooler 80 9A 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. 599.
- 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 ..... 90 g

Specifications

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

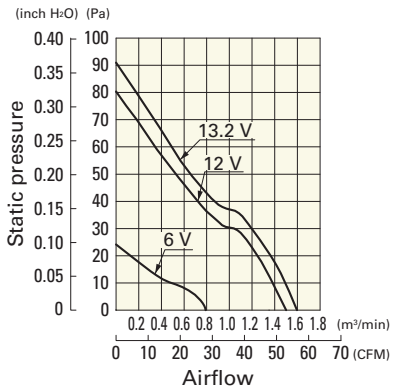
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9A0812G401	12	6 to 13.2	0.38	4.56	4500	1.5	53.0	80.3	0.323	40	-20 to +60	30000/60˚C (53000/40˚C)
9A0812S401		6 to 13.8	0.18	2.16	3400	1.2	42.4	48	0.193	34	-20 to +70	40000/60˚C (70000/40˚C)
9A0812H401			0.13	1.56	2900	1.03	36.4	35.3	0.142	29		
9A0812F401			0.11	1.32	2600	0.92	32.5	28.4	0.114	26		
9A0812M401			0.09	1.08	2350	0.83	29.3	22.5	0.09	23		
9A0812L401		7 to 13.8	0.06	0.72	1850	0.65	23.0	14.7	0.059	20		
9A0824G401	24	12 to 26.4	0.21	5.04	4500	1.5	53.0	80.3	0.323	40	-20 to +60	30000/60˚C (53000/40˚C)
9A0824S401		12 to 27.6	0.1	2.4	3400	1.2	42.4	48	0.193	34	-20 to +70	40000/60˚C (70000/40˚C)
9A0824H401			0.07	1.68	2900	1.03	36.4	35.3	0.142	29		
9A0824F401			0.06	1.44	2600	0.92	32.5	28.4	0.114	26		
9A0824M401			0.05	1.2	2350	0.83	29.3	22.5	0.09	23		
9A0824L401		14 to 27.6	0.04	0.96	1850	0.65	23.0	14.7	0.059	20		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 624.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

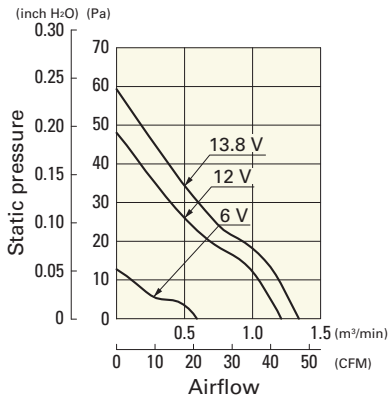
9A0812G401 With pulse sensor

Operating voltage range



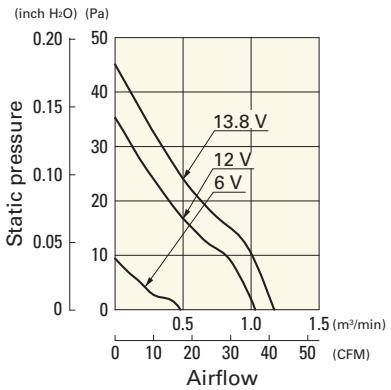
9A0812S401 With pulse sensor

Operating voltage range



9A0812H401 With pulse sensor

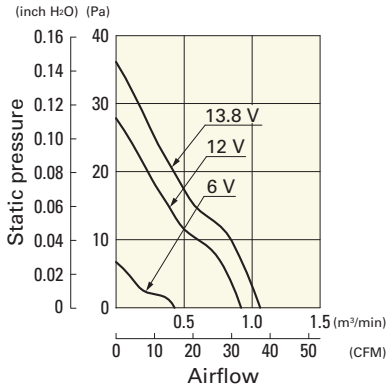
Operating voltage range



Airflow - Static Pressure Characteristics

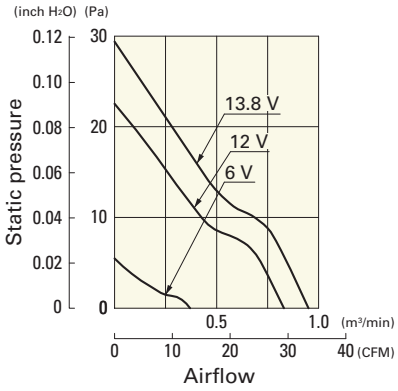
9A0812F401 With pulse sensor

Operating voltage range



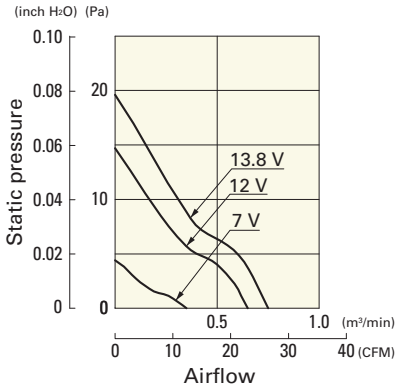
9A0812M401 With pulse sensor

Operating voltage range



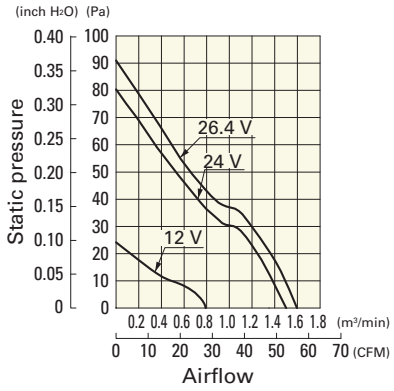
9A0812L401 With pulse sensor

Operating voltage range



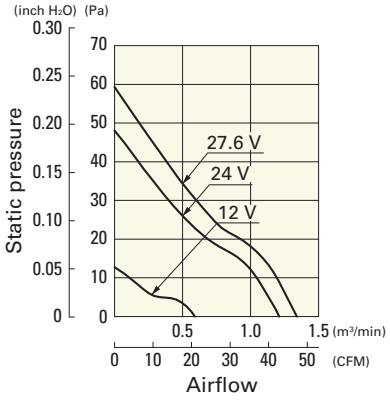
9A0824G401 With pulse sensor

Operating voltage range



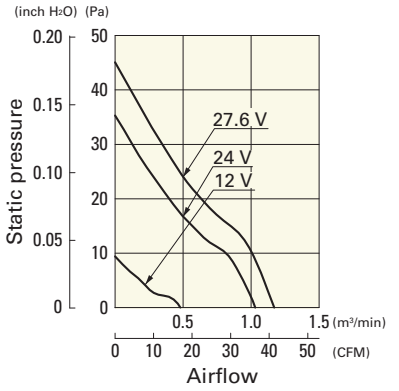
9A0824S401 With pulse sensor

Operating voltage range



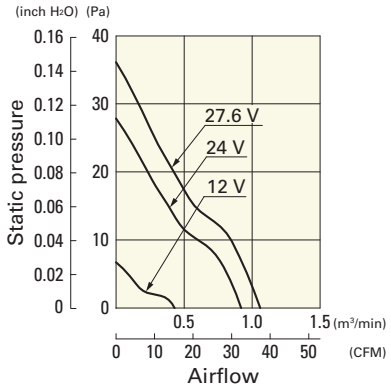
9A0824H401 With pulse sensor

Operating voltage range



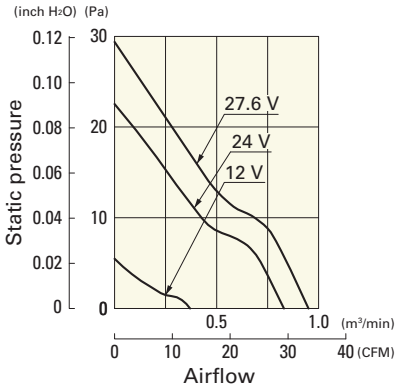
9A0824F401 With pulse sensor

Operating voltage range



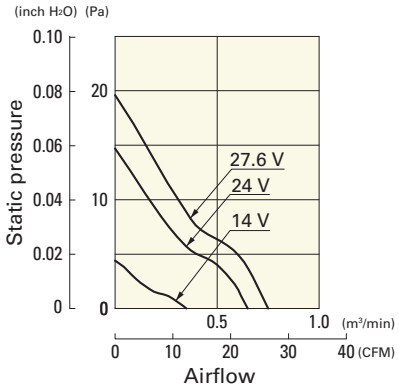
9A0824M401 With pulse sensor

Operating voltage range

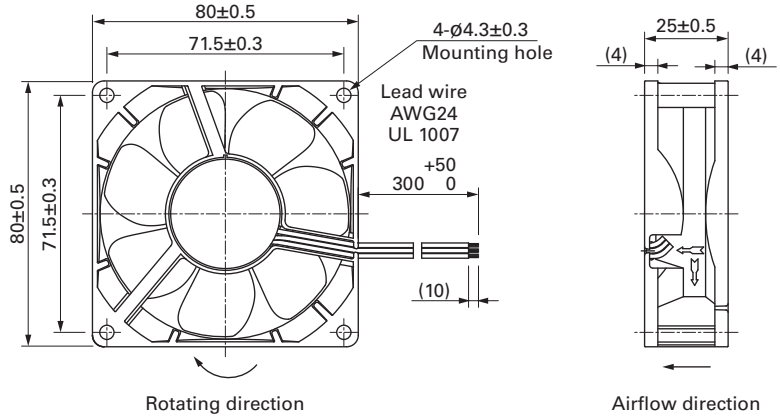


9A0824L401 With pulse sensor

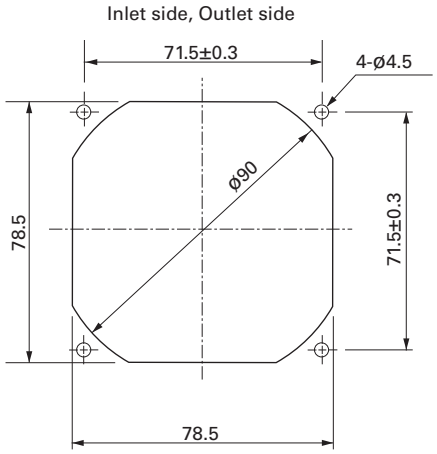
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1002G

80×80×32 mm

San Ace 80 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. 599.
- 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 (For models without PWM control function, there is no speed control wiring.)
- Mass ..... 130 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0812P2S001	12	10.2 to 13.8	100	0.83	9.96	9700	2.45	86.5	360	1.45	57	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.08	0.96	2800	0.71	25.1	30	0.12	24		
9GA0812P2H001			100	0.59	7.08	8700	2.2	77.7	294	1.18	54		
			0	0.05	0.6	2600	0.66	23.3	26	0.105	21		
9GA0812P2M001		10.2 to 12.6	100	0.35	4.2	6700	1.69	59.6	171	0.68	47	-20 to +55	
			0	0.04	0.48	1400	0.35	12.3	7.5	0.03	10		
9GA0824P2S001	24	20.4 to 27.6	100	0.42	10.1	9700	2.45	86.5	360	1.45	57	-20 to +70	
			0	0.05	1.2	2800	0.71	25.1	30	0.12	24		
9GA0848P2S001	48	40.8 to 55.2	100	0.22	10.56	9700	2.45	86.5	360	1.45	57	-10 to +70	
			0	0.04	1.92	2800	0.71	25.1	30	0.12	24		

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

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

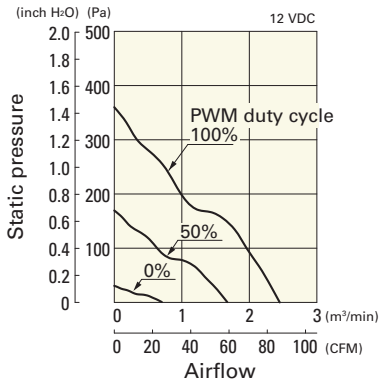
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0812A2001	12	6 to 13.2	0.31	3.72	6000	1.51	53.4	137.7	0.55	44	-20 to +70	40000/60˚C (70000/40˚C)
9GA0812B2001		6 to 13.8	0.13	1.56	4000	1.01	35.7	61.2	0.25	33		
9GA0812L2001		7 to 13.8	0.08	0.96	2600	0.66	23.3	26	0.1	21		
9GA0824A2001	24	12 to 26.4	0.15	3.6	6000	1.51	53.4	137.7	0.55	44		
9GA0824B2001		12 to 27.6	0.08	1.92	4000	1.01	35.7	61.2	0.25	33		
9GA0824L2001		14 to 27.6	0.05	1.2	2600	0.66	23.3	26	0.1	21		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 629 to 630.
Note 2: The ⟫ mark indicates Short Lead Time Service applicable models. See p. 654 for details.

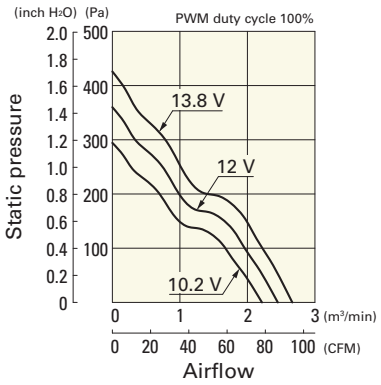
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P2S001 With pulse sensor with PWM control function

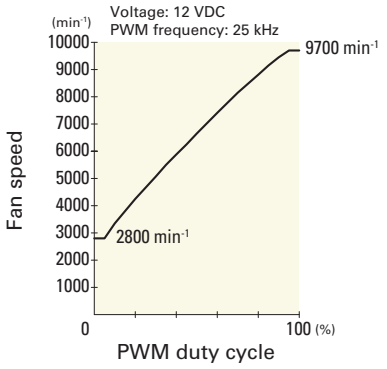
PWM duty cycle



Operating voltage range

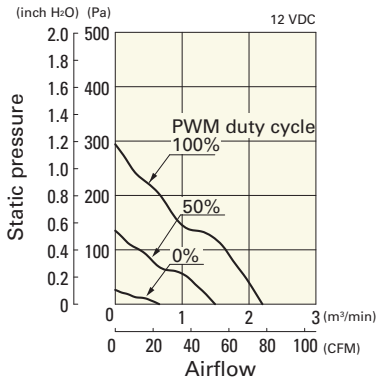


PWM duty - Speed characteristics example

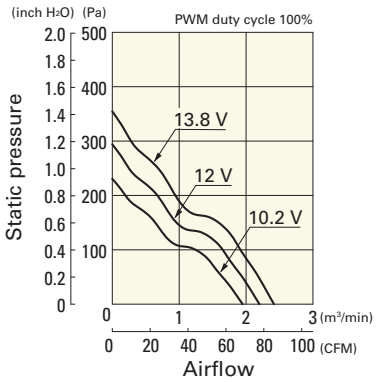


9GA0812P2H001 With pulse sensor with PWM control function

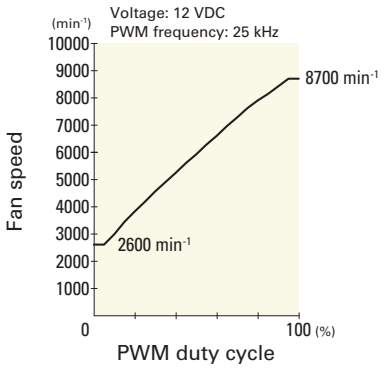
PWM duty cycle



Operating voltage range

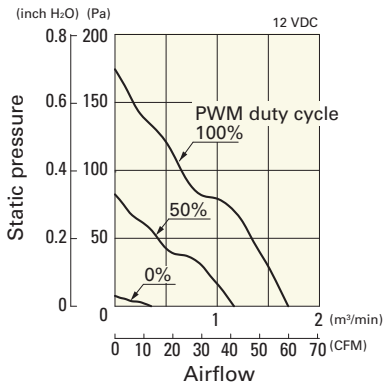


PWM duty - Speed characteristics example

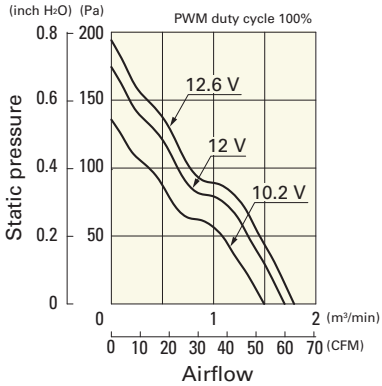


9GA0812P2M001 With pulse sensor with PWM control function

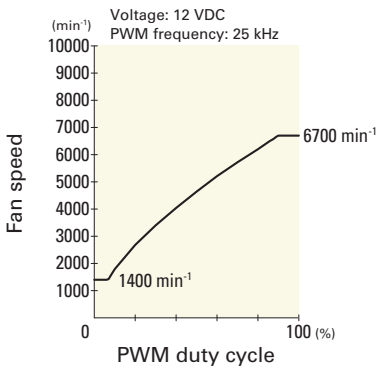
PWM duty cycle



Operating voltage range

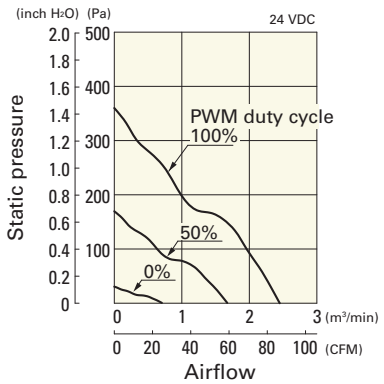


PWM duty - Speed characteristics example

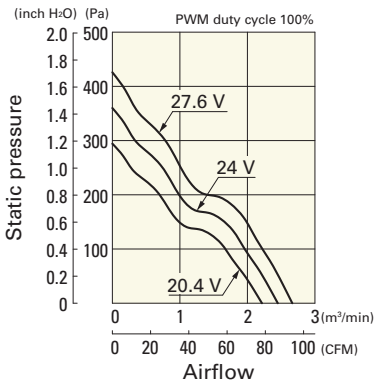


9GA0824P2S001 With pulse sensor with PWM control function

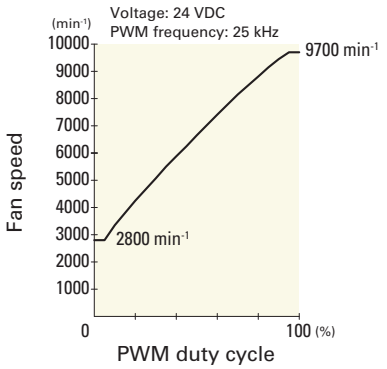
PWM duty cycle



Operating voltage range



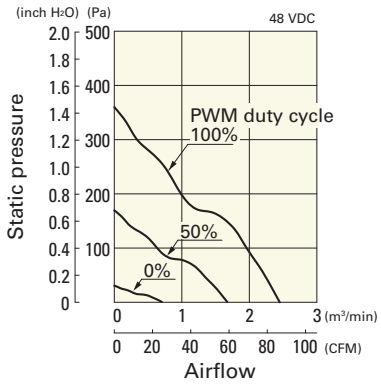
PWM duty - Speed characteristics example



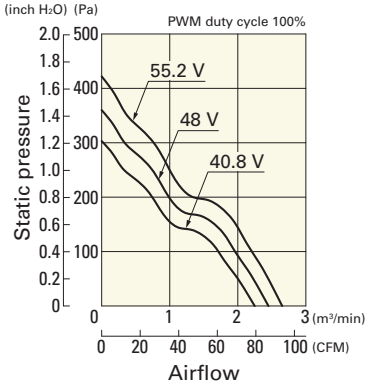
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0848P2S001 With pulse sensor with PWM control function

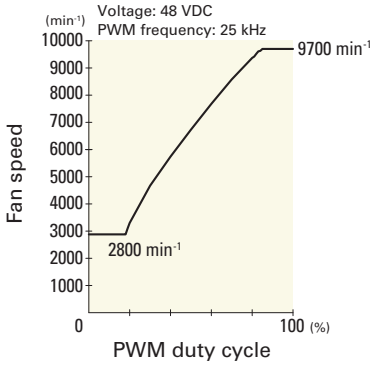
PWM duty cycle



Operating voltage range



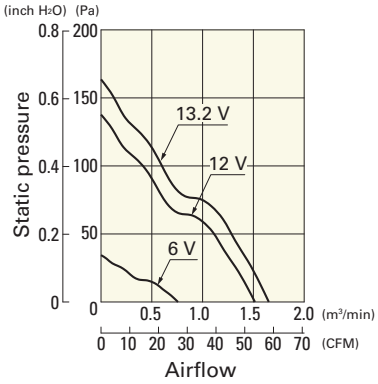
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

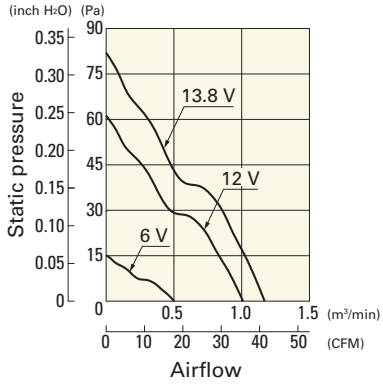
9GA0812A2001 With pulse sensor

Operating voltage range



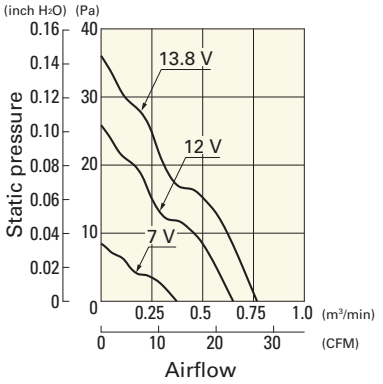
9GA0812B2001 With pulse sensor

Operating voltage range



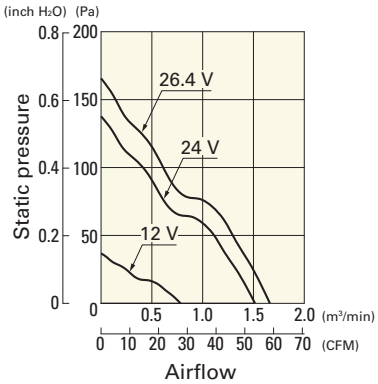
9GA0812L2001 With pulse sensor

Operating voltage range



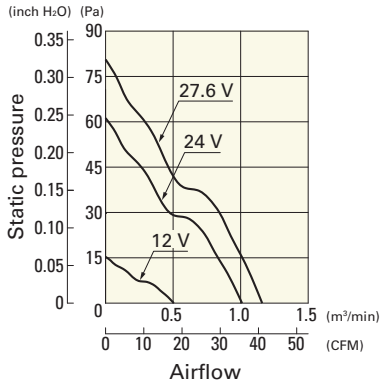
9GA0824A2001 With pulse sensor

Operating voltage range



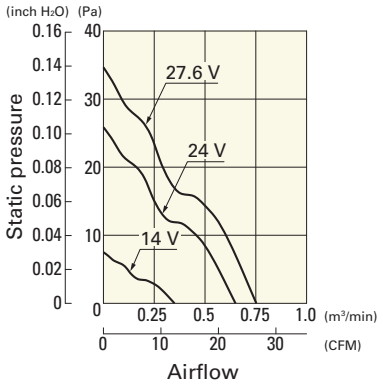
9GA0824B2001 With pulse sensor

Operating voltage range

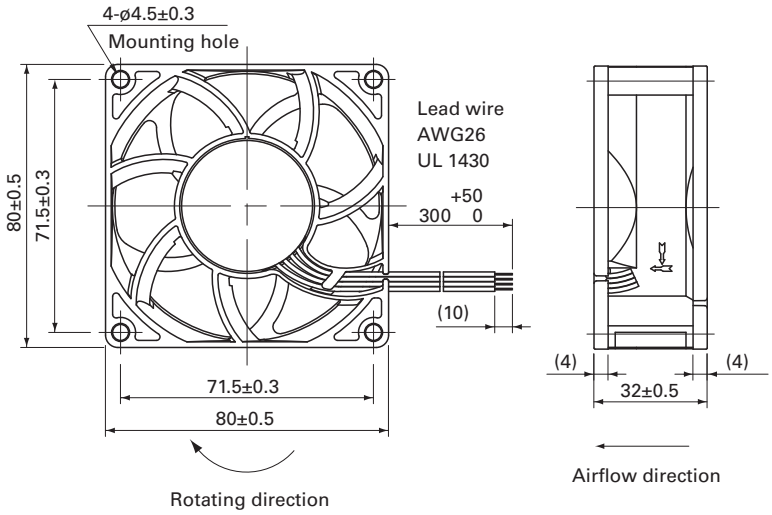


9GA0824L2001 With pulse sensor

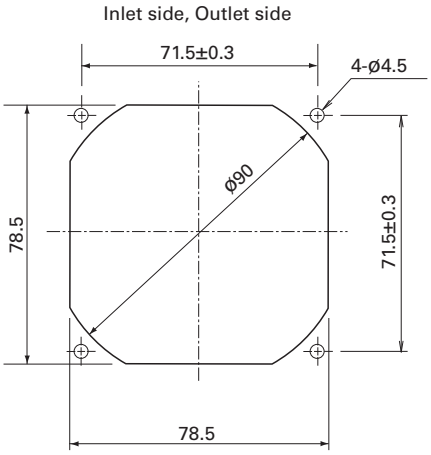
Operating voltage range



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. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1002G

80×80×38 mm

San Ace 80 9HVB 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. 599.
- 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 ..... 230 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HVB0812P1G001	12	10.8 to 12.6	100	4.8	57.6	18300	4.0	141.3	1600	6.42	75	-20 to +70	40000/60˚C (70000/40˚C)
			20	0.17	2.0	4300	0.94	33.2	105	0.42	40		

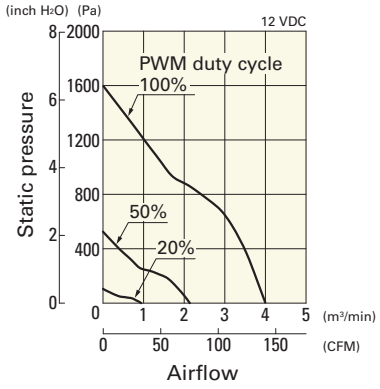
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 634.

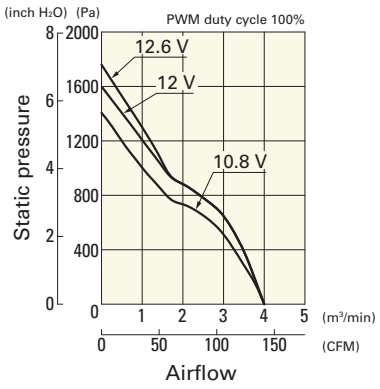
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HVB0812P1G001 With pulse sensor with PWM control function

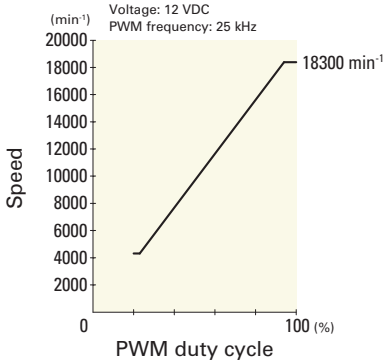
PWM duty cycle



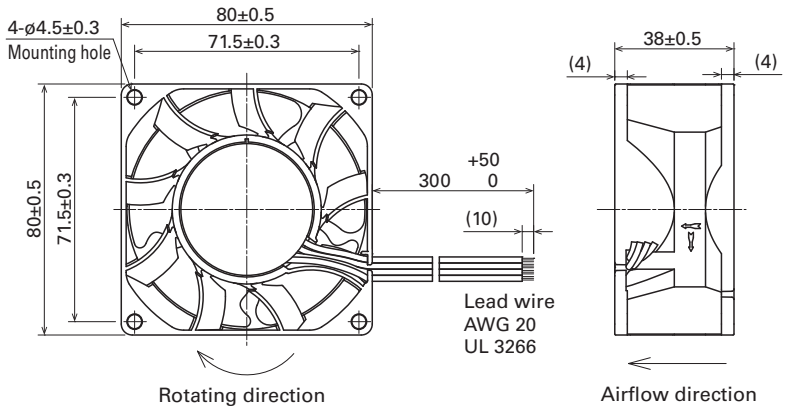
Operating voltage range



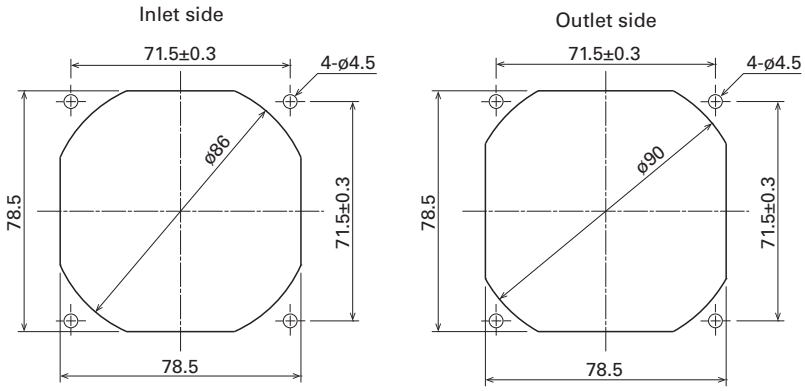
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1002G

80×80×38 mm

San Ace 80 9HVA 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. 599.
- 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 ..... 220 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HVA0812P1G001	12	10.8 to 13.2	100	3.5	42	16100	3.75	132	1350	5.4	73	-20 to +70	40000/60˚C (70000/40˚C)
			20	0.2	2.4	4200	0.96	33.9	105	0.42	44		
9HVA0848P1G601	48	36 to 57	100	0.9	43.2	16100	3.75	132	1250	5.0	73		
			20	0.07	3.36	4200	0.96	33.9	105	0.42	44		

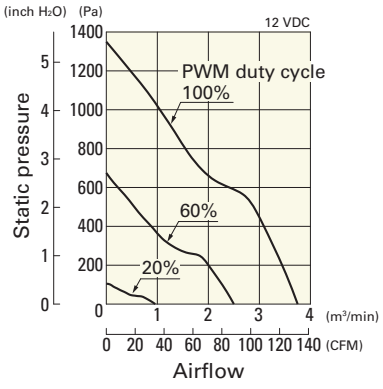
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The mark indicates Short Lead Time Service applicable models. See p. 654 for details.

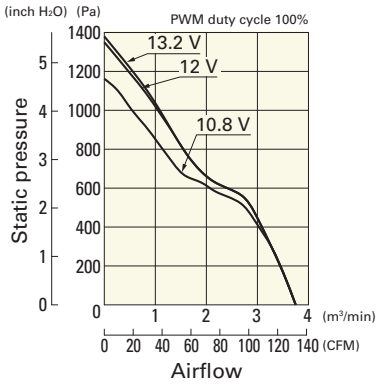
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HVA0812P1G001 With pulse sensor with PWM control function

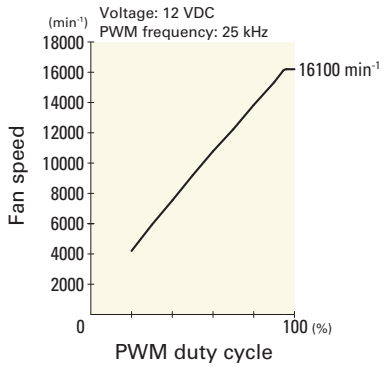
PWM duty cycle



Operating voltage range



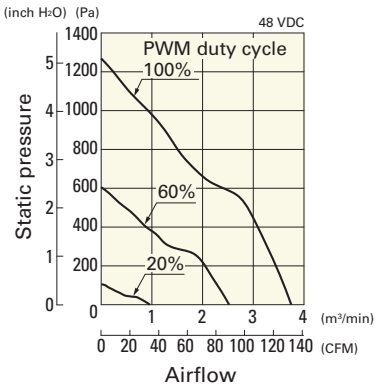
PWM duty - Speed characteristics example



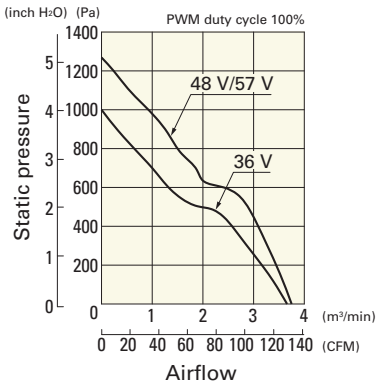
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HVA0848P1G601 With pulse sensor with PWM control function

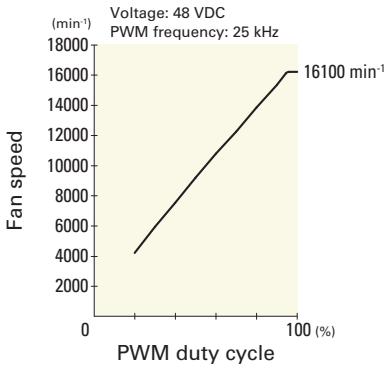
PWM duty cycle



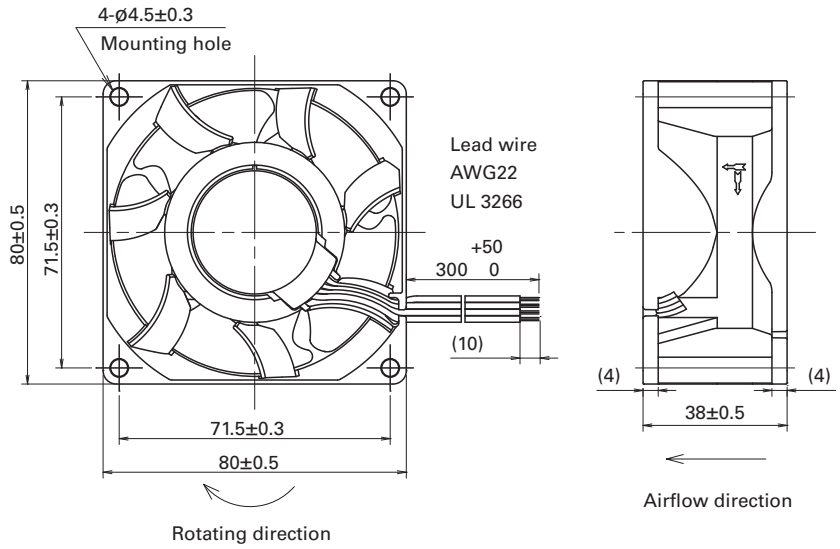
Operating voltage range



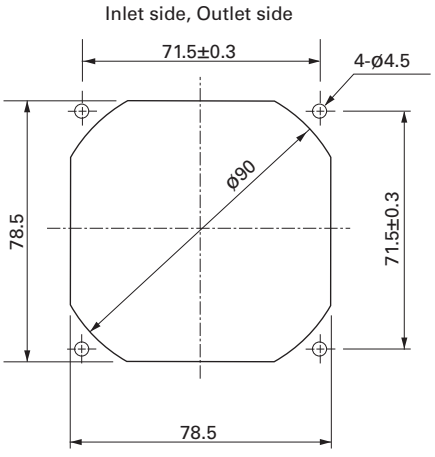
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591

Model no.: 109-1002G

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

80×80×38 mm

San Ace 80 9HV 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. 599.
- 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 ..... 230 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HV0812P1G601	12	10.8 to 13.2	100	3.4	40.8	14900	3.7	130.7	1000	4.0	69	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.25	3	4400	1.06	37.5	87.2	0.35	40		
9HV0824P1G003	24	21.6 to 26.4	100	1.7	40.8	14900	3.7	130.7	1000	4.0	69		
9HV0848P1G001	48	36 to 57	100	0.85	40.8	14900	3.7	130.7	1000	4.0	69	-10 to +70	
			0	0.13	6.24	4400	1.06	37.5	87.2	0.35	40		

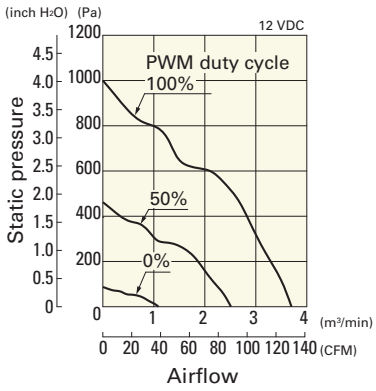
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: The model number of the ribless model for 9HV0824P1G003 is 9HV0824P1G0011.
Note 2: Sensor and control options are available for selection. Refer to the table on p. 633.
Note 3: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

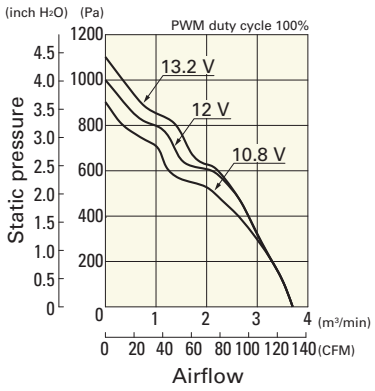
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0812P1G601 With pulse sensor with PWM control function

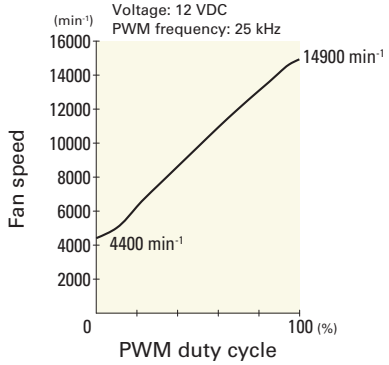
PWM duty cycle



Operating voltage range



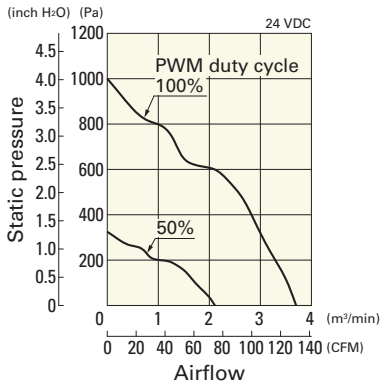
PWM duty - Speed characteristics example



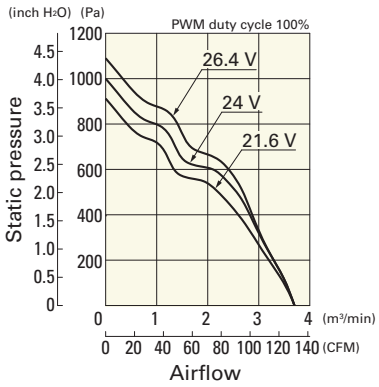
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0824P1G003 With pulse sensor with PWM control function

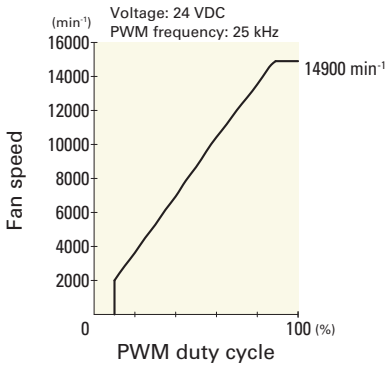
PWM duty cycle



Operating voltage range

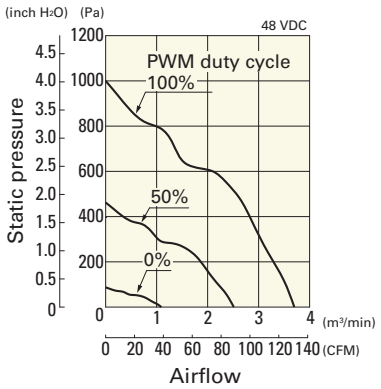


PWM duty - Speed characteristics example

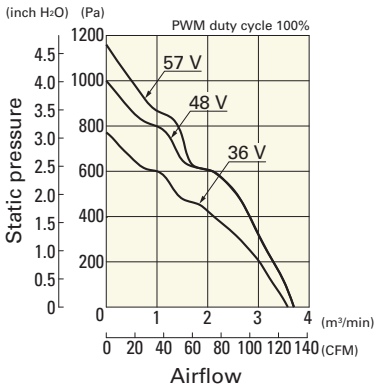


9HV0848P1G001 With pulse sensor with PWM control function

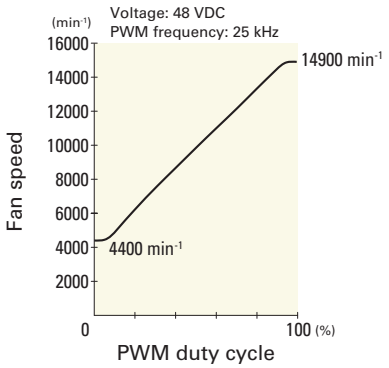
PWM duty cycle



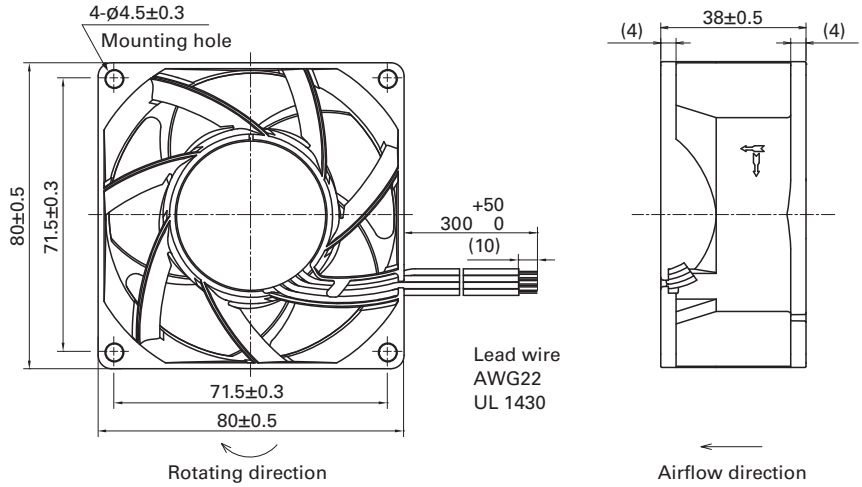
Operating voltage range



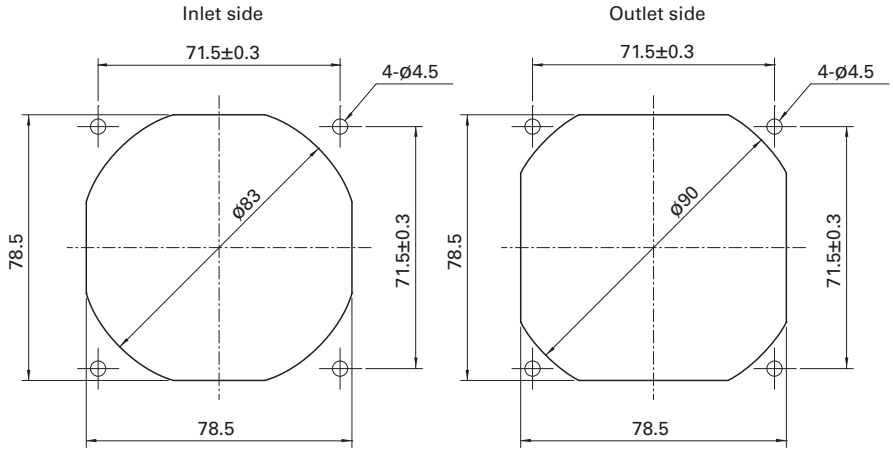
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

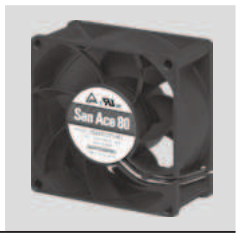
Resin finger guards page: p. 591

Model no.: 109-1002G

DC Fan

80×80×38 mm

San Ace 80 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. 599.
- 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 ..... 160 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0812P1G61	12	10.8 to 13.2	100	1.2	14.4	10500	2.85	100.6	480	1.93	60	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.04	0.48	2000	0.51	18.0	28.7	0.11	21		
9GA0812P1S61			100	0.94	11.28	9550	2.6	91.8	480	1.93	59		
			0	0.1	1.2	2900	0.74	26.1	60	0.24	27		
9GA0812P1H61			100	0.6	7.2	8250	2.25	79.4	380	1.53	55		
			0	0.08	0.96	2500	0.64	22.6	45	0.18	24		
9GA0824P1S61	24	20.4 to 27.6	100	0.47	11.28	9550	2.6	91.8	480	1.93	59		
			0	0.06	1.44	2900	0.74	26.1	60	0.24	27		
9GA0824P1H61			100	0.3	7.2	8250	2.25	79.4	380	1.53	55		
			0	0.05	1.2	2500	0.64	22.6	45	0.18	24		
9GA0848P1S61	48	40.8 to 55.2	100	0.25	12	9550	2.6	91.8	480	1.93	59		
			0	0.04	1.92	2900	0.74	26.1	60	0.24	27		

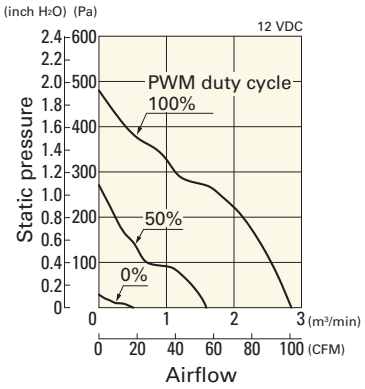
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 629 to 630.
Note 2: The » mark indicates Short LeadTime Service applicable models. See p. 654 for details.

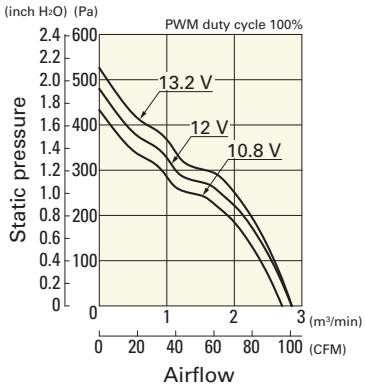
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P1G61 With pulse sensor with PWM control function

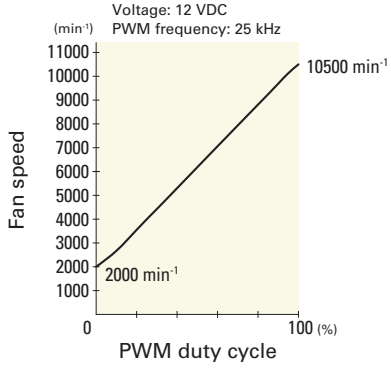
PWM duty cycle



Operating voltage range



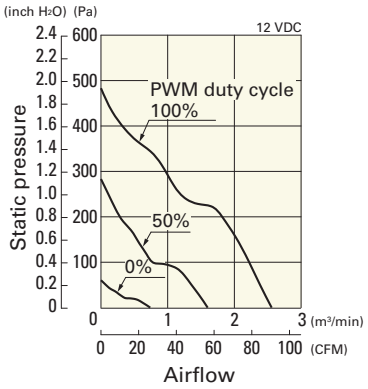
PWM duty - Speed characteristics example



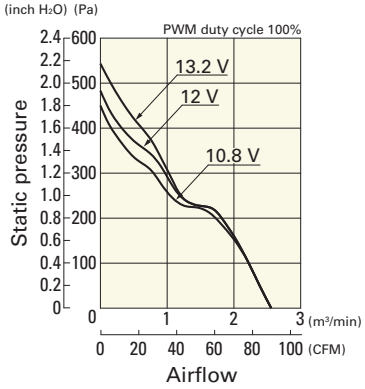
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0812P1S61 With pulse sensor with PWM control function

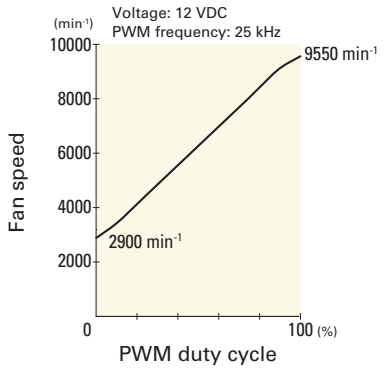
PWM duty cycle



Operating voltage range

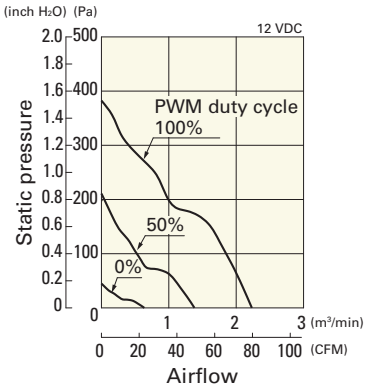


PWM duty - Speed characteristics example

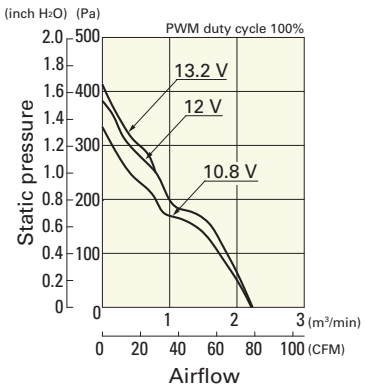


9GA0812P1H61 With pulse sensor with PWM control function

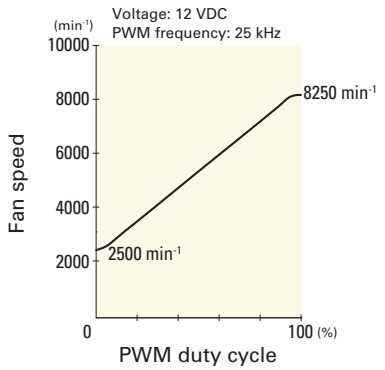
PWM duty cycle



Operating voltage range

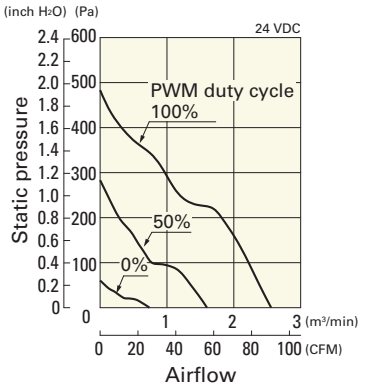


PWM duty - Speed characteristics example

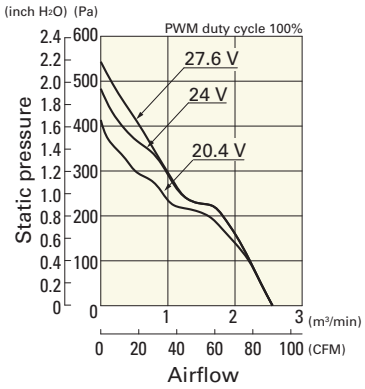


9GA0824P1S61 With pulse sensor with PWM control function

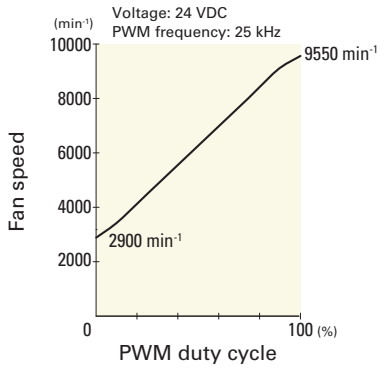
PWM duty cycle



Operating voltage range

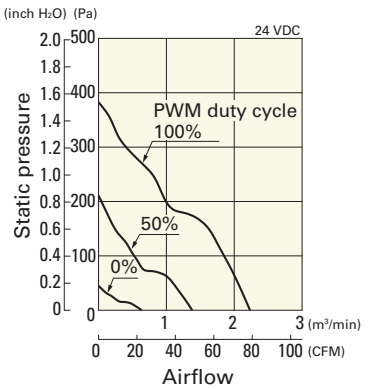


PWM duty - Speed characteristics example

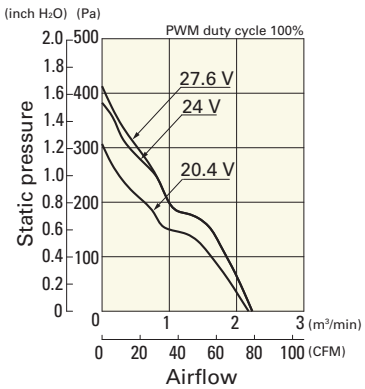


9GA0824P1H61 With pulse sensor with PWM control function

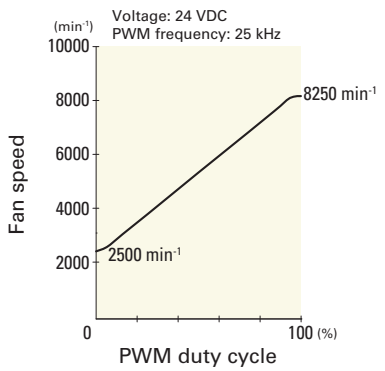
PWM duty cycle



Operating voltage range



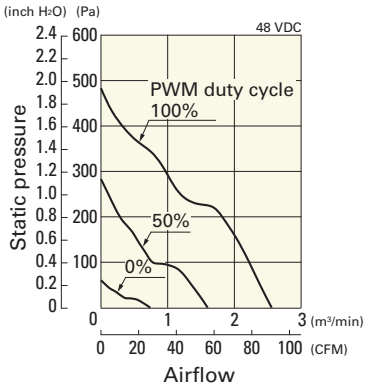
PWM duty - Speed characteristics example



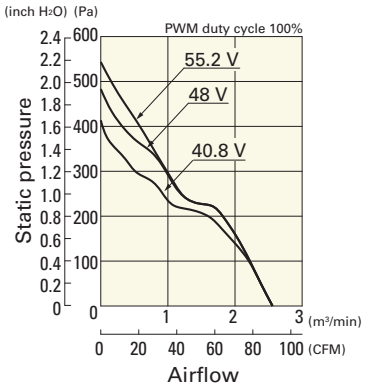
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0848P1S61 With pulse sensor with PWM control function

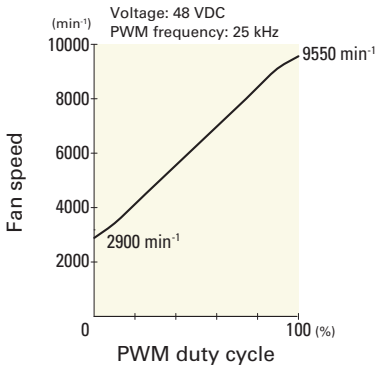
PWM duty cycle



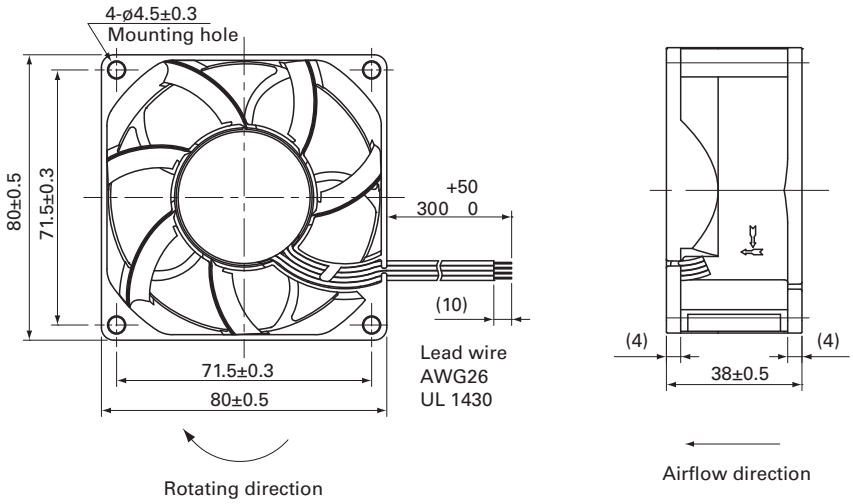
Operating voltage range



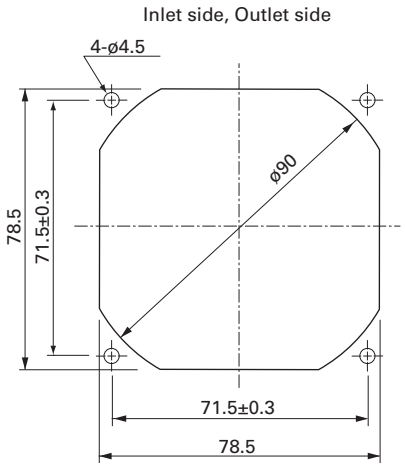
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591

Model no.: 109-1002G

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

80×80×38 mm

San Ace 80 9GV 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. 599.
- 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 ..... 220 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV0812P1G03	12	10.8 to 13.2	100	3.8	45.6	10200	3.9	138.0	490.0	1.97	65	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.32	3.84	3000	1.15	40.6	42.4	0.17	34		
9GV0812P1H03			100	3.0	36.0	9700	3.7	131.0	440.0	1.77	63		
			0	0.2	2.4	2900	1.11	39.2	39.0	0.16	34		
9GV0812P1F03		10.2 to 13.8	100	1.5	18	8000	3.05	108.0	301.0	1.21	58		
			0	0.12	1.44	2400	0.92	32.0	27.1	0.11	26		
9GV0812P1M03			100	0.75	9	6000	2.29	81.0	169.0	0.68	51		
			0	0.09	1.08	1700	0.65	23.0	13.6	0.05	19		
9GV0824P1G03	24	20.4 to 27.6	100	1.6	38.4	10200	3.9	138.0	490.0	1.97	65		
			0	0.3	7.2	4700	1.79	63.2	104.0	0.41	44		
9GV0848P1G03	48	40.8 to 55.2	100	0.84	40.32	10200	3.9	138.0	490.0	1.97	65		
			0	0.15	7.2	4700	1.79	63.2	104.0	0.41	44		

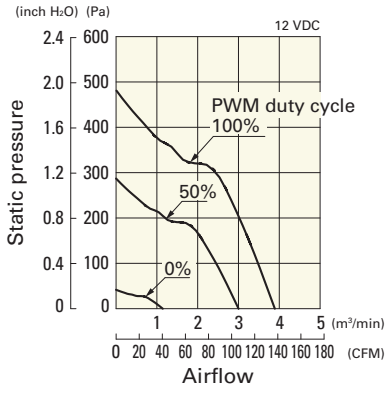
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 632.

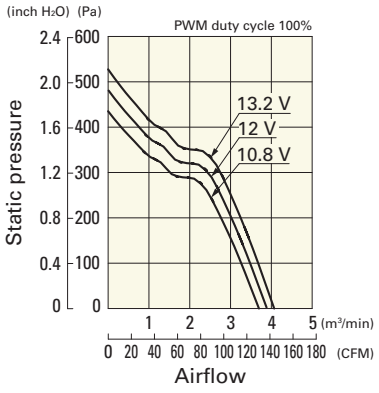
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0812P1G03 With pulse sensor with PWM control function

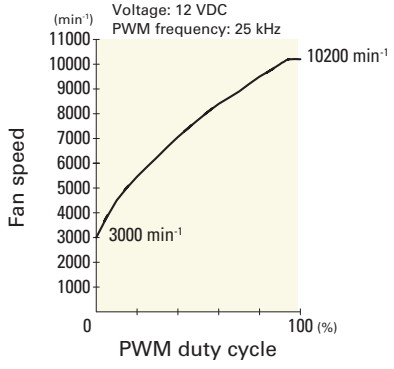
PWM duty cycle



Operating voltage range



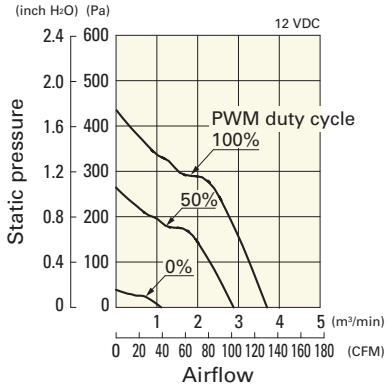
PWM duty - Speed characteristics example



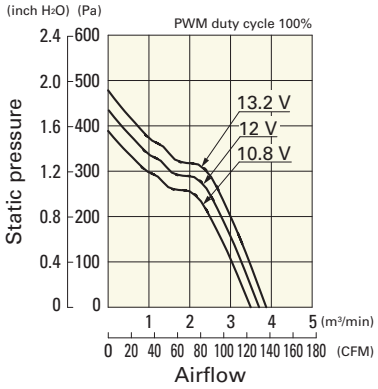
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0812P1H03 With pulse sensor with PWM control function

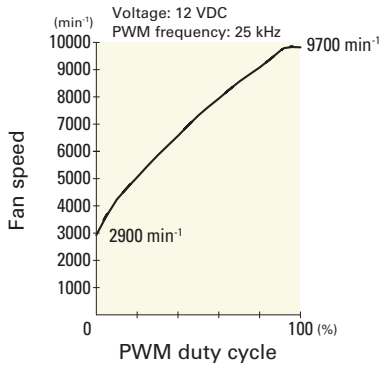
PWM duty cycle



Operating voltage range

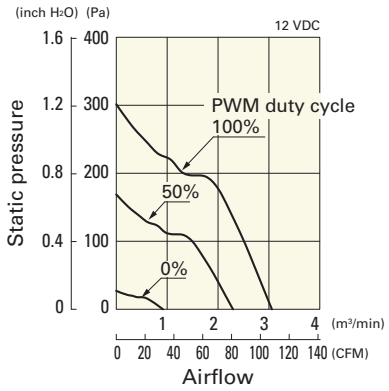


PWM duty - Speed characteristics example

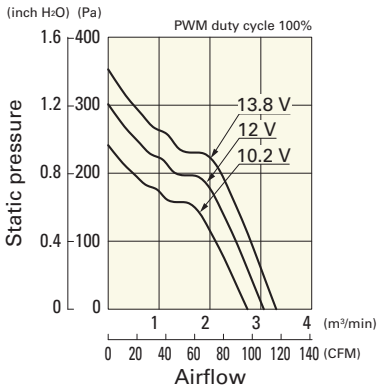


9GV0812P1F03 With pulse sensor with PWM control function

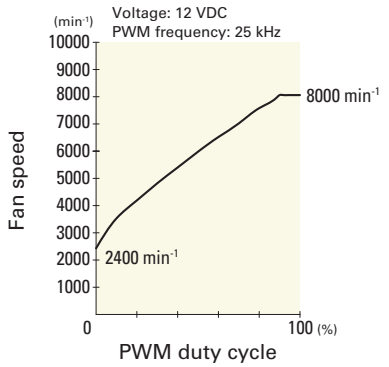
PWM duty cycle



Operating voltage range

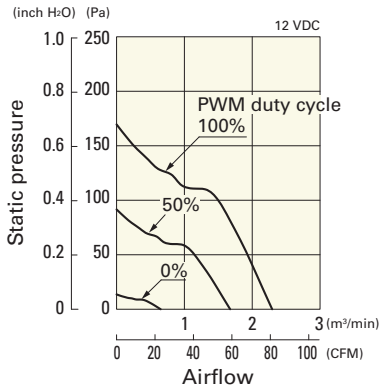


PWM duty - Speed characteristics example

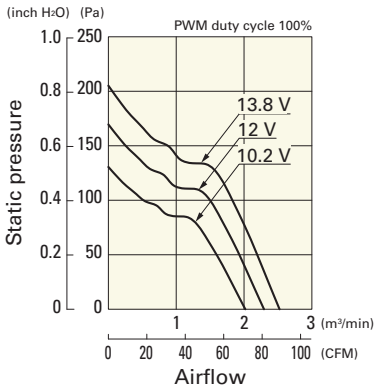


9GV0812P1M03 With pulse sensor with PWM control function

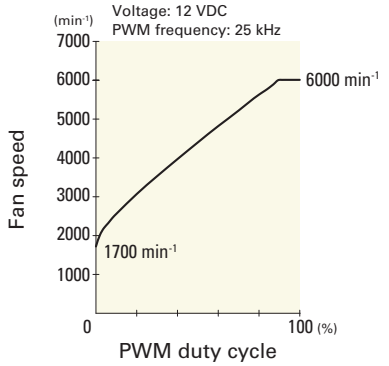
PWM duty cycle



Operating voltage range

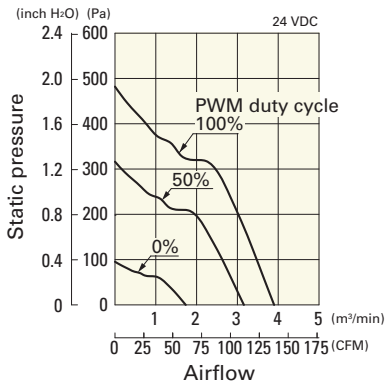


PWM duty - Speed characteristics example

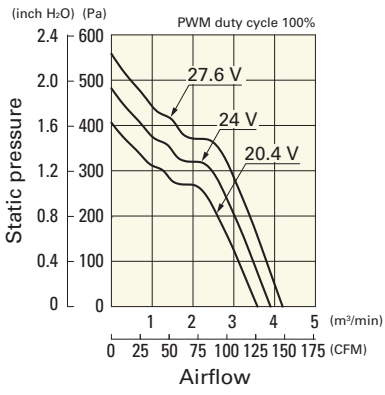


9GV0824P1G03 With pulse sensor with PWM control function

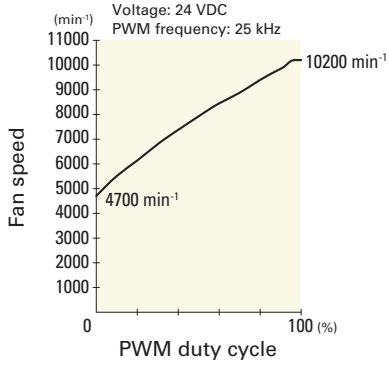
PWM duty cycle



Operating voltage range



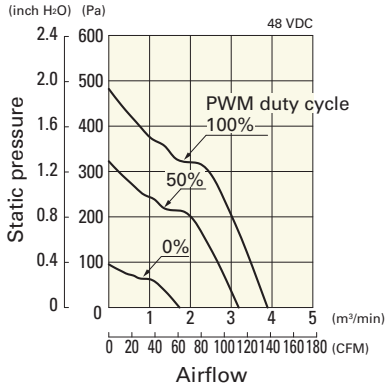
PWM duty - Speed characteristics example



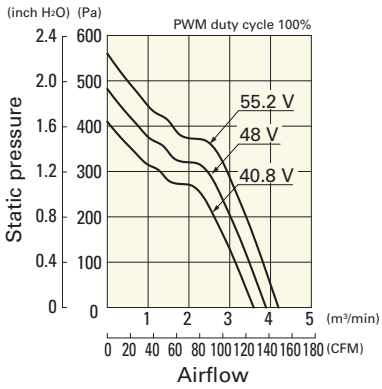
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0848P1G03 With pulse sensor with PWM control function

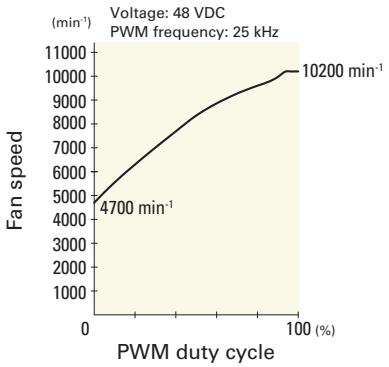
PWM duty cycle



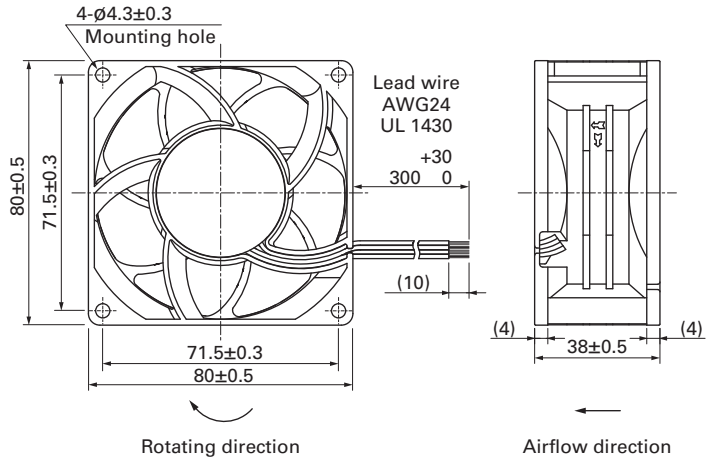
Operating voltage range



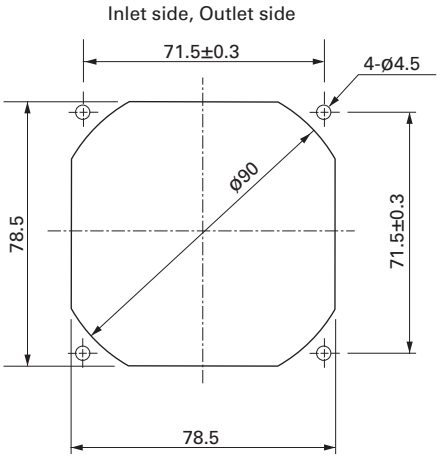
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin finger guards page: p. 591

Model no.: 109-1002G

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

DC Fan

80×80×38 mm

San Ace 80 9G 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. 599.
- 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
- Mass ..... 170 g

Specifications

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

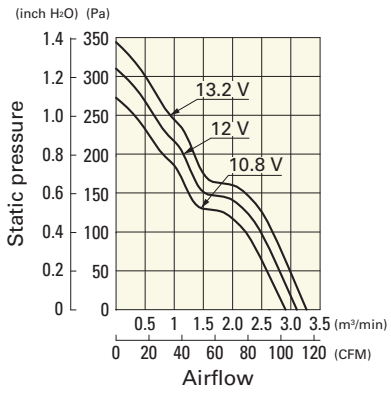
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9G0812K101	12	10.8 to 13.2	1.8	21.6	7800	3.1	107.3	310	1.285	58	-20 to +60	40000/60˚C (70000/40˚C)
9G0812G101		7 to 13.8	1.1	13.2	6300	2.55	90	211	0.847	51	-20 to +70	
9G0812H101			0.9	10.8	5700	2.28	80	171	0.687	49		
9G0824G101	24	20.4 to 27.6	0.56	13.4	6300	2.55	90	211	0.847	51		
9G0824H101			0.42	10.1	5700	2.28	80	171	0.687	49		
9G0848G101	48	40.8 to 55.2	0.27	13.0	6300	2.55	90	211	0.847	51		
9G0848H101			0.2	9.6	5700	2.28	80	171	0.687	49		

Note: Sensor and control options are available for selection. Refer to the table on p. 626.

Airflow - Static Pressure Characteristics

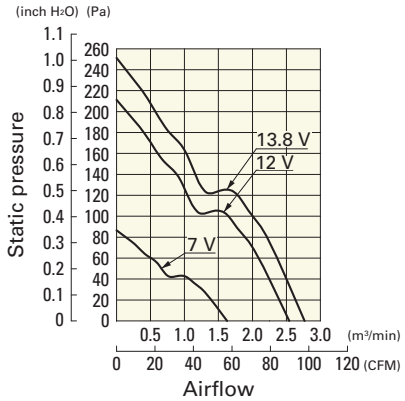
9G0812K101 With pulse sensor

Operating voltage range



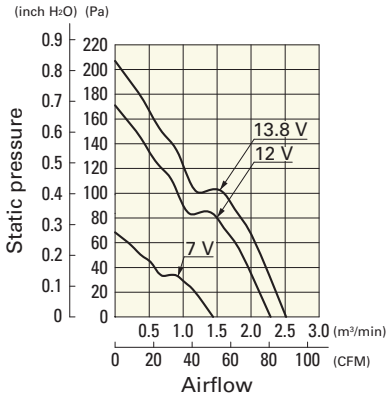
9G0812G101 With pulse sensor

Operating voltage range



9G0812H101 With pulse sensor

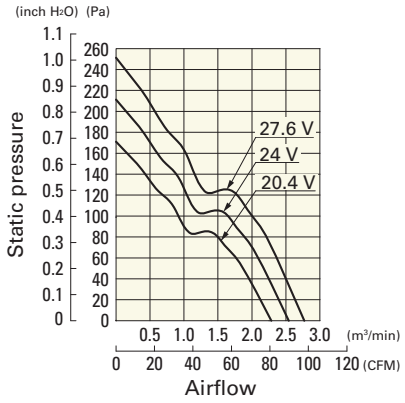
Operating voltage range



Airflow - Static Pressure Characteristics

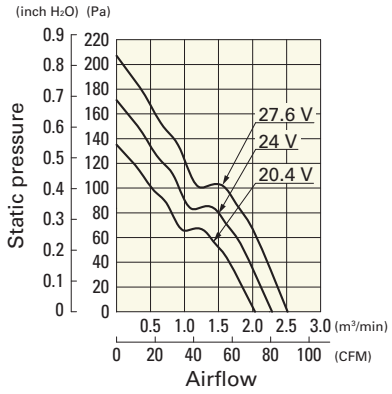
9G0824G101 With pulse sensor

Operating voltage range



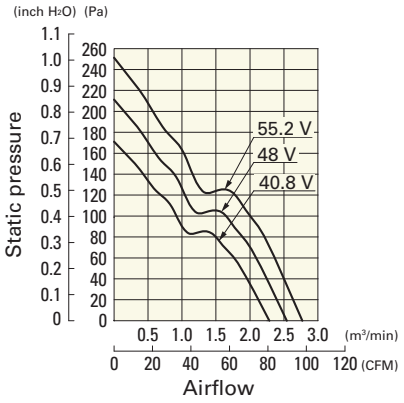
9G0824H101 With pulse sensor

Operating voltage range



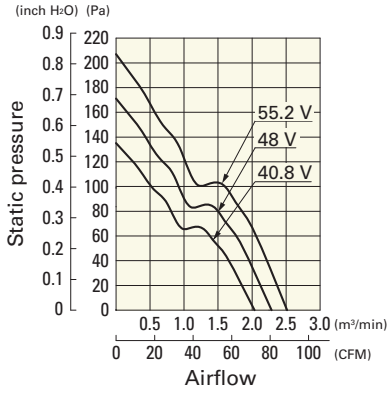
9G0848G101 With pulse sensor

Operating voltage range

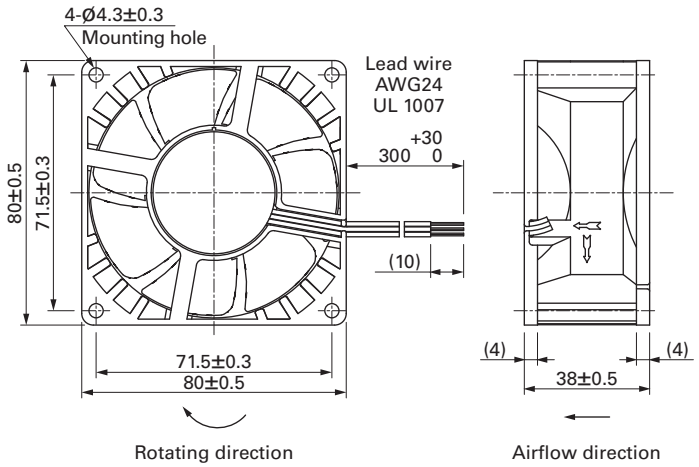


9G0848H101 With pulse sensor

Operating voltage range

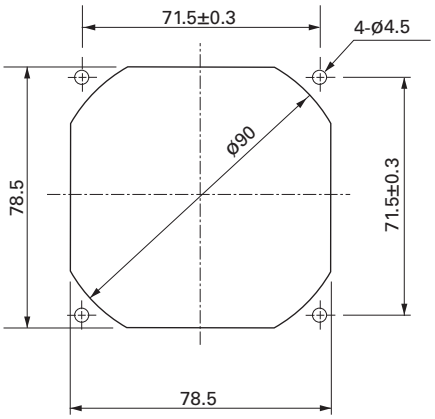


Dimensions (unit: mm) (With ribs)



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

Inlet side, Outlet side



Options

Finger guards page: p. 584

Model no.: 109-049E, 109-049H, 109-049C

Resin filter kits page: p. 592

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1002G

92×92×25 mm

San Ace 92 9HV 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. 599.
- 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 ..... 150 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HV0912P4G001	12	10.2 to 13.8	100	1.23	14.76	7350	3.35	118	280	1.12	56	-20 to +70	40000/60˚C (70000/40˚C)
			20	0.12	1.44	2200	1.0	35.3	25	0.1	26		
9HV0912P4H001			100	0.71	8.52	6050	2.75	97.1	190	0.76	52		
			20	0.07	0.84	1700	0.77	27.2	15	0.06	20		
9HV0924P4G001	24	20.4 to 27.6	100	0.61	14.64	7350	3.35	118	280	1.12	56		
			20	0.06	1.44	2200	1.0	35.3	25	0.1	26		
9HV0924P4H001			100	0.38	9.12	6050	2.75	97.1	190	0.76	52		
			20	0.05	1.2	1700	0.77	27.2	15	0.06	20		

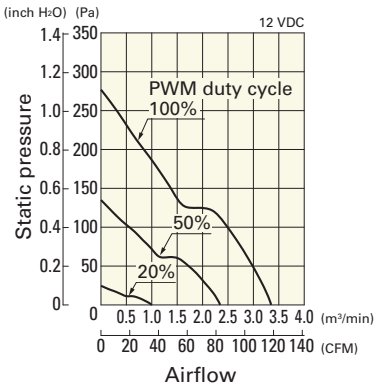
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 634.

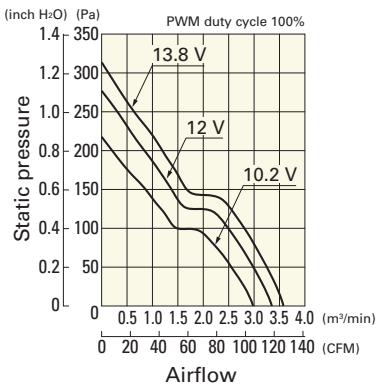
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0912P4G001 With pulse sensor with PWM control function

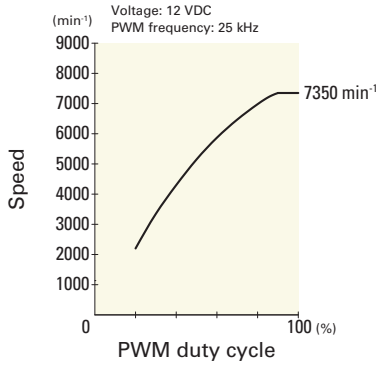
PWM duty cycle



Operating voltage range



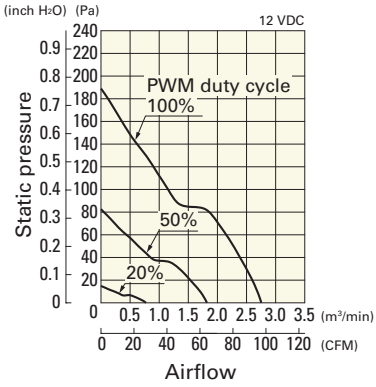
PWM duty - Speed characteristics example



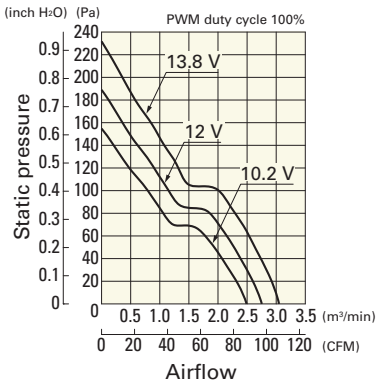
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0912P4H001 With pulse sensor with PWM control function

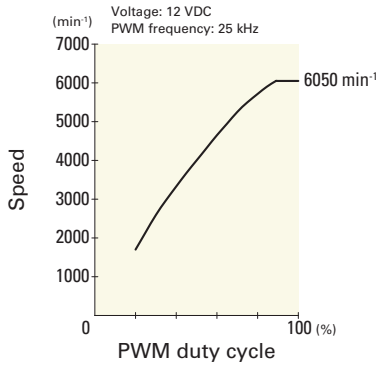
PWM duty cycle



Operating voltage range

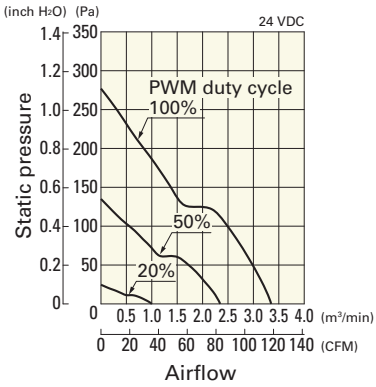


PWM duty - Speed characteristics example

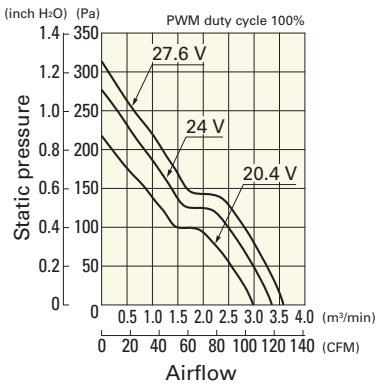


9HV0924P4G001 With pulse sensor with PWM control function

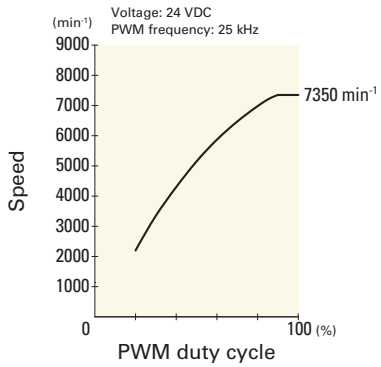
PWM duty cycle



Operating voltage range

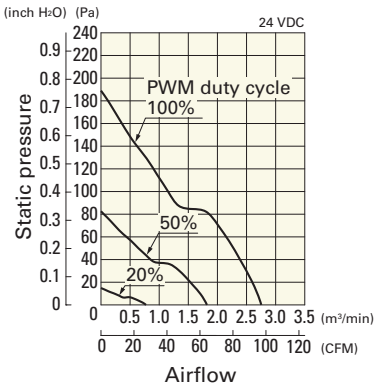


PWM duty - Speed characteristics example

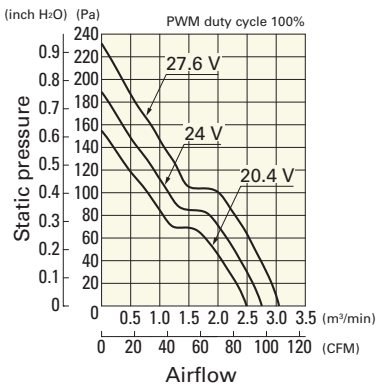


9HV0924P4H001 With pulse sensor with PWM control function

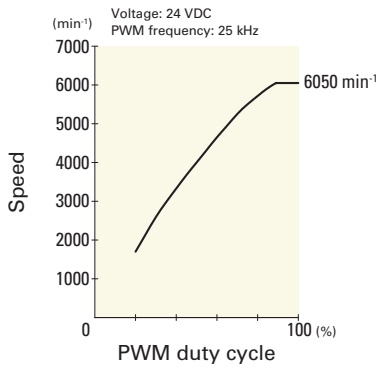
PWM duty cycle



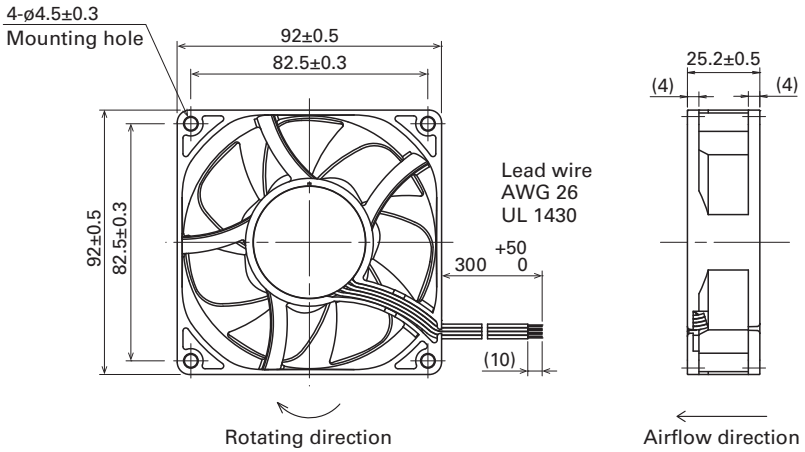
Operating voltage range



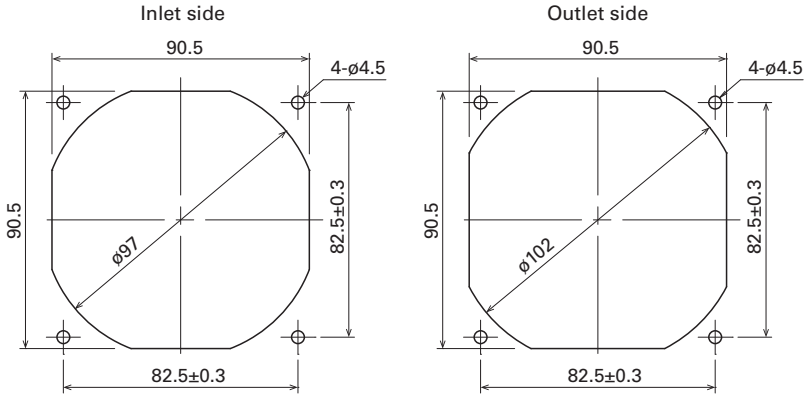
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin filter kits page: p. 592

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1001G

DC Fan

92×92×25 mm

San Ace 92 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. 599.
- 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 (For models without PWM control function, there is no speed control wiring.)
- Mass ..... 125 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0912P4J03	12	10.2 to 13.8	100	0.39	4.68	5000	2.2	77.7	105	0.42	43	-20 to +70	60000/60˚C (90000/40˚C)
			0	0.06	0.72	1500	0.65	23.3	9.4	0.04	14		
9GA0912P4G03			100	0.28	3.36	4400	1.93	68.2	81	0.33	39		
			0	0.06	0.72	1500	0.65	23.3	9.4	0.04	14		
9GA0912P4S03			100	0.2	2.4	3800	1.67	59.0	60.6	0.24	35		
			0	0.06	0.72	1500	0.65	23.3	9.4	0.04	14		
9GA0924P4J03	24	20.4 to 27.6	100	0.2	4.8	5000	2.2	77.7	105	0.42	43		
			0	0.04	0.96	1500	0.65	23.3	9.4	0.04	14		
9GA0924P4G03			100	0.15	3.6	4400	1.93	68.2	81	0.33	39		
			0	0.04	0.96	1500	0.65	23.3	9.4	0.04	14		
9GA0924P4S03			100	0.12	2.88	3800	1.67	59.0	60.6	0.24	35		
			0	0.04	0.96	1500	0.65	23.3	9.4	0.04	14		

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

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

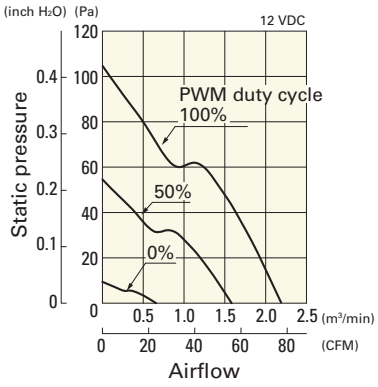
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0912H401	12	10.2 to 13.8	0.19	2.28	3300	1.45	51.2	45.6	0.18	31	-20 to +70	60000/60˚C (90000/40˚C)
9GA0912W401		7 to 16	0.19	2.28	3300	1.45	51.2	45.6	0.18	31		
9GA0912F401		10.2 to 13.8	0.14	1.68	2800	1.23	43.5	32.9	0.13	28		
9GA0912M401			0.11	1.32	2400	1.05	37.1	24	0.096	24		
9GA0912L401			0.09	1.08	2000	0.87	30.7	16.7	0.067	21		
9GA0924H401	24	20.4 to 27.6	0.09	2.16	3300	1.45	51.2	45.6	0.18	31		
9GA0924W401		12 to 28.8	0.09	2.16	3300	1.45	51.2	45.6	0.18	31		
9GA0924F401		16 to 27.6	0.08	1.92	2800	1.23	43.5	32.9	0.13	28		
9GA0924M401		14 to 27.6	0.05	1.2	2400	1.05	37.1	24	0.096	24		
9GA0924L401			0.03	0.72	2000	0.87	30.7	16.7	0.067	21		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 630 to 631.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

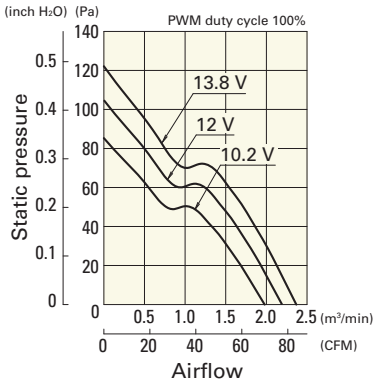
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0912P4J03 With pulse sensor with PWM control function

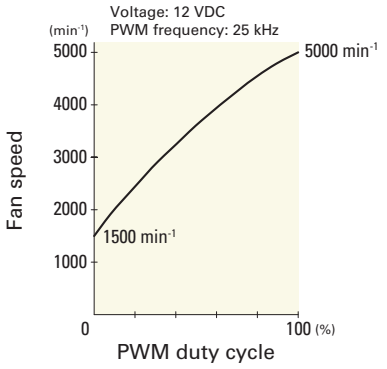
PWM duty cycle



Operating voltage range

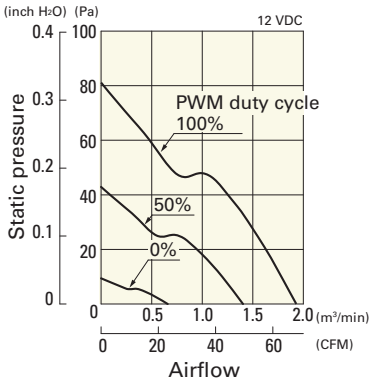


PWM duty - Speed characteristics example

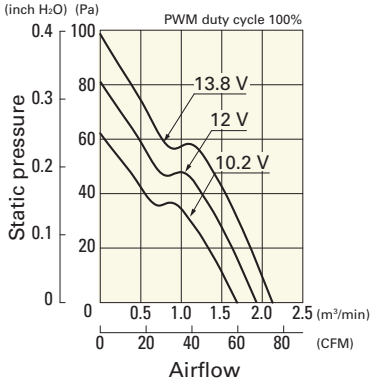


9GA0912P4G03 With pulse sensor with PWM control function

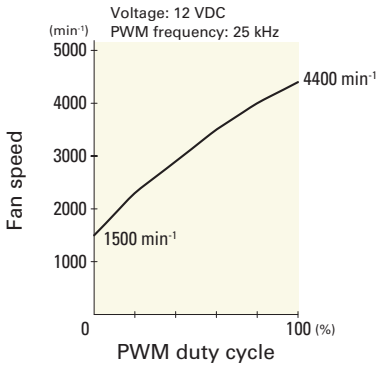
PWM duty cycle



Operating voltage range

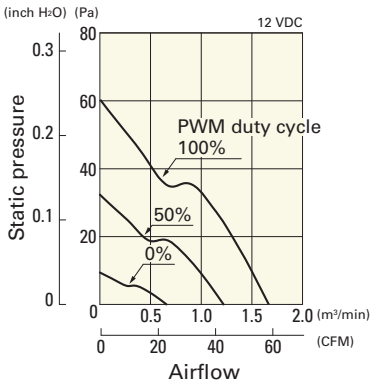


PWM duty - Speed characteristics example

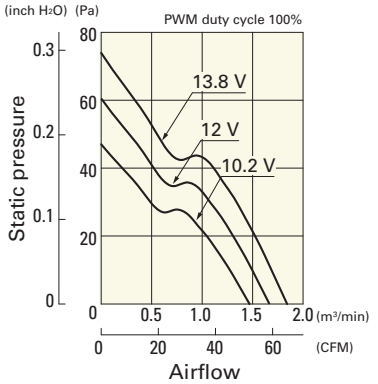


9GA0912P4S03 With pulse sensor with PWM control function

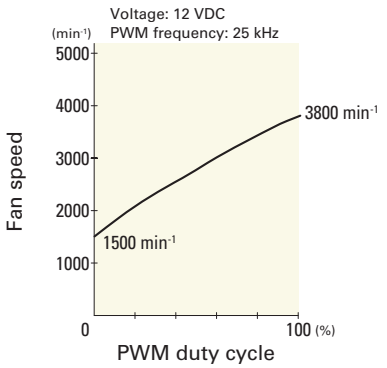
PWM duty cycle



Operating voltage range

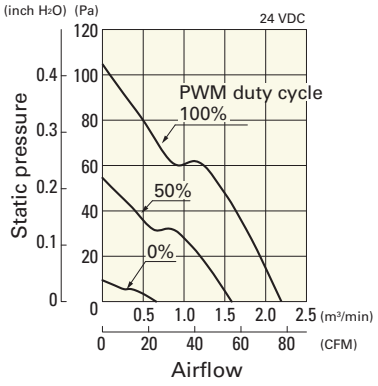


PWM duty - Speed characteristics example

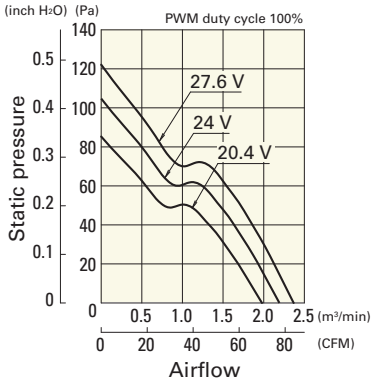


9GA0924P4J03 With pulse sensor with PWM control function

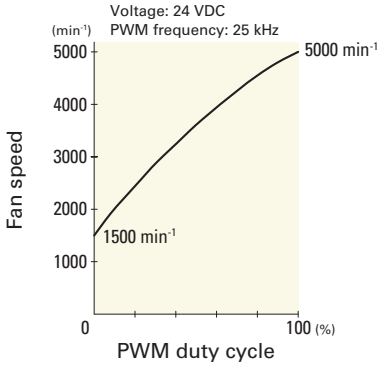
PWM duty cycle



Operating voltage range



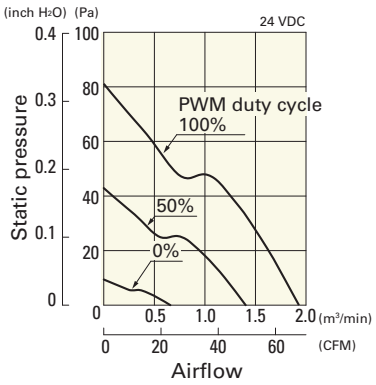
PWM duty - Speed characteristics example



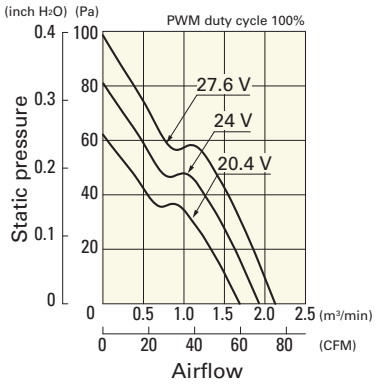
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0924P4G03 With pulse sensor with PWM control function

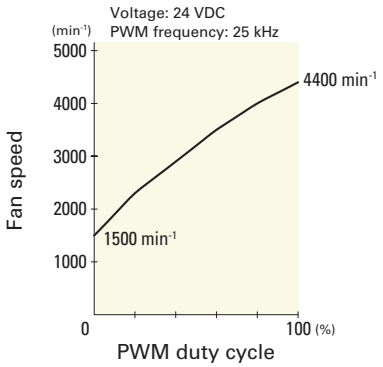
PWM duty cycle



Operating voltage range

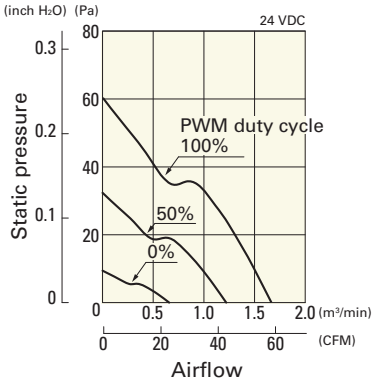


PWM duty - Speed characteristics example

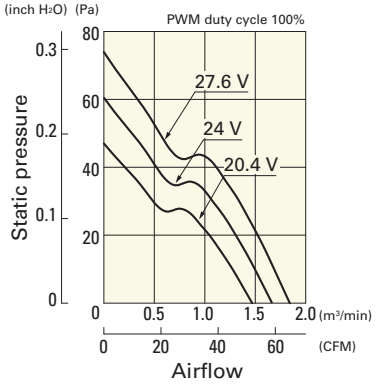


9GA0924P4S03 With pulse sensor with PWM control function

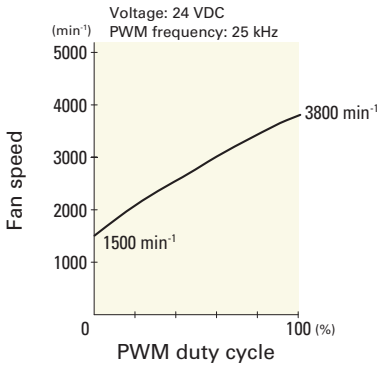
PWM duty cycle



Operating voltage range



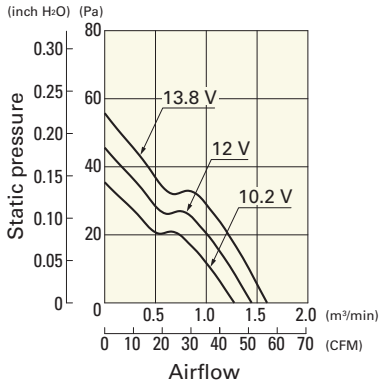
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

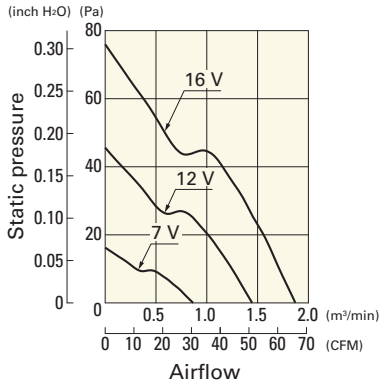
9GA0912H401 With pulse sensor

Operating voltage range



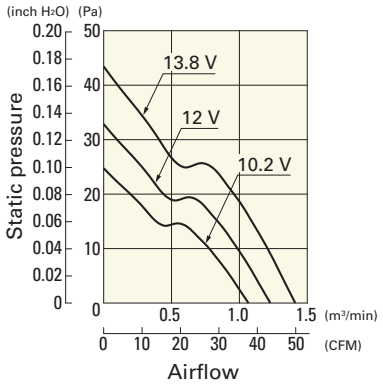
9GA0912W401 With pulse sensor

Operating voltage range



9GA0912F401 With pulse sensor

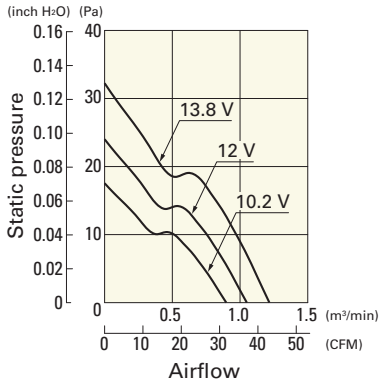
Operating voltage range



Airflow - Static Pressure Characteristics

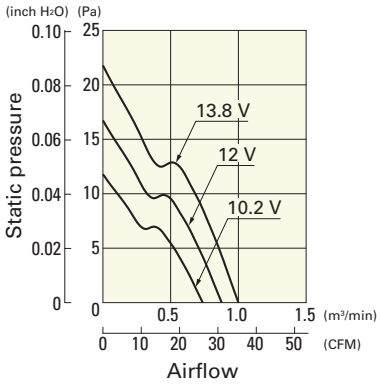
9GA0912M401 With pulse sensor

Operating voltage range



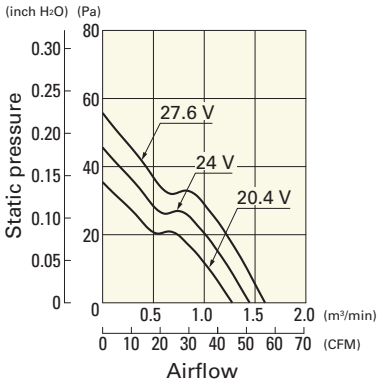
9GA0912L401 With pulse sensor

Operating voltage range



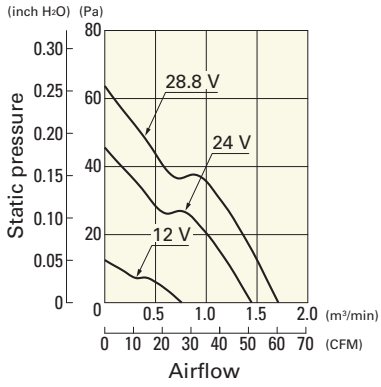
9GA0924H401 With pulse sensor

Operating voltage range



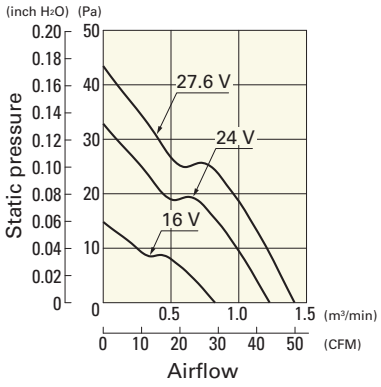
9GA0924W401 With pulse sensor

Operating voltage range



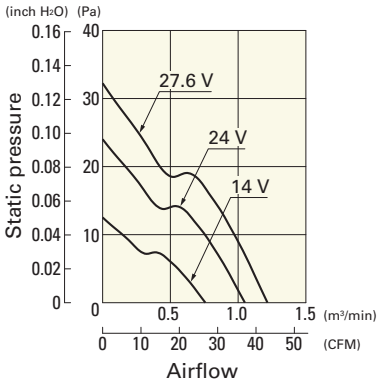
9GA0924F401 With pulse sensor

Operating voltage range



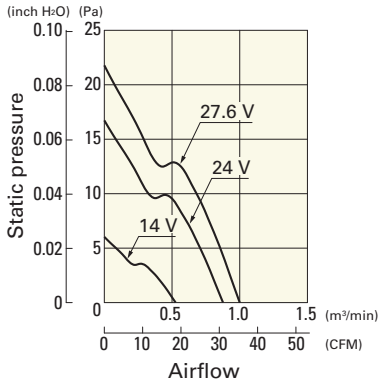
9GA0924M401 With pulse sensor

Operating voltage range

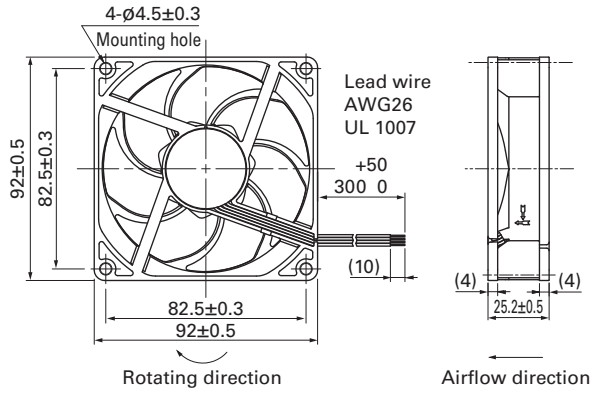


9GA0924L401 With pulse sensor

Operating voltage range

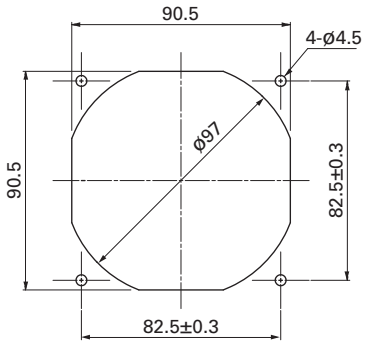


Dimensions (unit: mm) (Ribbed frame with pulse sensor with PWM control function)

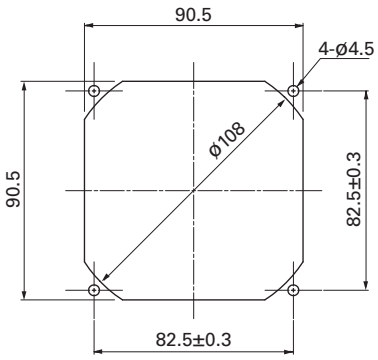


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

Inlet side



Outlet side



Options

Finger guards page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin filter kits page: p. 592

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1001G

92×92×25 mm

San Ace 92 9S type Silent Fan

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. 599.
- 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
- Mass ..... 100 g

Specifications

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

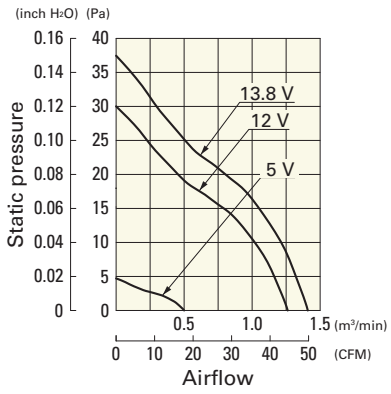
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9S0912F401	12	5.0 to 13.8	0.14	1.68	2650	1.26	44.5	30.0	0.12	27	-10 to +70	40000/60˚C (70000/40˚C)
9S0912M401			0.11	1.32	2250	1.07	37.8	21.6	0.087	22		
9S0912L401		6.0 to 13.8	0.07	0.84	1750	0.83	29.3	13.1	0.053	17		
9S0924F401	24	14 to 26.4	0.09	2.16	2650	1.26	44.5	30.0	0.12	27		
9S0924M401			0.07	1.68	2250	1.07	37.8	21.6	0.087	22		
9S0924L401			0.04	0.96	1750	0.83	29.3	13.1	0.053	17		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

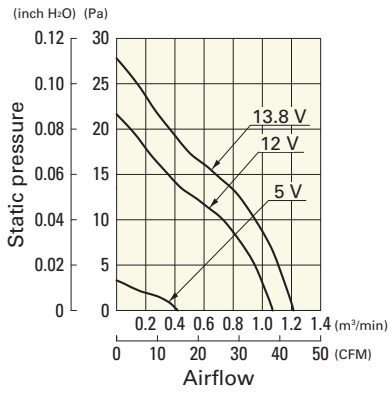
9S0912F401 With pulse sensor

Operating voltage range



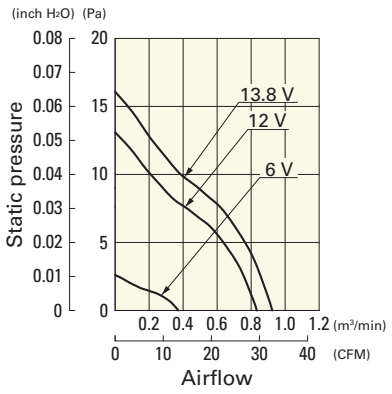
9S0912M401 With pulse sensor

Operating voltage range



9S0912L401 With pulse sensor

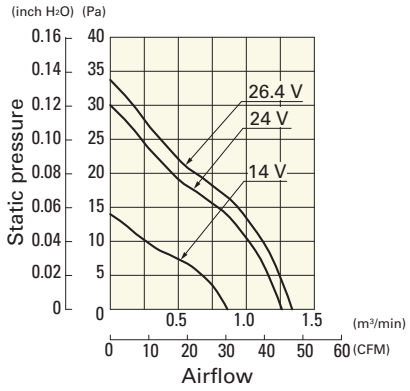
Operating voltage range



Airflow - Static Pressure Characteristics

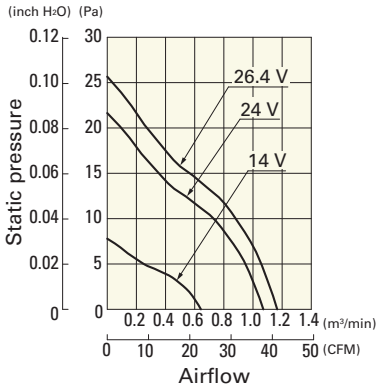
9S0924F401 With pulse sensor

Operating voltage range



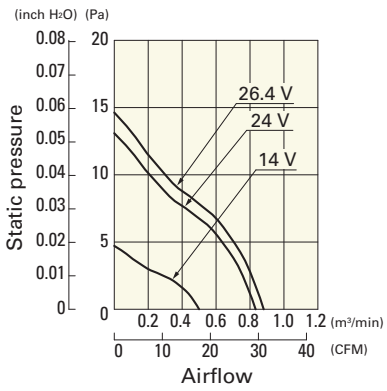
9S0924M401 With pulse sensor

Operating voltage range

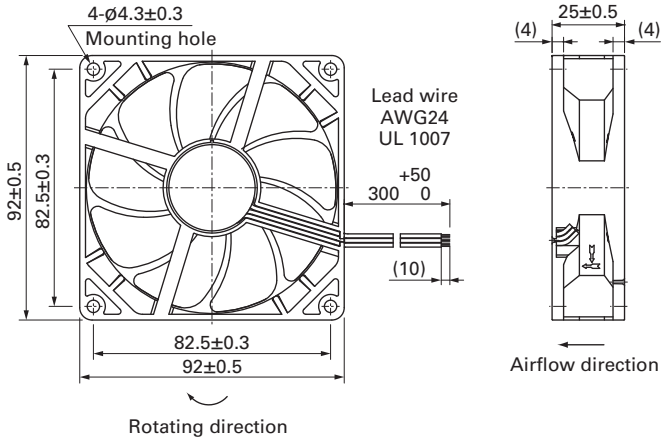


9S0924L401 With pulse sensor

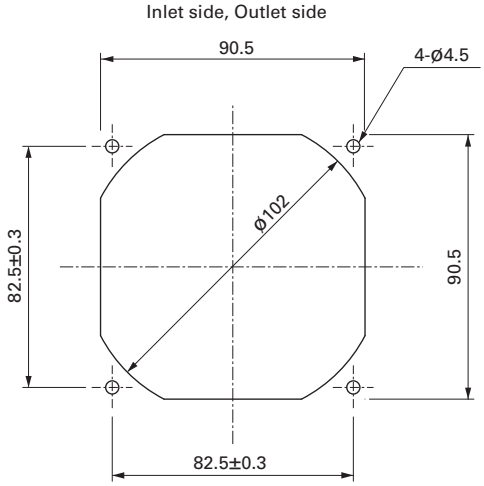
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin finger guards page: p. 591

Model no.: 109-1001G

Resin filter kits page: p. 592

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

92×92×25 mm

San Cooler 92 9A 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. 599.
- 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 ..... 100 g

Specifications

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

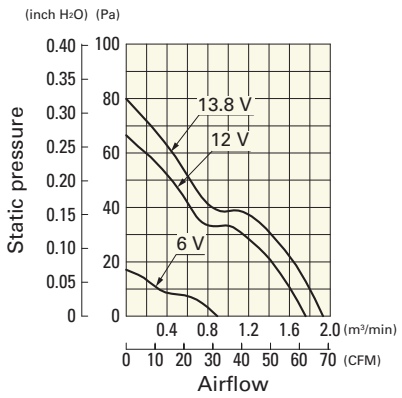
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9A0912G401	12	6 to 13.8	0.39	4.68	3900	1.76	62.1	66.5	0.267	43	-20 to +60	30000/60˚C (53000/40˚C)
9A0912S401			0.27	3.24	3550	1.66	58.6	56.1	0.225	39		
9A0912H401			0.21	2.52	3150	1.45	51.2	44	0.177	33	-20 to +70	40000/60˚C (70000/40˚C)
9A0912F401			0.14	1.68	2650	1.24	43.8	32.2	0.129	30		
9A0912M401			0.12	1.44	2250	1.04	36.7	22.6	0.091	27		
9A0912L401		7 to 13.8	0.07	0.84	1750	0.8	28.2	13.4	0.054	23		
9A0924G401	24	12 to 27.6	0.19	4.56	3900	1.76	62.1	66.5	0.267	43	-20 to +60	30000/60˚C (53000/40˚C)
9A0924S401			0.15	3.6	3550	1.66	58.6	56.1	0.225	39	-20 to +70	40000/60˚C (70000/40˚C)
9A0924H401			0.1	2.4	3150	1.45	51.2	44	0.177	33		
9A0924F401			0.08	1.92	2650	1.24	43.8	32.2	0.129	30		
9A0924M401			0.05	1.2	2250	1.04	36.7	22.6	0.091	27		
9A0924L401		14 to 27.6	0.04	0.96	1750	0.8	28.2	13.4	0.054	23		
9A0948S401	48	40.5 to 53	0.08	3.84	3550	1.66	58.6	56.1	0.225	39	-20 to +60	

Note 1: Sensor and control options are available for selection. Refer to the table on p. 624.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

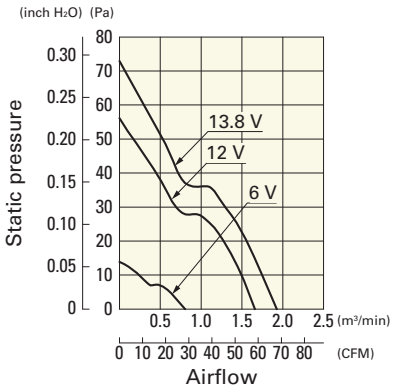
9A0912G401 With pulse sensor

Operating voltage range



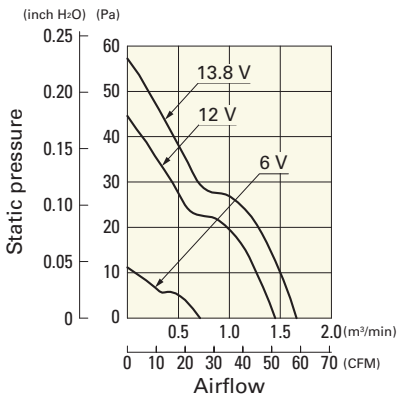
9A0912S401 With pulse sensor

Operating voltage range



9A0912H401 With pulse sensor

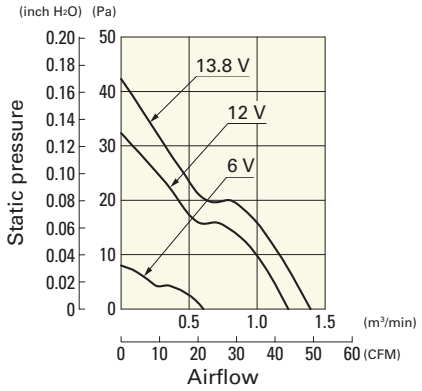
Operating voltage range



Airflow - Static Pressure Characteristics

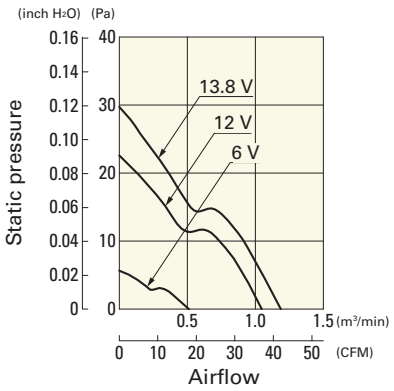
9A0912F401 With pulse sensor

Operating voltage range



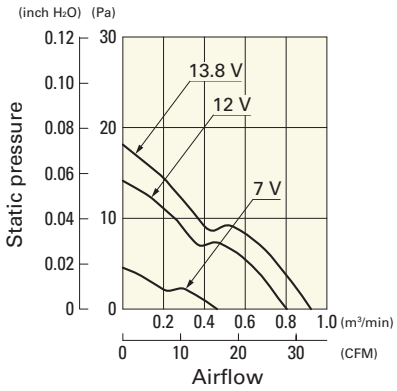
9A0912M401 With pulse sensor

Operating voltage range



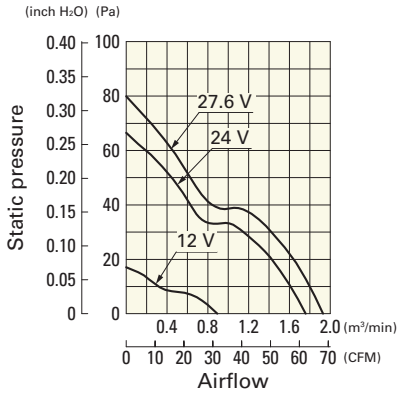
9A0912L401 With pulse sensor

Operating voltage range



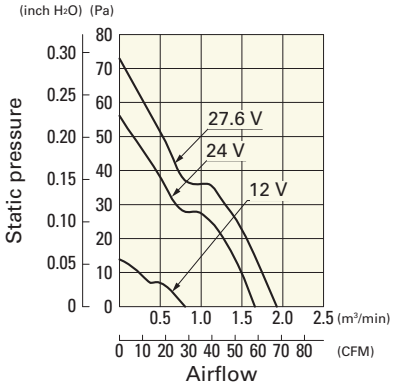
9A0924G401 With pulse sensor

Operating voltage range



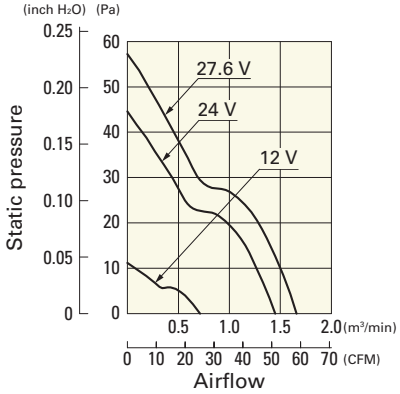
9A0924S401 With pulse sensor

Operating voltage range



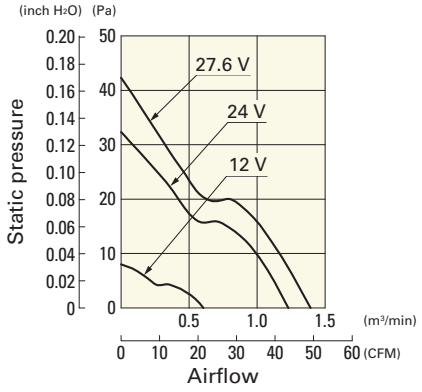
9A0924H401 With pulse sensor

Operating voltage range



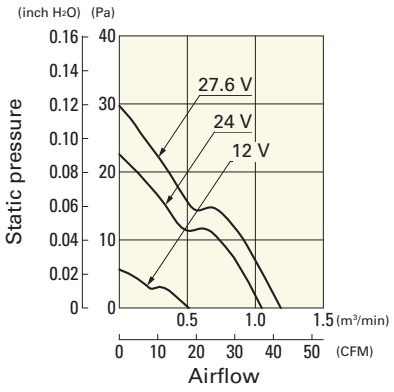
9A0924F401 With pulse sensor

Operating voltage range



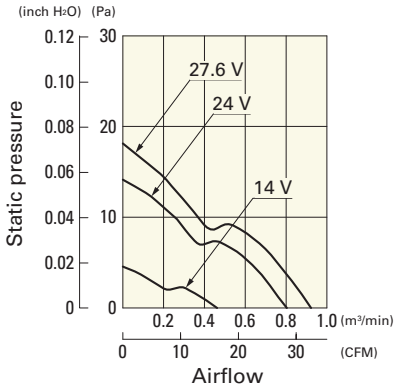
9A0924M401 With pulse sensor

Operating voltage range



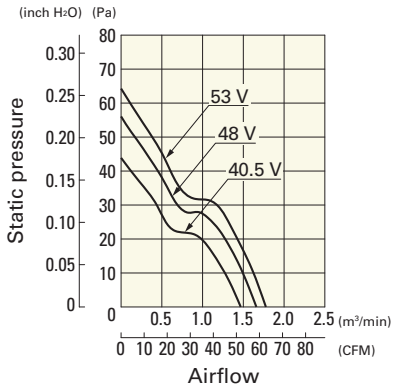
9A0924L401 With pulse sensor

Operating voltage range

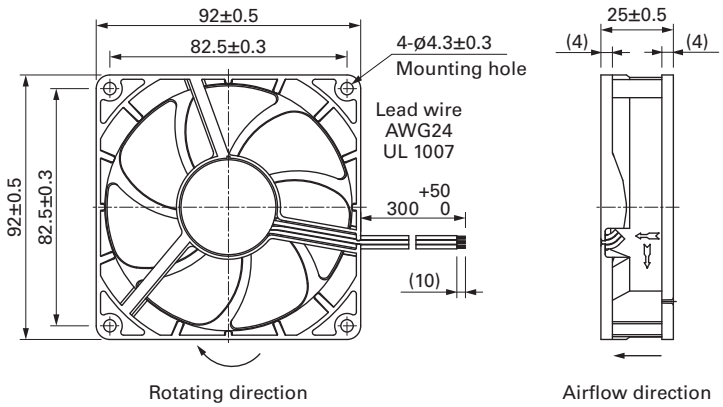


9A0948S401 With pulse sensor

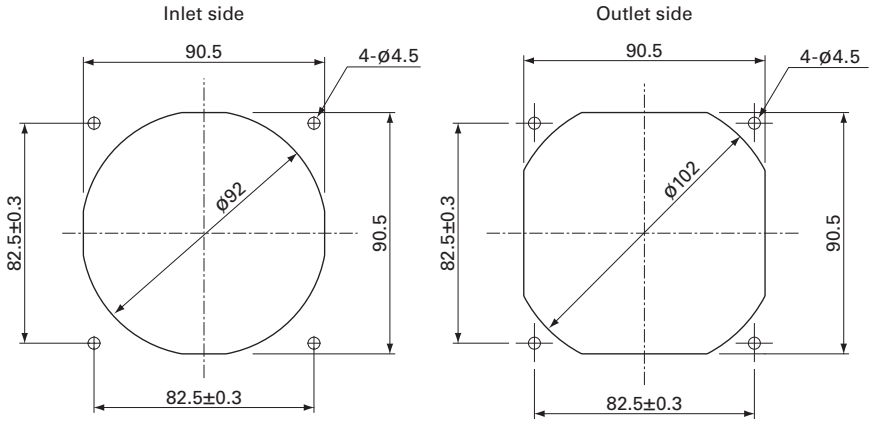
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin filter kits page: p. 592

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1001G

DC Fan

92×92×32 mm

San Ace 92 9G 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. 599.
- 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 ..... 170 g

Specifications

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

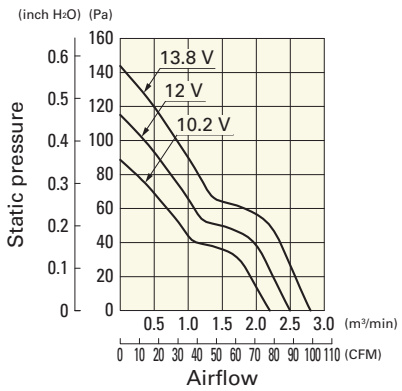
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9G0912A201	12	10.2 to 13.8	0.58	6.96	4300	2.5	88.3	115	0.462	44	-20 to +70	40000/60˚C (70000/40˚C)
9G0912S201			0.38	4.56	3500	2.0	70.7	77	0.309	38		
9G0912H201			0.23	2.76	2850	1.59	56.2	51	0.205	32		
9G0912M201			0.13	1.56	2100	1.2	42.4	27	0.108	25		
9G0924A201	24	20.4 to 27.6	0.3	7.2	4300	2.5	88.3	115	0.462	44	-20 to +60	
9G0924S201			0.19	4.56	3500	2.0	70.7	77	0.309	38	-20 to +70	
9G0924H201			0.12	2.88	2850	1.59	56.2	51	0.205	32		
9G0924M201			0.08	1.92	2100	1.2	42.4	27	0.108	25		
9G0948A201	48	40.8 to 55.2	0.16	7.68	4300	2.5	88.3	115	0.462	44		
9G0948S201			0.11	5.28	3500	2.0	70.7	77	0.309	38		
9G0948H201			0.08	3.84	2850	1.59	56.2	51	0.205	32		
9G0948M201			0.05	2.4	2100	1.2	42.4	27	0.108	25		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 626 to 627.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

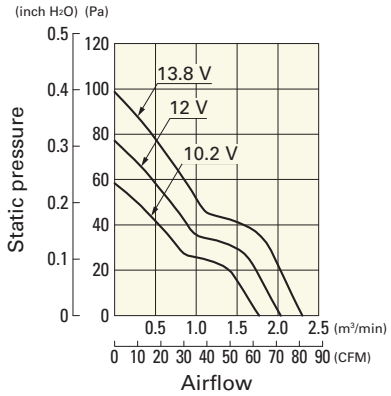
9G0912A201 With pulse sensor

Operating voltage range



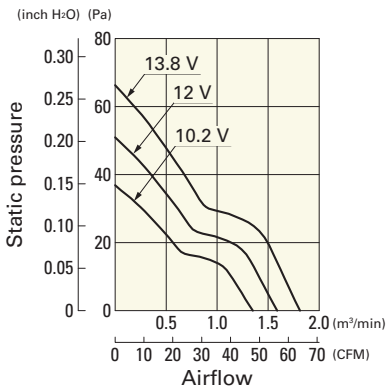
9G0912S201 With pulse sensor

Operating voltage range



9G0912H201 With pulse sensor

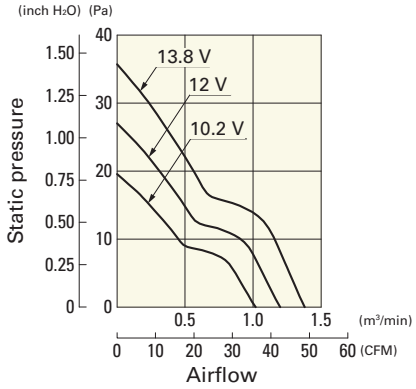
Operating voltage range



Airflow - Static Pressure Characteristics

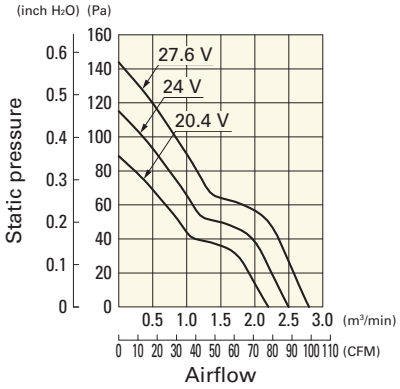
9G0912M201 With pulse sensor

Operating voltage range



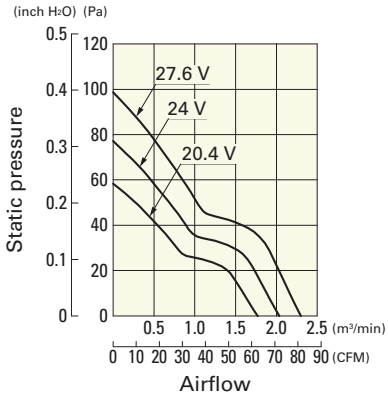
9G0924A201 With pulse sensor

Operating voltage range



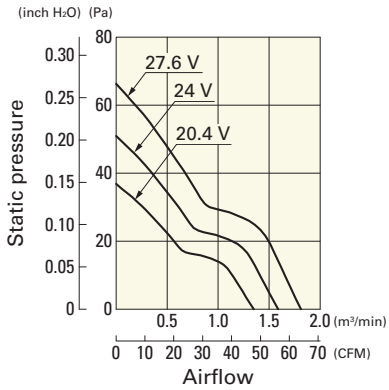
9G0924S201 With pulse sensor

Operating voltage range



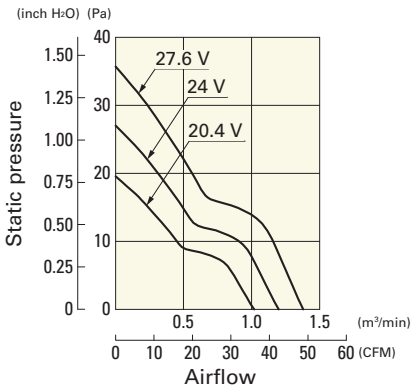
9G0924H201 With pulse sensor

Operating voltage range



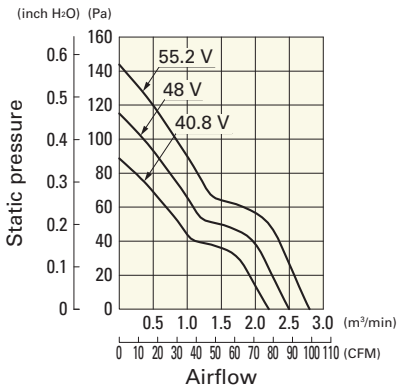
9G0924M201 With pulse sensor

Operating voltage range



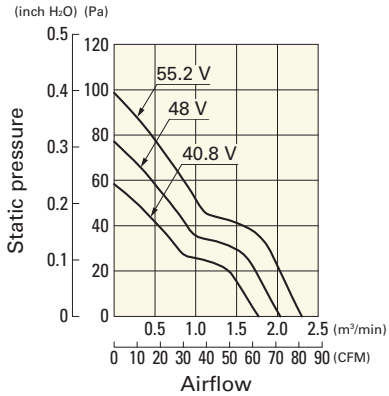
9G0948A201 With pulse sensor

Operating voltage range



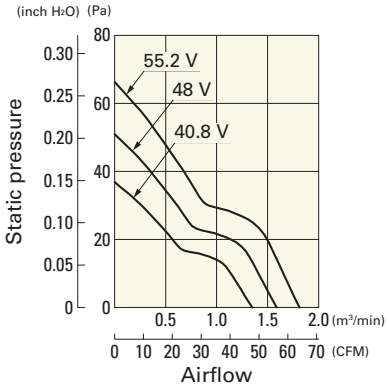
9G0948S201 With pulse sensor

Operating voltage range



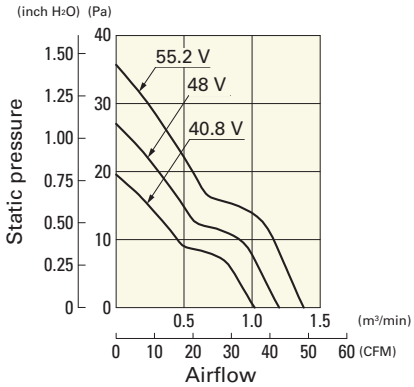
9G0948H201 With pulse sensor

Operating voltage range

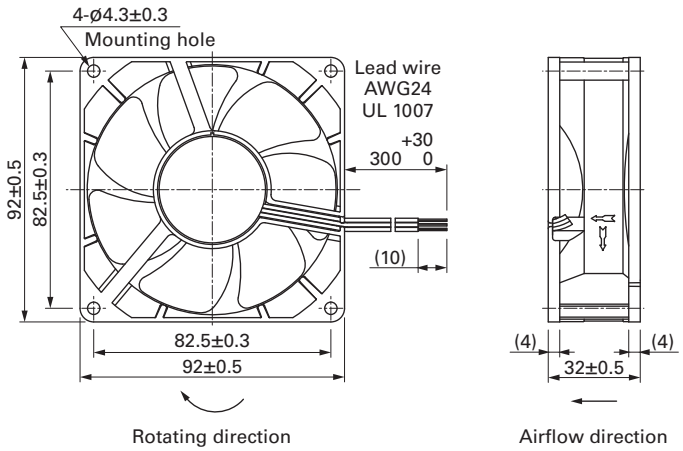


9G0948M201 With pulse sensor

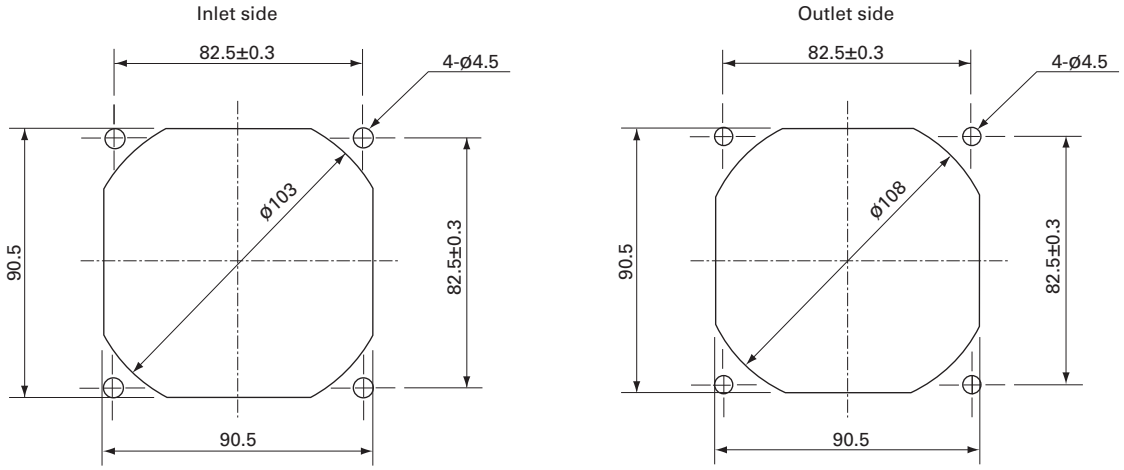
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin filter kits page: p. 592

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1001G

92×92×38 mm

San Ace 92 9HV 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. 599.
- 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 ..... 250 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HV0912P1G001	12	8 to 12.6	100	5.2	62.4	14900	5.1	180	1100	4.42	72	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.8	9.6	4500	1.54	54.4	160	0.64	44		
9HV0924P1G001	24	20.4 to 27.6	100	2.50	60.0	14900	5.1	180	1100	4.42	72		
			0	0.34	8.16	4500	1.54	54.4	160	0.64	44		
9HV0948P1G001	48	36 to 60	100	1.2	57.6	14900	5.1	180	1100	4.42	72		
			0	0.15	7.2	4500	1.54	54.4	160	0.64	44		

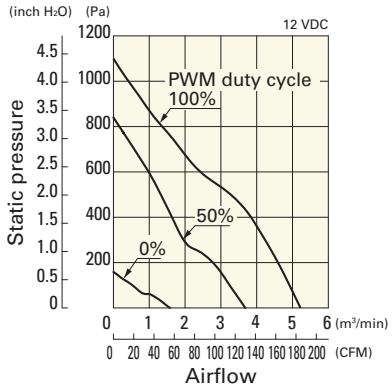
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: The mark indicates Short Lead Time Service applicable models. See p. 654 for details.

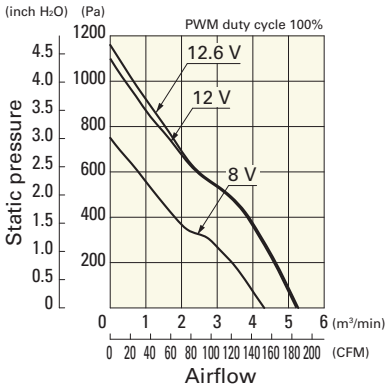
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0912P1G001 With pulse sensor with PWM control function

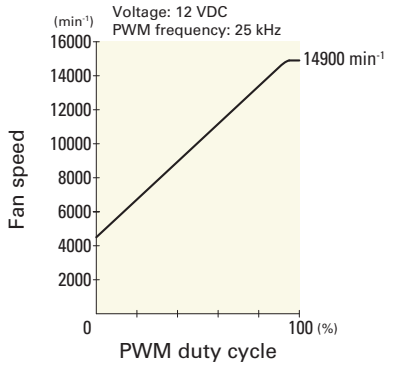
PWM duty cycle



Operating voltage range



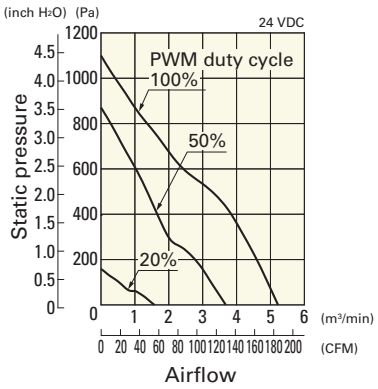
PWM duty - Speed characteristics example



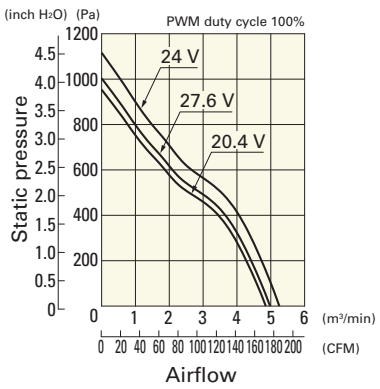
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0924P1G001 With pulse sensor with PWM control function

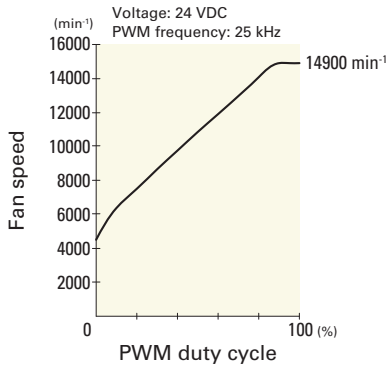
PWM duty cycle



Operating voltage range

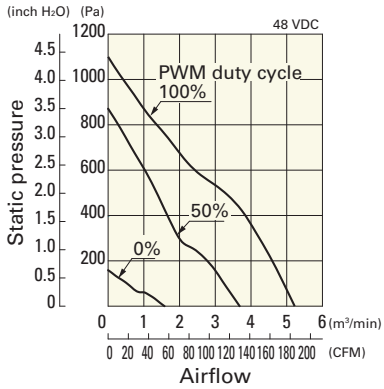


PWM duty - Speed characteristics example

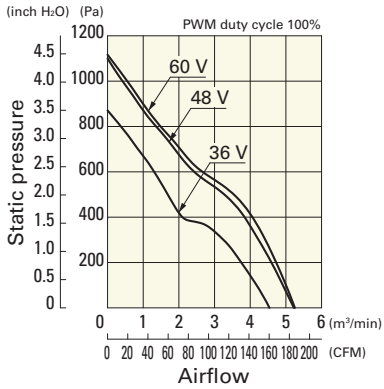


9HV0948P1G001 With pulse sensor with PWM control function

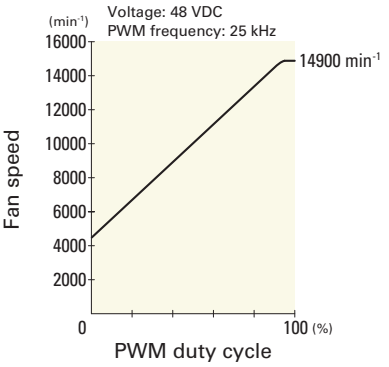
PWM duty cycle



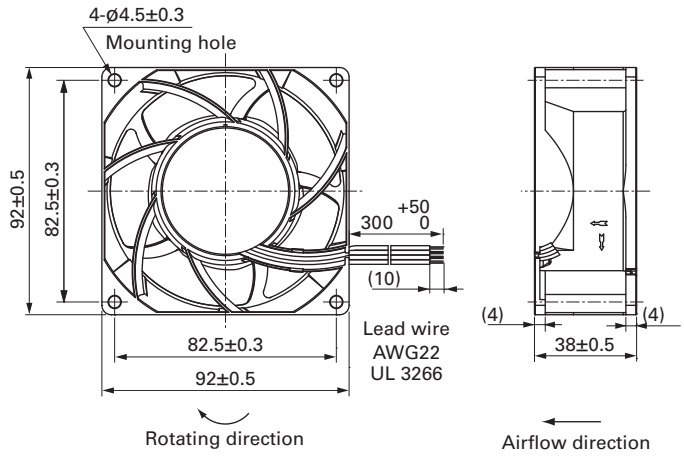
Operating voltage range



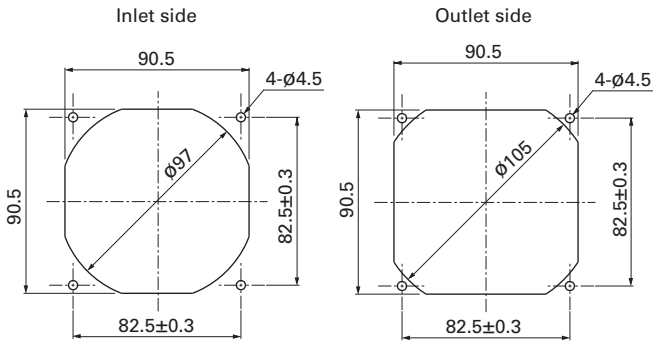
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards
page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin filter kits
page: p. 592

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

Resin finger guards
page: p. 591

Model no.: 109-1001G

DC Fan

92×92×38 mm

San Ace 92 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. 599.
- 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 ..... 240 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA0912P1H03	12	10.2 to 13.8	100	2.1	25.2	9700	4.0	141	500	2.01	63	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.16	1.92	2500	0.97	34.3	33	0.13	29		
9GA0924P1H01	24	20.4 to 27.6	100	1.1	26.4	9700	4.0	141	500	2.01	63	-10 to +70	
			0	0.07	1.68	2500	0.97	34.3	33	0.13	29		
9GA0948P1H03	48	40.8 to 55.2	100	0.55	26.4	9700	4.0	141	500	2.01	63	-20 to +70	

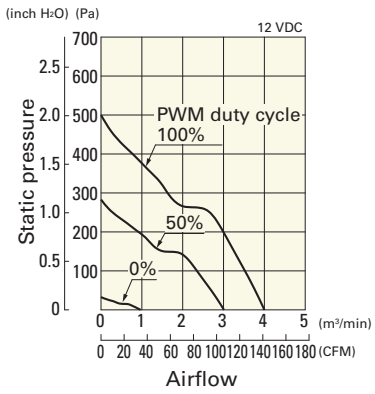
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 630 to 631.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

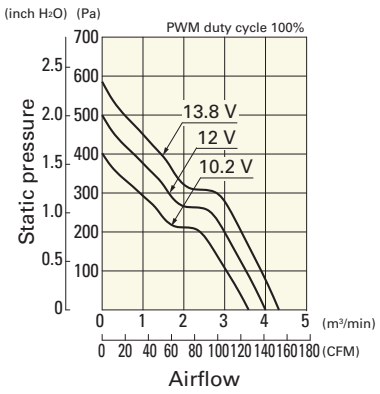
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0912P1H03 With pulse sensor with PWM control function

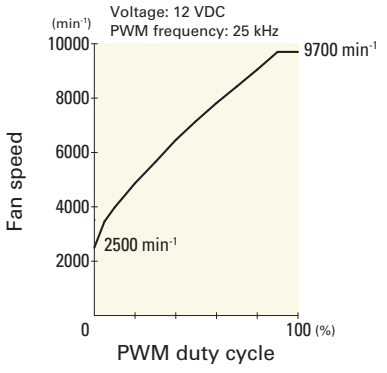
PWM duty cycle



Operating voltage range



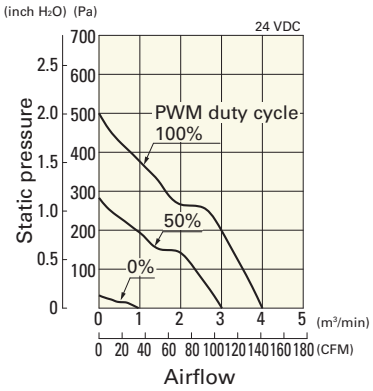
PWM duty - Speed characteristics example



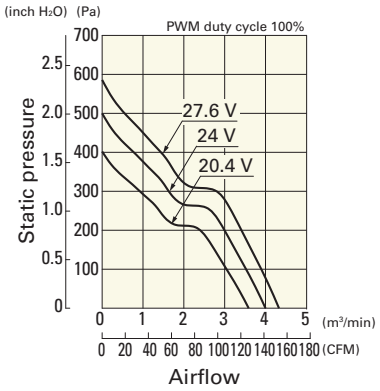
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA0924P1H01 With pulse sensor with PWM control function

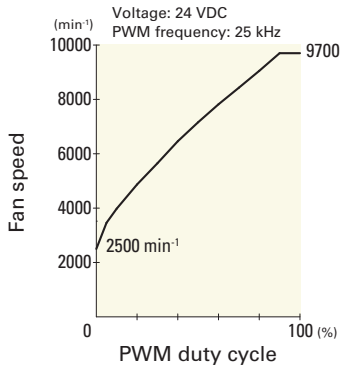
PWM duty cycle



Operating voltage range

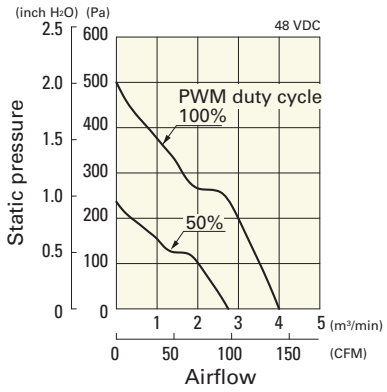


PWM duty - Speed characteristics example

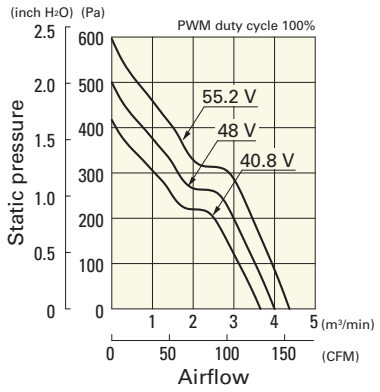


9GA0948P1H03 With pulse sensor with PWM control function

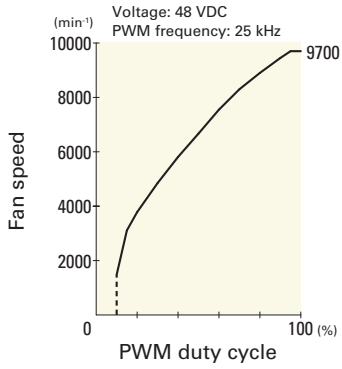
PWM duty cycle



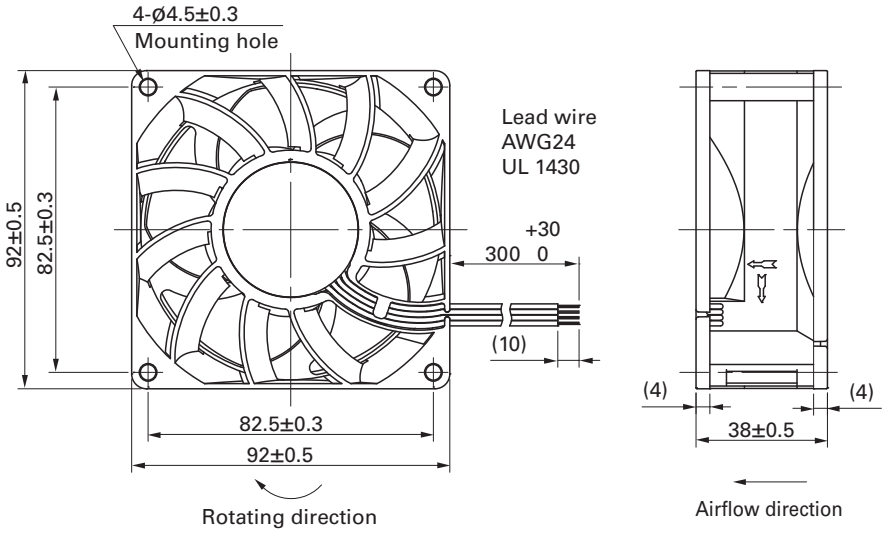
Operating voltage range



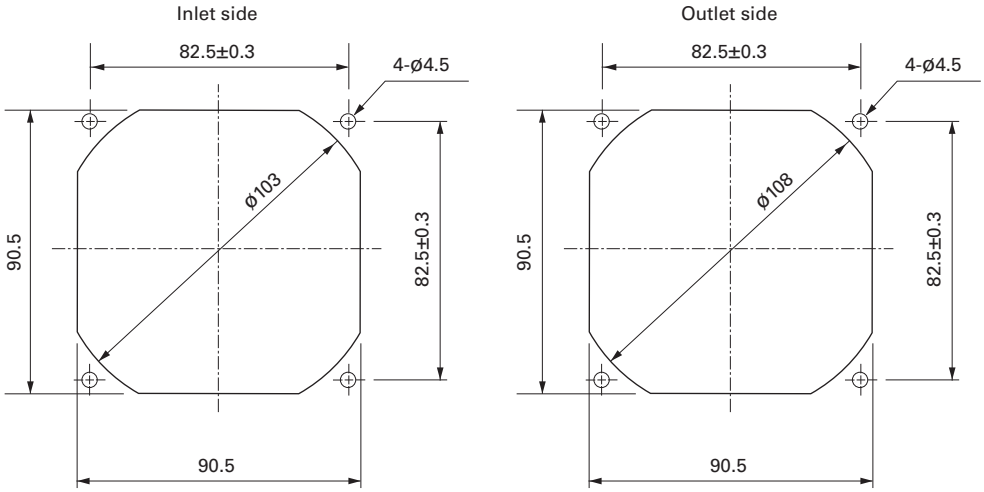
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin filter kits page: p. 592

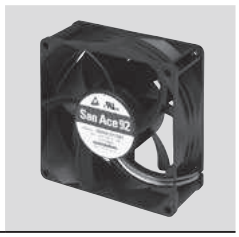
Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1001G

92×92×38 mm

San Ace 92 9GV 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. 599.
- 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 ..... 250 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV0912P1G03	12	10.8 to 13.2	100	4.1	49.2	9000	5.35	189.0	430.0	1.73	68	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.33	4.0	2900	1.72	60.8	44.6	0.18	37		
9GV0912P1H03		10.2 to 13.8	100	3.5	42.0	8500	5.05	178.0	385.0	1.55	64		
			0	0.29	3.5	2700	1.6	56.5	38.8	0.16	34		
9GV0912P1F03			100	1.9	22.8	7000	4.15	146.6	261	1.05	59	-10 to +70	
			0	0.16	1.92	2200	1.3	45.9	25.7	0.1	31		
9GV0948P1H03	48	40.8 to 55.2	100	0.82	39.4	8500	5.05	178.0	385.0	1.55	64	-20 to +70	
			0	0.14	6.7	4000	2.37	83.7	85.2	0.34	45		
9GV0948P1F03			100	0.48	23.04	7000	4.15	146.6	261	1.05	59	-10 to +70	
			0	0.12	5.76	3500	2.07	73.1	65.2	0.26	42		

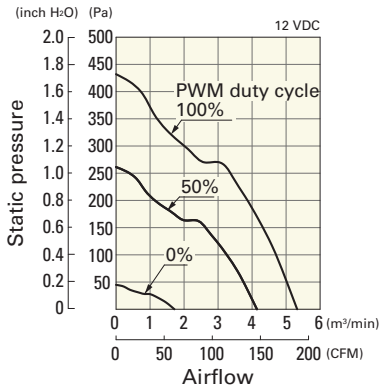
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on pp. 632 to 633.

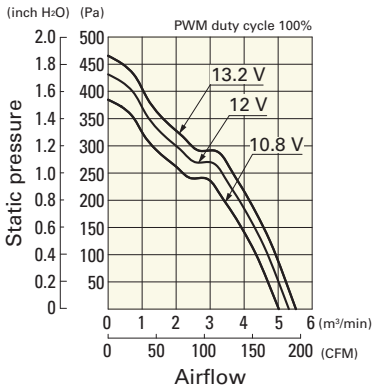
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0912P1G03 With pulse sensor with PWM control function

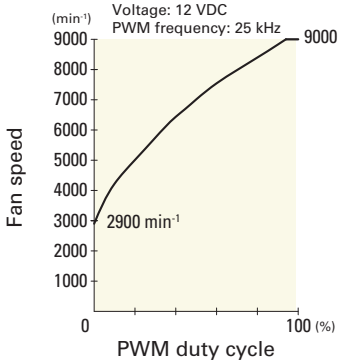
PWM duty cycle



Operating voltage range



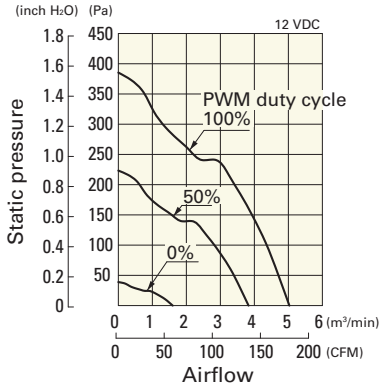
PWM duty - Speed characteristics example



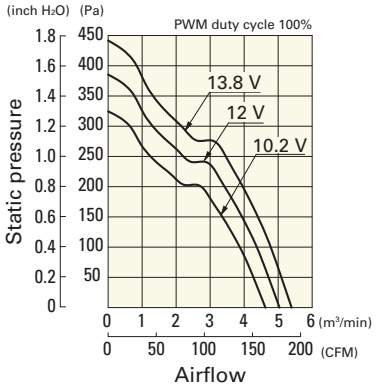
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV0912P1H03 With pulse sensor with PWM control function

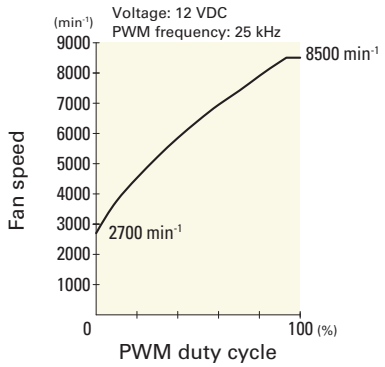
PWM duty cycle



Operating voltage range

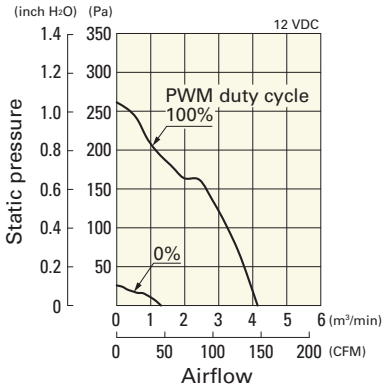


PWM duty - Speed characteristics example

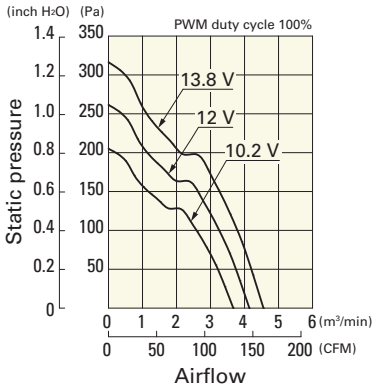


9GV0912P1F03 With pulse sensor with PWM control function

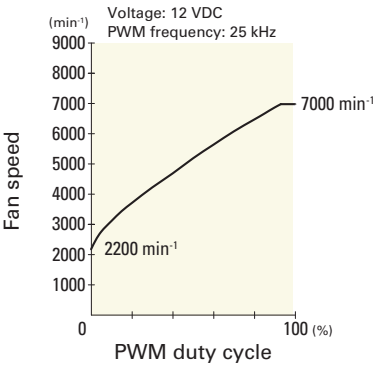
PWM duty cycle



Operating voltage range

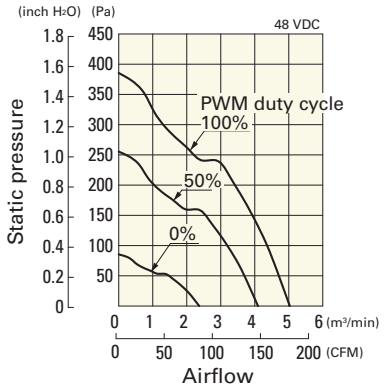


PWM duty - Speed characteristics example

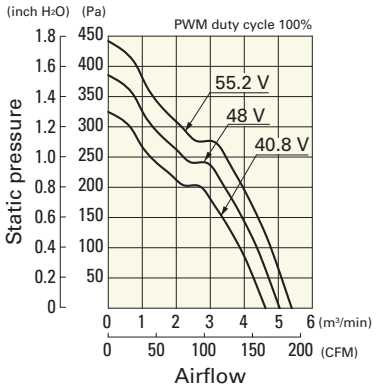


9GV0948P1H03 With pulse sensor with PWM control function

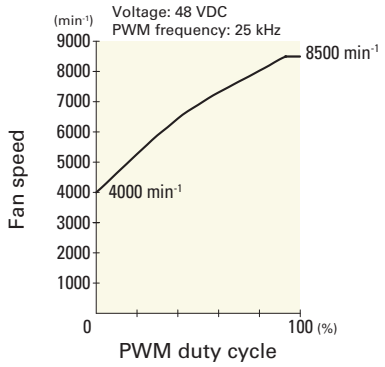
PWM duty cycle



Operating voltage range

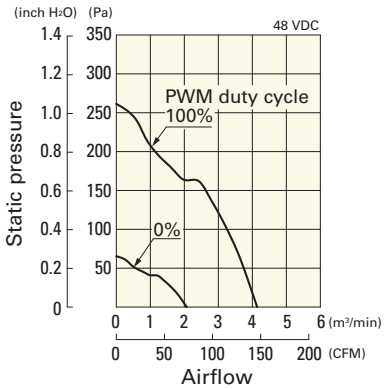


PWM duty - Speed characteristics example

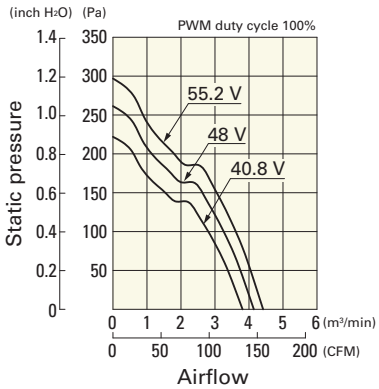


9GV0948P1F03 With pulse sensor with PWM control function

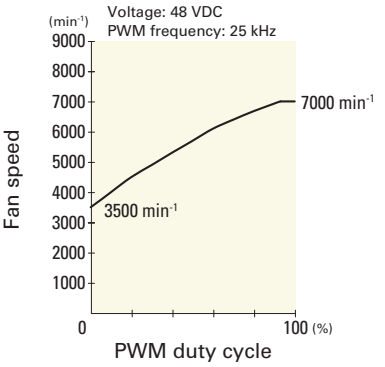
PWM duty cycle



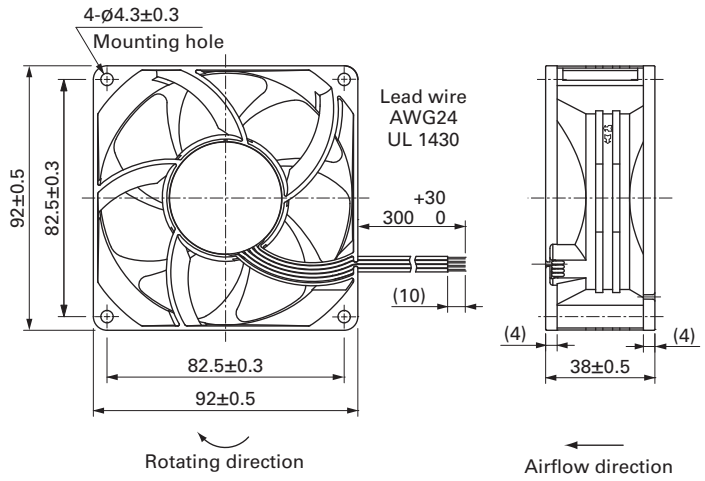
Operating voltage range



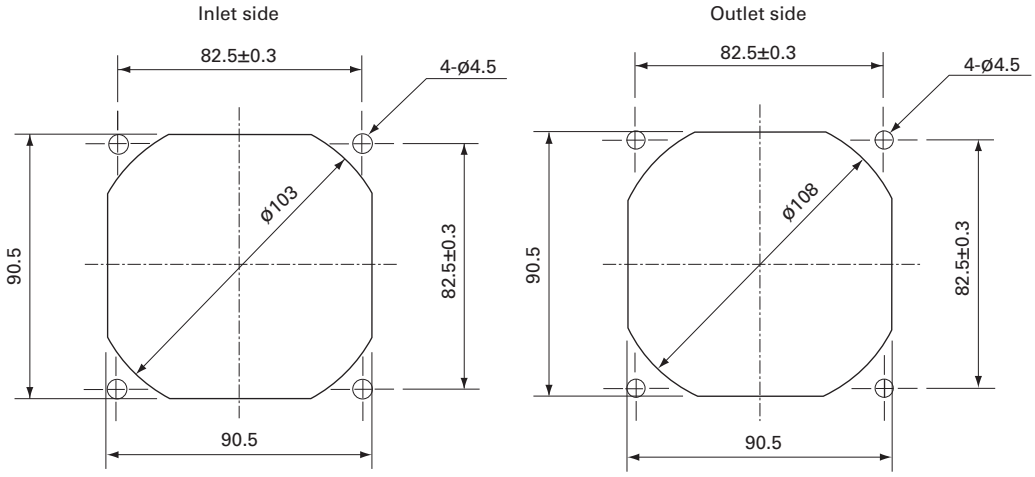
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin finger guards page: p. 591

Model no.: 109-1001G

Resin filter kits page: p. 592

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

DC Fan

92×92×38 mm

San Ace 92 9G 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. 599.
- 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
- Mass ..... 180 g

Specifications

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

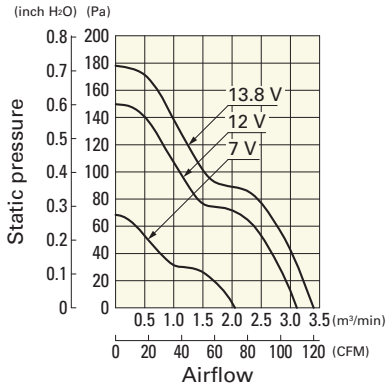
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9G0912G101	12	7.0 to 13.8	1.1	13.2	5000	3.1	110	150	0.602	50	-20 to +60	40000/60˚C (70000/40˚C)
9G0912H101			0.58	6.96	4000	2.54	90	100	0.402	43		
9G0924G101	24	20.4 to 27.6	0.55	13.2	5000	3.1	110	150	0.602	50		
9G0924H101			0.3	7.2	4000	2.54	90	100	0.402	43		
9G0948J101	48	40.8 to 55.2	0.32	15.36	5500	3.41	120.49	178	0.715	55	-20 to +70	
9G0948G101			0.27	12.96	5000	3.1	110	150	0.602	50	-20 to +60	
9G0948H101			0.16	7.68	4000	2.54	90	100	0.402	43		

Note: Sensor and control options are available for selection. Refer to the table on pp. 626 to 627.

Airflow - Static Pressure Characteristics

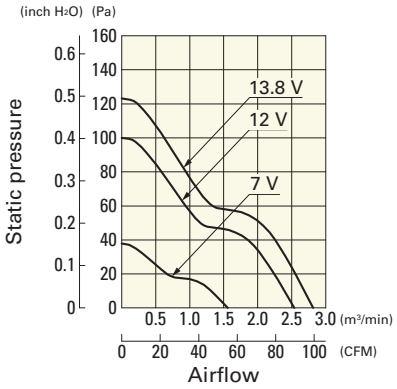
9G0912G101 With pulse sensor

Operating voltage range



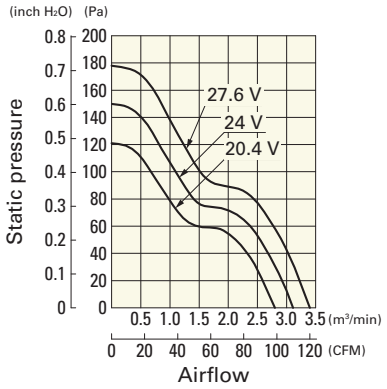
9G0912H101 With pulse sensor

Operating voltage range



9G0924G101 With pulse sensor

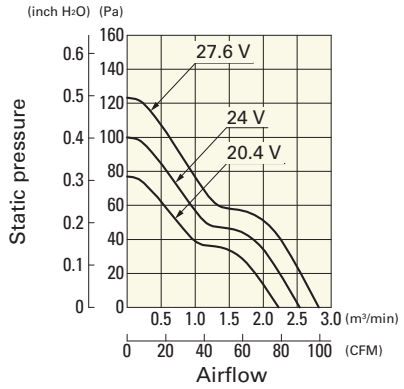
Operating voltage range



Airflow - Static Pressure Characteristics

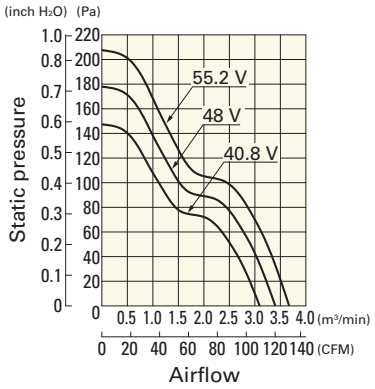
9G0924H101 With pulse sensor

Operating voltage range



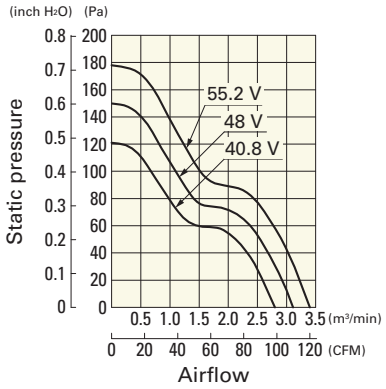
9G0948J101 With pulse sensor

Operating voltage range



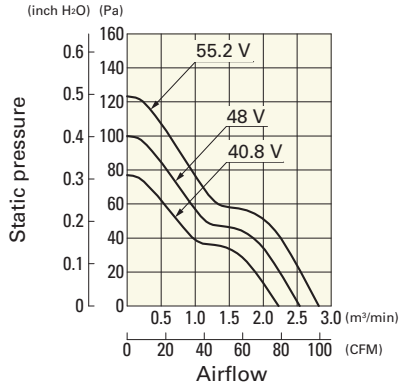
9G0948G101 With pulse sensor

Operating voltage range

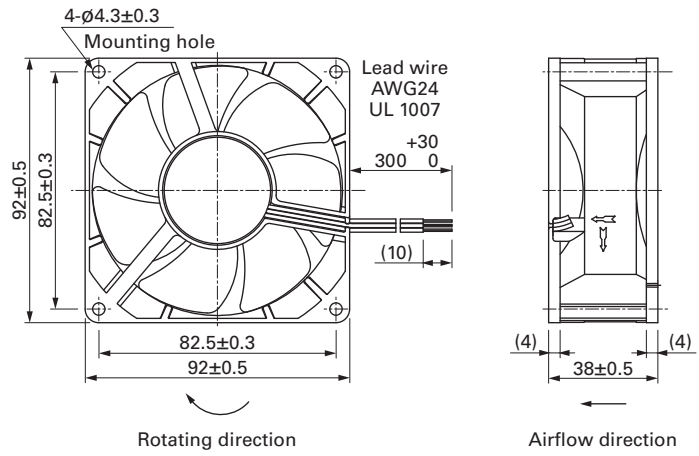


9G0948H101 With pulse sensor

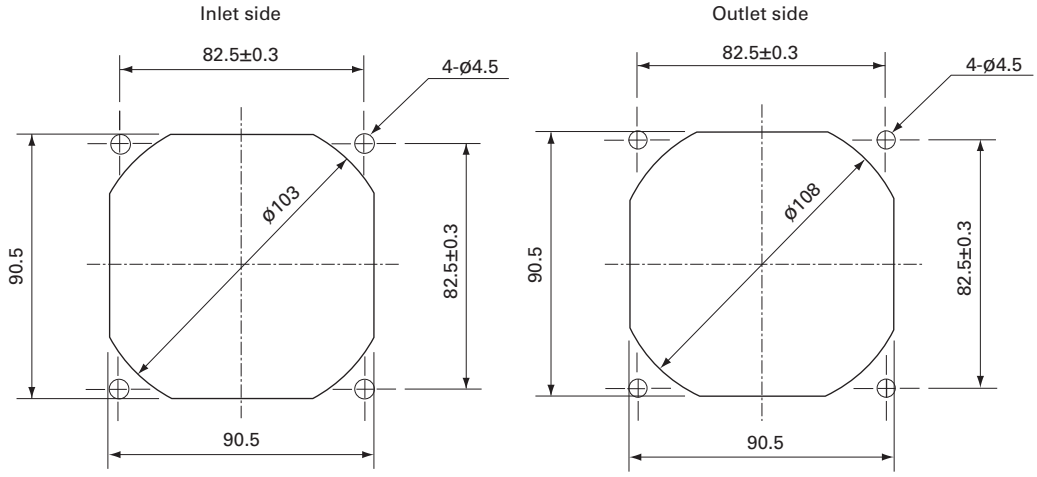
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 584

Model no.: 109-099E, 109-099H, 109-099C

Resin filter kits page: p. 592

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),
109-1001F30 (30PPI), 109-1001F40 (40PPI)

Resin finger guards page: p. 591

Model no.: 109-1001G

120×120×25 mm

San Ace 120 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. 599.
- 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 (For models without PWM control function, there is no speed control wiring.)
- Mass ..... 280 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA1212P4G001	12	10.2 to 13.8	100	0.93	11.16	6400	3.8	134	365	1.47	57	-20 to +70	40000/60˚C (70000/40˚C)
			25	0.16	1.92	2550	1.5	53	60	0.24	34		
9GA1212P4S001			100	0.61	7.32	5400	3.2	113	260	1.04	54		
			25	0.16	1.92	2550	1.5	53	60	0.24	34		
9GA1224P4G001	24	20.4 to 27.6	100	0.47	11.28	6400	3.8	134	365	1.47	57		
			25	0.1	2.4	2550	1.5	53	60	0.24	34		
9GA1224P4S001			100	0.31	7.44	5400	3.2	113	260	1.04	54		
			25	0.1	2.4	2550	1.5	53	60	0.24	34		
9GA1248P4G001	48	40.8 to 53	100	0.24	11.52	6400	3.8	134	365	1.47	57		
			25	0.08	3.84	2550	1.5	53	60	0.24	34		
9GA1248P4S001			100	0.16	7.68	5400	3.2	113	260	1.04	54		
			25	0.08	3.84	2550	1.5	53	60	0.24	34		

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

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

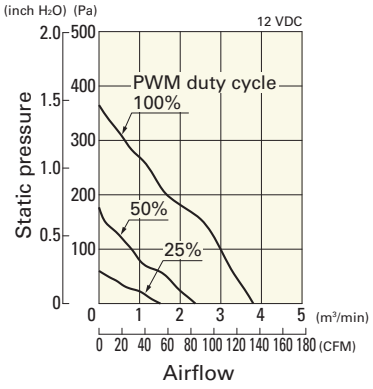
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GA1212G4001	12	7 to 13.8	0.93	11.16	6400	3.8	134	365	1.47	57	-20 to +70	40000/60˚C (70000/40˚C)
9GA1212S4001			0.61	7.32	5400	3.2	113	260	1.04	54		
9GA1224G4001	24	14 to 27.6	0.47	11.28	6400	3.8	134	365	1.47	57		
9GA1224S4001			0.31	7.44	5400	3.2	113	260	1.04	54		
9GA1248G4001	48	36 to 53	0.24	11.52	6400	3.8	134	365	1.47	57		
9GA1248S4001			0.16	7.68	5400	3.2	113	260	1.04	54		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 631.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

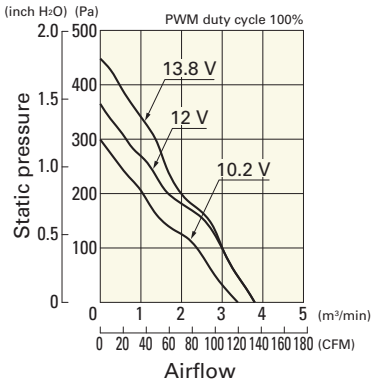
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA1212P4G001 With pulse sensor with PWM control function

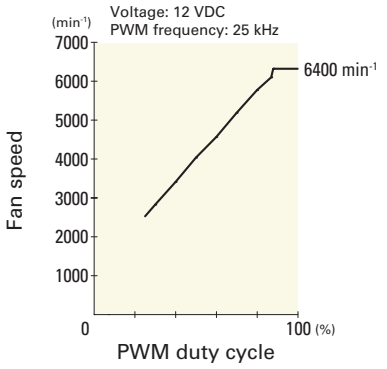
PWM duty cycle



Operating voltage range

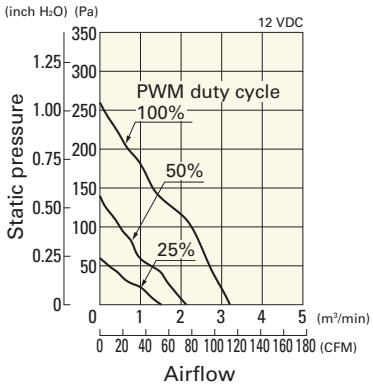


PWM duty - Speed characteristics example

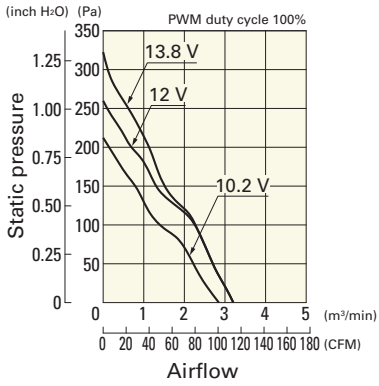


9GA1212P4S001 With pulse sensor with PWM control function

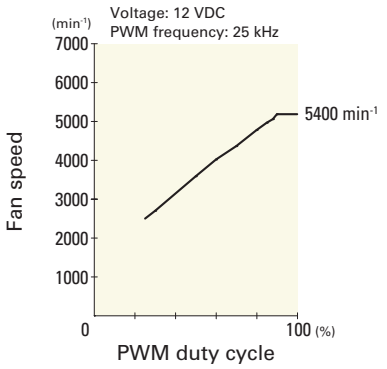
PWM duty cycle



Operating voltage range

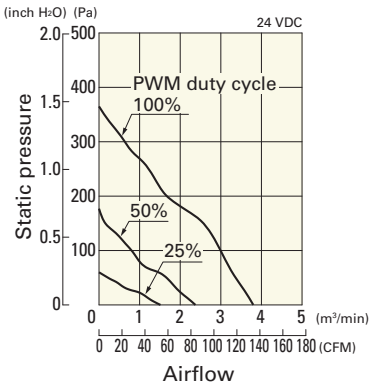


PWM duty - Speed characteristics example

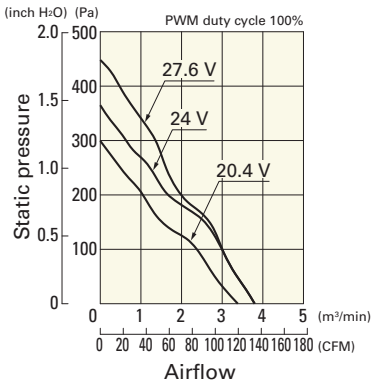


9GA1224P4G001 With pulse sensor with PWM control function

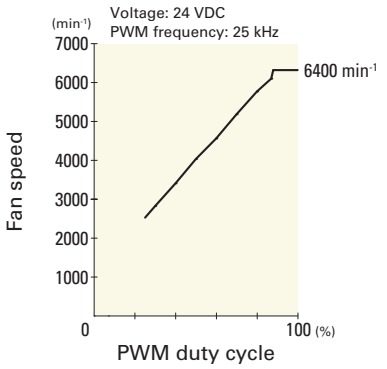
PWM duty cycle



Operating voltage range

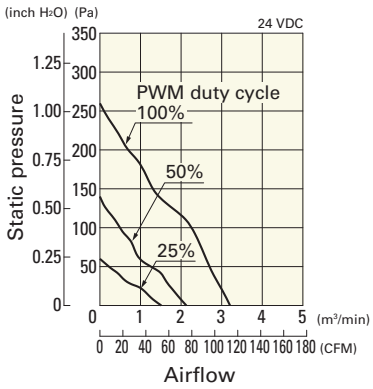


PWM duty - Speed characteristics example

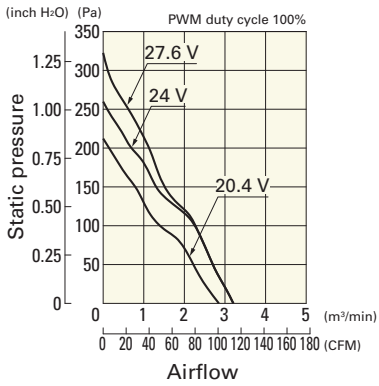


9GA1224P4S001 With pulse sensor with PWM control function

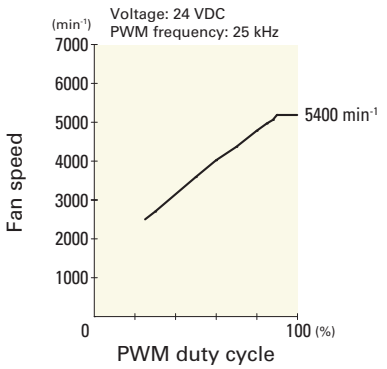
PWM duty cycle



Operating voltage range



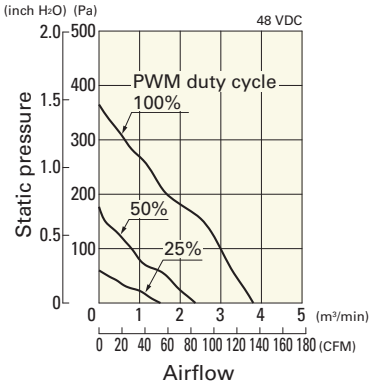
PWM duty - Speed characteristics example



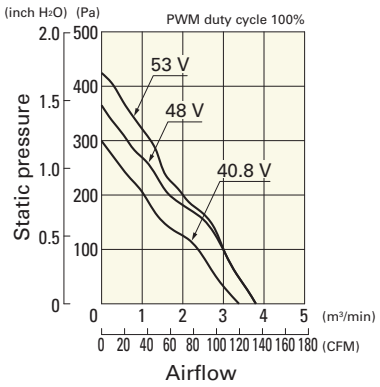
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GA1248P4G001 With pulse sensor with PWM control function

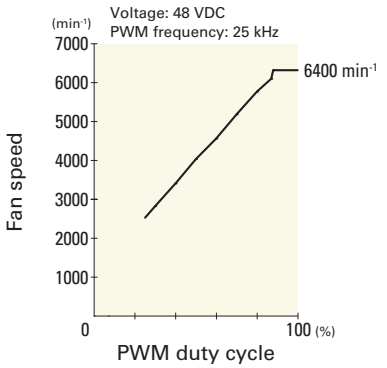
PWM duty cycle



Operating voltage range

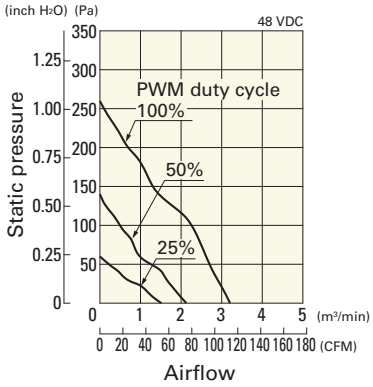


PWM duty - Speed characteristics example

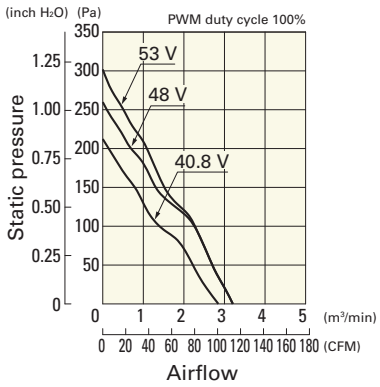


9GA1248P4S001 With pulse sensor with PWM control function

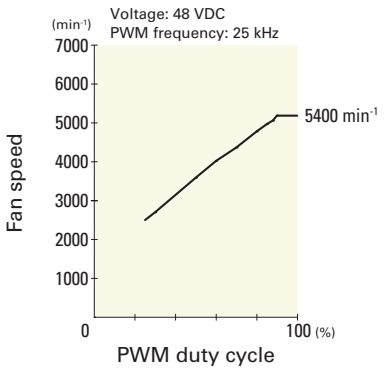
PWM duty cycle



Operating voltage range



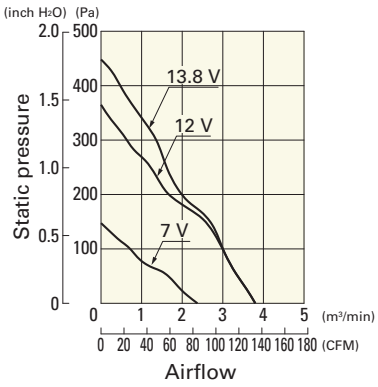
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

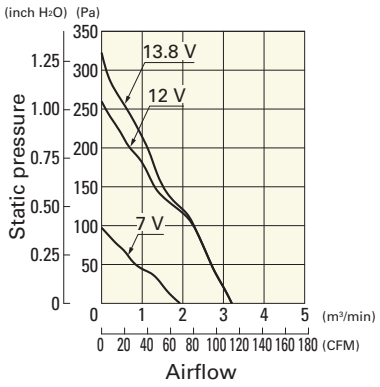
9GA1212G4001 With pulse sensor

Operating voltage range



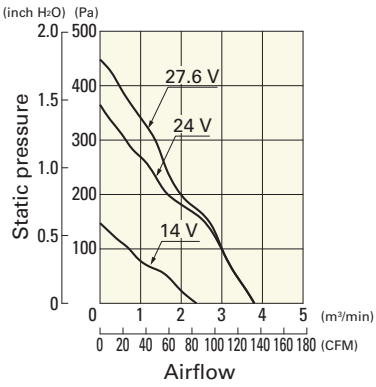
9GA1212S4001 With pulse sensor

Operating voltage range



9GA1224G4001 With pulse sensor

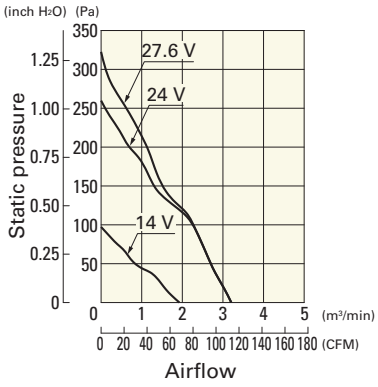
Operating voltage range



Airflow - Static Pressure Characteristics

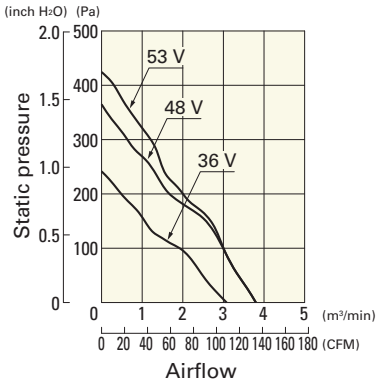
9GA1224S4001 With pulse sensor

Operating voltage range



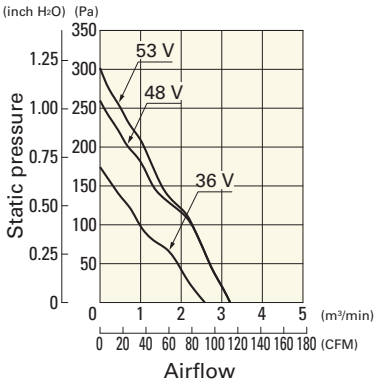
9GA1248G4001 With pulse sensor

Operating voltage range

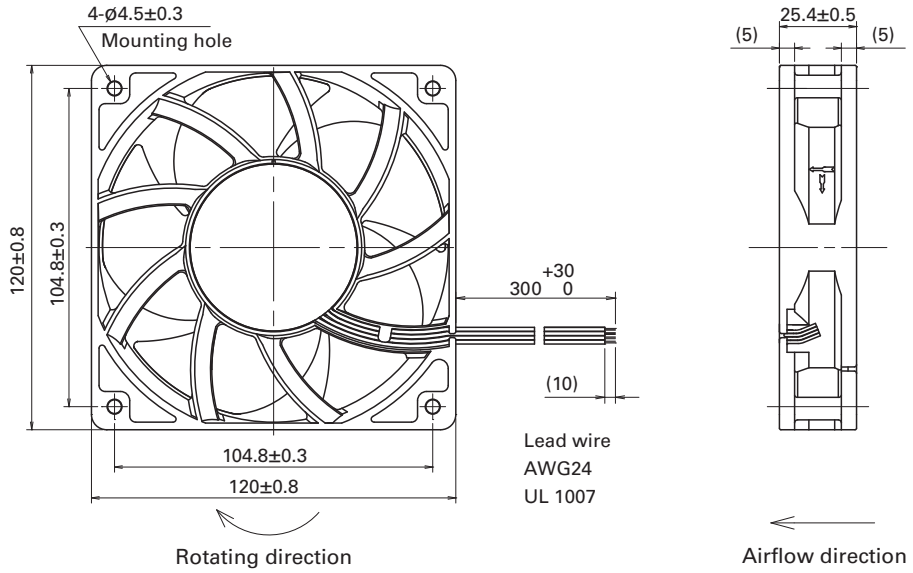


9GA1248S4001 With pulse sensor

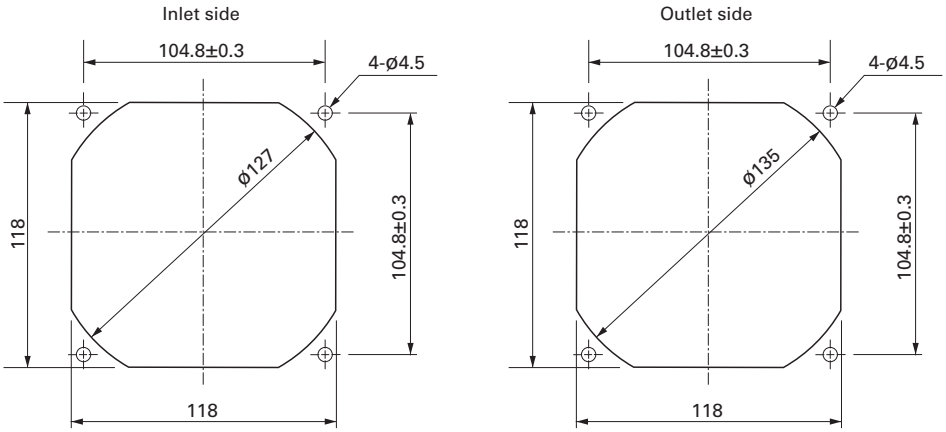
Operating voltage range



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. 585

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

Resin finger guards page: p. 591

Model no.: 109-1000G

Resin filter kits page: p. 592

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

120×120×25 mm

San Ace 120 9GV 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. 599.
- 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 ..... 260 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV1212P4G01	12	10.2 to 13.8	100	1.68	20.16	5100	4.83	171	224	0.9	58	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.18	2.16	1650	1.56	55.1	23.5	0.09	30		
9GV1224P4G01	24	20.4 to 27.6	100	0.84	20.16	5100	4.83	171	224	0.9	58		
			0	0.13	3.12	1650	1.56	55.1	23.5	0.09	30		
9GV1248P4J01	48	40.8 to 55.2	100	0.5	24.0	5400	5.11	180	251	1.01	59		
			0	0.15	7.2	3000	2.84	100	77.5	0.31	47		
9GV1248P4G01		40.8 to 60.0	100	0.42	20.16	5100	4.83	171	224	0.9	58		
			0	0.07	3.36	1650	1.56	55.1	23.5	0.09	30		
9GV1248P4H01			100	0.33	15.84	4600	4.35	154	182	0.73	55		
			0	0.07	3.36	1650	1.56	55.1	23.5	0.09	30		

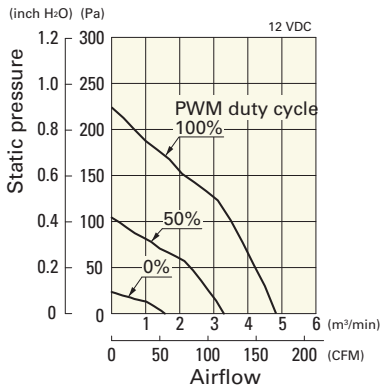
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

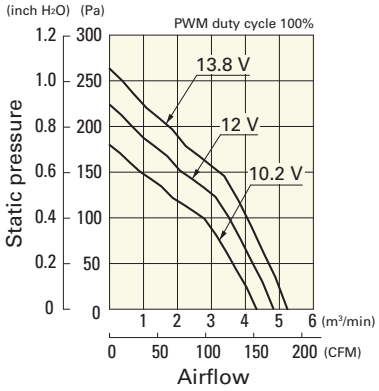
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1212P4G01 With pulse sensor with PWM control function

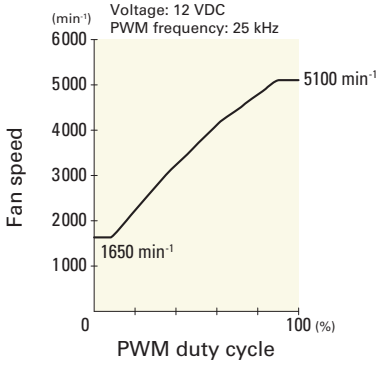
PWM duty cycle



Operating voltage range



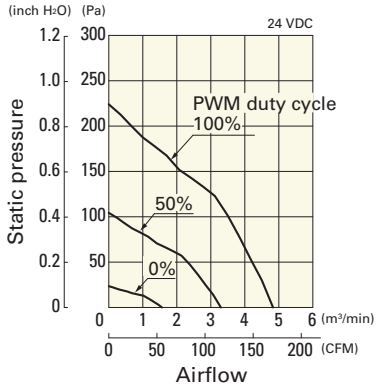
PWM duty - Speed characteristics example



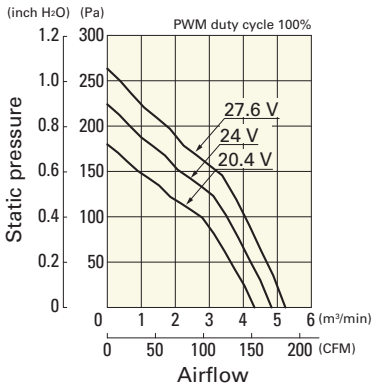
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1224P4G01 With pulse sensor with PWM control function

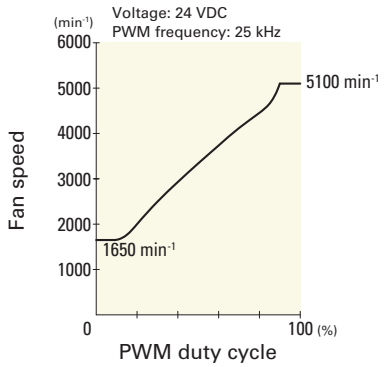
PWM duty cycle



Operating voltage range

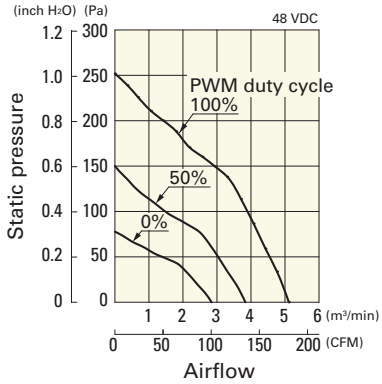


PWM duty - Speed characteristics example

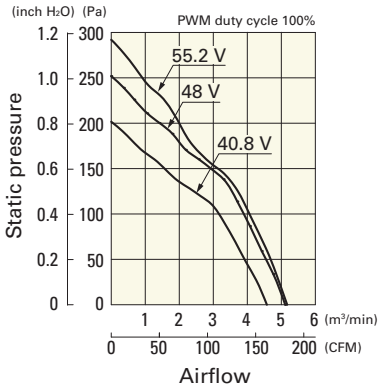


9GV1248P4J01 With pulse sensor with PWM control function

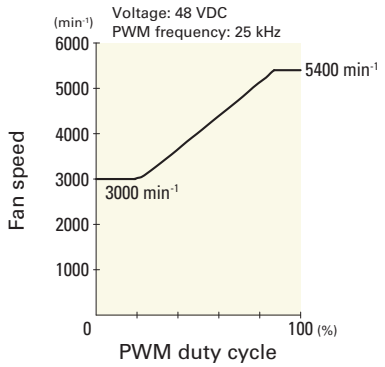
PWM duty cycle



Operating voltage range

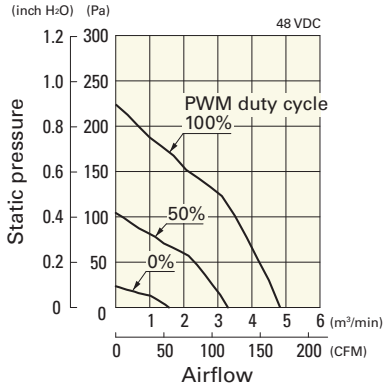


PWM duty - Speed characteristics example

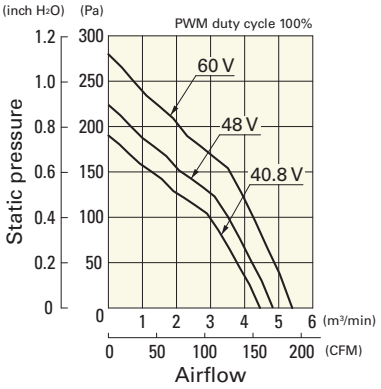


9GV1248P4G01 With pulse sensor with PWM control function

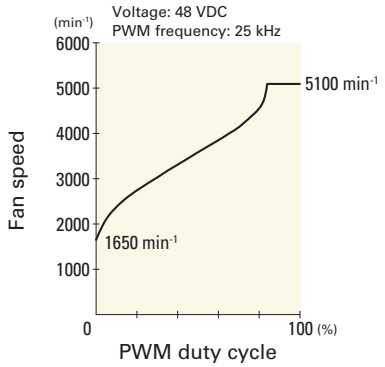
PWM duty cycle



Operating voltage range

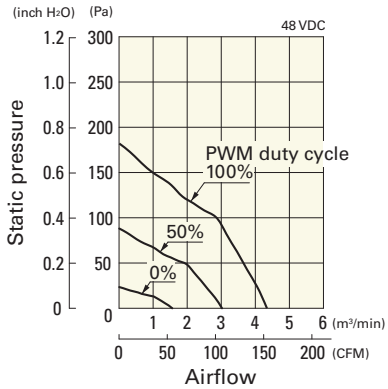


PWM duty - Speed characteristics example

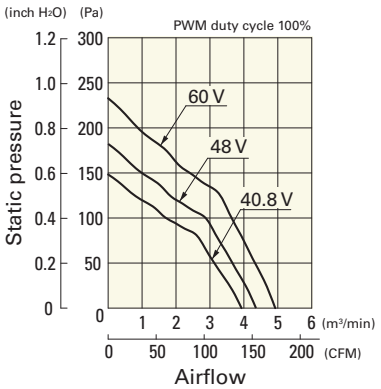


9GV1248P4H01 With pulse sensor with PWM control function

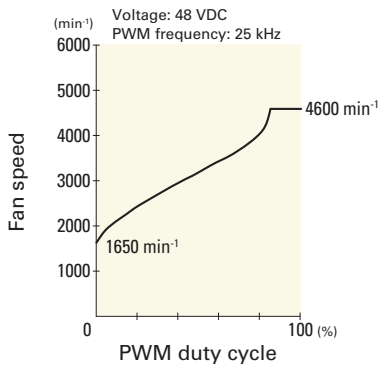
PWM duty cycle



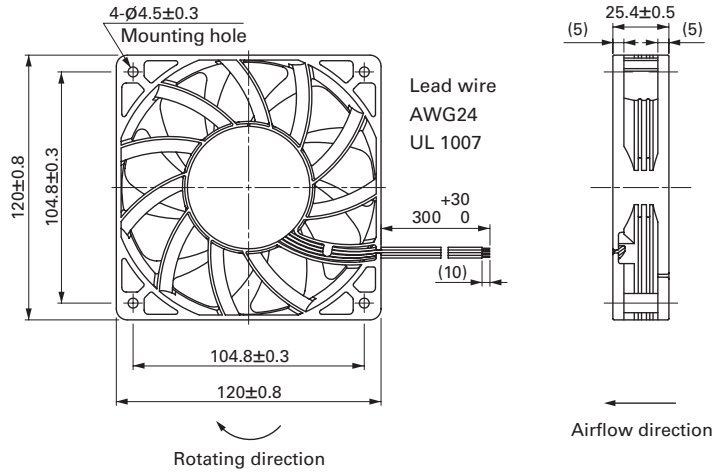
Operating voltage range



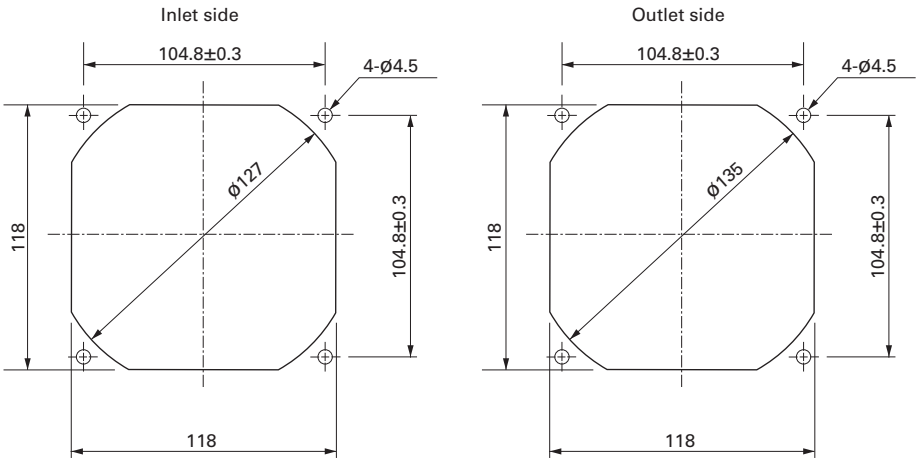
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 585

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

Resin finger guards page: p. 591

Model no.: 109-1000G

Resin filter kits page: p. 592

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

DC Fan

120×120×25 mm

San Ace 120 9G type

Model 9G1212B401 is not certified.

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. 599.
- 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 ..... 240 g

Specifications

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

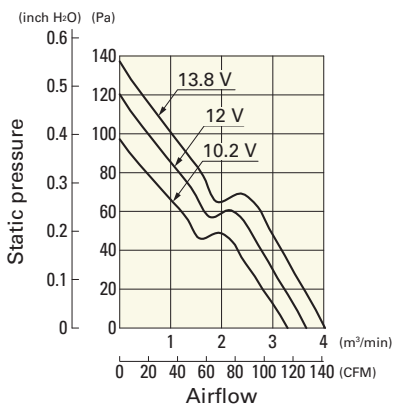
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9G1212G401	12	10.2 to 13.8	0.9	10.8	4100	3.68	130	120	0.482	51	-20 to +70	40000/60˚C (70000/40˚C)
9G1212E401			0.58	6.96	3650	3.25	115	98	0.394	48		
9G1212A401			0.4	4.8	3150	2.83	100	77	0.309	44		
9G1212H401		6 to 13.8	0.31	3.72	2850	2.5	88	64	0.257	40		
9G1212F401		7 to 13.8	0.19	2.28	2250	1.98	70	42	0.169	35		
9G1212M401			0.14	1.68	1950	1.66	59	31	0.124	29		
9G1212B401		10.2 to 13.8	0.06	0.72	1000	0.88	31	9.6	0.039	18		
9G1224G401	24	20.4 to 27.6	0.47	11.28	4100	3.68	130	120	0.482	51		
9G1224E401			0.37	8.88	3650	3.25	115	98	0.394	48		
9G1224A401			0.21	5.04	3150	2.83	100	77	0.309	44		
9G1224H401		12 to 27.6	0.17	4.08	2850	2.5	88	64	0.257	40		
9G1224F401		20.4 to 27.6	0.1	2.4	2250	1.98	70	42	0.169	35		
9G1224M401			0.08	1.92	1950	1.66	59	31	0.124	29		
9G1248G401	48	40.8 to 55.2	0.23	11.04	4100	3.68	130	120	0.482	51		
9G1248E401			0.16	7.68	3650	3.25	115	98	0.394	48		
9G1248A401			0.13	6.24	3150	2.83	100	77	0.309	44		
9G1248H401			0.1	4.8	2850	2.5	88	64	0.257	40		
9G1248F401			0.06	2.88	2250	1.98	70	42	0.169	35		
9G1248M401			0.05	2.4	1950	1.66	59	31	0.124	29		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 627 to 628.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

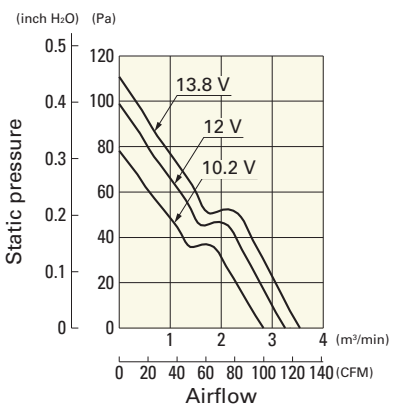
9G1212G401 With pulse sensor

Operating voltage range



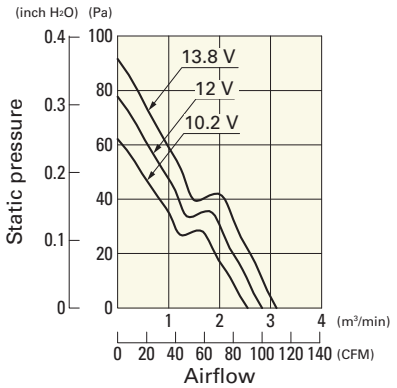
9G1212E401 With pulse sensor

Operating voltage range



9G1212A401 With pulse sensor

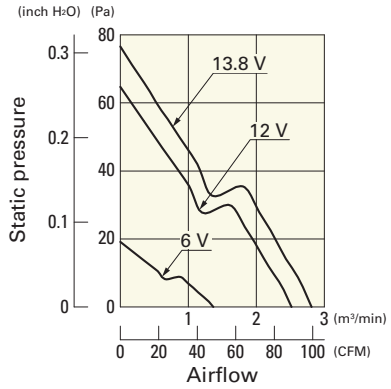
Operating voltage range



Airflow - Static Pressure Characteristics

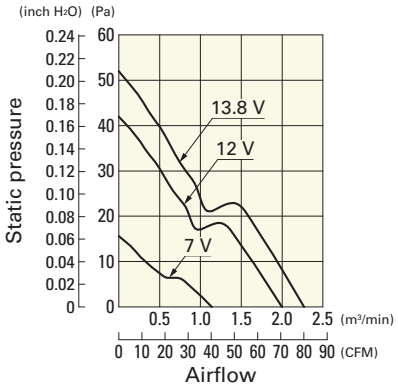
9G1212H401 With pulse sensor

Operating voltage range



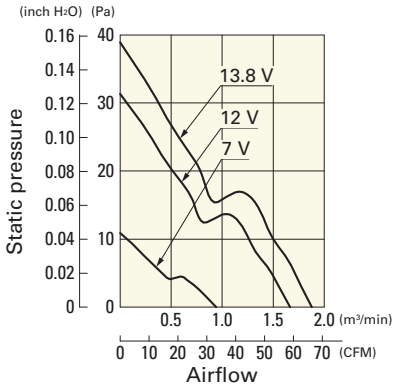
9G1212F401 With pulse sensor

Operating voltage range



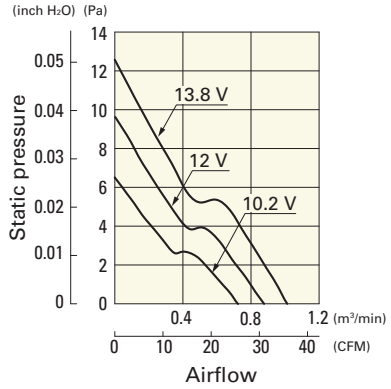
9G1212M401 With pulse sensor

Operating voltage range



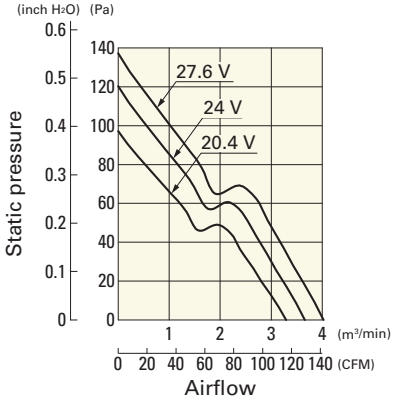
9G1212B401 With pulse sensor

Operating voltage range



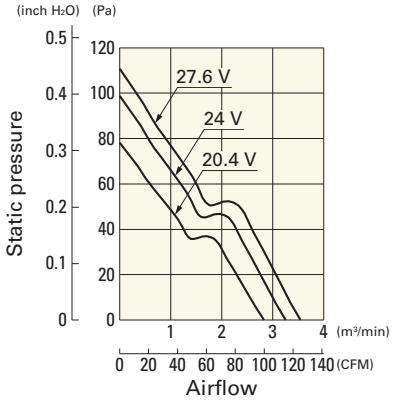
9G1224G401 With pulse sensor

Operating voltage range



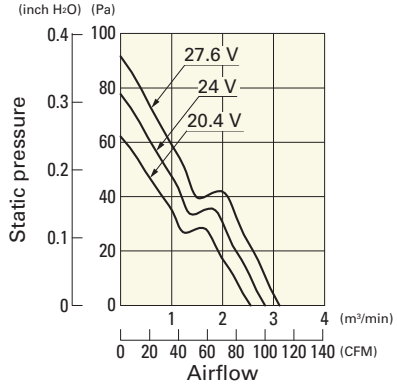
9G1224E401 With pulse sensor

Operating voltage range



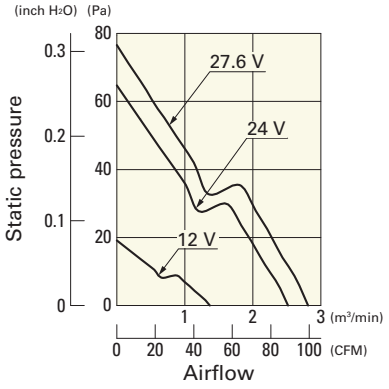
9G1224A401 With pulse sensor

Operating voltage range



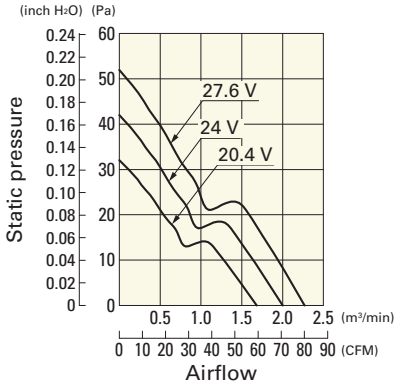
9G1224H401 With pulse sensor

Operating voltage range



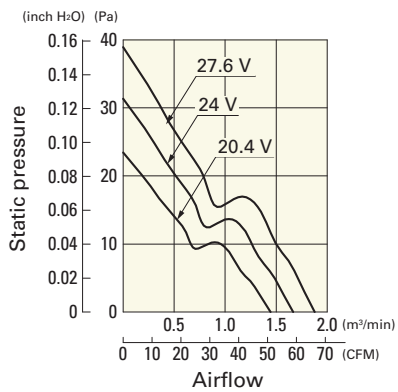
9G1224F401 With pulse sensor

Operating voltage range



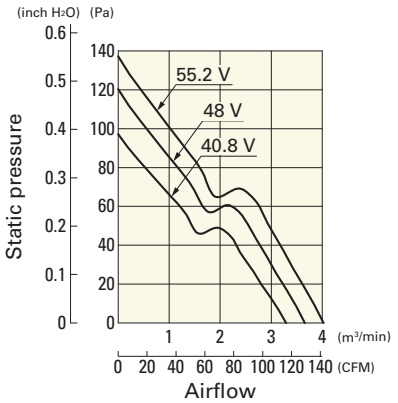
9G1224M401 With pulse sensor

Operating voltage range



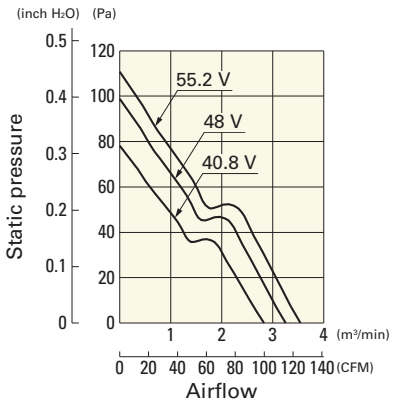
9G1248G401 With pulse sensor

Operating voltage range



9G1248E401 With pulse sensor

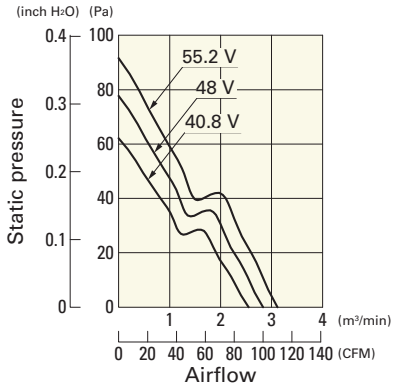
Operating voltage range



Airflow - Static Pressure Characteristics

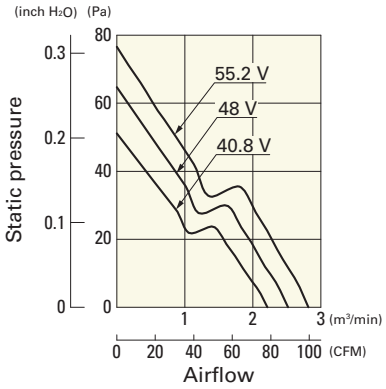
9G1248A401 With pulse sensor

Operating voltage range



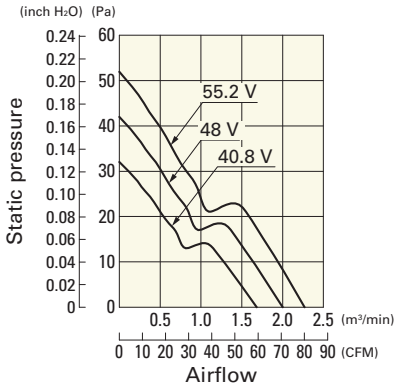
9G1248H401 With pulse sensor

Operating voltage range



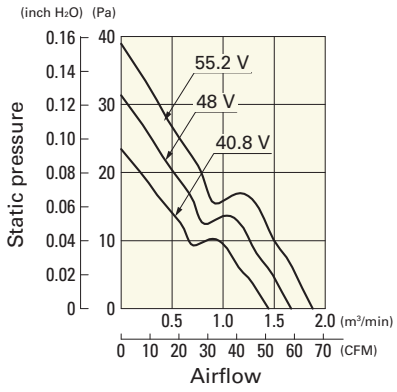
9G1248F401 With pulse sensor

Operating voltage range

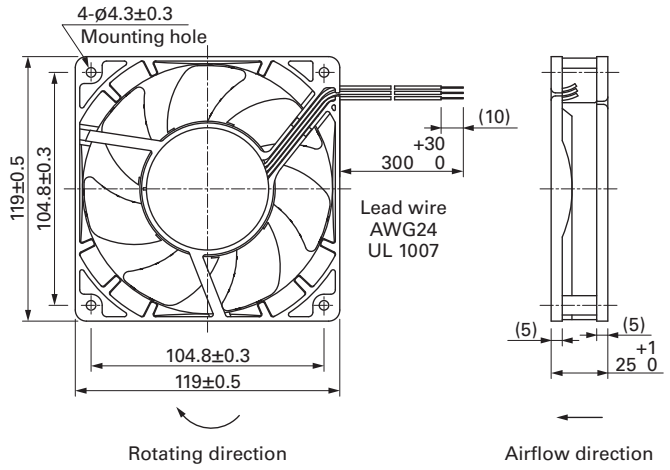


9G1248M401 With pulse sensor

Operating voltage range

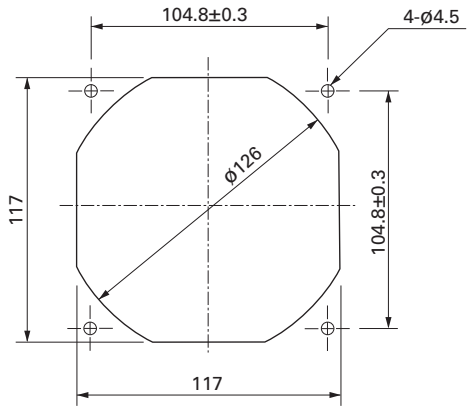


Dimensions (unit: mm) (With ribs)

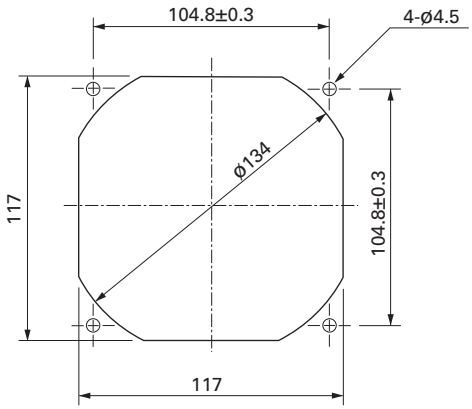


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

Inlet side



Outlet side



Options

Finger guards page: p. 585

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

Resin filter kits page: p. 592

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

Resin finger guards page: p. 591

Model no.: 109-1000G

DC Fan

120×120×25 mm

San Ace 120 9S type Silent Fan

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. 599.
- 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
- Mass ..... 140 g

Specifications

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

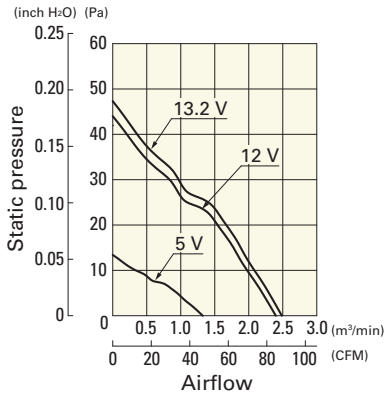
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9S1212H401	12	5.0 to 13.2	0.39	4.68	2700	2.45	86.5	45.2	0.18	36	-10 to +60	40000/60˚C (70000/40˚C)
9S1212F401		5.0 to 13.8	0.19	2.28	2200	2.0	70.6	30.0	0.12	30	-10 to +70	
9S1212M401		6.0 to 13.8	0.13	1.56	1850	1.66	58.6	22.7	0.09	24		
9S1212L401		7.0 to 13.8	0.08	0.96	1500	1.36	48.1	14.9	0.06	17		
9S1224M401	24	14 to 26.4	0.06	1.44	1850	1.66	58.6	22.7	0.09	24		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

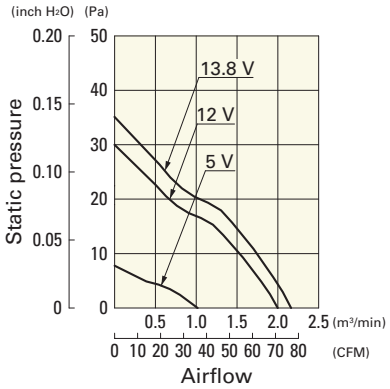
9S1212H401 With pulse sensor

Operating voltage range



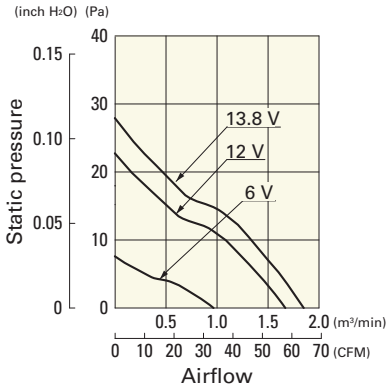
9S1212F401 With pulse sensor

Operating voltage range



9S1212M401 With pulse sensor

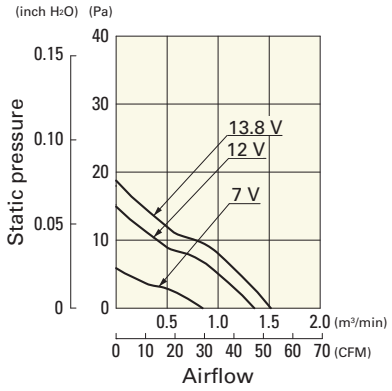
Operating voltage range



Airflow - Static Pressure Characteristics

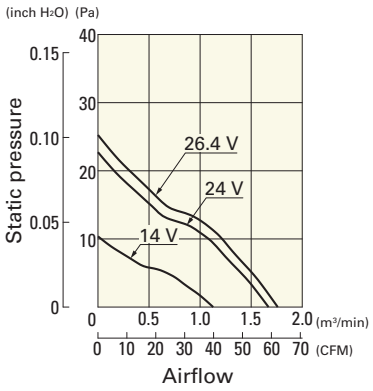
9S1212L401 With pulse sensor

Operating voltage range

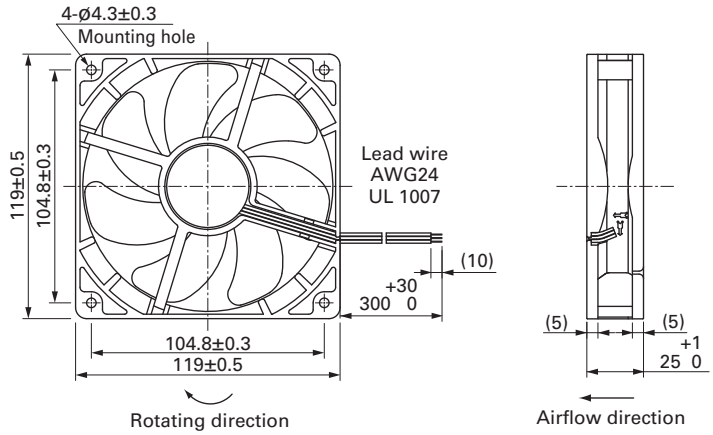


9S1224M401 With pulse sensor

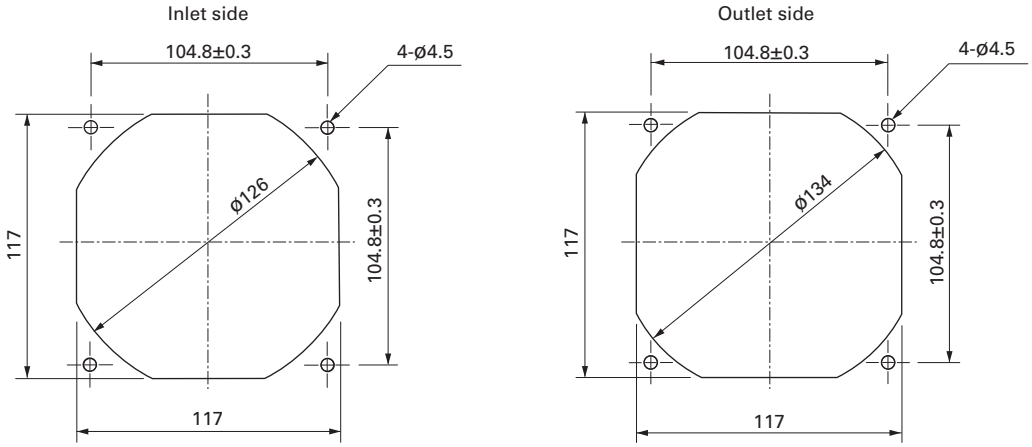
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 585

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

Resin finger guards page: p. 591

Model no.: 109-1000G

Resin filter kits page: p. 592

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

DC Fan

120×120×38 mm

San Ace 120 9HV type

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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 ..... 460 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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HV1224P1A001	24	21.6 to 26.4	100	2.4	57.6	9600	7.0	247	950	3.82	71	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.37	8.88	3800	2.7	95	161	0.65	46		
9HV1248P1G001	48	36 to 60	100	2.0	96	11500	8.3	293	1300	5.22	75		
			0	0.23	11	3800	2.7	95	161	0.65	46		
9HV1248P1H001			100	1.4	67	10000	7.2	254	1050	4.22	72		
			0	0.23	11	3800	2.7	95	161	0.65	46		

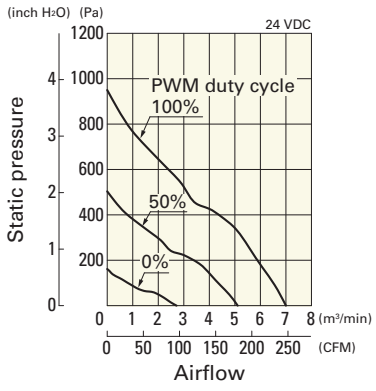
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 634.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

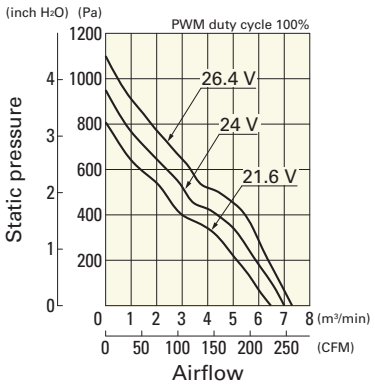
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV1224P1A001 With pulse sensor with PWM control function

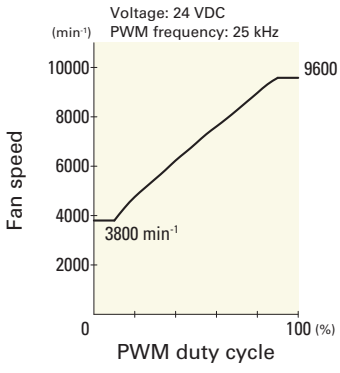
PWM duty cycle



Operating voltage range



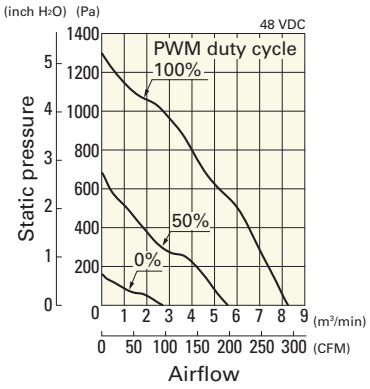
PWM duty - Speed characteristics example



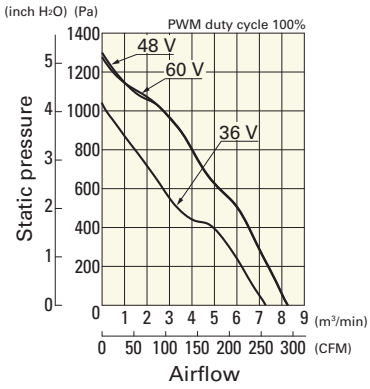
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV1248P1G001 With pulse sensor with PWM control function

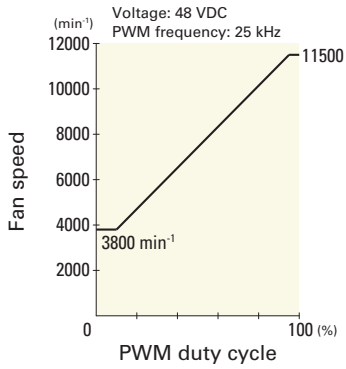
PWM duty cycle



Operating voltage range

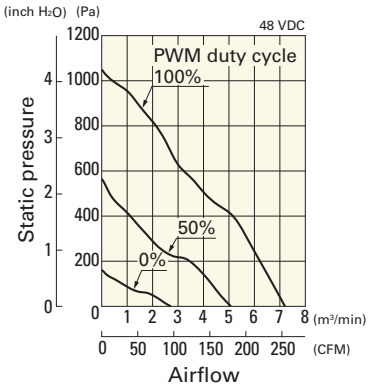


PWM duty - Speed characteristics example

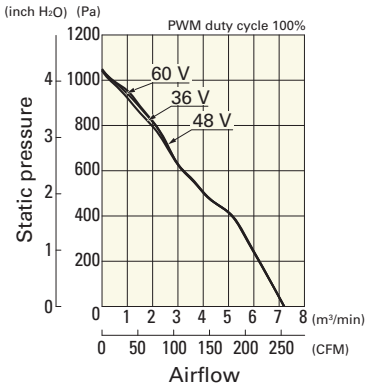


9HV1248P1H001 With pulse sensor with PWM control function

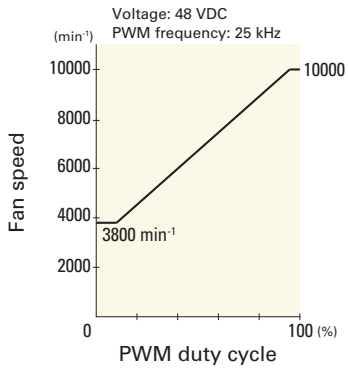
PWM duty cycle



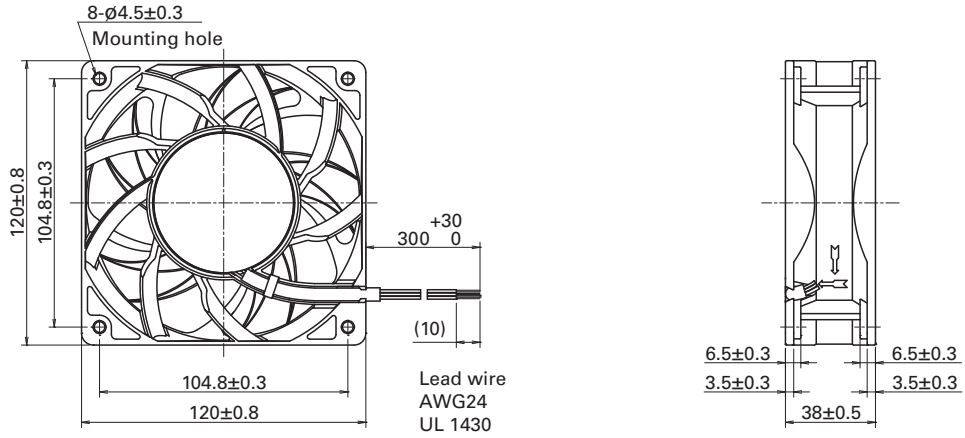
Operating voltage range



PWM duty - Speed characteristics example

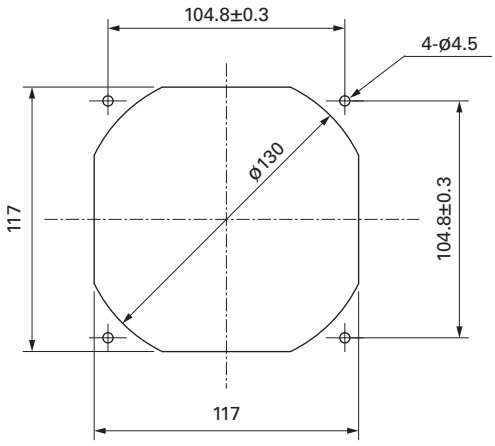


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 585

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

Resin filter kits page: p. 592

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

Resin finger guards page: p. 591

Model no.: 109-1000G

120×120×38 mm

San Ace 120 9GV 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. 599.
- 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 ..... 360 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]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV1212P1J01	12	10.2 to 13.8	100	3.0	36.0	6400	6.35	224.0	360.0	1.45	64	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.19	2.28	1500	1.49	52.6	19.8	0.08	33		
9GV1212P1G01			100	2.1	25.2	5500	5.45	192.6	265	1.06	60		
			0	0.19	2.28	1500	1.49	52.6	19.8	0.08	33		
9GV1224P1J01	24	20.4 to 27.6	100	1.5	36.0	6400	6.35	224.0	360	1.45	64		
9GV1224P1H01			100	0.8	19.2	5200	5.16	182.3	237	0.95	58		
9GV1248P1J01	48	40.8 to 55.2	100	0.75	36.0	6400	6.35	224.0	360.0	1.45	64		
			0	0.06	2.88	1500	1.49	52.6	26.1	0.106	33		

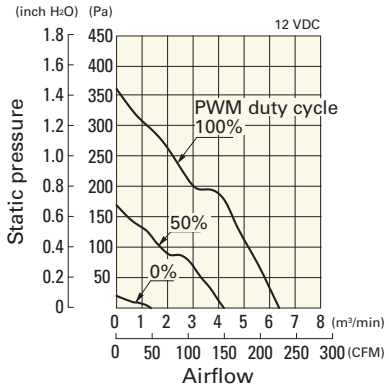
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 633.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

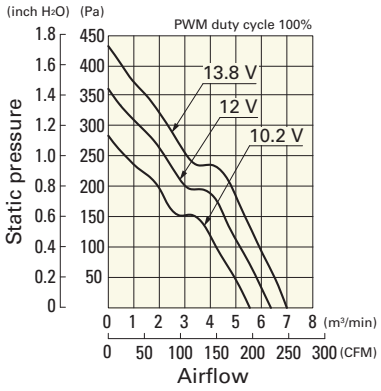
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1212P1J01 With pulse sensor with PWM control function

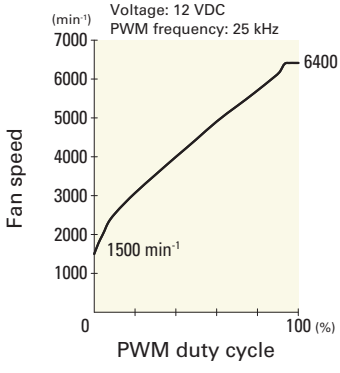
PWM duty cycle



Operating voltage range



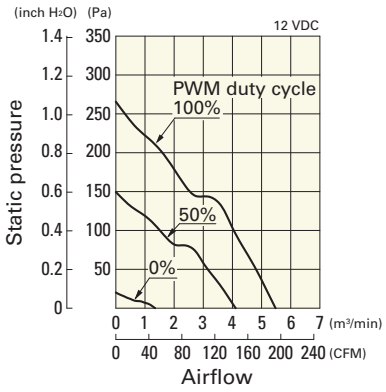
PWM duty - Speed characteristics example



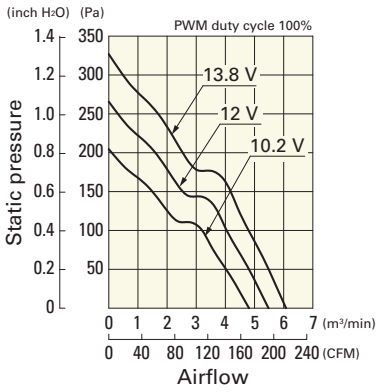
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1212P1G01 With pulse sensor with PWM control function

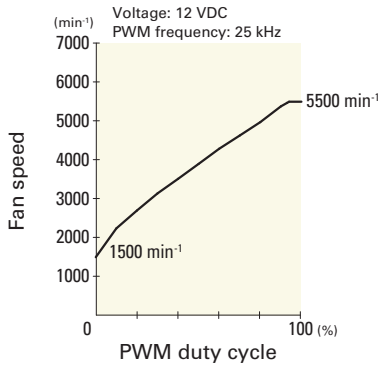
PWM duty cycle



Operating voltage range

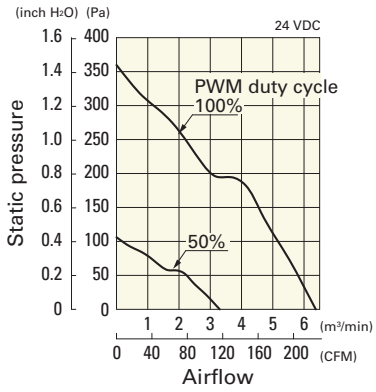


PWM duty - Speed characteristics example

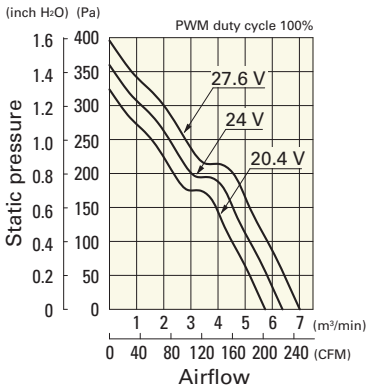


9GV1224P1J01 With pulse sensor with PWM control function

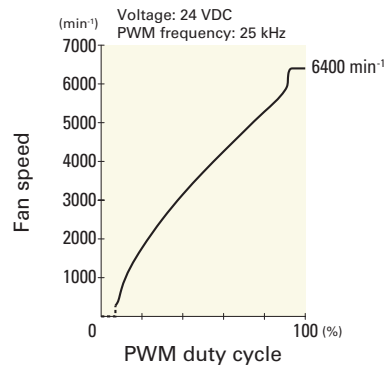
PWM duty cycle



Operating voltage range

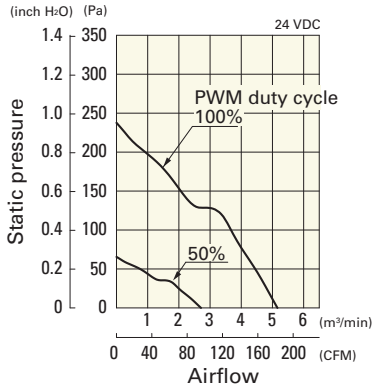


PWM duty - Speed characteristics example

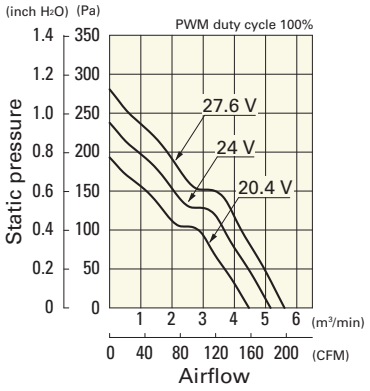


9GV1224P1H01 With pulse sensor with PWM control function

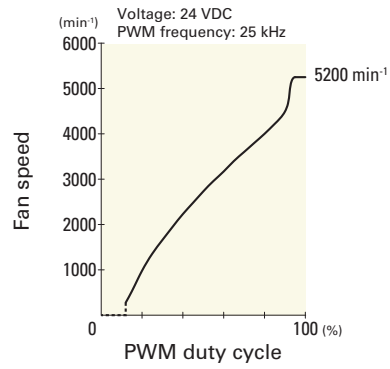
PWM duty cycle



Operating voltage range

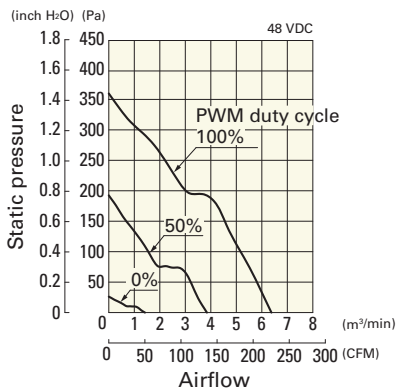


PWM duty - Speed characteristics example

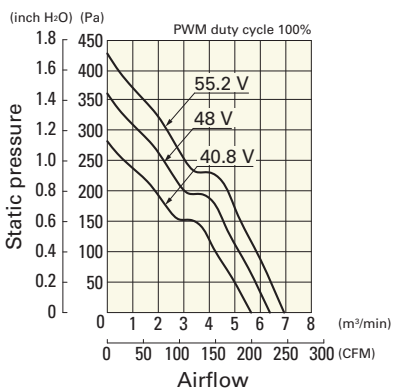


9GV1248P1J01 With pulse sensor with PWM control function

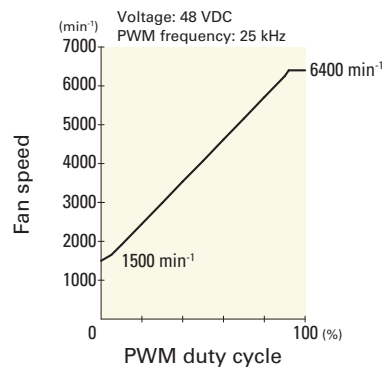
PWM duty cycle



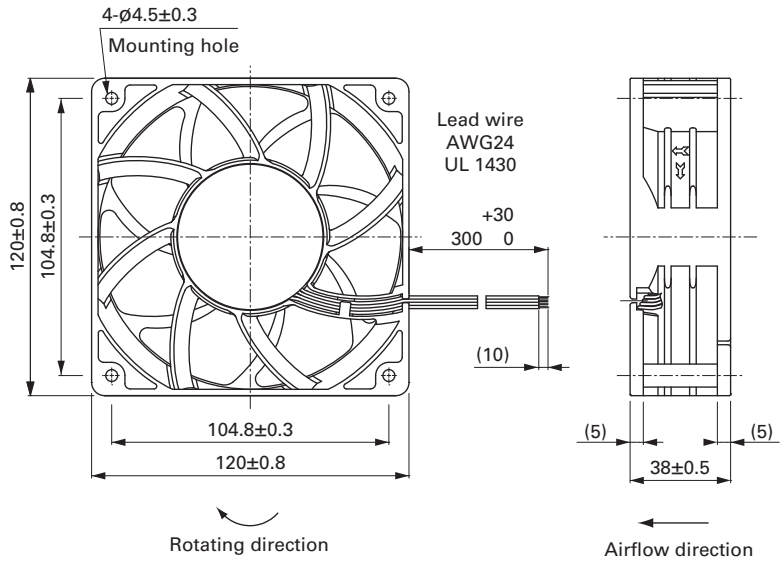
Operating voltage range



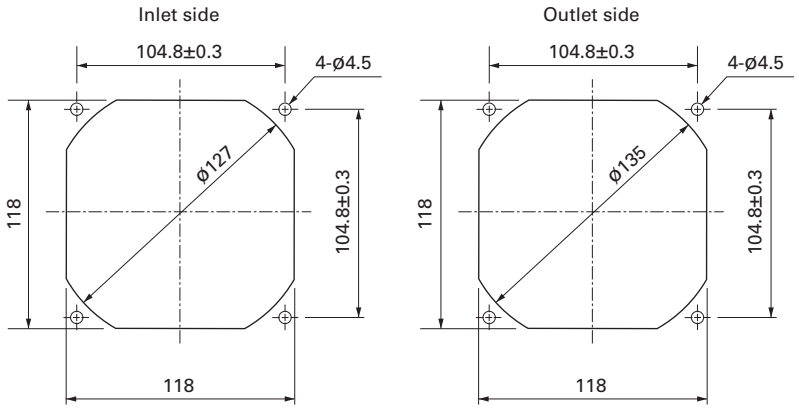
PWM duty - Speed characteristics example



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 585

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

Resin filter kits page: p. 592

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

Resin finger guards page: p. 591

Model no.: 109-1000G

DC Fan

120×120×38 mm

San Ace 120 9SG type

Model 9SG1224H101 is not certified.

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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 ..... 400 g

Specifications

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

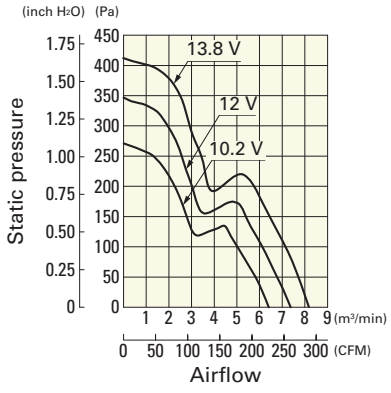
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9SG1212G101	12	10.2 to 13.8	4.0	48.0	6000	7.35	260	340	1.37	64	-20 to +70	40000/60˚C (70000/40˚C)
9SG1224G101	24	20.4 to 27.6	2.0	48.0	6000	7.35	260	340	1.37	64		
9SG1224H101			0.46	11.0	3400	4.02	142	126	0.51	48		
9SG1248G101	48	40.8 to 55.2	1.0	48.0	6000	7.35	260	340	1.37	64		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

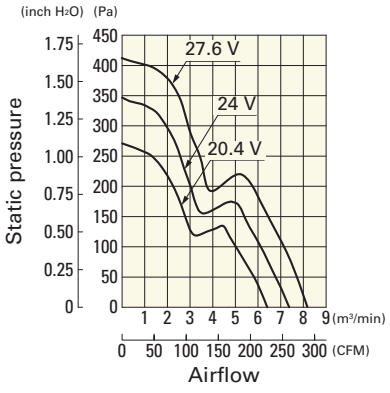
9SG1212G101 With pulse sensor

Operating voltage range



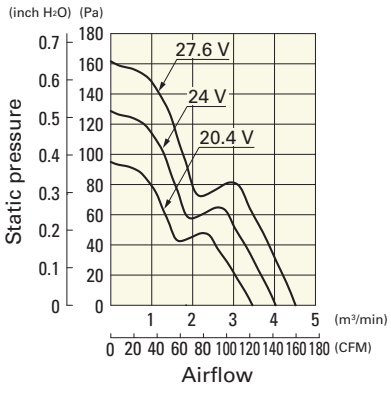
9SG1224G101 With pulse sensor

Operating voltage range



9SG1224H101 With pulse sensor

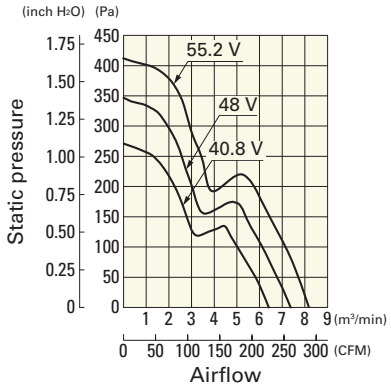
Operating voltage range



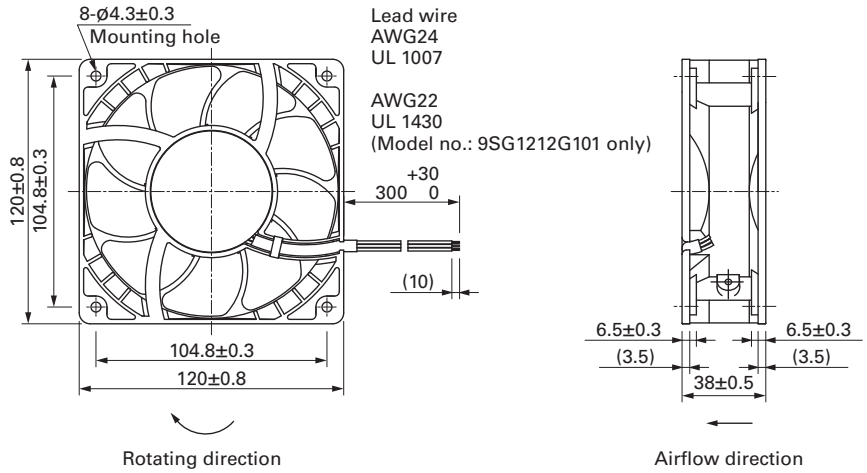
Airflow - Static Pressure Characteristics

9SG1248G101 With pulse sensor

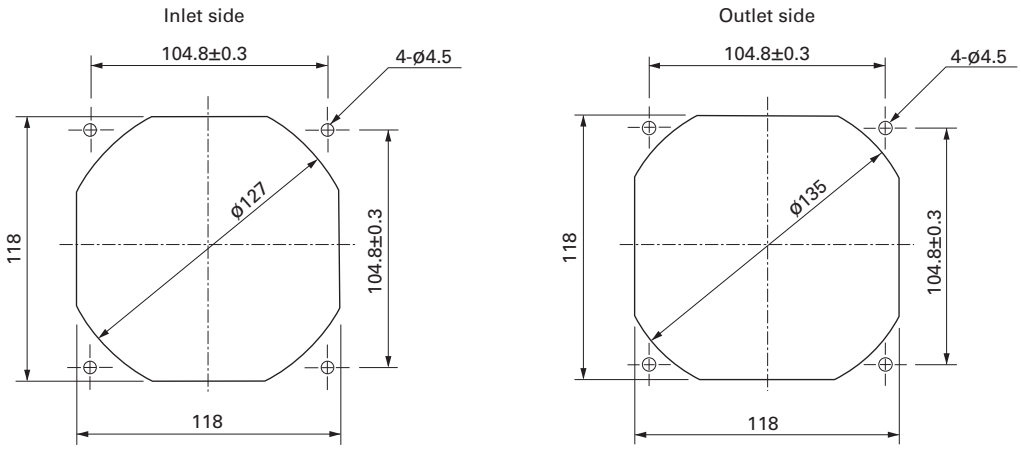
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 585

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

Resin finger guards page: p. 591

Model no.: 109-1000G

Resin filter kits page: p. 592

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

DC Fan

120×120×38 mm

San Ace 120 9G 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. 599.
- 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 ..... 330 g

Specifications

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

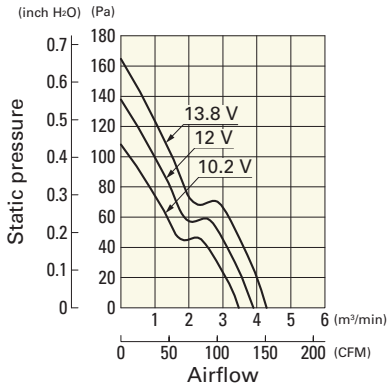
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9G1212G101	12	10.2 to 13.8	0.98	11.76	3600	3.88	137	135	0.542	49	-20 to +70	40000/60˚C (70000/40˚C)
9G1212E101			0.61	7.32	3100	3.34	118	100	0.402	46		
9G1212H101		7 to 13.8	0.38	4.56	2600	2.8	99	70.4	0.283	39		
9G1212F101			0.28	3.36	2280	2.45	87	54.2	0.218	36		
9G1212M101			0.21	2.52	1950	2.1	74	39.6	0.159	32		
9G1224G101	24	20.4 to 27.6	0.5	12	3600	3.88	137	135	0.542	49		
9G1224E101			0.34	8.16	3100	3.34	118	100	0.402	46		
9G1224H101		14 to 27.6	0.22	5.28	2600	2.8	99	70.4	0.283	39		
9G1224F101			0.16	3.84	2280	2.45	87	54.2	0.218	36		
9G1224M101			0.11	2.64	1950	2.1	74	39.6	0.159	32		
9G1248G101	48	40.8 to 55.2	0.25	12	3600	3.88	137	135	0.542	49		
9G1248E101			0.17	8.16	3100	3.34	118	100	0.402	46		
9G1248H101			0.11	5.28	2600	2.8	99	70.4	0.283	39		
9G1248F101			0.09	4.32	2280	2.45	87	54.2	0.218	36		
9G1248M101			0.07	3.36	1950	2.1	74	39.6	0.159	32		

Note 1: Sensor and control options are available for selection. Refer to the table on pp. 627 to 628.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

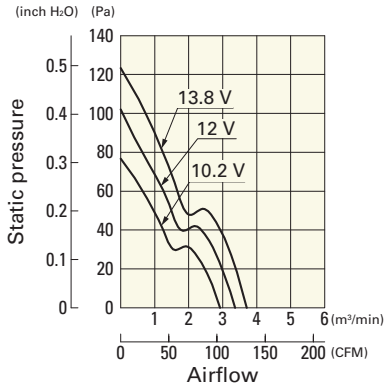
9G1212G101 With pulse sensor

Operating voltage range



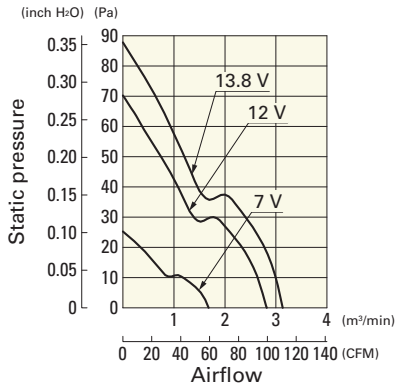
9G1212E101 With pulse sensor

Operating voltage range



9G1212H101 With pulse sensor

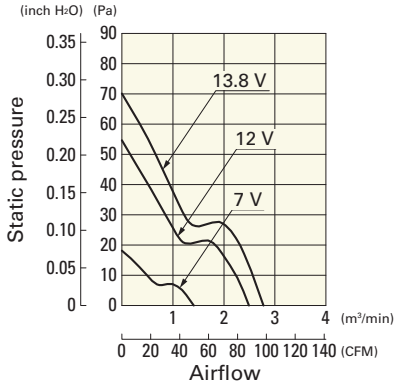
Operating voltage range



Airflow - Static Pressure Characteristics

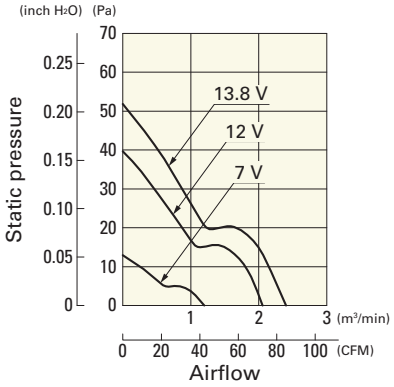
9G1212F101 With pulse sensor

Operating voltage range



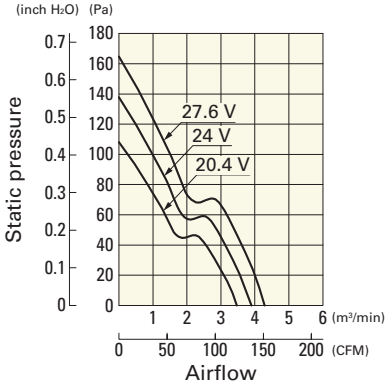
9G1212M101 With pulse sensor

Operating voltage range



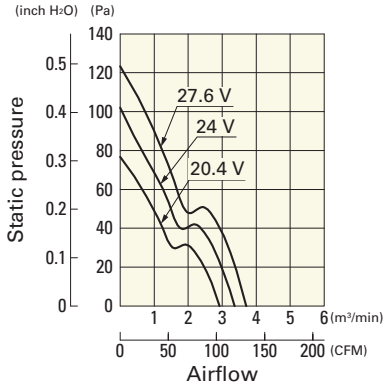
9G1224G101 With pulse sensor

Operating voltage range



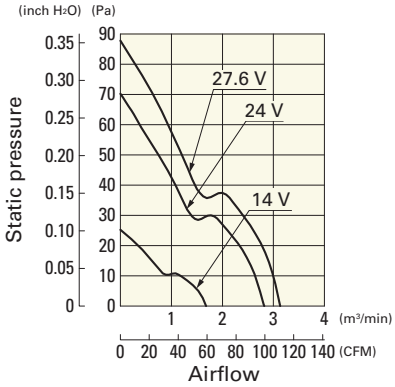
9G1224E101 With pulse sensor

Operating voltage range



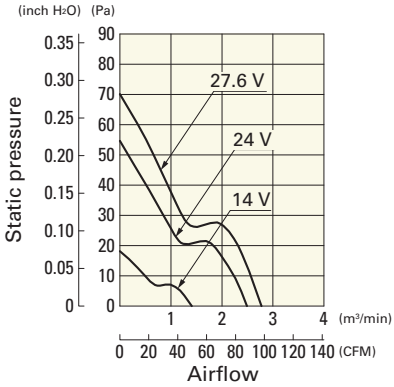
9G1224H101 With pulse sensor

Operating voltage range



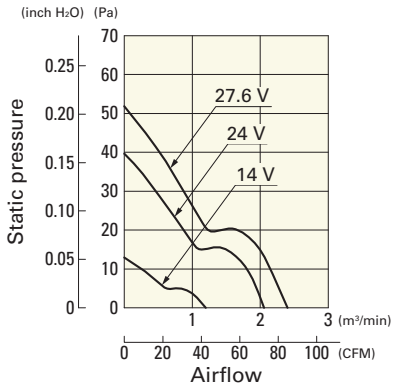
9G1224F101 With pulse sensor

Operating voltage range



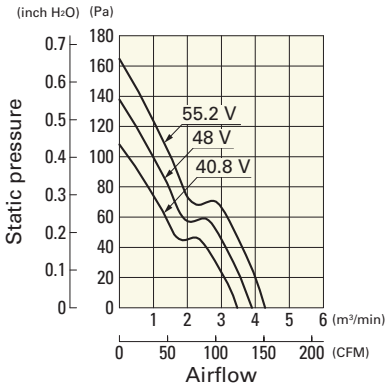
9G1224M101 With pulse sensor

Operating voltage range



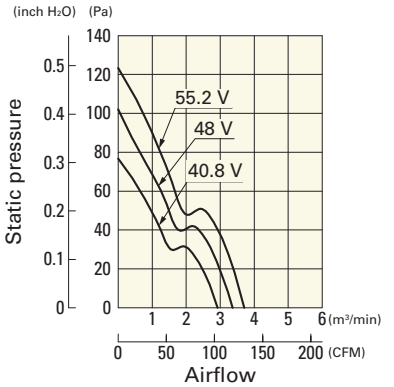
9G1248G101 With pulse sensor

Operating voltage range



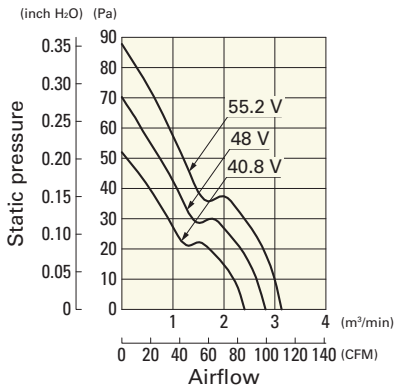
9G1248E101 With pulse sensor

Operating voltage range



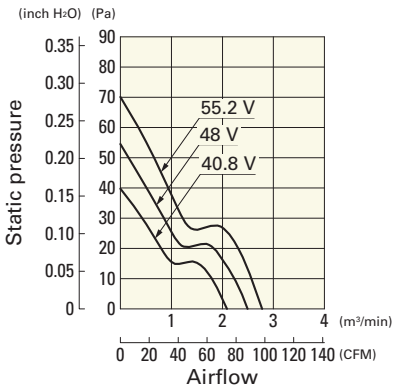
9G1248H101 With pulse sensor

Operating voltage range



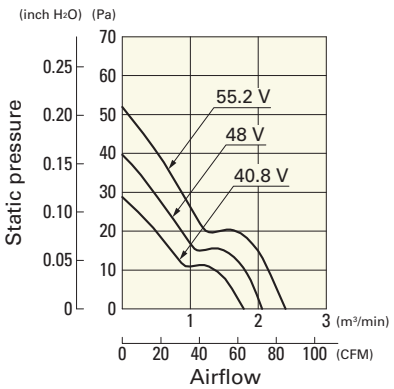
9G1248F101 With pulse sensor

Operating voltage range

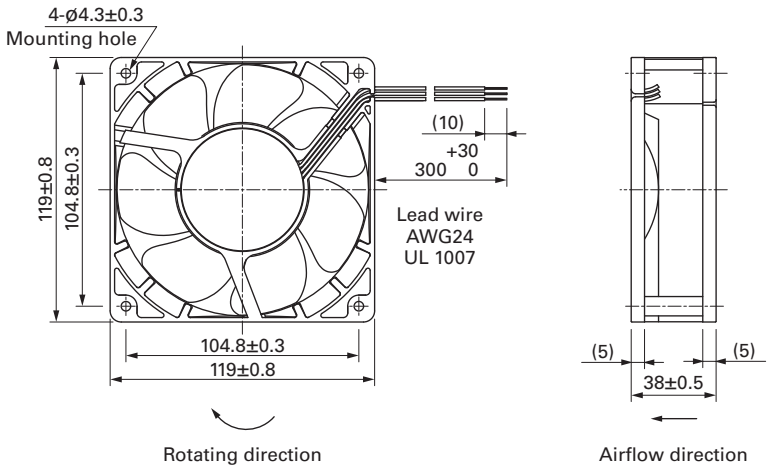


9G1248M101 With pulse sensor

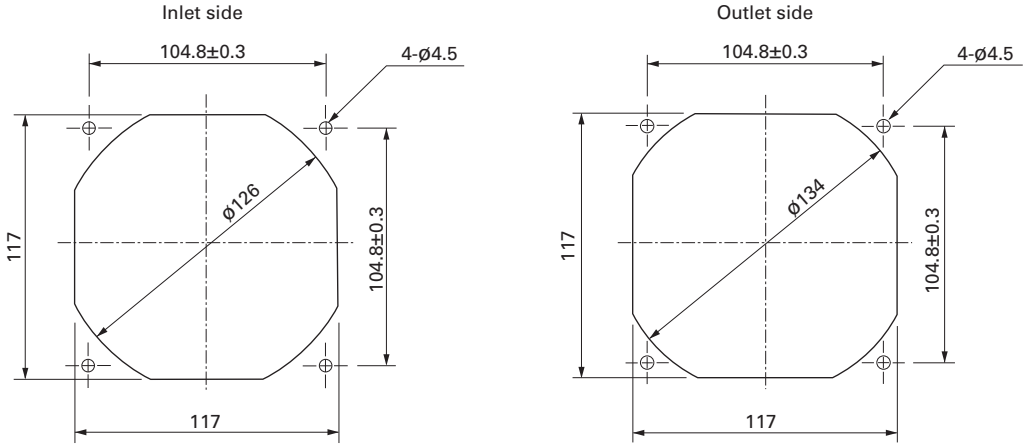
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 585

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

Resin filter kits page: p. 592

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

Resin finger guards page: p. 591

Model no.: 109-1000G

127×127×38 mm

San Ace 127 9E 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. 599.
- 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 ..... 400 g

Specifications

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

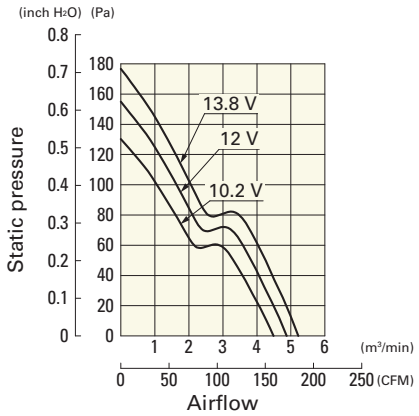
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109E1312A101	12	10.2 to 13.8	1.4	16.8	3850	4.81	170	155	0.622	52	-20 to +70	60000/60˚C (90000/40˚C)
109E1312S101			1.2	14.4	3450	4.37	154	125	0.502	49		
109E1324G101	24	20.4 to 27.6	1.1	26.4	4550	5.66	200	216	0.867	57	-20 to +60	40000/60˚C (70000/40˚C)
109E1324A101			0.7	16.8	3850	4.81	170	155	0.622	52	-20 to +70	60000/60˚C (90000/40˚C)
109E1324S101			0.53	12.7	3450	4.37	154	125	0.502	49		
109E1348G101	48	40.8 to 55.2	0.54	25.9	4550	5.66	200	216	0.867	57	-20 to +60	40000/60˚C (70000/40˚C)
109E1348A101			0.36	17.3	3850	4.81	170	155	0.622	52	-20 to +70	60000/60˚C (90000/40˚C)
109E1348S101			0.28	13.4	3450	4.37	154	125	0.502	49		

Note: Sensor and control options are available for selection. Refer to the table on p. 620.

Airflow - Static Pressure Characteristics

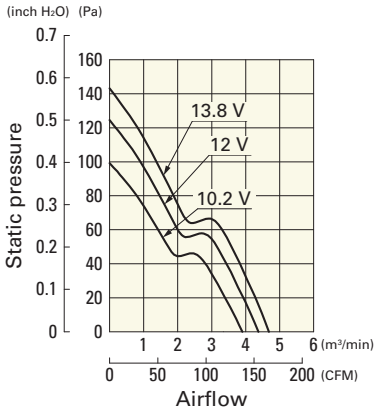
109E1312A101 With pulse sensor

Operating voltage range



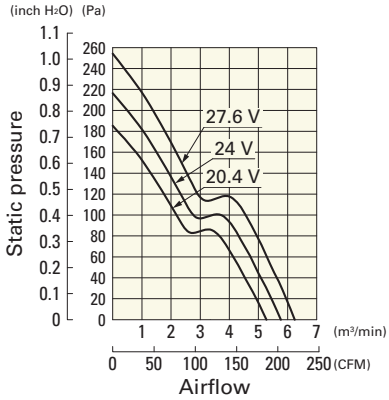
109E1312S101 With pulse sensor

Operating voltage range



109E1324G101 With pulse sensor

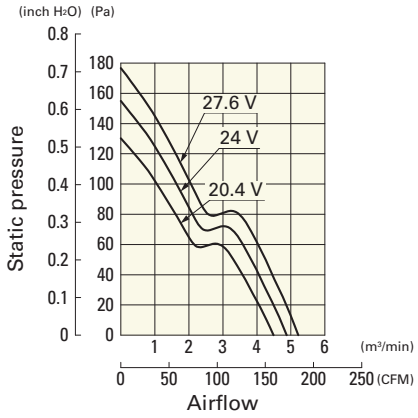
Operating voltage range



Airflow - Static Pressure Characteristics

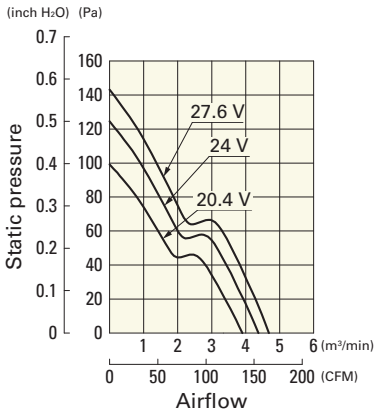
109E1324A101 With pulse sensor

Operating voltage range



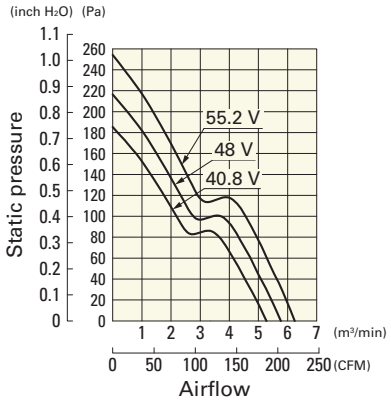
109E1324S101 With pulse sensor

Operating voltage range



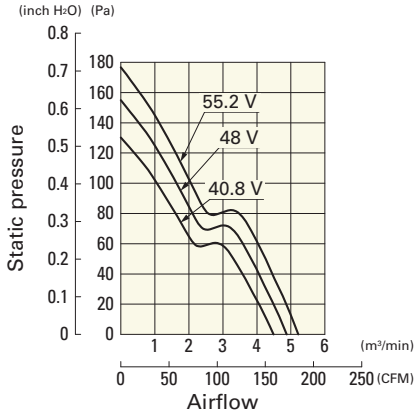
109E1348G101 With pulse sensor

Operating voltage range



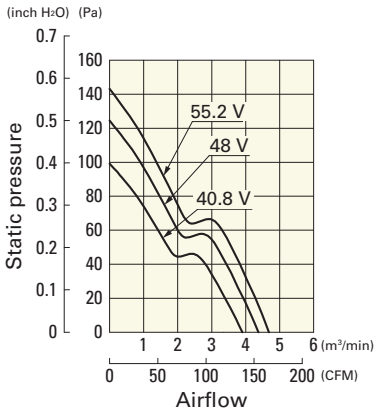
109E1348A101 With pulse sensor

Operating voltage range

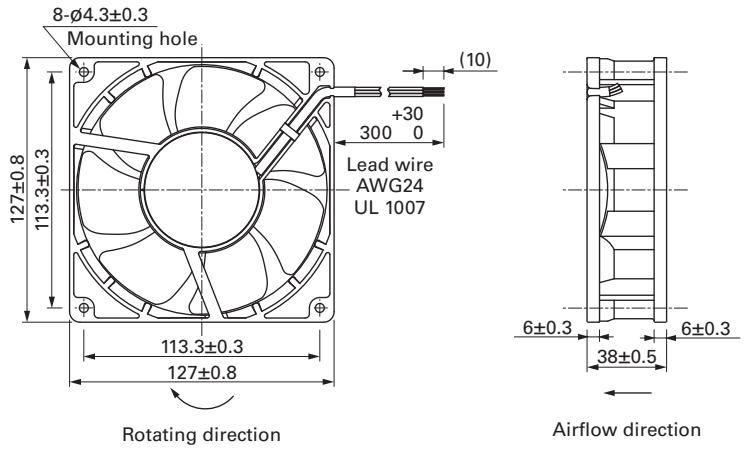


109E1348S101 With pulse sensor

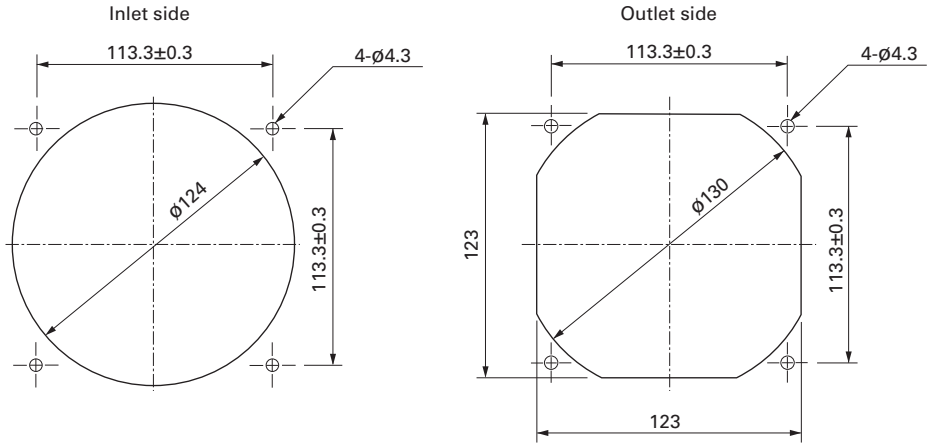
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 585

Model no.: 109-722, 109-722H, 109-723

DC Fan

127×127×38 mm

San Ace 127 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. 599.
- 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 ..... 350 g

Specifications

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

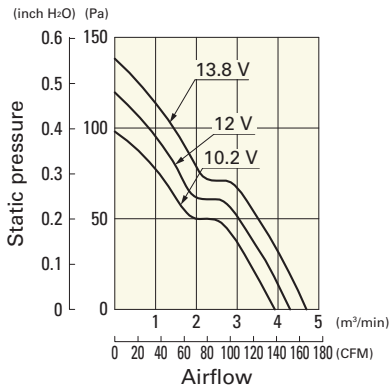
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P1312S101	12	10.2 to 13.8	1.3	15.6	3300	4.2	148	117.6	0.472	47	-20 to +60	40000/60˚C (70000/40˚C)
109P1312H101			0.82	9.84	2950	3.8	134	98	0.394	45		
109P1324S101	24	20.4 to 27.6	0.55	13.2	3300	4.2	148	117.6	0.472	47		
109P1324H101			0.41	9.84	2950	3.8	134	98	0.394	45		
109P1348S101	48	40.8 to 55.2	0.3	14.4	3300	4.2	148	117.6	0.472	47		
109P1348H101			0.2	9.6	2950	3.8	134	98	0.394	45		

Note: Sensor and control options are available for selection. Refer to the table on p. 622.

Airflow - Static Pressure Characteristics

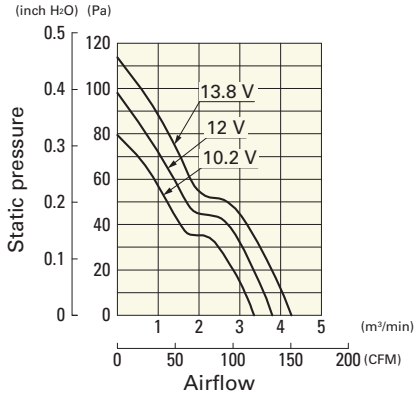
109P1312S101 With pulse sensor

Operating voltage range



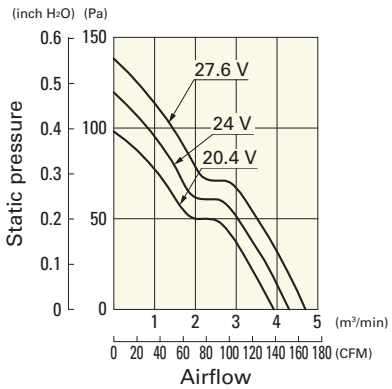
109P1312H101 With pulse sensor

Operating voltage range



109P1324S101 With pulse sensor

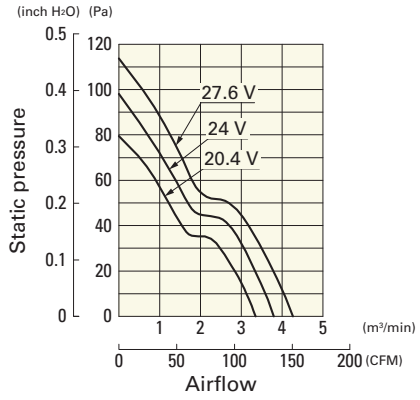
Operating voltage range



Airflow - Static Pressure Characteristics

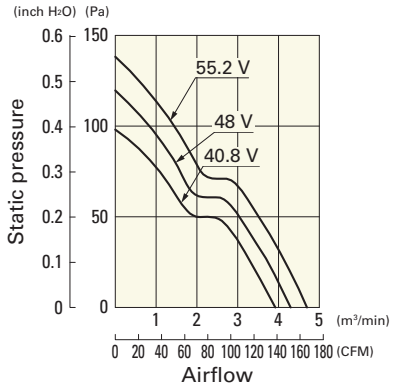
109P1324H101 With pulse sensor

Operating voltage range



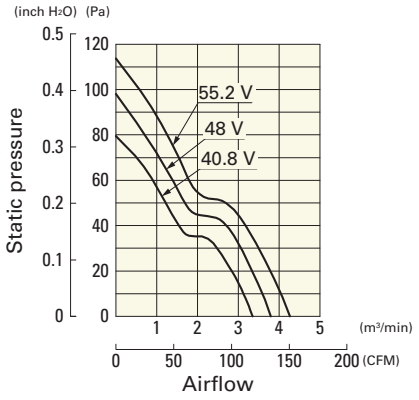
109P1348S101 With pulse sensor

Operating voltage range

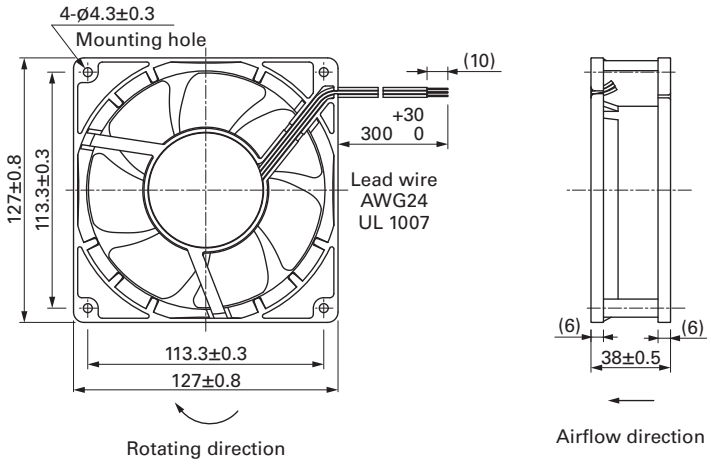


109P1348H101 With pulse sensor

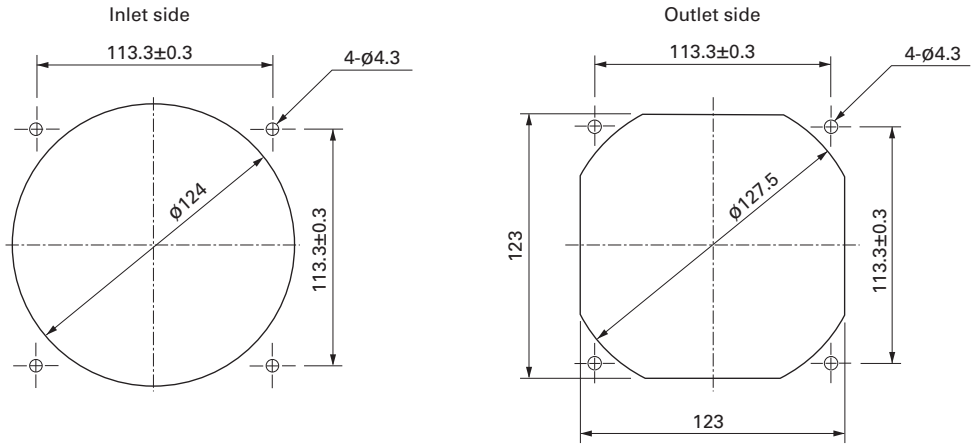
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 585

Model no.: 109-722, 109-722H, 109-723

DC Fan

140×140×38 mm

San Ace 140 9GV type

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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 ..... 630 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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV1412P1G001	12	10.8 to 13.2	100	4.6	55.2	7600	8.8	310	640	2.57	70	-20 to +70	40000/60˚C (70000/40˚C)
			20	0.26	3.12	2300	2.66	93	80	0.32	39		
9GV1412P1S001			100	3.1	37.2	6650	7.7	272	480	1.93	67		
			20	0.26	3.12	2300	2.66	93	80	0.32	39		
9GV1412P1H001			100	1.7	20.4	5200	6.0	212	300	1.2	62		
			20	0.26	3.12	2300	2.66	93	80	0.32	39		
9GV1424P1G001	24	21.6 to 26.4	100	2.3	55.2	7600	8.8	310	640	2.57	70		
			20	0.13	3.12	2300	2.66	93	80	0.32	39		
9GV1424P1S001			100	1.55	37.2	6650	7.7	272	480	1.93	67		
			20	0.13	3.12	2300	2.66	93	80	0.32	39		
9GV1424P1H001			100	0.85	20.4	5200	6.0	212	300	1.2	62		
			20	0.13	3.12	2300	2.66	93	80	0.32	39		
9GV1448P1G001	48	36 to 60	100	1.15	55.2	7600	8.8	310	640	2.57	70		
			20	0.11	5.28	2300	2.66	93	80	0.32	39		
9GV1448P1S001			100	0.78	37.44	6650	7.7	272	480	1.93	67		
			20	0.11	5.28	2300	2.66	93	80	0.32	39		
9GV1448P1H001			100	0.42	20.16	5200	6.0	212	300	1.2	62		
			20	0.11	5.28	2300	2.66	93	80	0.32	39		

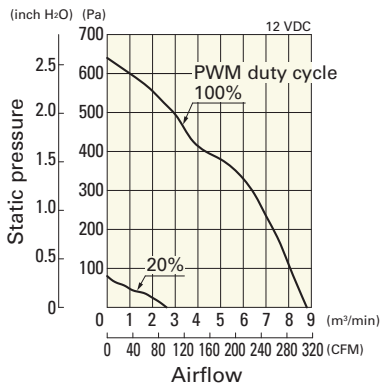
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 633.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

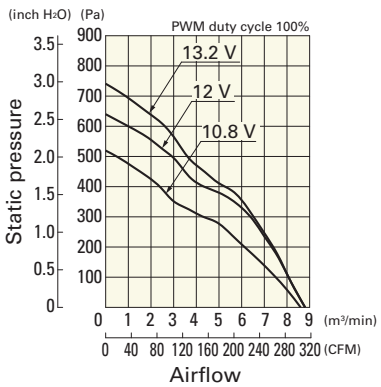
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1412P1G001 With pulse sensor with PWM control function

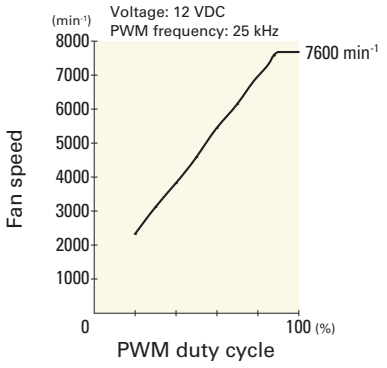
PWM duty cycle



Operating voltage range



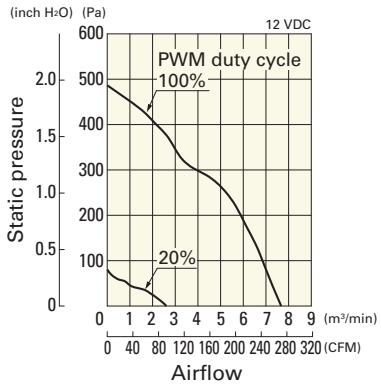
PWM duty - Speed characteristics example



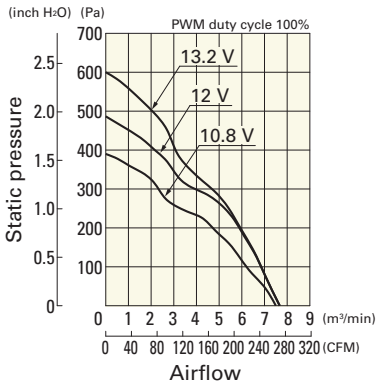
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1412P1S001 With pulse sensor with PWM control function

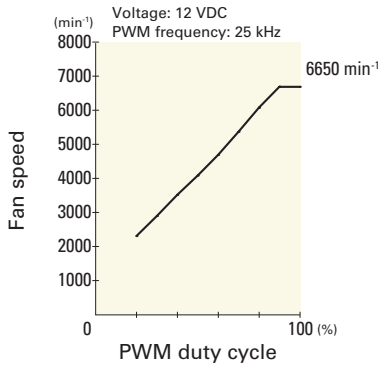
PWM duty cycle



Operating voltage range

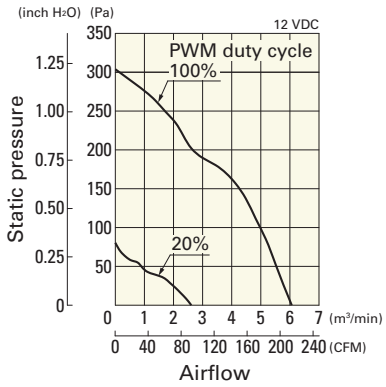


PWM duty - Speed characteristics example

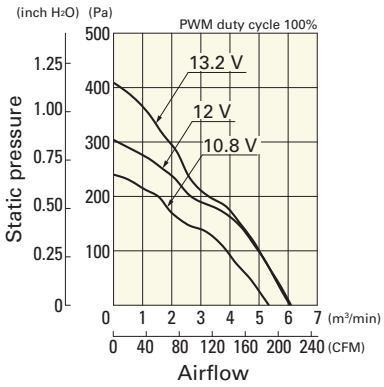


9GV1412P1H001 With pulse sensor with PWM control function

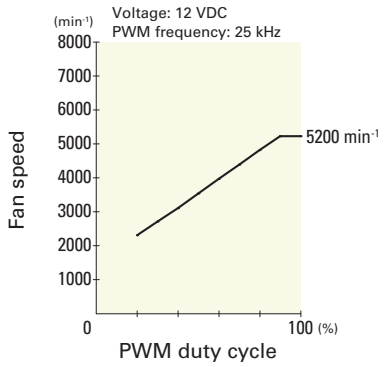
PWM duty cycle



Operating voltage range

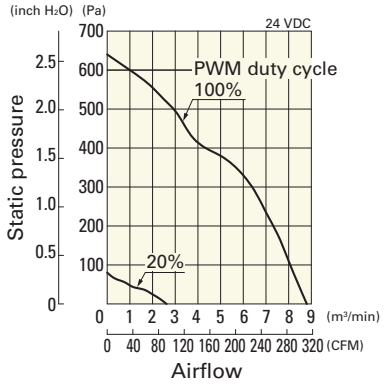


PWM duty - Speed characteristics example

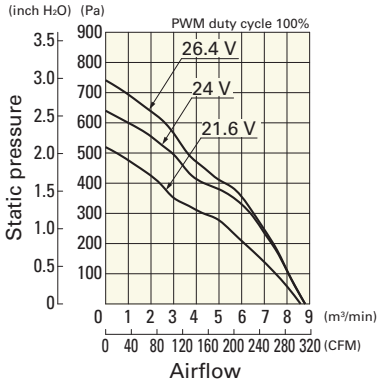


9GV1424P1G001 With pulse sensor with PWM control function

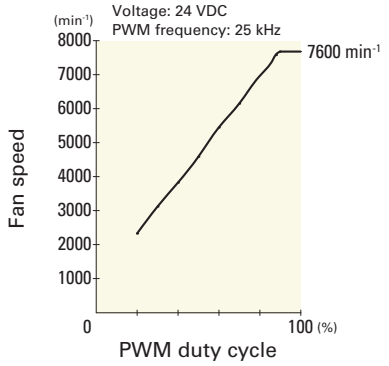
PWM duty cycle



Operating voltage range

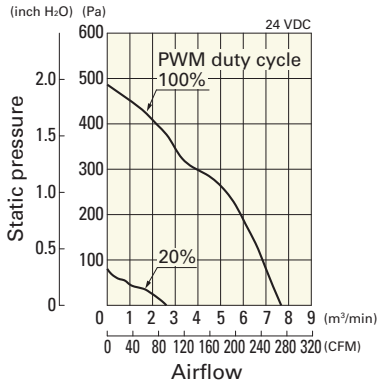


PWM duty - Speed characteristics example

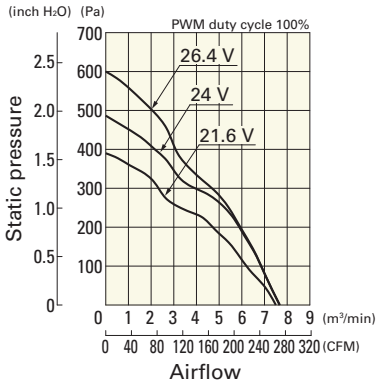


9GV1424P1S001 With pulse sensor with PWM control function

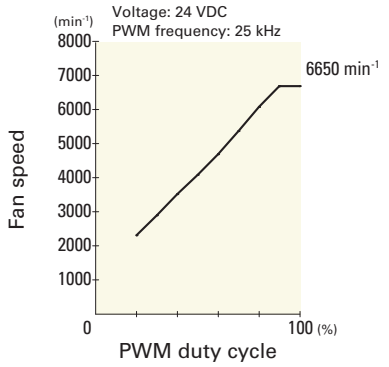
PWM duty cycle



Operating voltage range



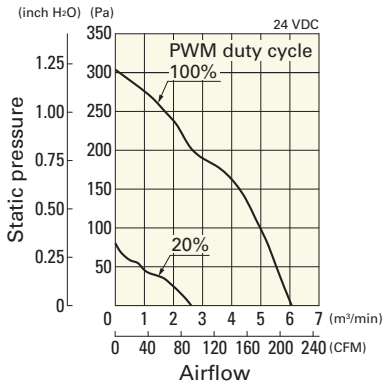
PWM duty - Speed characteristics example



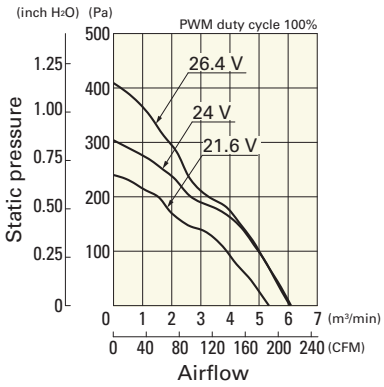
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1424P1H001 With pulse sensor with PWM control function

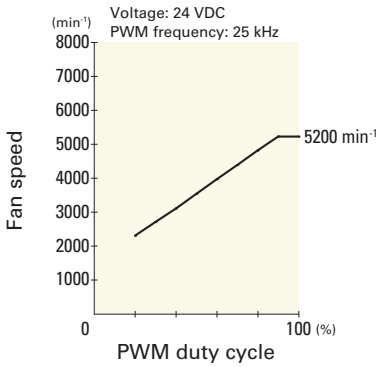
PWM duty cycle



Operating voltage range

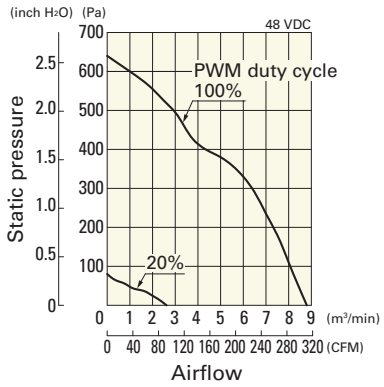


PWM duty - Speed characteristics example

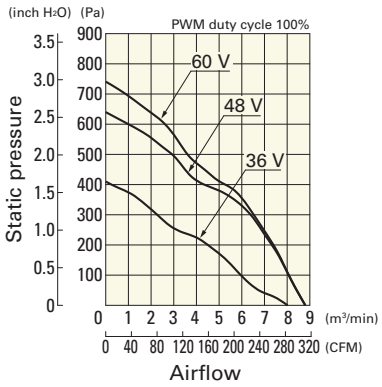


9GV1448P1G001 With pulse sensor with PWM control function

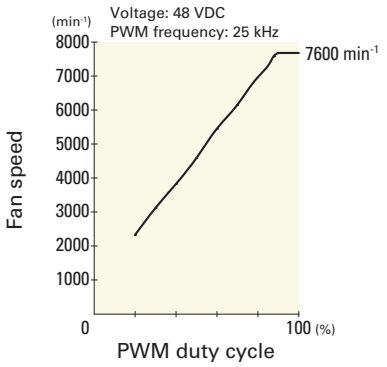
PWM duty cycle



Operating voltage range

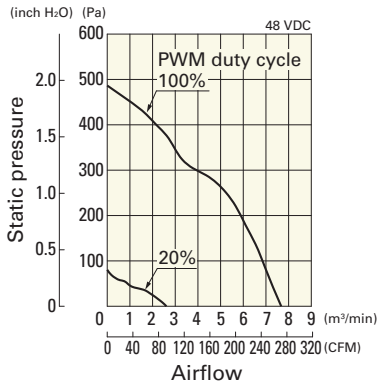


PWM duty - Speed characteristics example

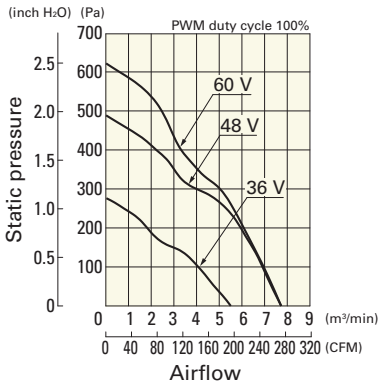


9GV1448P1S001 With pulse sensor with PWM control function

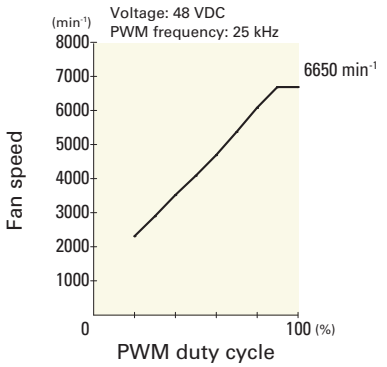
PWM duty cycle



Operating voltage range

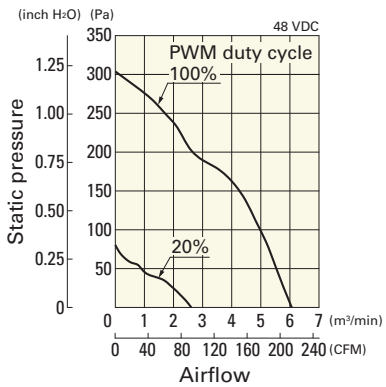


PWM duty - Speed characteristics example

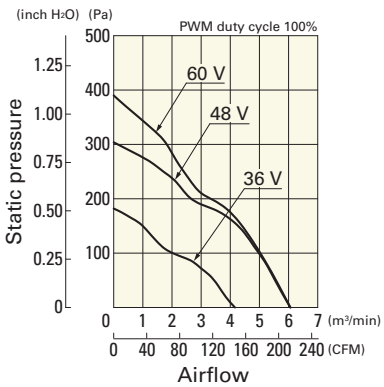


9GV1448P1H001 With pulse sensor with PWM control function

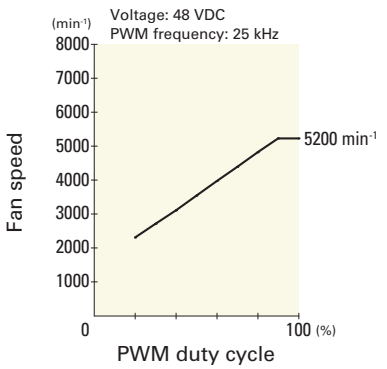
PWM duty cycle



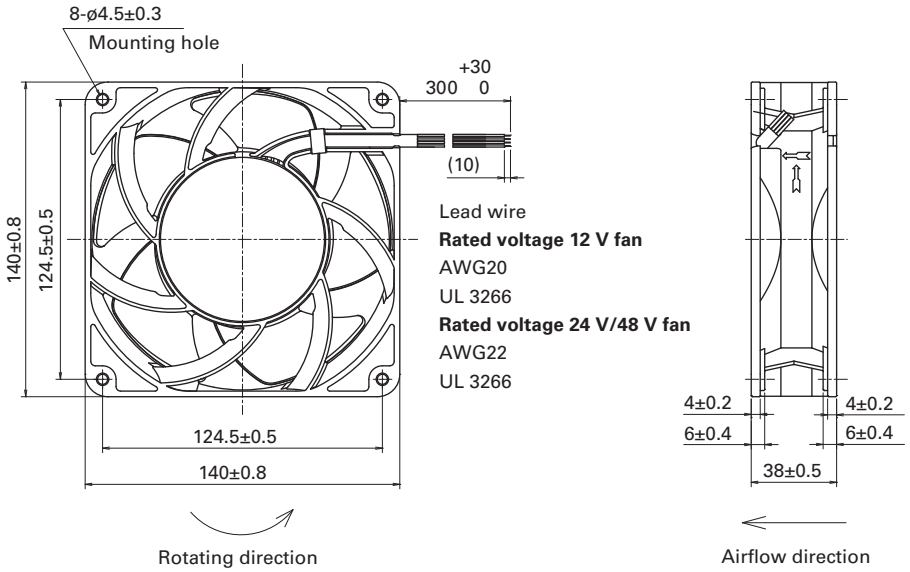
Operating voltage range



PWM duty - Speed characteristics example

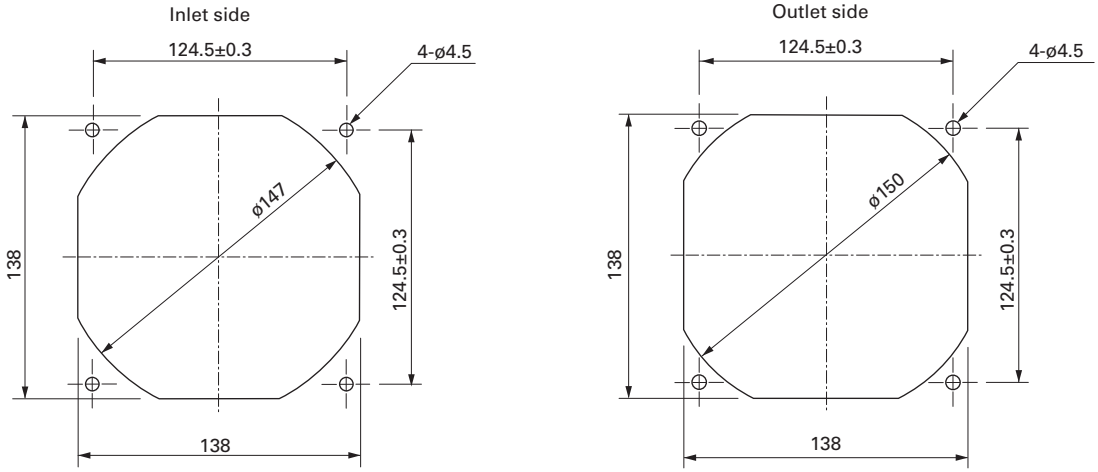


Dimensions (unit: mm)



Lead wire
Rated voltage 12 V fan
AWG20
UL 3266
Rated voltage 24 V/48 V fan
AWG22
UL 3266

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



Options

Finger guards page: p. 585

Model no.: 109-719, 109-719H

DC Fan

140×140×38 mm

San Ace 140 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. 599.
- 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 ..... 450 g

Specifications

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

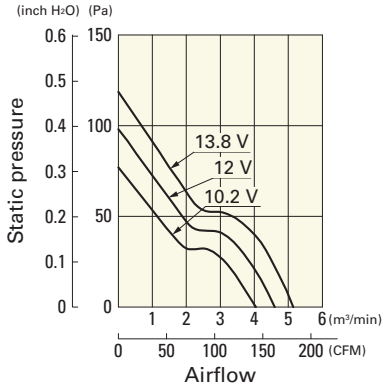
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P1412H101	12	10.2 to 13.8	0.73	8.76	2600	4.5	159	94	0.378	46	-20 to +70	40000/60˚C (70000/40˚C)
109P1412M101			0.33	3.96	1900	3.3	117	52	0.209	38		
109P1424H101	24	20.4 to 27.6	0.37	8.88	2600	4.5	159	94	0.378	46		
109P1424M101			0.16	3.84	1900	3.3	117	52	0.209	38		
109P1448H101	48	40.8 to 55.2	0.2	9.6	2600	4.5	159	94	0.378	46		
109P1448M101			0.09	4.32	1900	3.3	117	52	0.209	38		

Note: Sensor and control options are available for selection. Refer to the table on p. 622.

Airflow - Static Pressure Characteristics

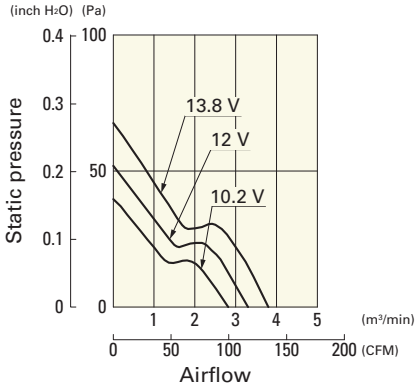
109P1412H101 With pulse sensor

Operating voltage range



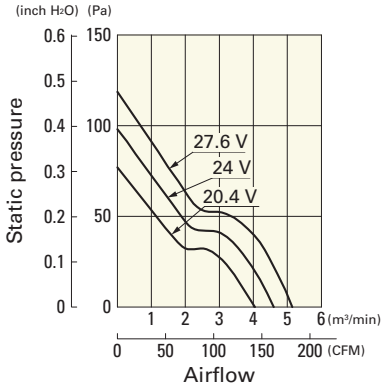
109P1412M101 With pulse sensor

Operating voltage range



109P1424H101 With pulse sensor

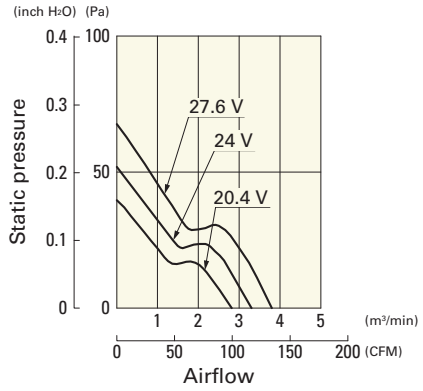
Operating voltage range



Airflow - Static Pressure Characteristics

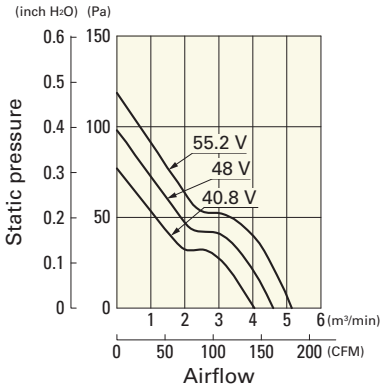
109P1424M101 With pulse sensor

Operating voltage range



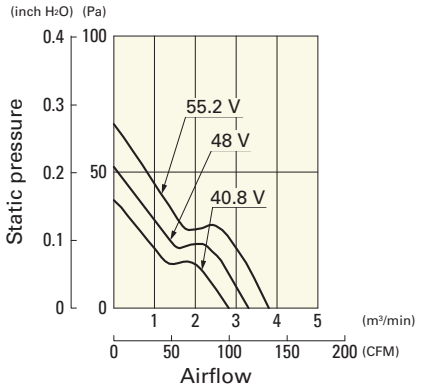
109P1448H101 With pulse sensor

Operating voltage range

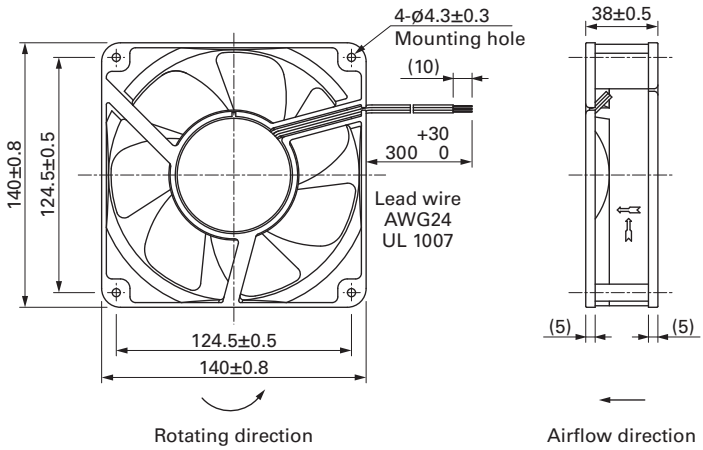


109P1448M101 With pulse sensor

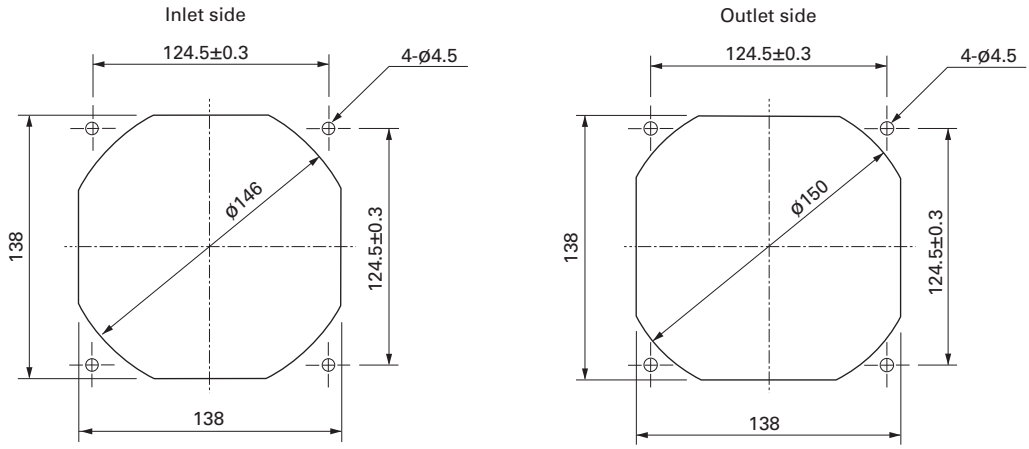
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 585

Model no.: 109-719, 109-719H

DC Fan

150×150×50 mm

San Ace 150 9GV 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. 599.
- 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 ..... 450 g

Specifications

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

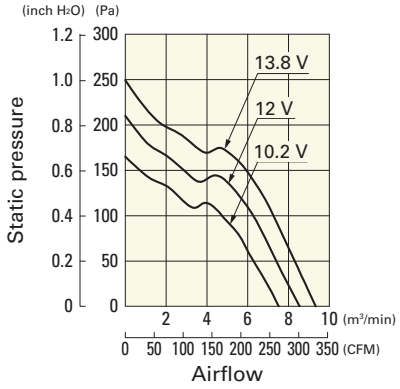
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV1512H501	12	10.2 to 13.8	2.9	34.8	3900	8.54	300	210	0.84	61	-20 to +70	40000/60˚C (70000/40˚C)
9GV1512M501			1.2	14.4	3000	6.35	224	132	0.53	53		
9GV1524M501	24	20.4 to 27.6	0.6	14.4	3000	6.35	224	132	0.53	53		

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

Airflow - Static Pressure Characteristics

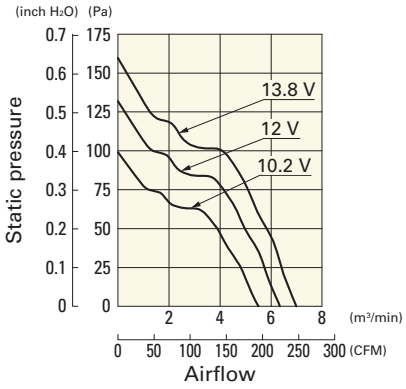
9GV1512H501 With pulse sensor

Operating voltage range



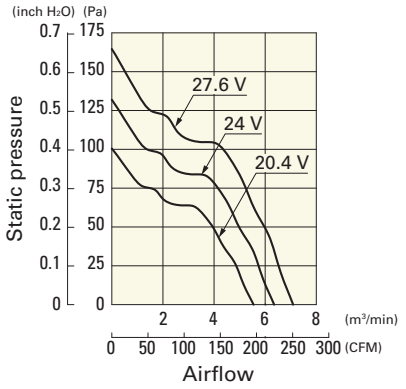
9GV1512M501 With pulse sensor

Operating voltage range

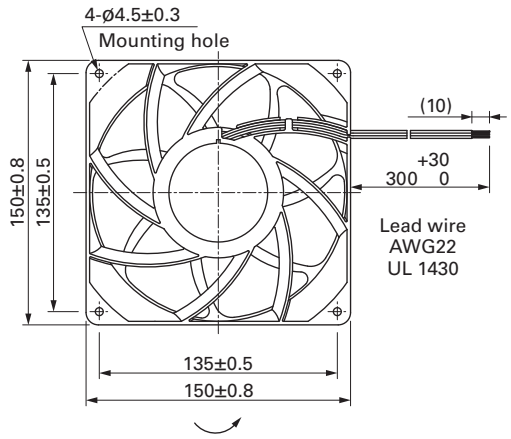


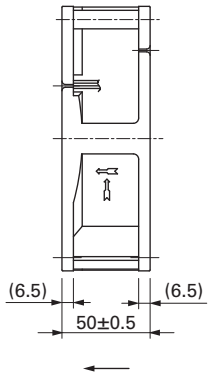
9GV1524M501 With pulse sensor

Operating voltage range



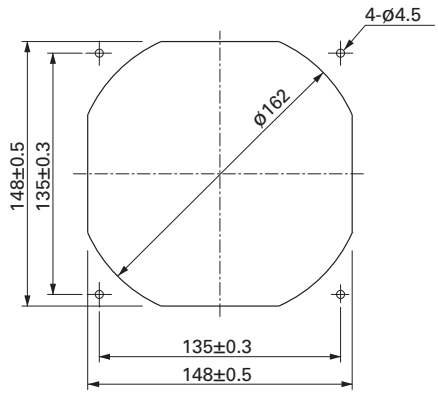
Dimensions (unit: mm) (With ribs)



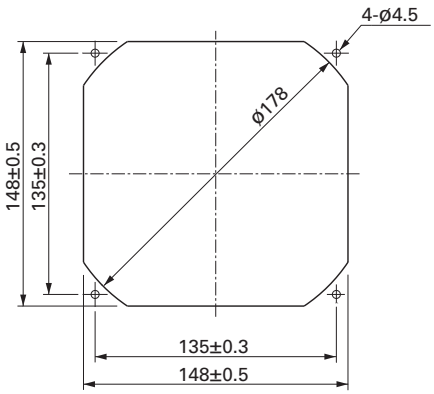


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

Inlet side



Outlet side



Options

Finger guards page: p. 585

Model no.: 109-1051, 109-1052

DC Fan

ø172×147×25 mm

San Ace 172 9E type

Sidecut type

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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 ..... 500 g

Specifications

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

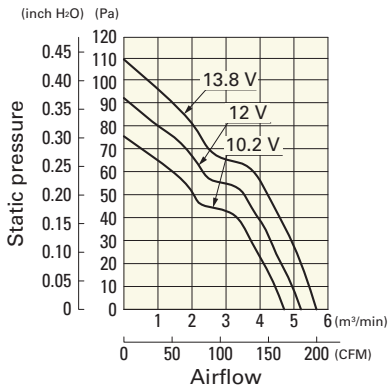
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109E4712M401	12	10.2 to 13.8	1.3	15.6	2800	5.2	183	92	0.369	51	-20 to +60	40000/60˚C (70000/40˚C)
109E4712L401			1.0	12.0	2500	4.6	162	73	0.293	48		
109E4724H401	24	20.4 to 27.6	1.0	24.0	3400	6.4	226	135	0.542	57		
109E4724F401			0.79	19.0	3100	5.8	204	112	0.45	54		
109E4724M401			0.58	13.9	2800	5.2	183	92	0.369	51		
109E4724L401			0.44	10.6	2500	4.6	162	73	0.293	48		
109E4748S401	48	40.8 to 55.2	0.62	29.8	3650	6.8	240	156	0.627	58		
109E4748H401			0.52	25.0	3400	6.4	226	135	0.542	57		
109E4748F401			0.4	19.2	3100	5.8	204	112	0.45	54		
109E4748M401			0.32	15.4	2800	5.2	183	92	0.369	51		
109E4748L401			0.25	12.0	2500	4.6	162	73	0.293	48		

Note: Sensor and control options are available for selection. Refer to the table on p. 620.

Airflow - Static Pressure Characteristics

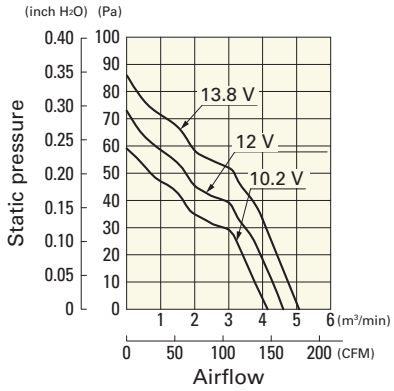
109E4712M401 With pulse sensor

Operating voltage range



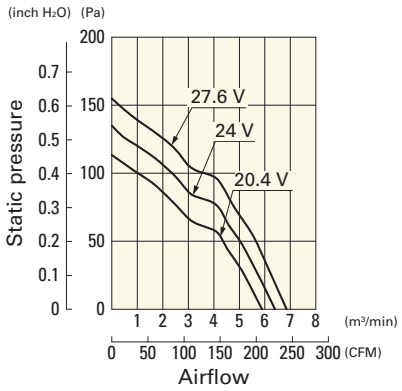
109E4712L401 With pulse sensor

Operating voltage range



109E4724H401 With pulse sensor

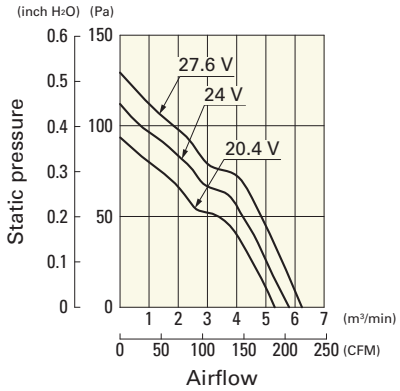
Operating voltage range



Airflow - Static Pressure Characteristics

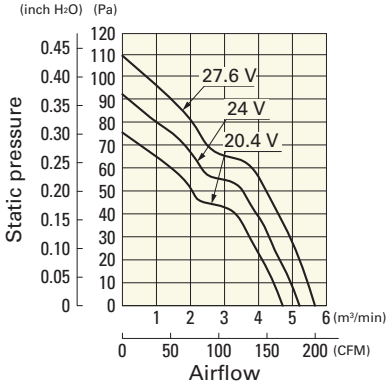
109E4724F401 With pulse sensor

Operating voltage range



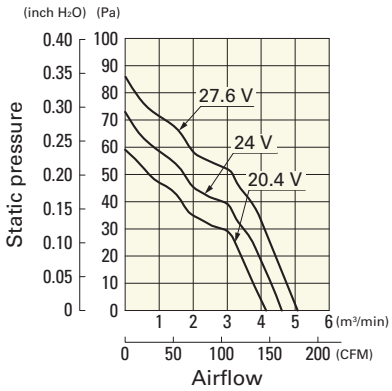
109E4724M401 With pulse sensor

Operating voltage range



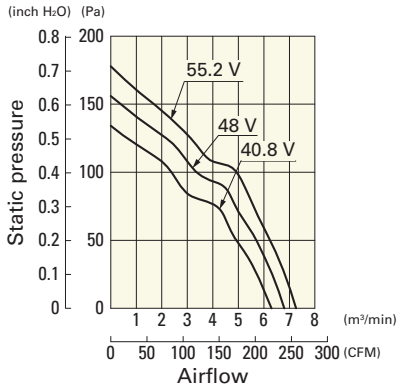
109E4724L401 With pulse sensor

Operating voltage range



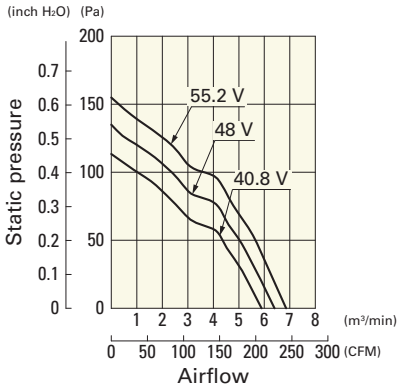
109E4748S401 With pulse sensor

Operating voltage range



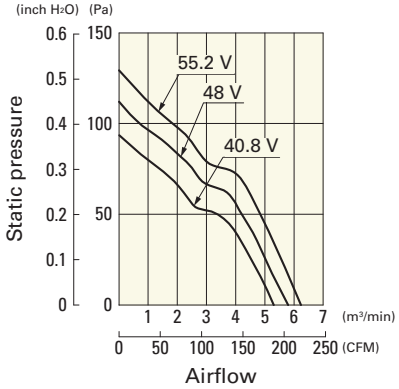
109E4748H401 With pulse sensor

Operating voltage range



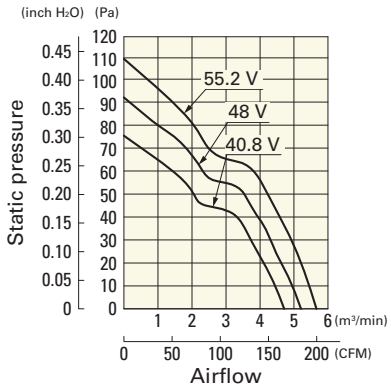
109E4748F401 With pulse sensor

Operating voltage range



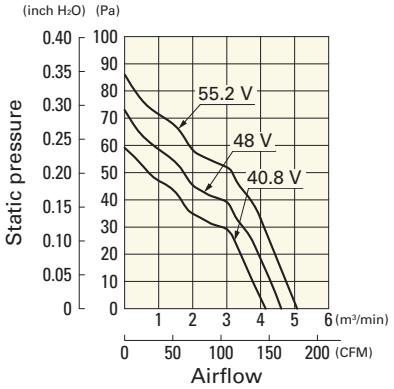
109E4748M401 With pulse sensor

Operating voltage range

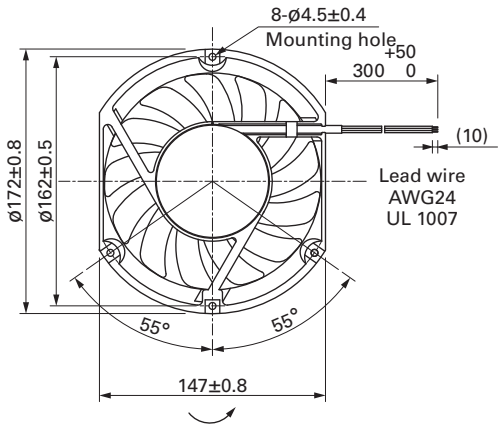


109E4748L401 With pulse sensor

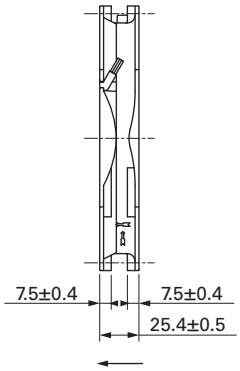
Operating voltage range



Dimensions (unit: mm)



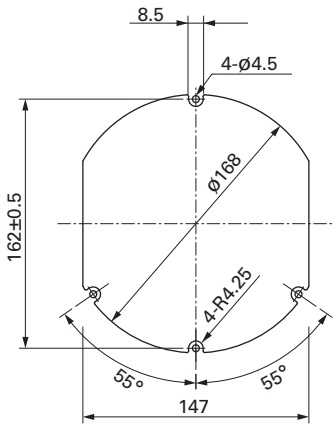
Rotating direction



Airflow direction

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

Inlet side, Outlet side



Options

Finger guards page: p. 586

Model no.: 109-319E, 109-319H, 109-320

ø172×150×51 mm

San Ace 172 9HV type

Sidecut type

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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 ..... 800 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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9HV5724P5H001	24	16 to 30	100	5.0	120	8000	12.3	434	1000	4.02	77	-20 to +70	40000/60˚C (70000/40˚C)
			20	0.5	12.0	3000	4.6	162	175	0.7	51		
9HV5748P5G001	48	36 to 72	100	5.0	240	10500	16.1	568	1600	6.43	83		
			20	0.41	19.7	3700	5.6	198	250	1.01	57		

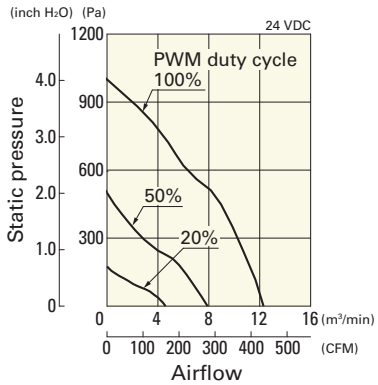
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 634.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

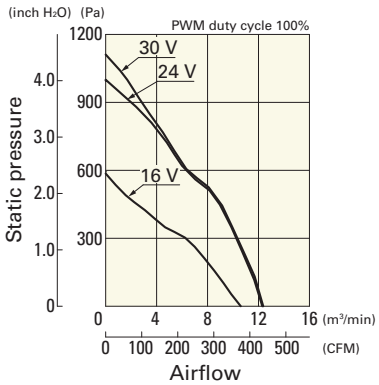
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV5724P5H001 With pulse sensor with PWM control function

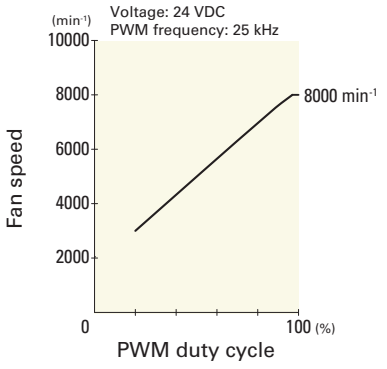
PWM duty cycle



Operating voltage range



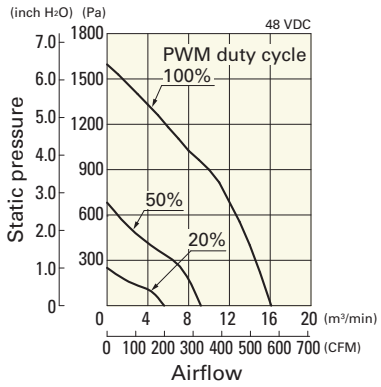
PWM duty - Speed characteristics example



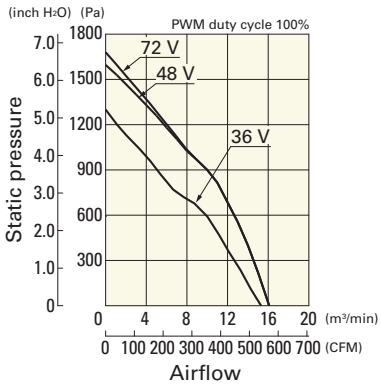
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV5748P5G001 With pulse sensor with PWM control function

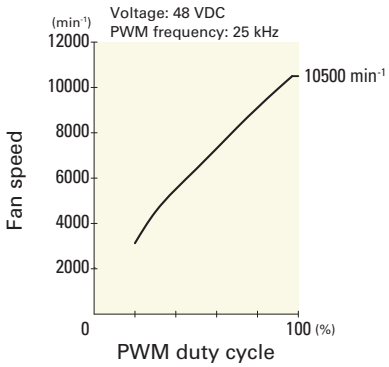
PWM duty cycle



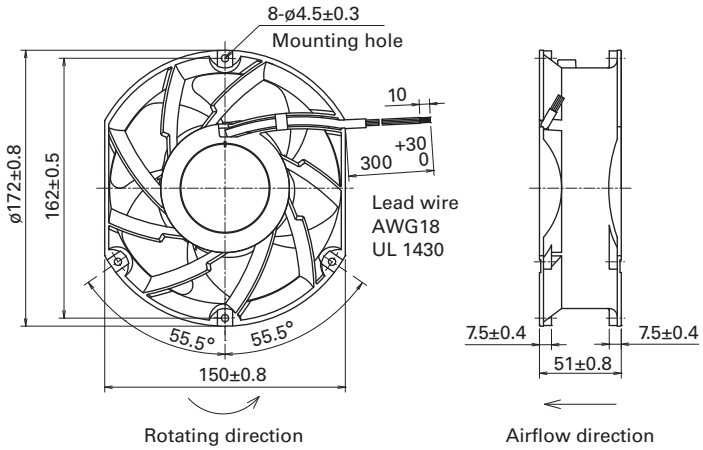
Operating voltage range



PWM duty - Speed characteristics example

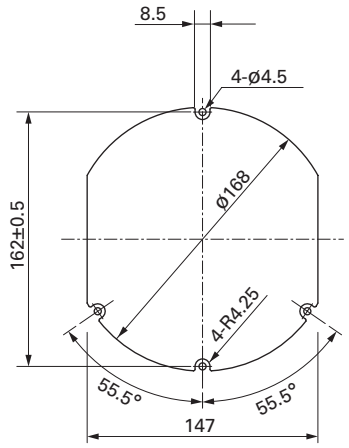


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 586

Model no.: 109-319J, 109-319E, 109-319H, 109-320

ø172×150×51 mm

San Ace 172 9SG type

Sidecut 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. 599.
- 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 ..... 760 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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9SG5724P5H61	24	20.4 to 27.6	100	2.8	67.2	6500	11.6	410	540	2.16	71	-20 to +70	40000/60˚C (70000/40˚C)
			0	0.18	4.32	1300	2.32	81.9	30	0.12	28		
9SG5748P5G01	48	36 to 72	100	2.91	140	8600	15.46	546	1000	4.02	78	-20 to +60	
			0	0.21	10.1	2000	3.59	127	75.1	0.3	40		
9SG5748P5H01			100	1.62	78	6500	11.6	410	770	3.09	71		
			0	0.21	10.1	2000	3.59	127	75.1	0.3	40		

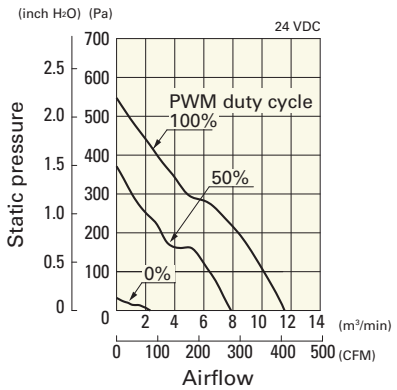
* PWM input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note 1: Sensor and control options are available for selection. Refer to the table on p. 636.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

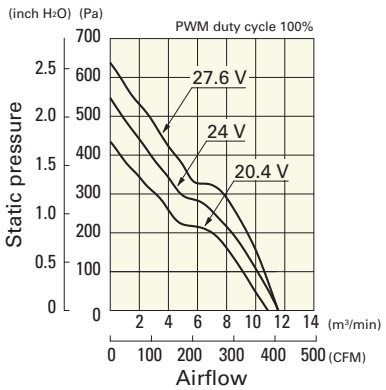
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9SG5724P5H61 With pulse sensor with PWM control function

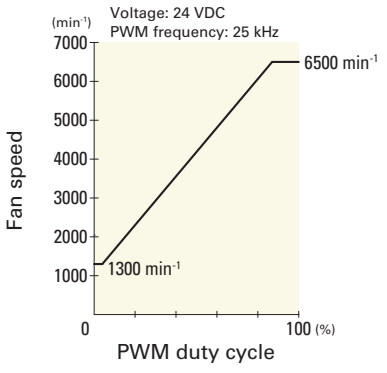
PWM duty cycle



Operating voltage range



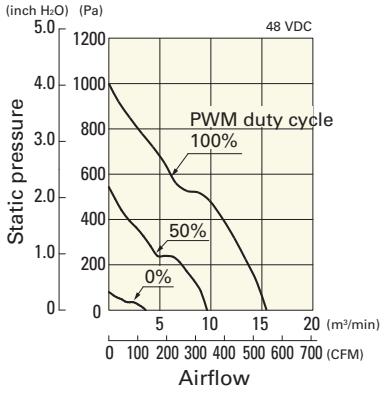
PWM duty - Speed characteristics example



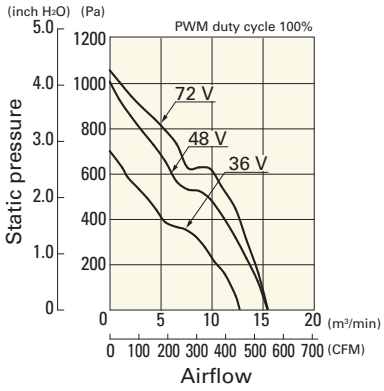
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9SG5748P5G01 With pulse sensor with PWM control function

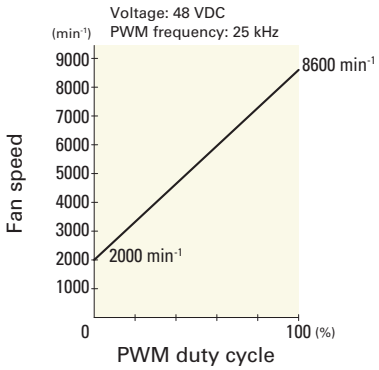
PWM duty cycle



Operating voltage range

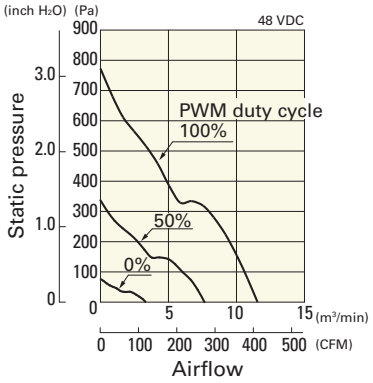


PWM duty - Speed characteristics example

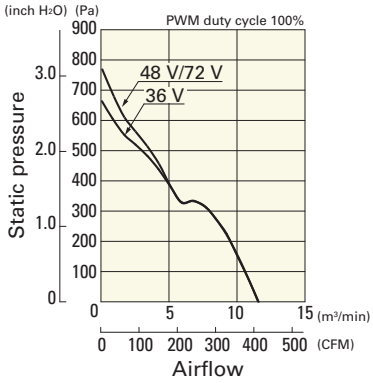


9SG5748P5H01 With pulse sensor with PWM control function

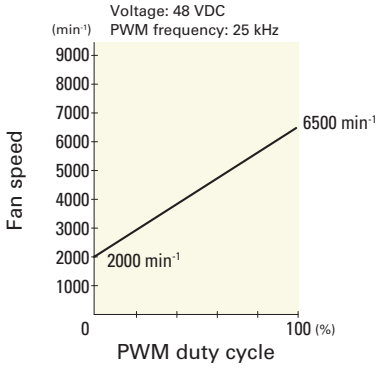
PWM duty cycle



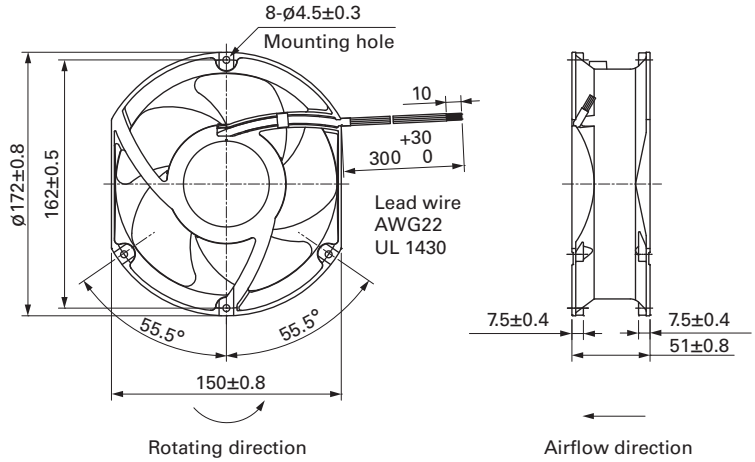
Operating voltage range



PWM duty - Speed characteristics example

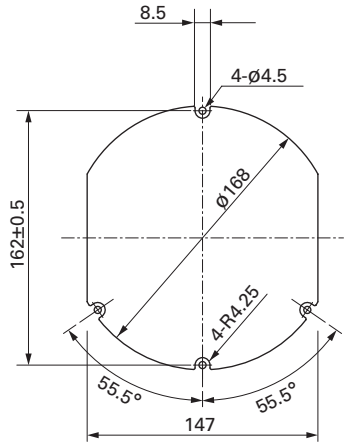


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 586

Model no.: 109-319J, 109-319E, 109-319H, 109-320

DC Fan

ø172×150×51 mm

San Ace 172 9GV type

Sidecut type

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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
- Mass ..... 800 g

Specifications

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

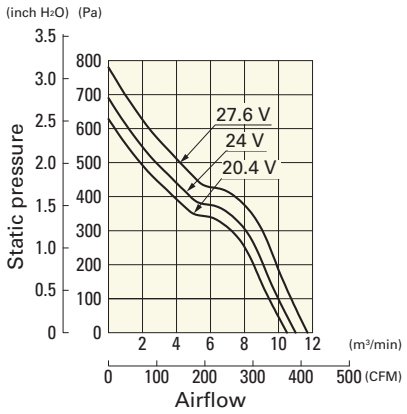
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV5724H501	24	20.4 to 27.6	4.0	96	6300	11.32	400	690	2.77	74	-20 to +70	40000/60˚C (70000/40˚C)
9GV5748H501	48	40.8 to 55.2	2.0	96	6300	11.32	400	690	2.77	74		

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

Airflow - Static Pressure Characteristics

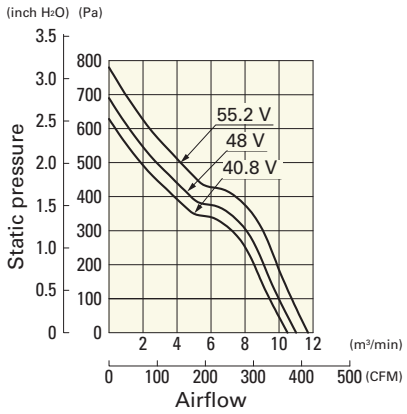
9GV5724H501 With pulse sensor

Operating voltage range

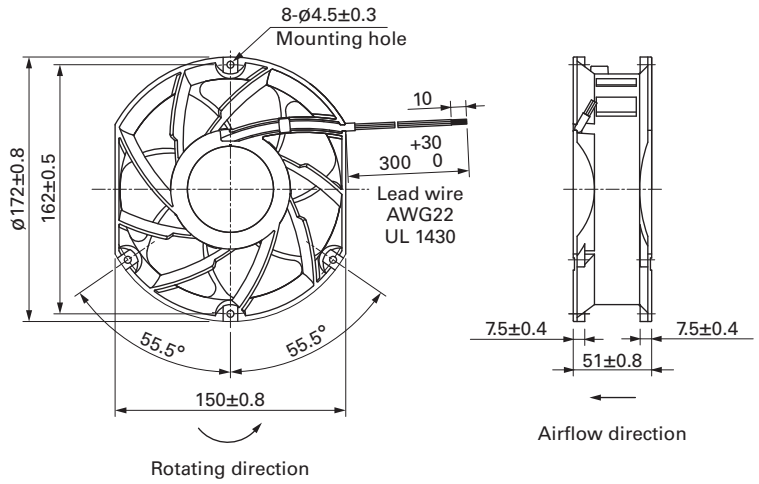


9GV5748H501 With pulse sensor

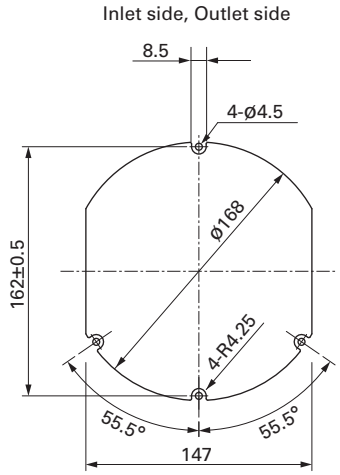
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 586

Model no.: 109-319J, 109-319E, 109-319H, 109-320

DC Fan

ø172×150×51 mm

San Ace 172 9E type

Sidecut type

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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 ..... 760 g

Specifications

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

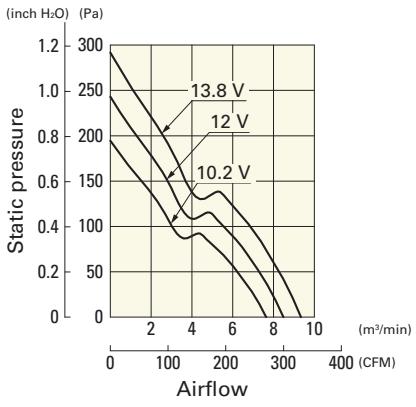
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109E5712K501	12	10.2 to 13.8	2.9	34.8	4100	8.5	300	243.0	0.976	60	-20 to +60	40000/60˚C (70000/40˚C)
109E5712Y501			2.3	27.6	3800	8	282	210	0.84	60		
109E5712H501			1.2	14.4	3050	6.4	226	137.2	0.551	52	-20 to +70	
109E5712F501			0.68	8.16	2500	5.1	180	95	0.38	47		
109E5712M501			0.48	5.76	2000	4.2	148	67.6	0.271	41		
109E5724C501	24	20.4 to 27.6	2.3	55.2	4800	9.9	350	308.0	1.237	66		
109E5724K501			1.3	31.2	4100	8.5	300	243.0	0.976	60		
109E5724H501			0.58	13.92	3050	6.4	226	137.2	0.551	52		
109E5724F501			0.35	8.4	2500	5.1	180	95	0.38	47		
109E5724M501			0.2	4.8	2000	4.2	148	67.6	0.271	41		
109E5748C501	48	40.8 to 55.2	1.2	57.6	4800	9.9	350	308.0	1.237	66		
109E5748K501			0.7	33.6	4100	8.5	300	243.0	0.976	60	-20 to +60	
109E5748H501			0.28	13.44	3050	6.4	226	137.2	0.551	52		
109E5748F501			0.19	9.12	2500	5.1	180	95	0.38	47	-20 to +70	
109E5748M501			0.11	5.28	2000	4.2	148	67.6	0.271	41		

Note 1: Sensor and control options are available for selection. Refer to the table on p. 621.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

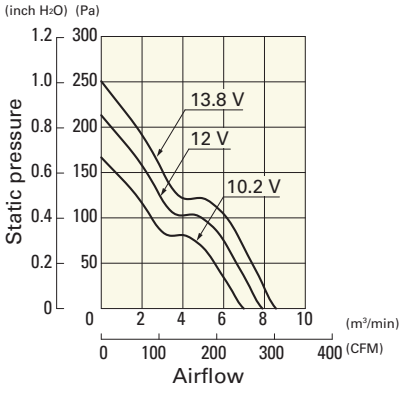
109E5712K501 With pulse sensor

Operating voltage range



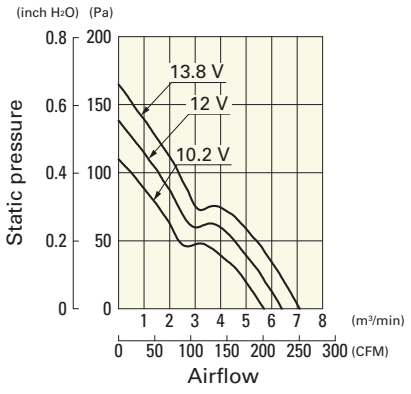
109E5712Y501 With pulse sensor

Operating voltage range



109E5712H501 With pulse sensor

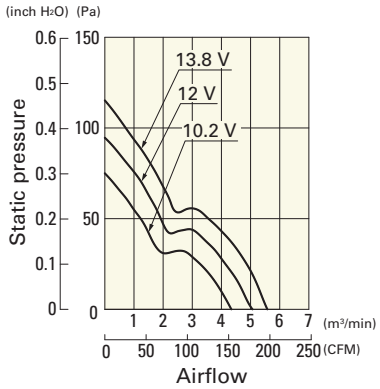
Operating voltage range



Airflow - Static Pressure Characteristics

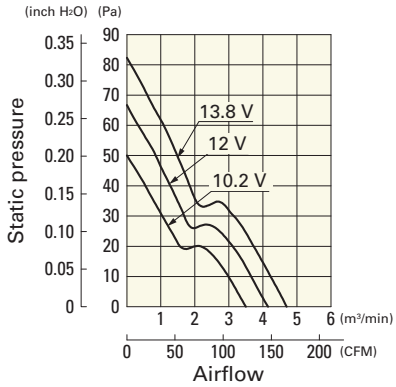
109E5712F501 With pulse sensor

Operating voltage range



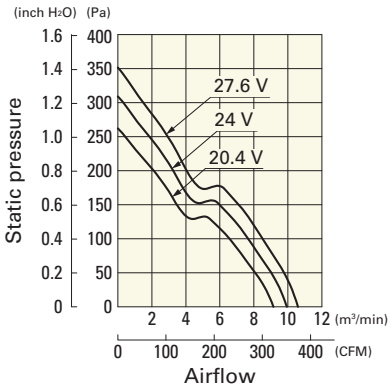
109E5712M501 With pulse sensor

Operating voltage range



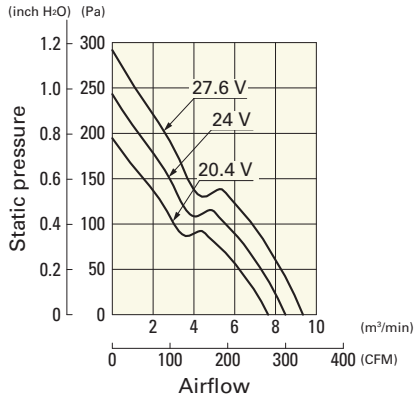
109E5724C501 With pulse sensor

Operating voltage range



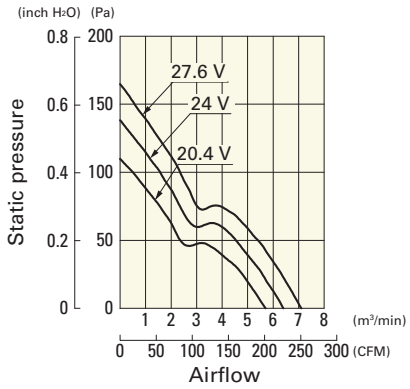
109E5724K501 With pulse sensor

Operating voltage range



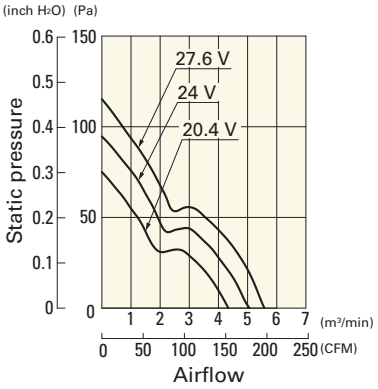
109E5724H501 With pulse sensor

Operating voltage range



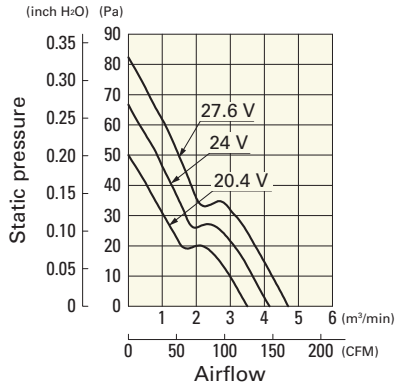
109E5724F501 With pulse sensor

Operating voltage range



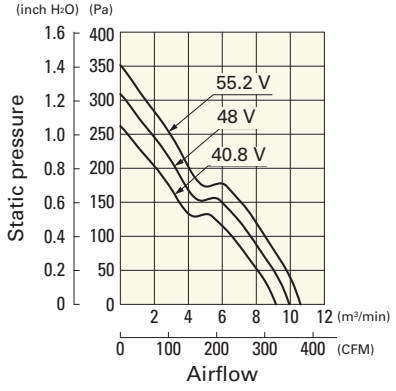
109E5724M501 With pulse sensor

Operating voltage range



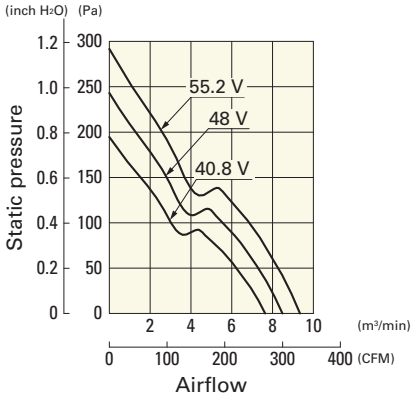
109E5748C501 With pulse sensor

Operating voltage range



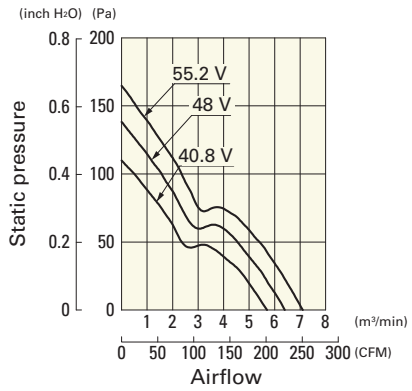
109E5748K501 With pulse sensor

Operating voltage range



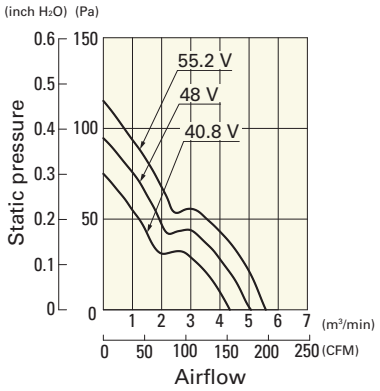
109E5748H501 With pulse sensor

Operating voltage range



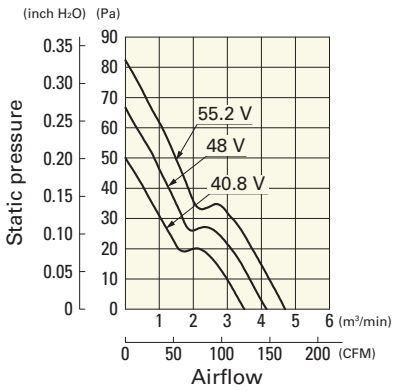
109E5748F501 With pulse sensor

Operating voltage range

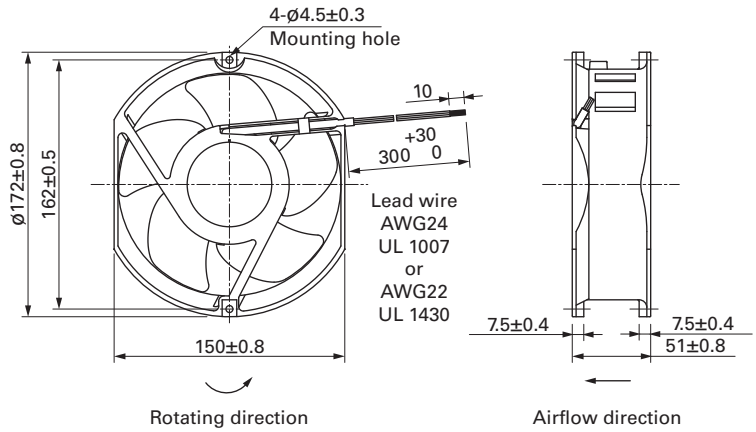


109E5748M501 With pulse sensor

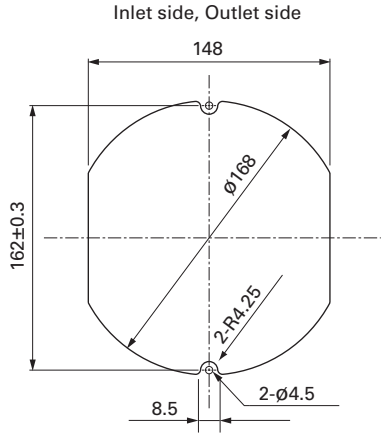
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 586

Model no.: 109-319E, 109-319H, 109-320

ø172×51 mm

San Ace 172 9E type

Round type

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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 ..... 780 g

Specifications

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

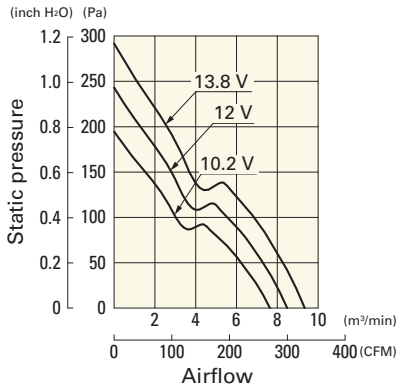
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109E1712K501	12	10.2 to 13.8	2.9	34.8	4100	8.5	300	243.0	0.976	55	-20 to +60	40000/60˚C (70000/40˚C)
109E1712Y501			2.3	27.6	3800	7.8	276	210.0	0.843	53		
109E1712H501			1.2	14.4	3050	6.4	226	137.2	0.551	47	-20 to +70	
109E1712F501			0.68	10.8	2500	5.1	180	95.0	0.382	42		
109E1712M501			0.48	5.76	2000	4.2	148	67.6	0.271	36		
109E1724C501	24	20.4 to 27.6	2.3	55.2	4800	9.9	350	308.0	1.237	60		
109E1724K501			1.3	31.2	4100	8.5	300	243.0	0.976	55		
109E1724H501			0.58	13.92	3050	6.4	226	137.2	0.551	47		
109E1724F501			0.35	8.4	2500	5.1	180	95	0.382	42		
109E1724M501			0.2	4.8	2000	4.2	148	67.6	0.271	36		
109E1748C501	48	40.8 to 55.2	1.2	57.6	4800	9.9	350	308.0	1.237	60		
109E1748K501			0.7	33.6	4100	8.5	300	243.0	0.976	55	-20 to +60	
109E1748H501			0.28	13.44	3050	6.4	226	137.2	0.551	47	-20 to +70	
109E1748F501			0.19	9.12	2500	5.1	180	95	0.382	42	-20 to +60	
109E1748M501			0.11	5.28	2000	4.2	148	67.6	0.271	36	-20 to +70	

Note 1: Sensor and control options are available for selection. Refer to the table on p. 620.
Note 2: The » mark indicates Short Lead Time Service applicable models. See p. 654 for details.

Airflow - Static Pressure Characteristics

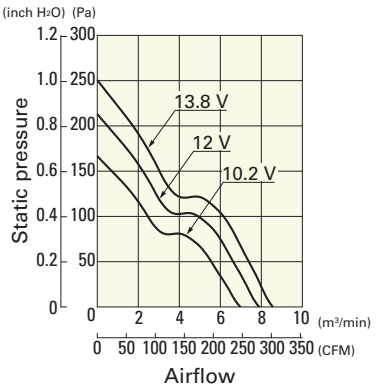
109E1712K501 With pulse sensor

Operating voltage range



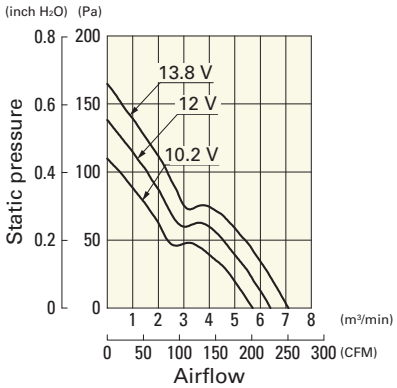
109E1712Y501 With pulse sensor

Operating voltage range



109E1712H501 With pulse sensor

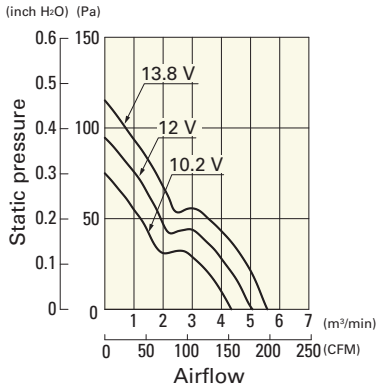
Operating voltage range



Airflow - Static Pressure Characteristics

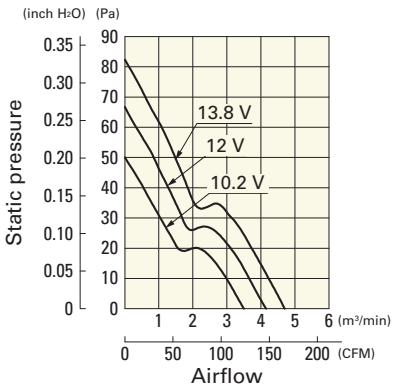
109E1712F501 With pulse sensor

Operating voltage range



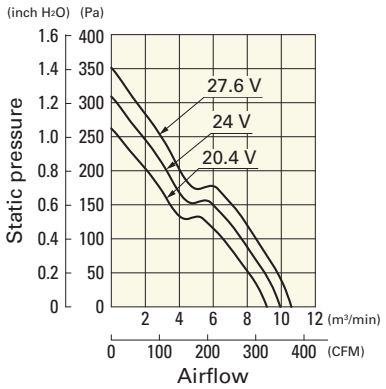
109E1712M501 With pulse sensor

Operating voltage range



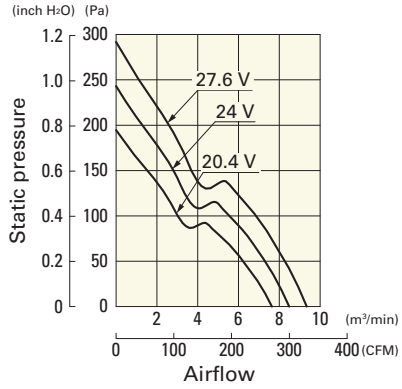
109E1724C501 With pulse sensor

Operating voltage range



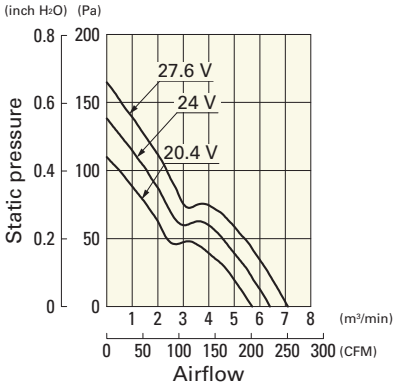
109E1724K501 With pulse sensor

Operating voltage range



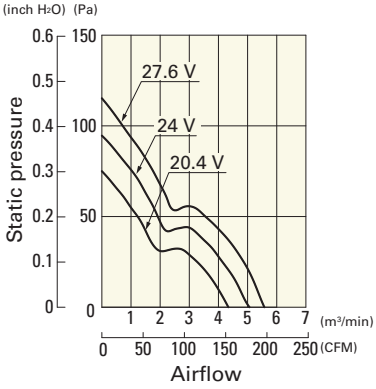
109E1724H501 With pulse sensor

Operating voltage range



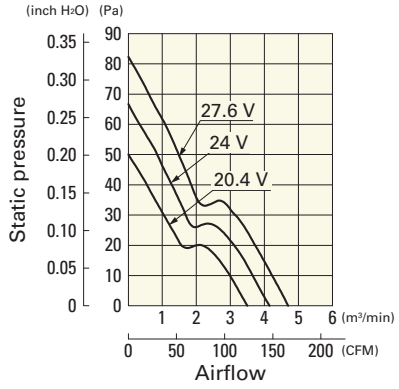
109E1724F501 With pulse sensor

Operating voltage range



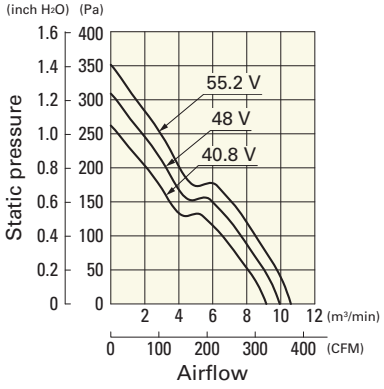
109E1724M501 With pulse sensor

Operating voltage range



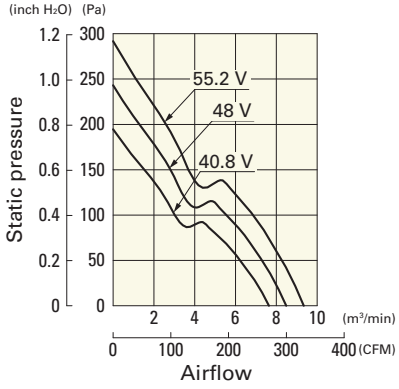
109E1748C501 With pulse sensor

Operating voltage range



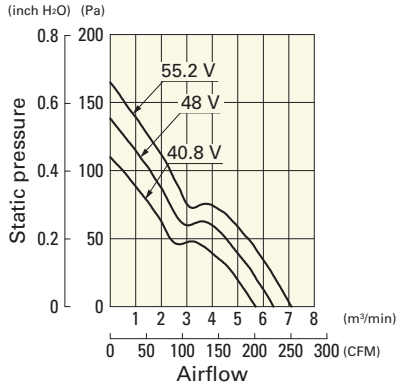
109E1748K501 With pulse sensor

Operating voltage range



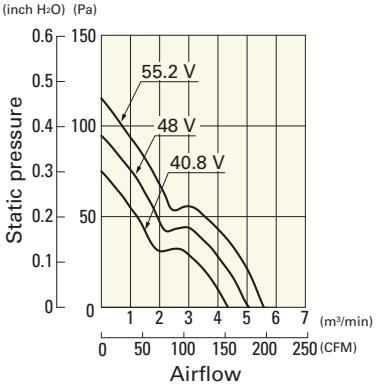
109E1748H501 With pulse sensor

Operating voltage range



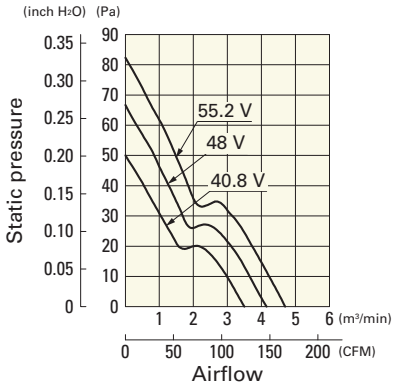
109E1748F501 With pulse sensor

Operating voltage range

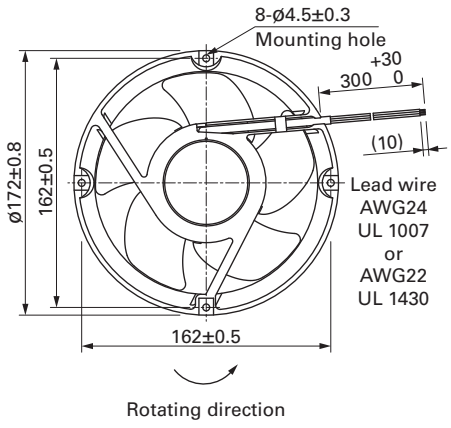


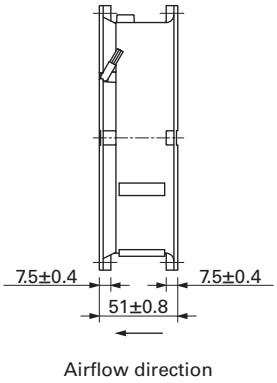
109E1748M501 With pulse sensor

Operating voltage range

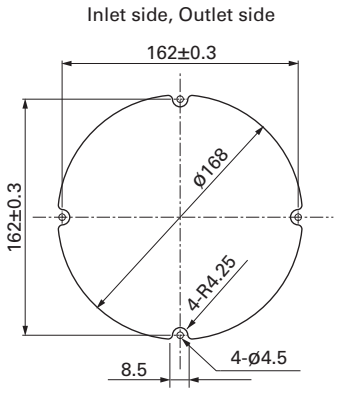


Dimensions (unit: mm)





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



Options

Finger guards page: p. 586

Model no.: 109-1066, 109-1068, 109-319E, 109-319H, 109-320

DC Fan

ø200×70 mm

San Ace 200 9GV type

General Specifications

- Material ..... Frame: Aluminum, 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. 599.
- 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 ..... 1800 g

Once the fan stops, wait for at least 15 seconds before restarting the fan.

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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV2048P0G201	48	36 to 72	100	12.5	600	8000	31.5	1112	1400	5.62	81	-20 to +70	40000/60˚C (70000/40˚C)

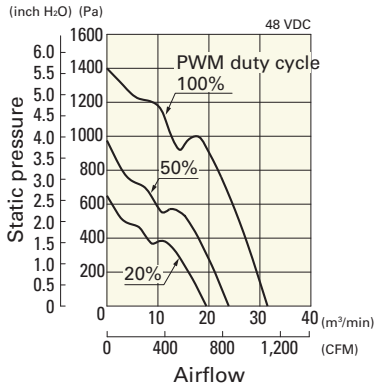
* PWM input frequency is 1 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Note: Sensor and control options are available for selection. Refer to the table on p. 633.

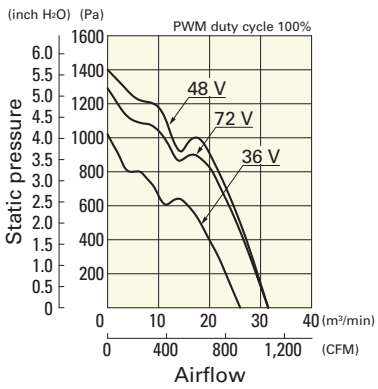
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV2048P0G201 With pulse sensor with PWM control function

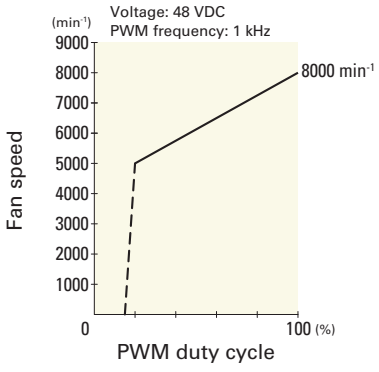
PWM duty cycle



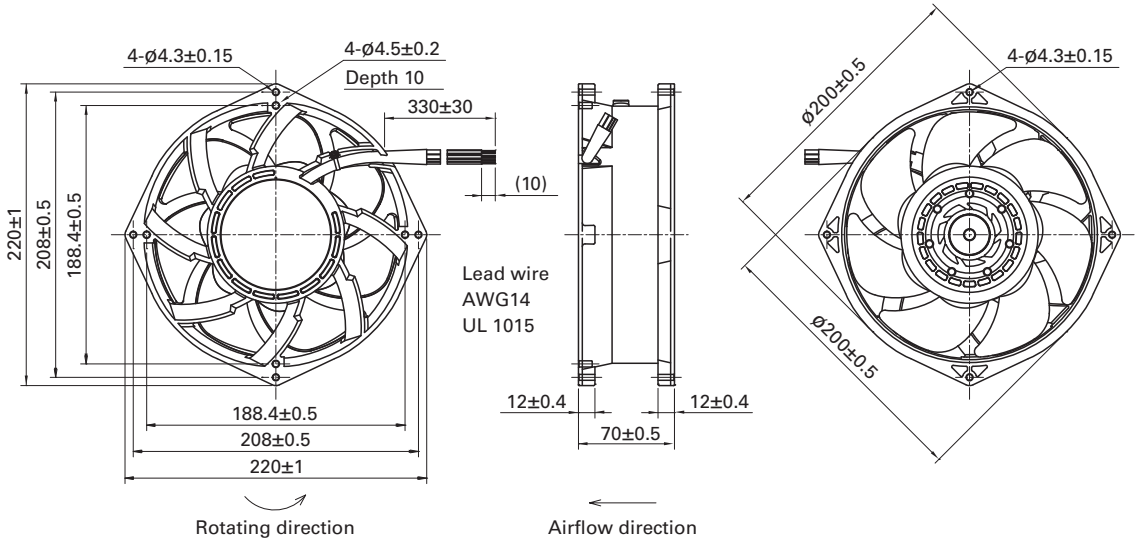
Operating voltage range



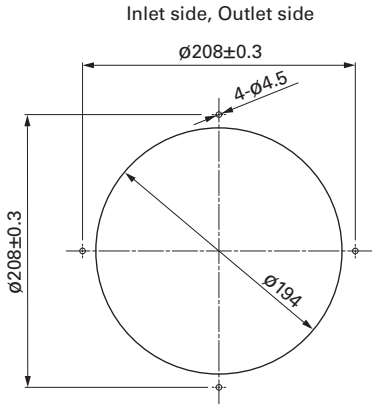
PWM duty - Speed characteristics example



Dimensions (unit: mm)



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



Options

Finger guards page: p. 587

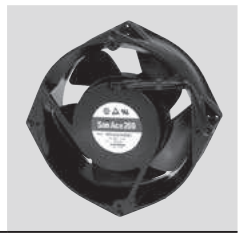
Model no.: 109-1102, 109-1102H, 109-1103, 109-1103H

DC Fan

ø200×70 mm

San Ace 200 9EC type

Model 9EC2048J001 is not certified.



General Specifications

- Material ..... Frame: Aluminum (Black coating), 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. 599.
- 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 ..... 1800 g

Once the fan stops, wait for at least 10 seconds before restarting the fan.

Specifications

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

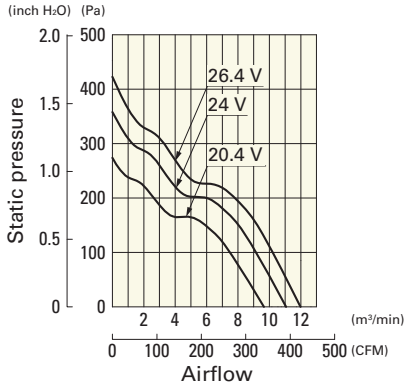
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9EC2024H001	24	20.4 to 26.4	2.0	48.0	3600	11.0	388	360	1.446	60	-20 to +60	40000/60˚C (70000/40˚C)
9EC2048J001	48	40.8 to 55.2	4.4	211.2	6100	18.3	646	1000	4.016	75		
9EC2048A001		43.0 to 51.0	2.2	105.6	4800	14.7	519	640	2.57	68		
9EC2048H001		40.8 to 52.8	1.2	57.6	3600	11.0	388	360	1.446	60		

Note: Sensor and control options are available for selection. Refer to the table on p. 626.

Airflow - Static Pressure Characteristics

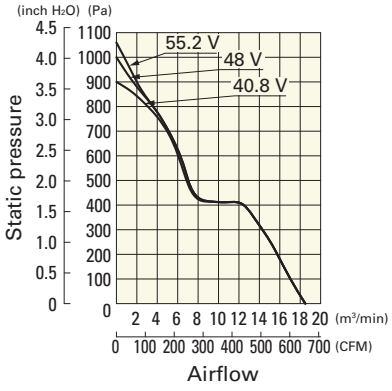
9EC2024H001 With pulse sensor

Operating voltage range



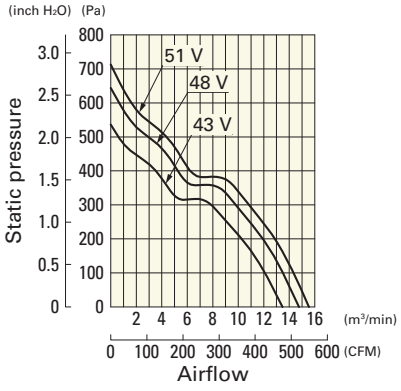
9EC2048J001 With pulse sensor

Operating voltage range



9EC2048A001 With pulse sensor

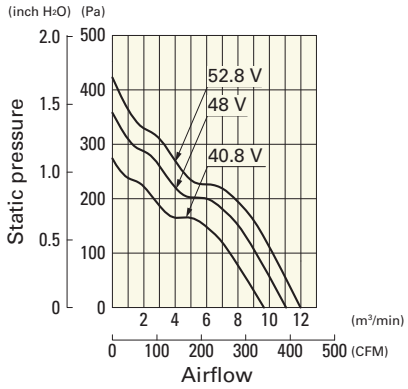
Operating voltage range



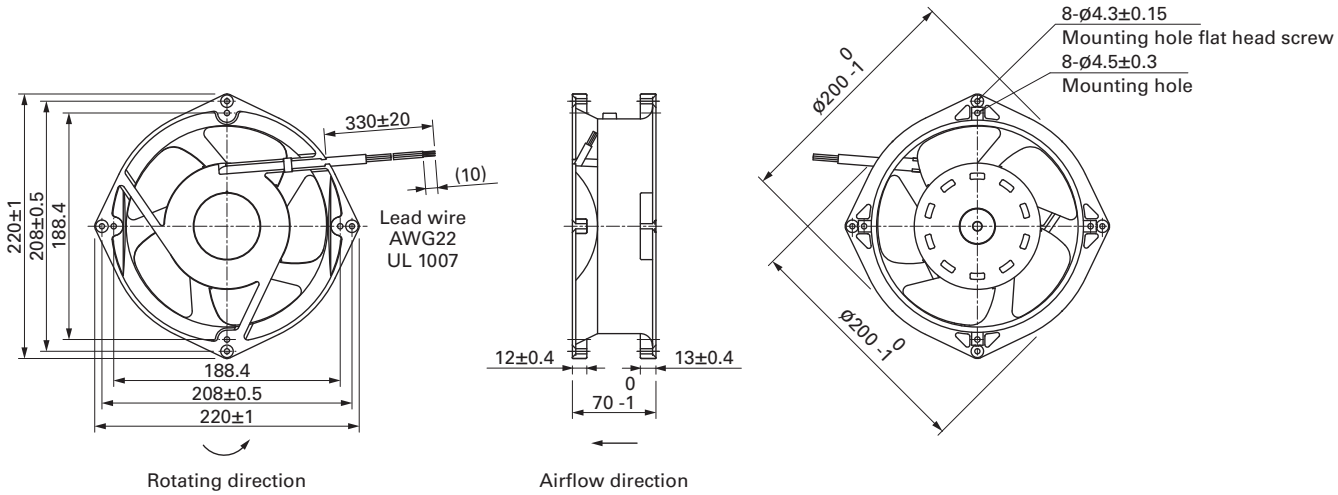
Airflow - Static Pressure Characteristics

9EC2048H001 With pulse sensor

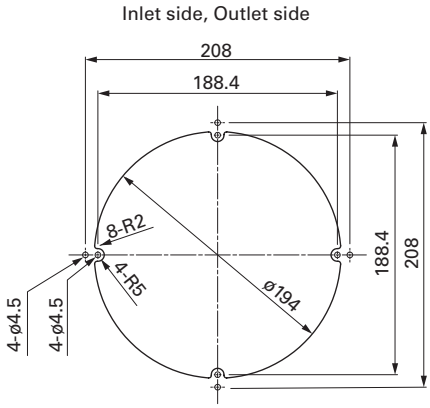
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 587

Model no.: 109-720, 109-720H, 109-721, 109-721H