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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.

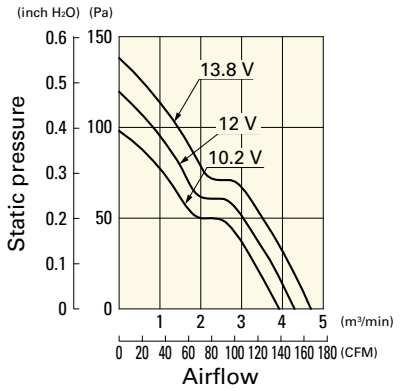
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P1312S101	12	10.2 to 13.8	1.3	15.6	3300	4.2	148	117.6	0.472	47	-20 to +60	40000/60˚C
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		

Other sensor specifications are available as options. Refer to the index (pp. 544 to 545).

Airflow - Static Pressure Characteristics

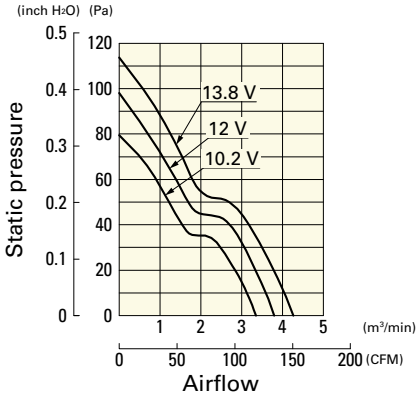
109P1312S101 With pulse sensor

Operating voltage range



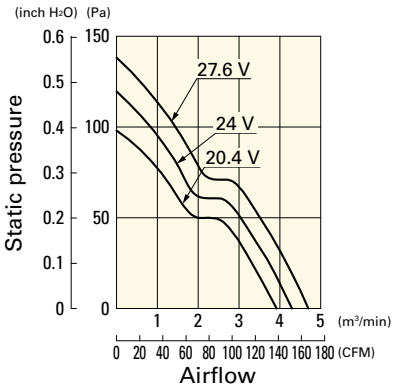
109P1312H101 With pulse sensor

Operating voltage range



109P1324S101 With pulse sensor

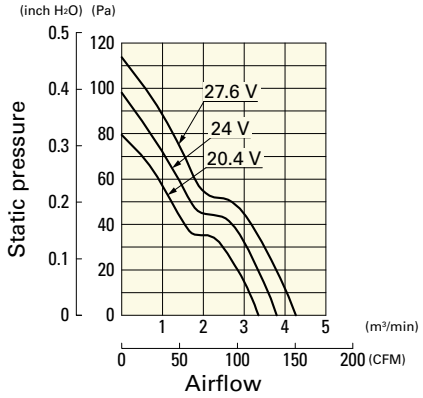
Operating voltage range



Airflow - Static Pressure Characteristics

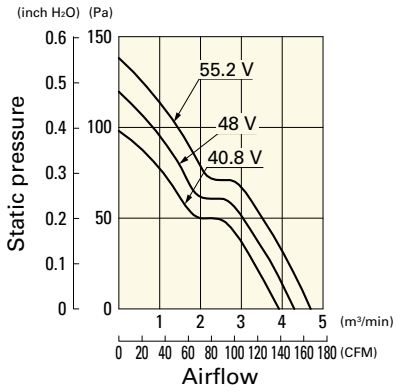
109P1324H101 With pulse sensor

Operating voltage range



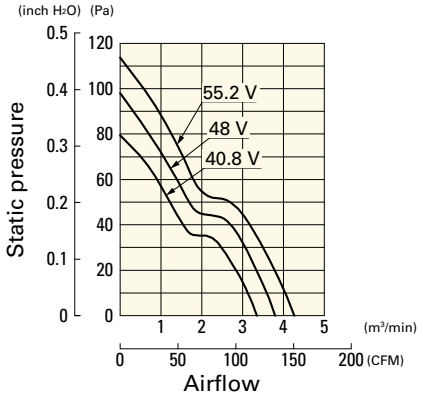
109P1348S101 With pulse sensor

Operating voltage range

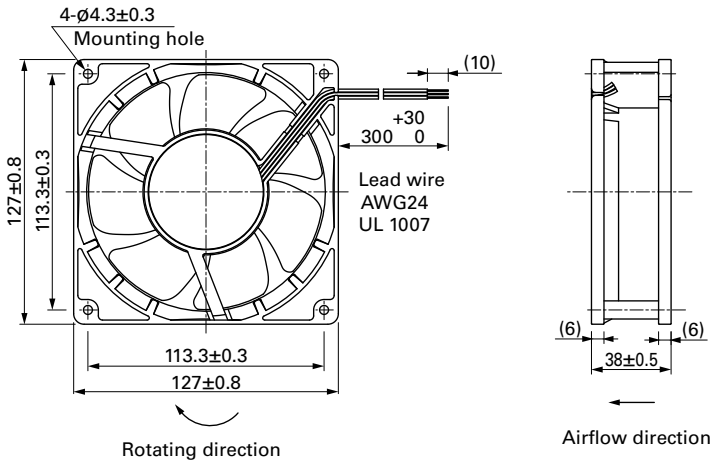


109P1348H101 With pulse sensor

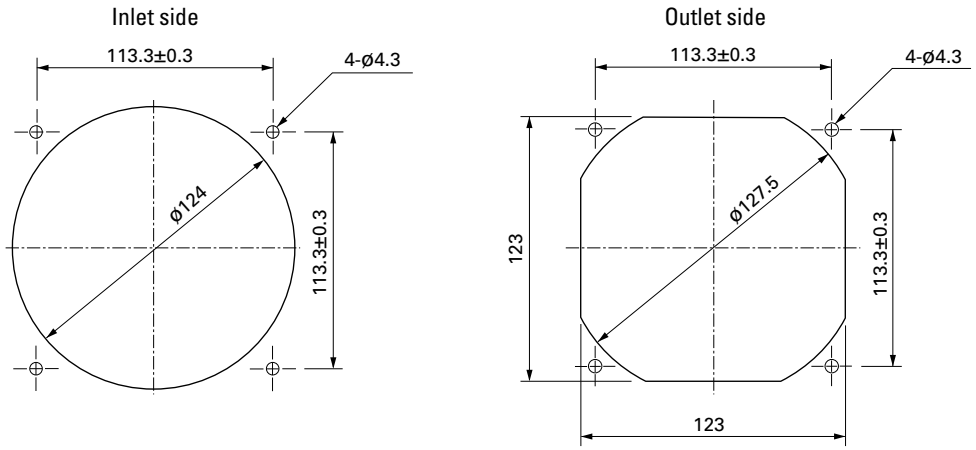
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 514

Model no.: 109-722, 109-723

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.**

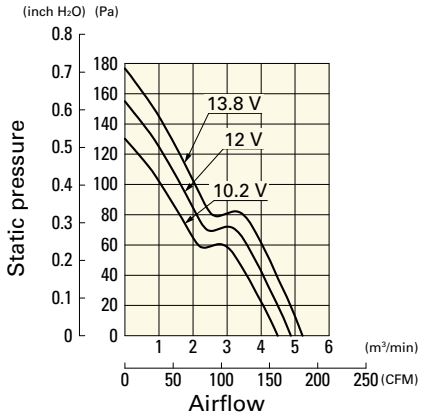
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109E1312A101	12	10.2 to 13.8	1.4	16.8	3850	4.81	170	155	0.622	52	-20 to +70	60000/60˚C
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
109E1324A101			0.7	16.8	3850	4.81	170	155	0.622	52	-20 to +70	60000/60˚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
109E1348A101			0.36	17.3	3850	4.81	170	155	0.622	52	-20 to +70	60000/60˚C
109E1348S101			0.28	13.4	3450	4.37	154	125	0.502	49		

Other sensor specifications are available as options. Refer to the index (p. 542).

Airflow - Static Pressure Characteristics

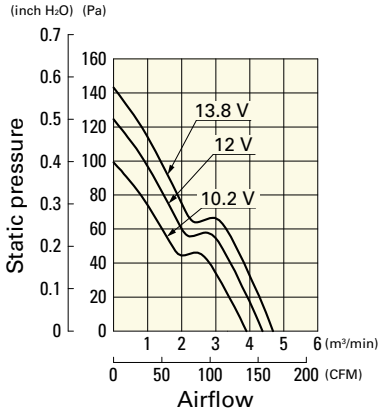
109E1312A101 With pulse sensor

Operating voltage range



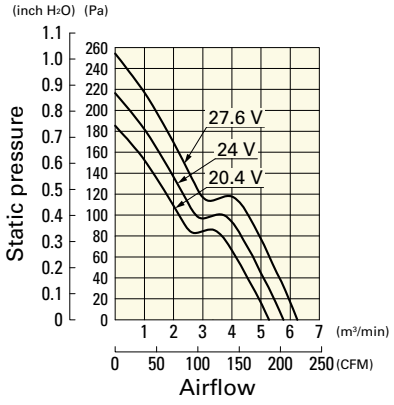
109E1312S101 With pulse sensor

Operating voltage range



109E1324G101 With pulse sensor

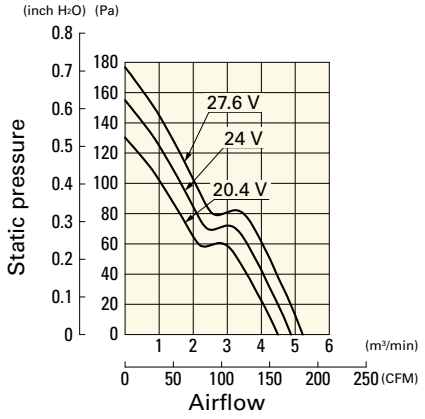
Operating voltage range



Airflow - Static Pressure Characteristics

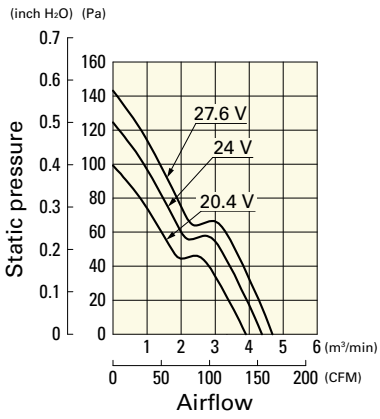
109E1324A101 With pulse sensor

Operating voltage range



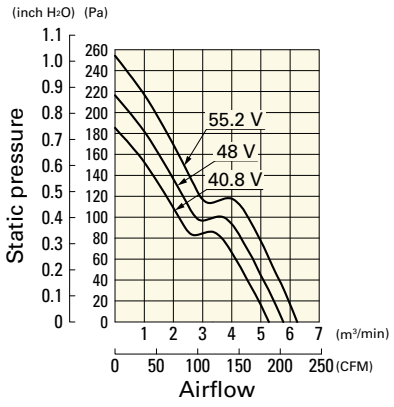
109E1324S101 With pulse sensor

Operating voltage range



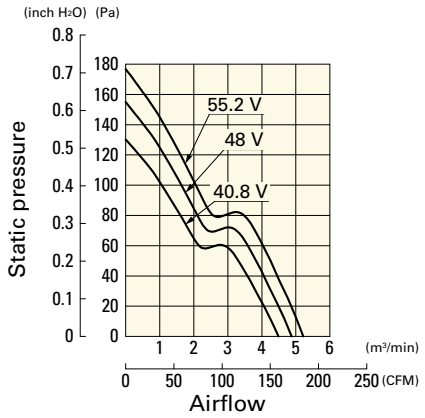
109E1348G101 With pulse sensor

Operating voltage range



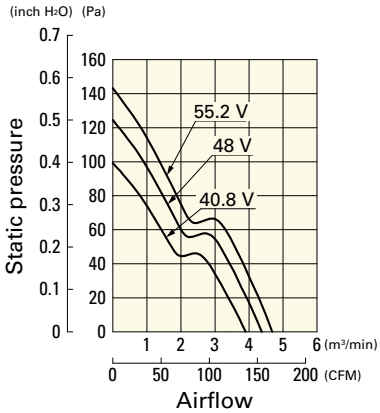
109E1348A101 With pulse sensor

Operating voltage range

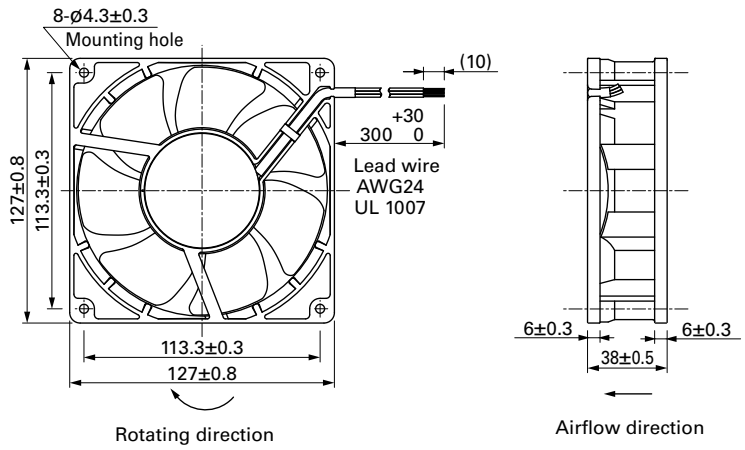


109E1348S101 With pulse sensor

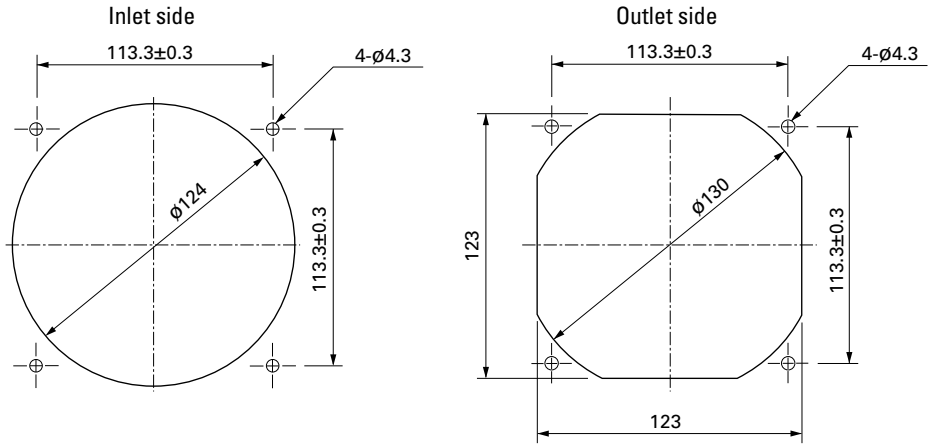
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 514

Model no.: 109-722, 109-723

Reversible Flow Fan

The wind directions can be switched with these fans. Equivalent cooling performance can be obtained in both directions.

Model Numbering System

Not every combination of the following codes or characters is available. Contact us for an available combination.

9RF	13	12	P	3	H	001
Type name	Frame size	Voltage	PWM control function	Frame thickness	Speed code	Individual customer's spec

Type name	9RF
Frame size (mm)	09 (ø92) 13 (ø136)
Voltage (V)	12 24 12 24
Frame thickness (mm)	1 3 38 28
Speed code	H

How to Read Specifications (DC fan)

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)

Rated voltage ····· This is the necessary voltage to drive the fan. E.g.) 12 VDC, 24 VDC, 48 VDC
Operating voltage range ····· The voltage range over which fan operation is guaranteed.
Rated current ····· The current when the fan is operating at rated voltage (at free air).
Rated input ····· The power value when the fan is operating at rated voltage (at free air).
Rated speed ····· The speed when the fan is operating at rated voltage (at free air).
Max. airflow ····· The maximum airflow that the fan can generate during rated operation (measured with our double chamber measuring device). Airflow is the volume of air generated by the fan per unit of time.
Max. static pressure ····· The maximum static pressure value that the fan can produce during rated operation (measured with our double chamber measuring device). Static pressure indicates a fan's ability to move air against resistance due to the internal structure of the device to which the fan is installed.
SPL ····· SPL stands for Sound Pressure Level. The noise level during the fan's rated operation. Please refer to the technical material section for the measurement method.
Operating temperature ····· The temperature range over which fan operation is guaranteed (Non- condensing).
Expected life ····· Service life hours that 90% of bearings will survive without failing when continuously operated at the rated voltage and 60°C temperature. Expected life at 40°C is for reference only. For more information, please refer to the technical material section.

ø136×28 mm

San Ace 136RF 9RF 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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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 pulse sensors with PWM control function.**

Model no.	Airflow direction	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]
9RF1312P3H001	Forward	12	10.2 to 13.8	100	0.15	1.8	3100	2.0	70.7	102	0.41	35	-20 to +70	40000/60˚C (70000/40˚C)
	Reverse			0	0.15	1.8	3100	2.0	70.7	104	0.418	46		
9RF1324P3H001	Forward	24	20.4 to 27.6	100	0.09	2.2	3100	2.0	70.7	102	0.41	35		
	Reverse			0	0.09	2.2	3100	2.0	70.7	104	0.418	46		

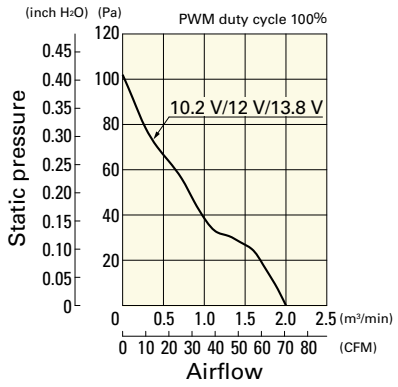
* PWM frequency: 25 kHz

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

9RF1312P3H001 With pulse sensor with PWM control function

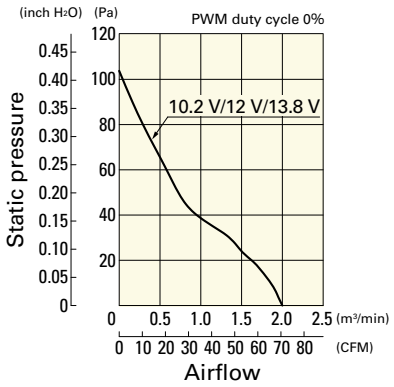
Operating voltage range

Forward

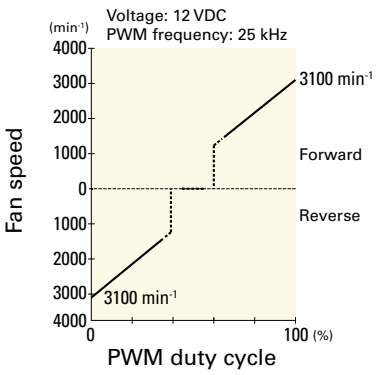


Operating voltage range

Reverse



PWM duty - Speed characteristics example

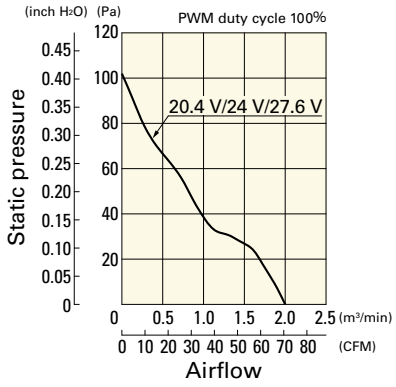


Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9RF1324P3H001 With pulse sensor with PWM control function

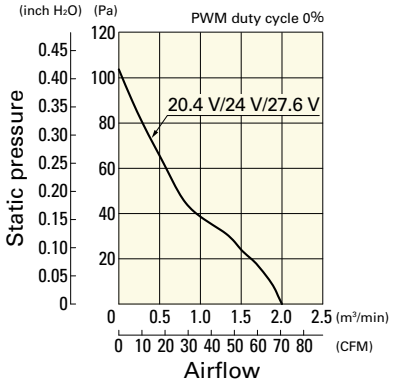
Operating voltage range

Forward

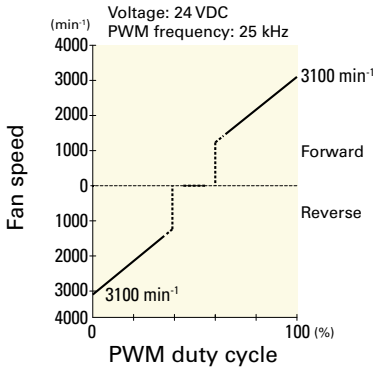


Operating voltage range

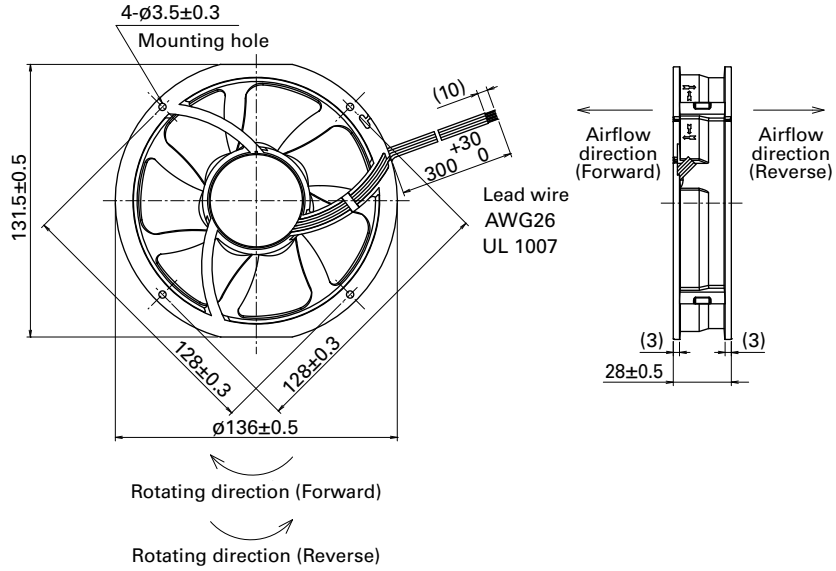
Reverse



PWM duty - Speed characteristics example

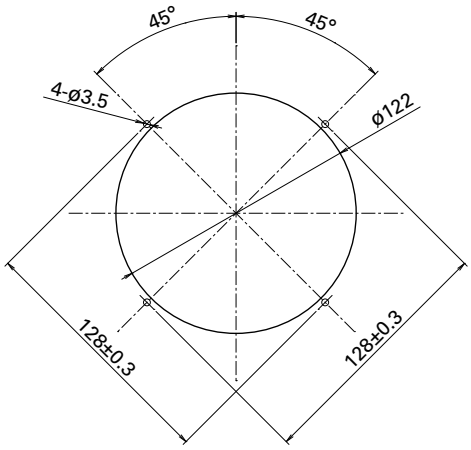


Dimensions (unit: mm)



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

Impeller side, Nameplate side



Options

Finger guards page: p. 514

Model no.: 109-1139

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.**

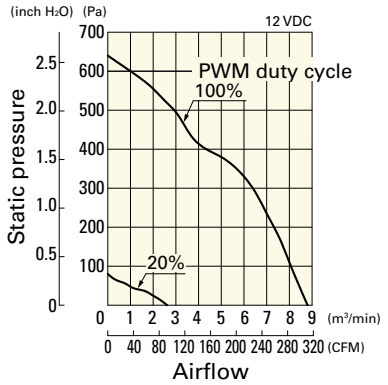
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV1412P1G001	12	10.8 to 13.2	100	4.6	55.2	7600	8.8	310	640	2.57	70	-20 to +70	40000/60˚C
			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 frequency: 25 kHz. Fan does not rotate when PWM duty cycle is 0%.

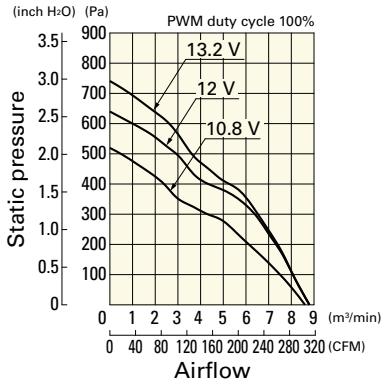
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1412P1G001 With pulse sensor with PWM control function

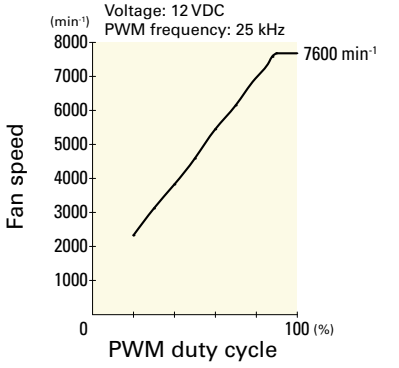
PWM duty cycle



Operating voltage range



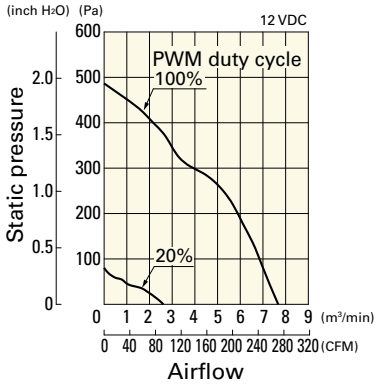
PWM duty - Speed characteristics example



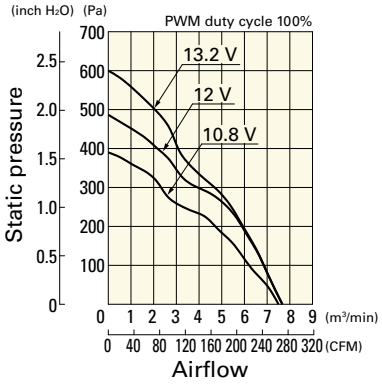
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1412P1S001 With pulse sensor with PWM control function

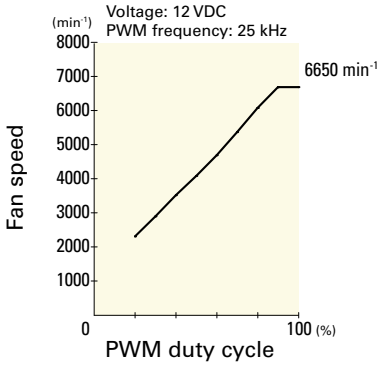
PWM duty cycle



Operating voltage range

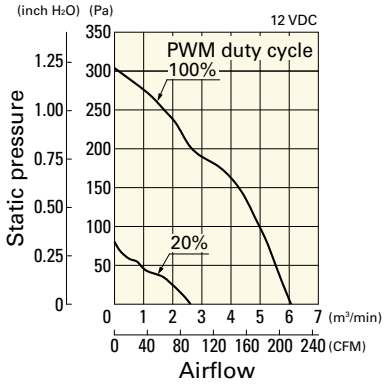


PWM duty - Speed characteristics example

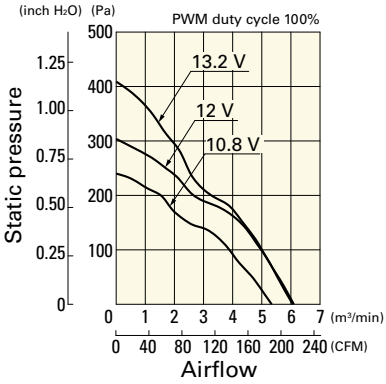


9GV1412P1H001 With pulse sensor with PWM control function

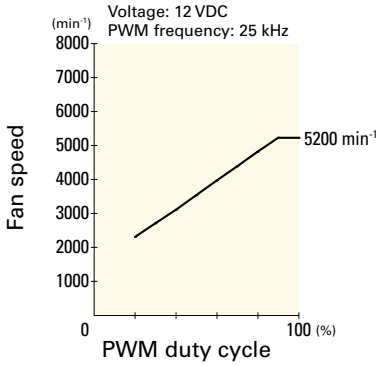
PWM duty cycle



Operating voltage range

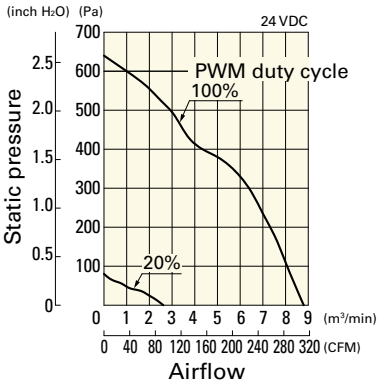


PWM duty - Speed characteristics example

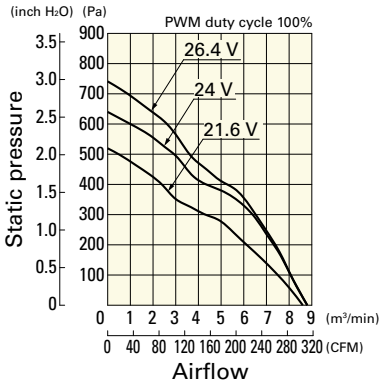


9GV1424P1G001 With pulse sensor with PWM control function

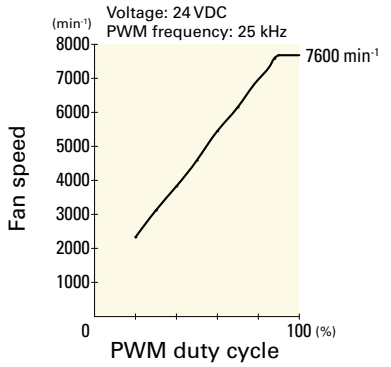
PWM duty cycle



Operating voltage range

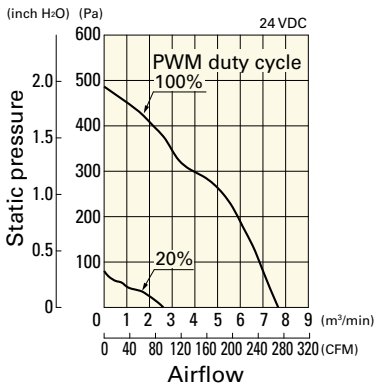


PWM duty - Speed characteristics example

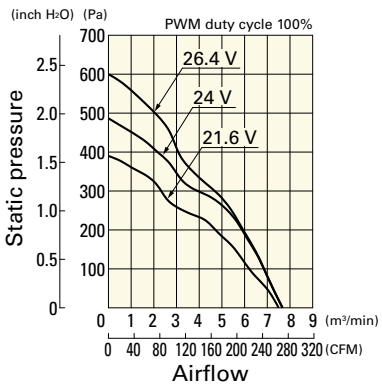


9GV1424P1S001 With pulse sensor with PWM control function

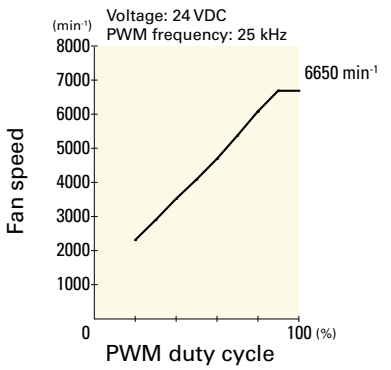
PWM duty cycle



Operating voltage range



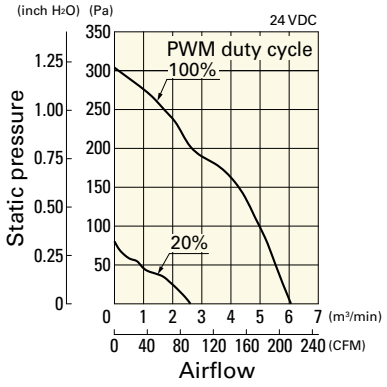
PWM duty - Speed characteristics example



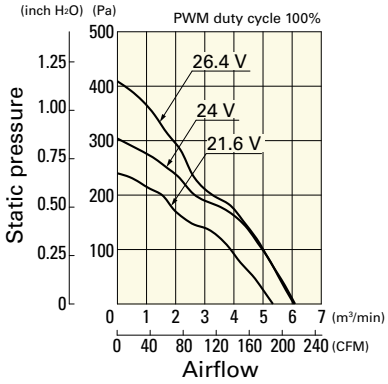
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV1424P1H001 With pulse sensor with PWM control function

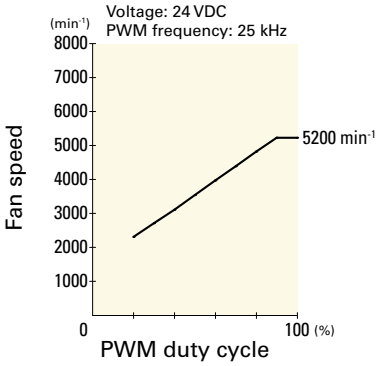
PWM duty cycle



Operating voltage range

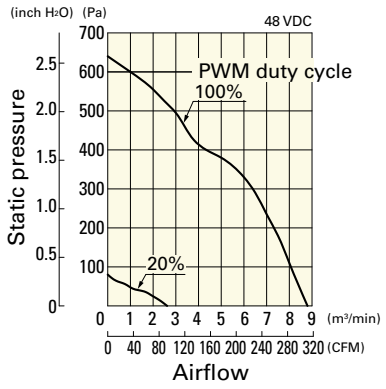


PWM duty - Speed characteristics example

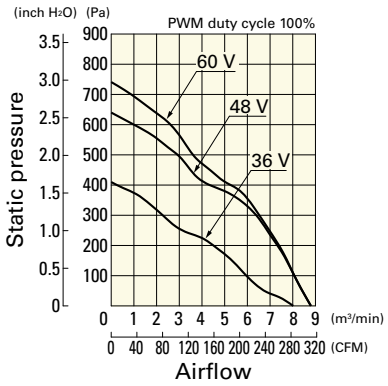


9GV1448P1G001 With pulse sensor with PWM control function

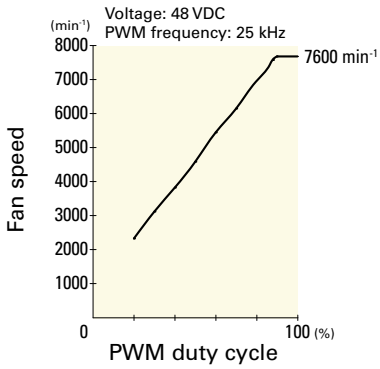
PWM duty cycle



Operating voltage range

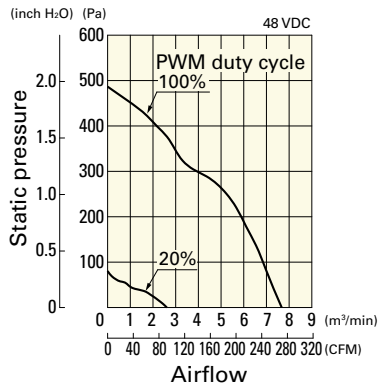


PWM duty - Speed characteristics example

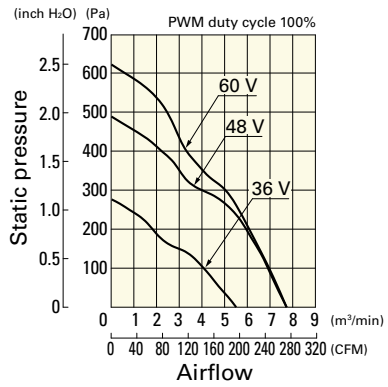


9GV1448P1S001 With pulse sensor with PWM control function

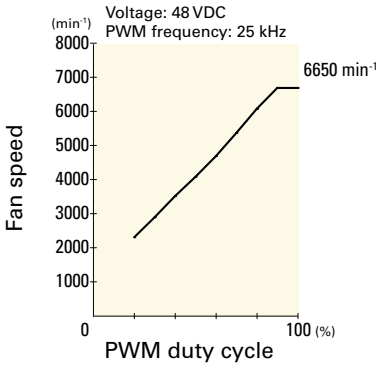
PWM duty cycle



Operating voltage range

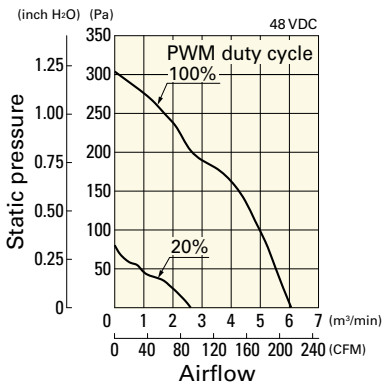


PWM duty - Speed characteristics example

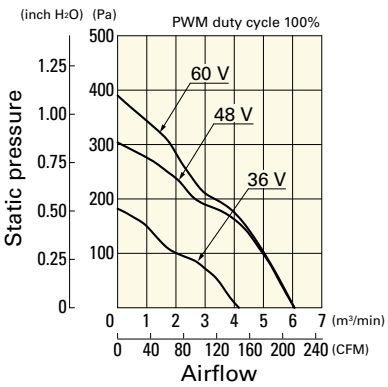


9GV1448P1H001 With pulse sensor with PWM control function

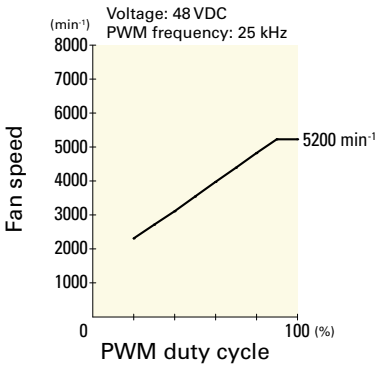
PWM duty cycle



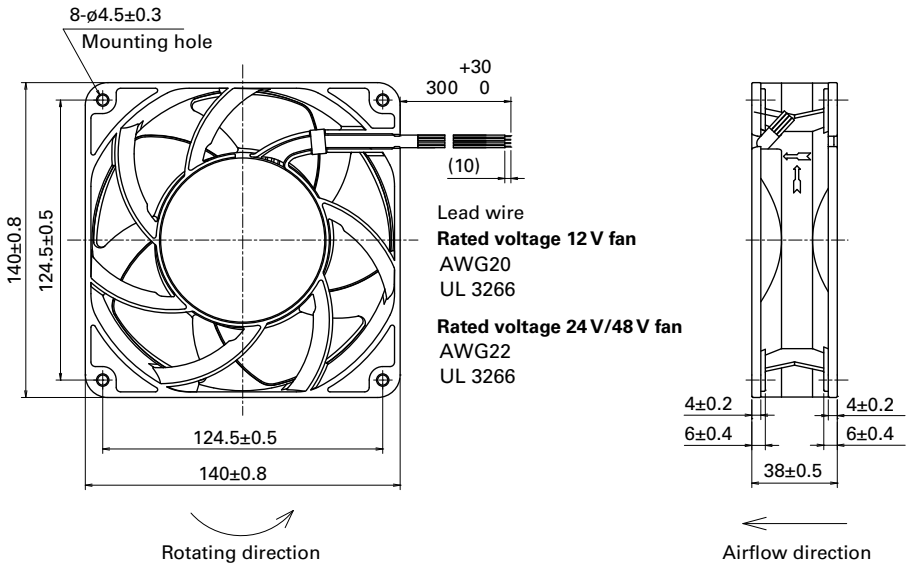
Operating voltage range



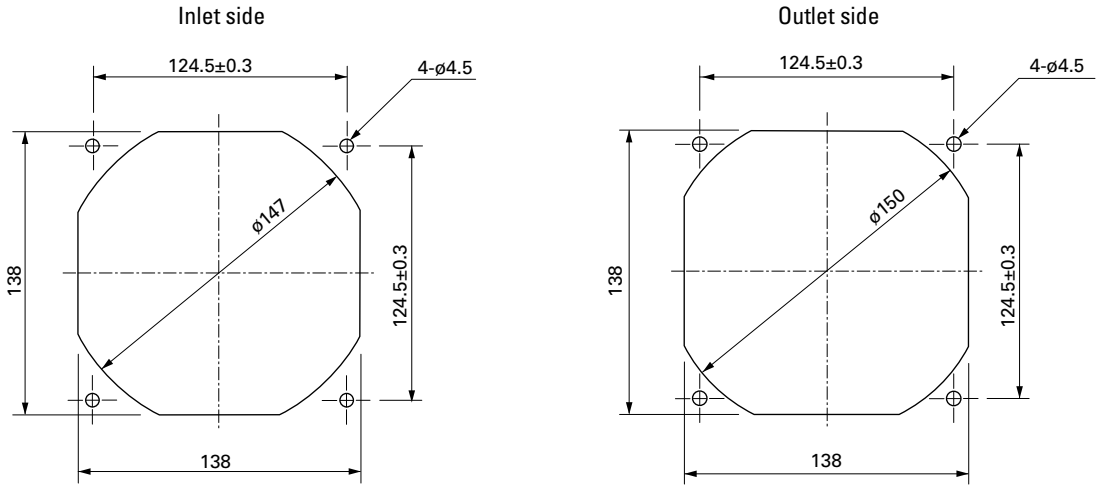
PWM duty - Speed characteristics example



Dimensions (unit: mm)



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



Options

Finger guards page: p. 514

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

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.**

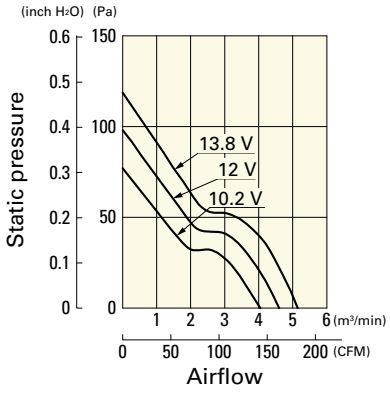
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109P1412H101	12	10.2 to 13.8	0.73	8.76	2600	4.5	159	94	0.378	46	-20 to +70	40000/60˚C
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		

Other sensor specifications are available as options. Refer to the index (p. 545).

Airflow - Static Pressure Characteristics

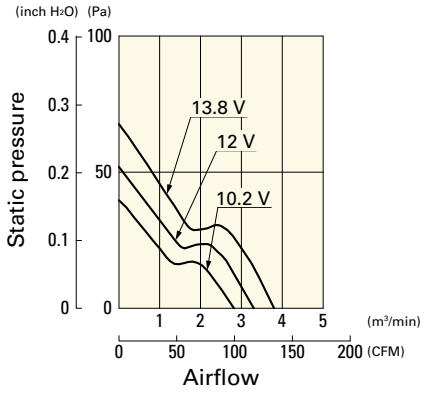
109P1412H101 With pulse sensor

Operating voltage range



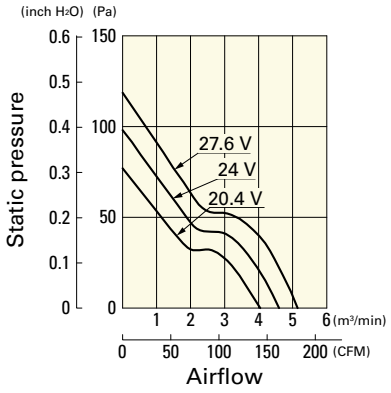
109P1412M101 With pulse sensor

Operating voltage range



109P1424H101 With pulse sensor

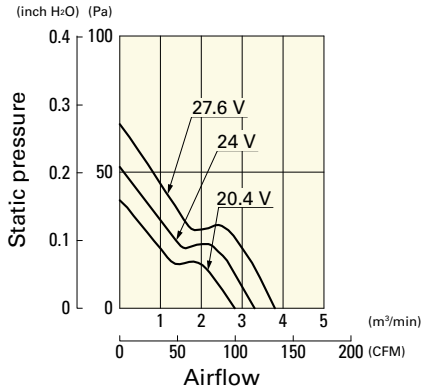
Operating voltage range



Airflow - Static Pressure Characteristics

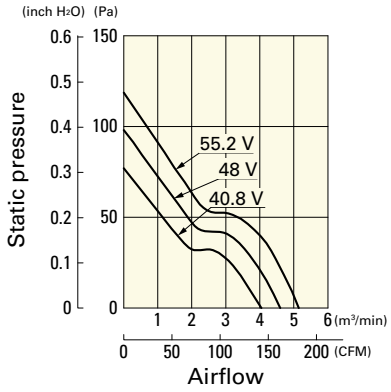
109P1424M101 With pulse sensor

Operating voltage range



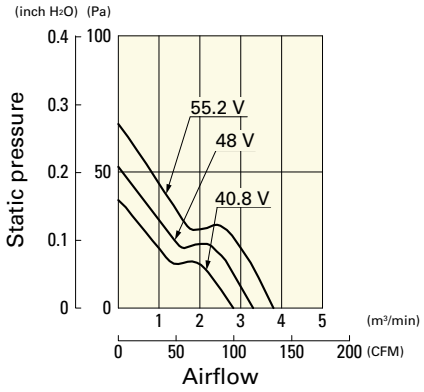
109P1448H101 With pulse sensor

Operating voltage range

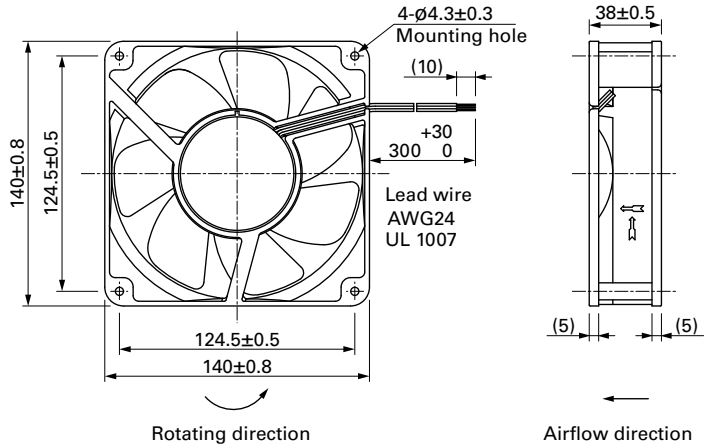


109P1448M101 With pulse sensor

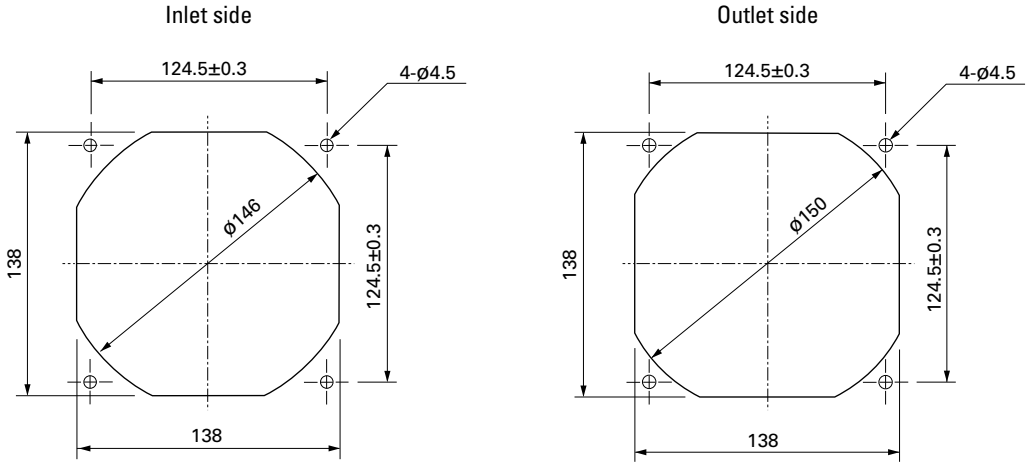
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 514

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

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.

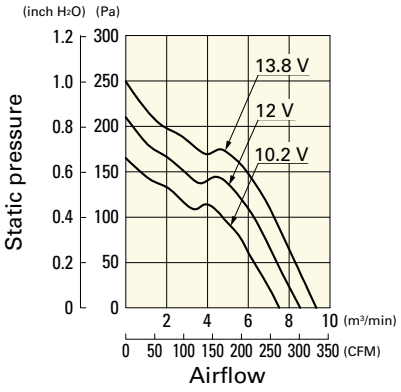
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV1512H501	12	10.2 to 13.8	2.9	34.8	3900	8.54	300	210	0.84	61	-20 to +70	40000/60˚C
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		

Other sensor specifications are available as options. Refer to the index (pp. 555 to 556).

Airflow - Static Pressure Characteristics

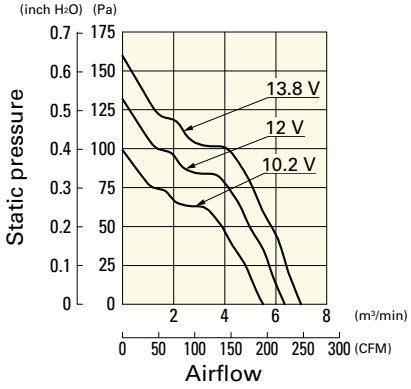
9GV1512H501 With pulse sensor

Operating voltage range



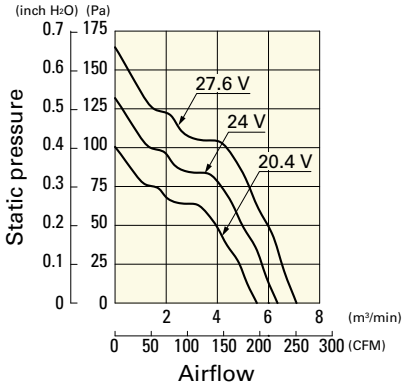
9GV1512M501 With pulse sensor

Operating voltage range

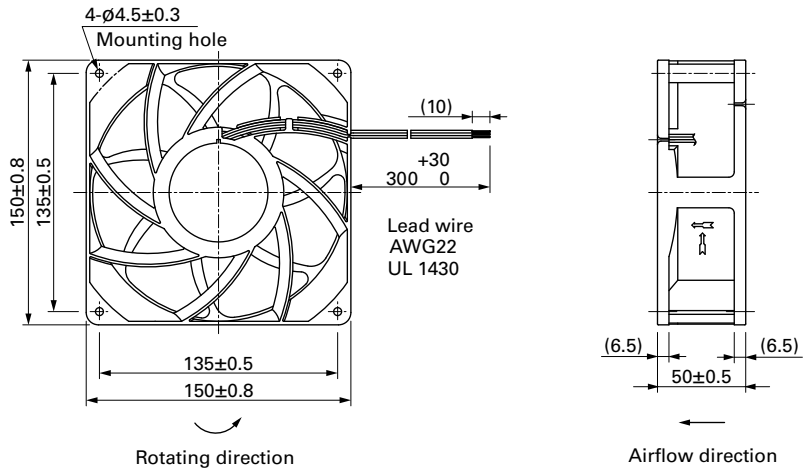


9GV1524M501 With pulse sensor

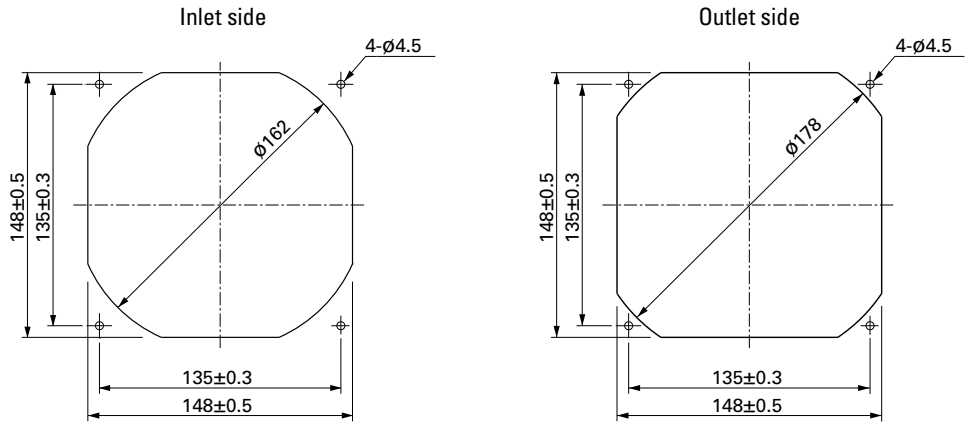
Operating voltage range



Dimensions (unit: mm) (With ribs)



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



Options

Finger guards page: p. 514

Model no.: 109-1051, 109-1052

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.**

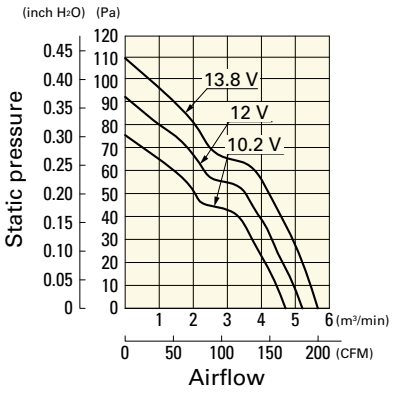
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109E4712M401	12	10.2 to 13.8	1.3	15.6	2800	5.2	183	92	0.369	51	-20 to +60	40000/60˚C
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		

Other sensor specifications are available as options. Refer to the index (pp. 542 to 543).

Airflow - Static Pressure Characteristics

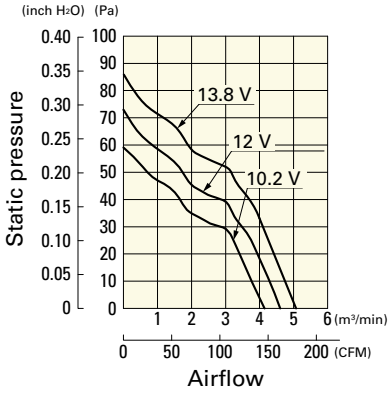
109E4712M401 With pulse sensor

Operating voltage range



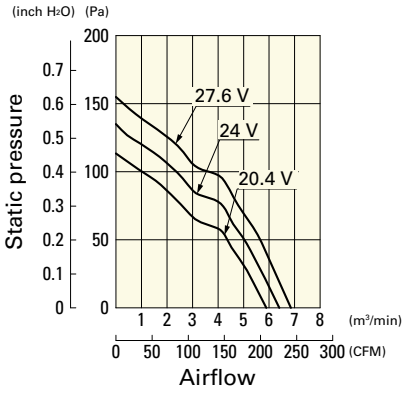
109E4712L401 With pulse sensor

Operating voltage range



109E4724H401 With pulse sensor

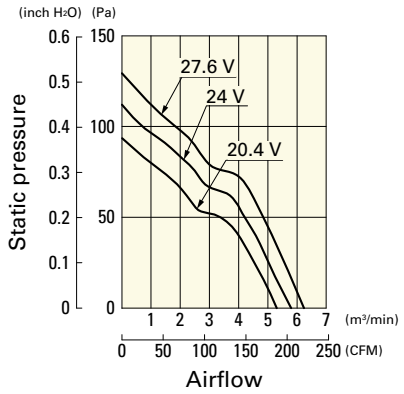
Operating voltage range



Airflow - Static Pressure Characteristics

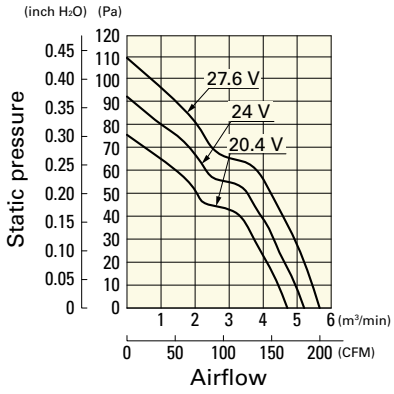
109E4724F401 With pulse sensor

Operating voltage range



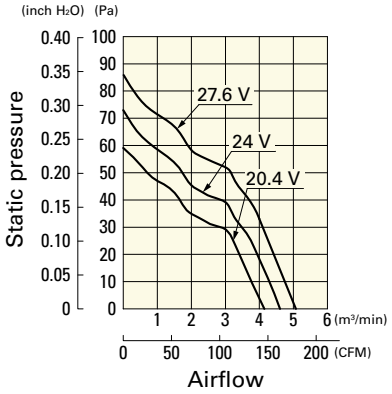
109E4724M401 With pulse sensor

Operating voltage range



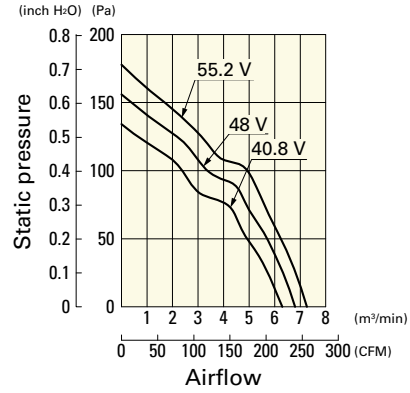
109E4724L401 With pulse sensor

Operating voltage range



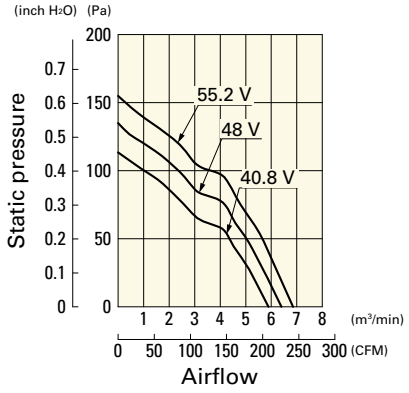
109E4748S401 With pulse sensor

Operating voltage range



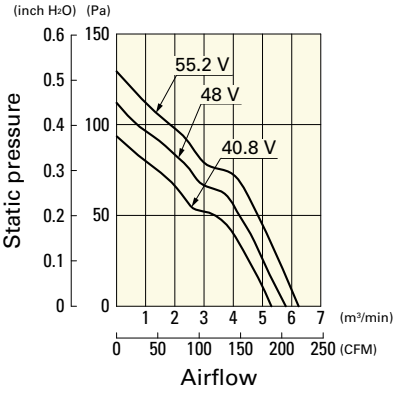
109E4748H401 With pulse sensor

Operating voltage range



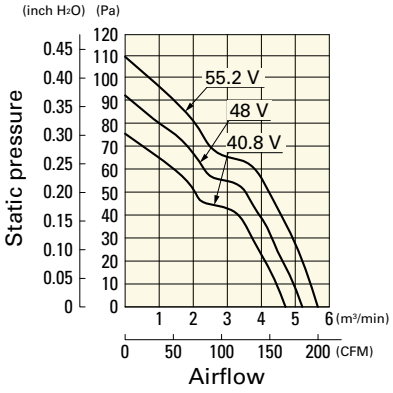
109E4748F401 With pulse sensor

Operating voltage range



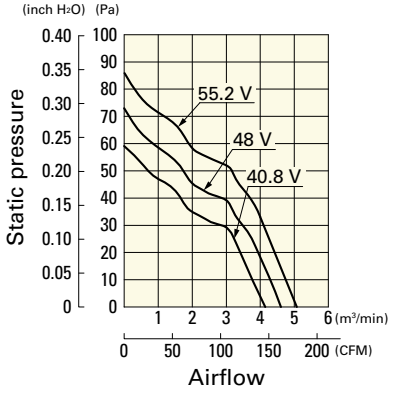
109E4748M401 With pulse sensor

Operating voltage range

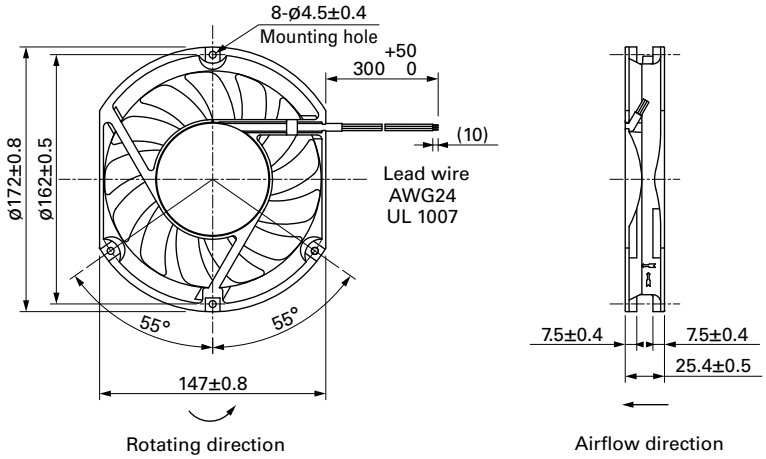


109E4748L401 With pulse sensor

Operating voltage range

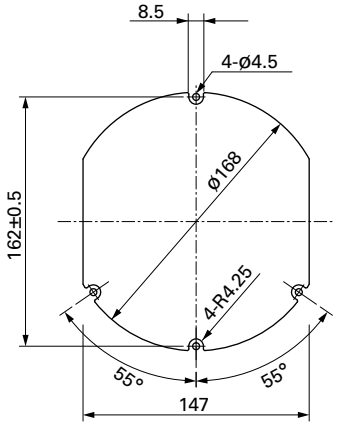


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 515

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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		

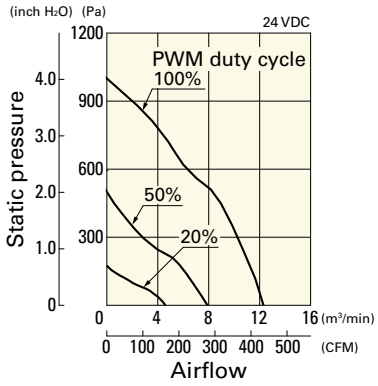
* PWM frequency: 25 kHz. Fan does not rotate when PWM duty cycle is 0%.

Other sensor specifications are available as options. Refer to the index (p. 556).

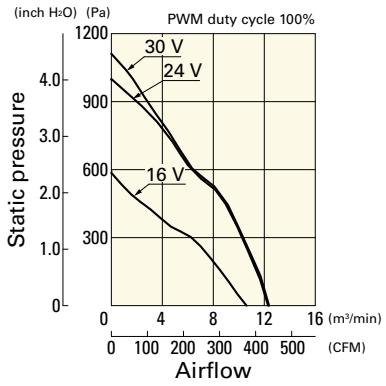
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV5724P5H001 With pulse sensor with PWM control function

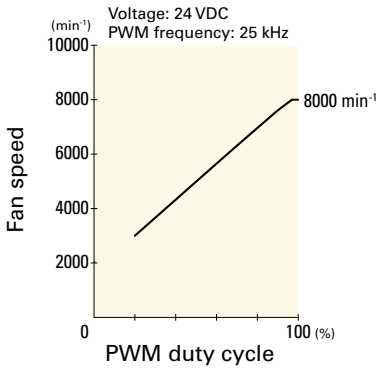
PWM duty cycle



Operating voltage range



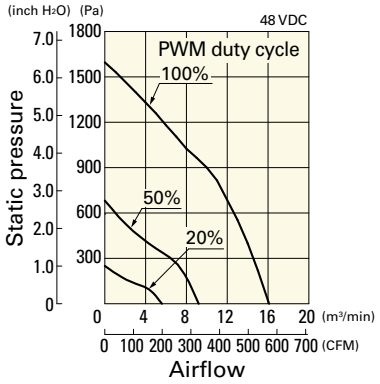
PWM duty - Speed characteristics example



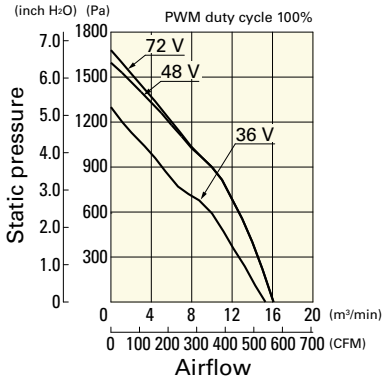
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV5748P5G001 With pulse sensor with PWM control function

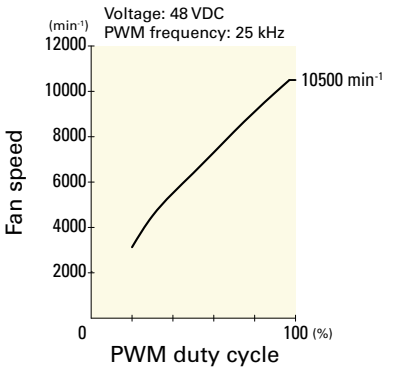
PWM duty cycle



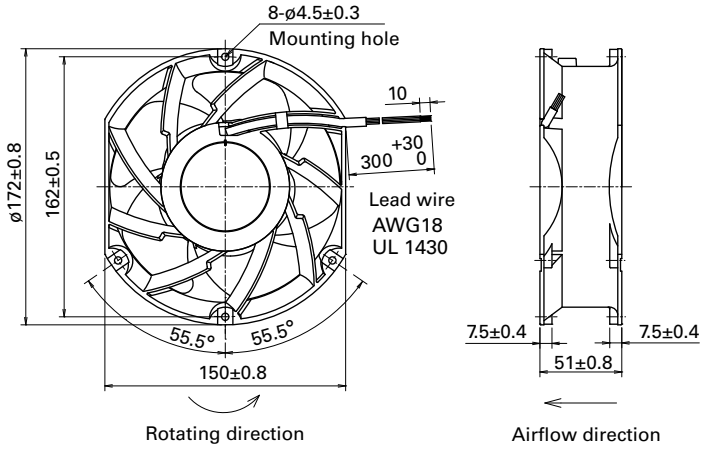
Operating voltage range



PWM duty - Speed characteristics example

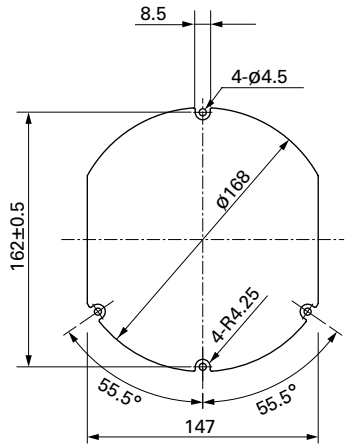


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 515

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-1)
- Expected life ····· See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60˚C, rated voltage)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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
			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		

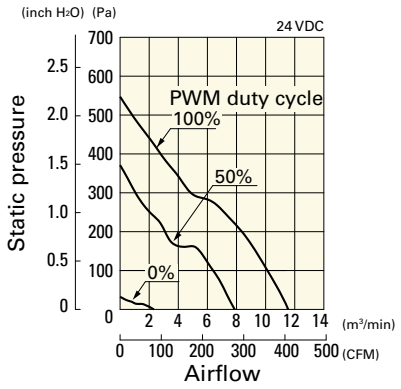
* PWM frequency: 25 kHz

Other sensor specifications are available as options. Refer to the index (p. 558).

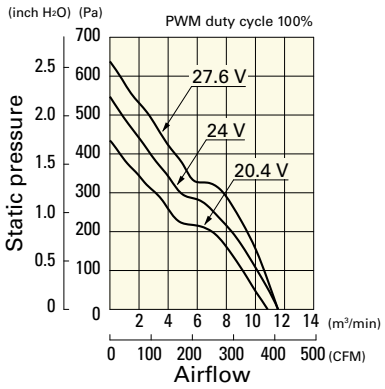
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9SG5724P5H61 With pulse sensor with PWM control function

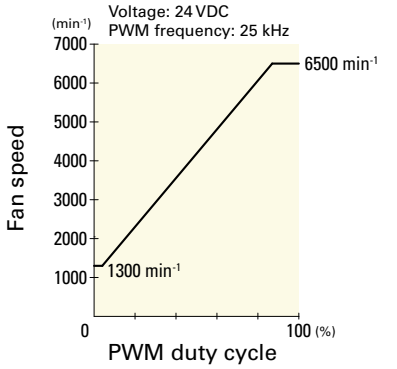
PWM duty cycle



Operating voltage range



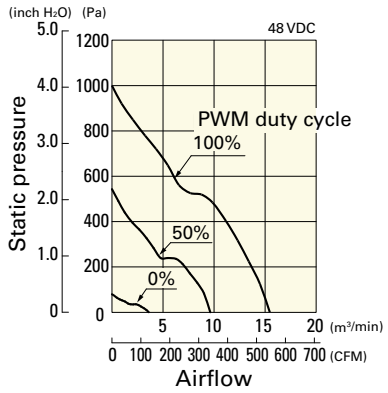
PWM duty - Speed characteristics example



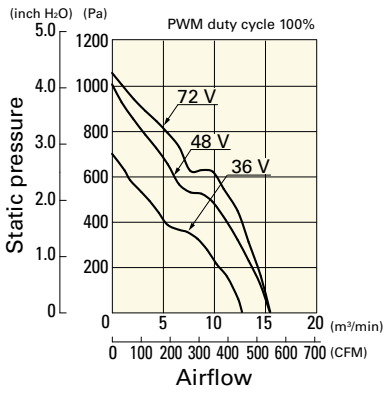
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9SG5748P5G01 With pulse sensor with PWM control function

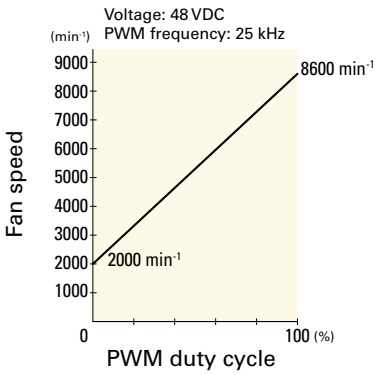
PWM duty cycle



Operating voltage range

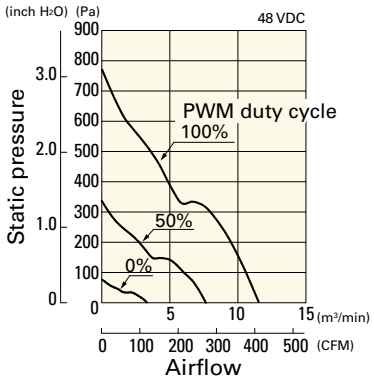


PWM duty - Speed characteristics example

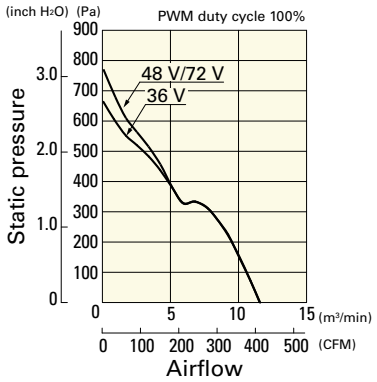


9SG5748P5H01 With pulse sensor with PWM control function

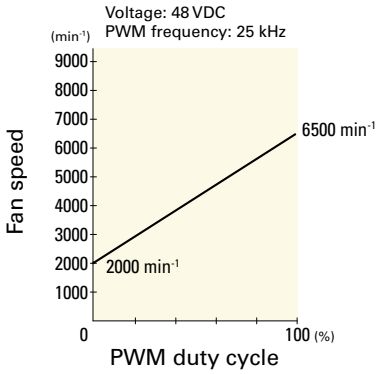
PWM duty cycle



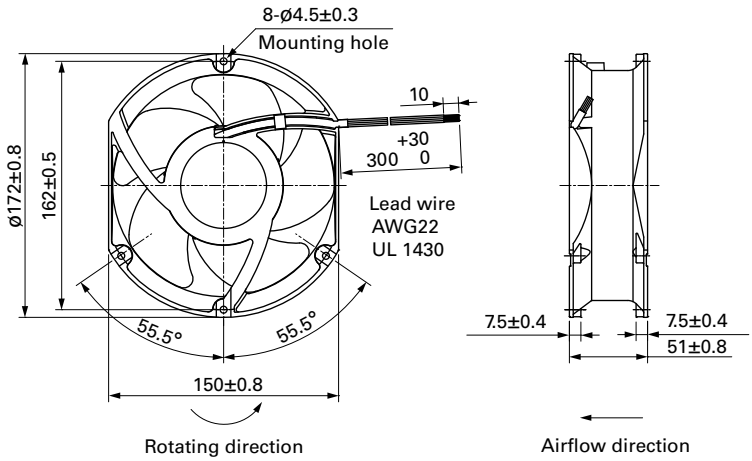
Operating voltage range



PWM duty - Speed characteristics example

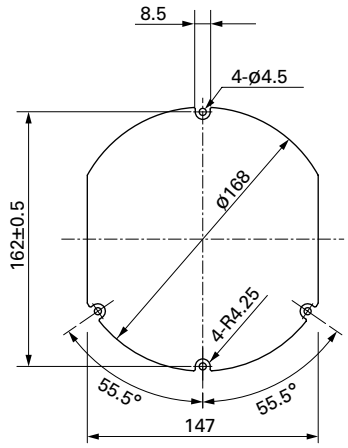


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 515

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

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.**

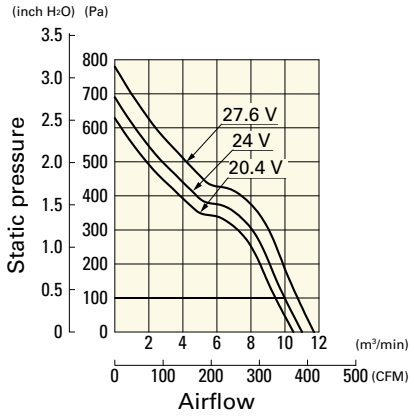
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9GV5724H501	24	20.4 to 27.6	4.0	96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

Other sensor specifications are available as options. Refer to the index (p. 556).

Airflow - Static Pressure Characteristics

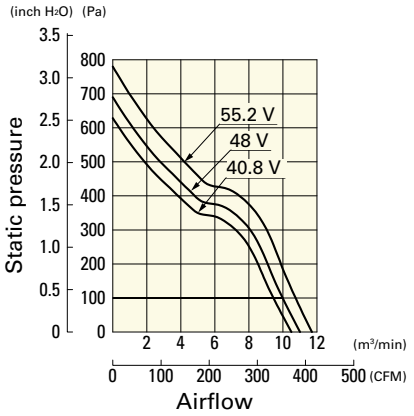
9GV5724H501 With pulse sensor

Operating voltage range

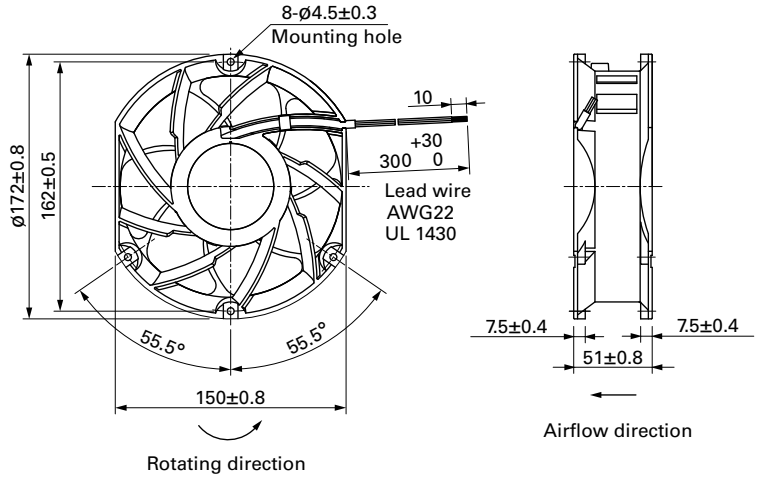


9GV5748H501 With pulse sensor

Operating voltage range

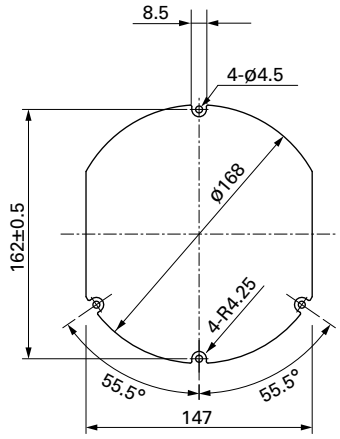


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 515

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

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.**

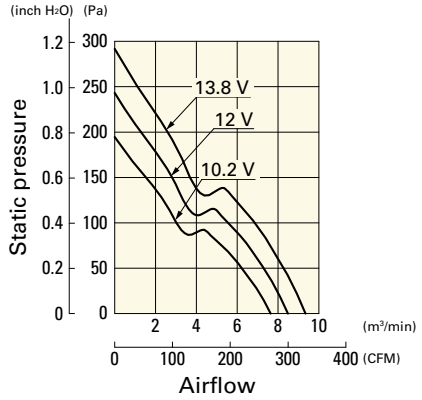
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109E5712K501	12	10.2 to 13.8	2.9	34.8	4100	8.5	300	243.0	0.976	60	-20 to +60	40000/60˚C
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	-20 to +70	
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		

Other sensor specifications are available as options. Refer to the index (p. 543).

Airflow - Static Pressure Characteristics

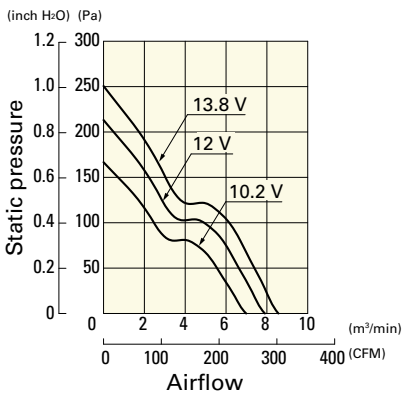
109E5712K501 With pulse sensor

Operating voltage range



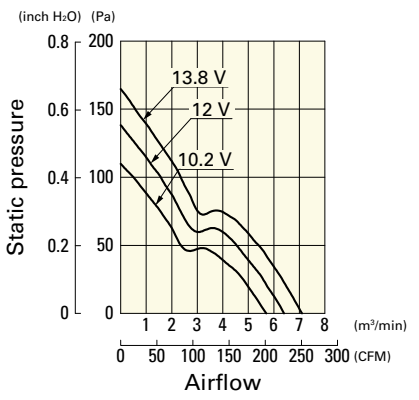
109E5712Y501 With pulse sensor

Operating voltage range



109E5712H501 With pulse sensor

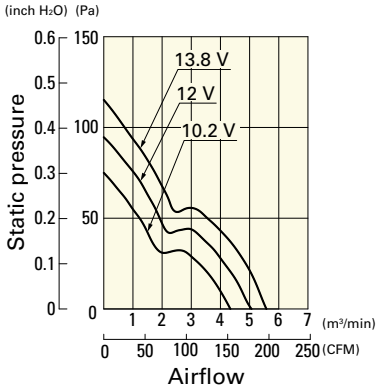
Operating voltage range



Airflow - Static Pressure Characteristics

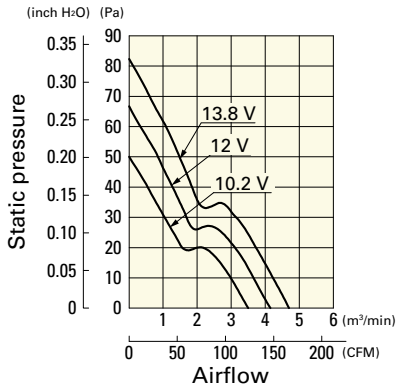
109E5712F501 With pulse sensor

Operating voltage range



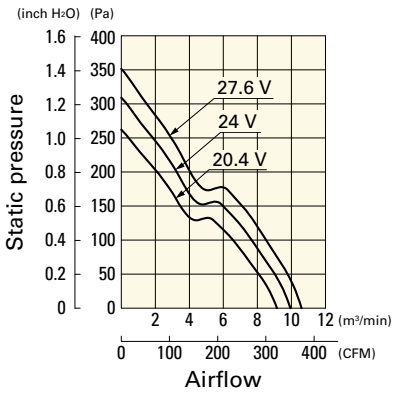
109E5712M501 With pulse sensor

Operating voltage range



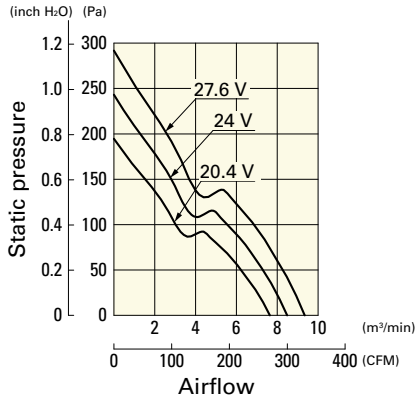
109E5724C501 With pulse sensor

Operating voltage range



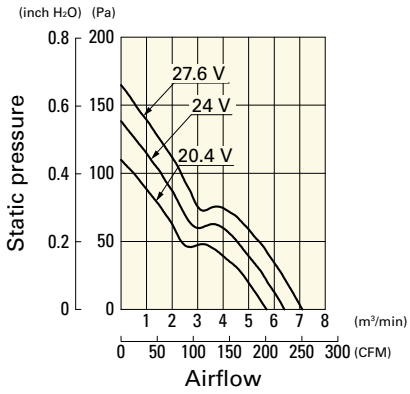
109E5724K501 With pulse sensor

Operating voltage range



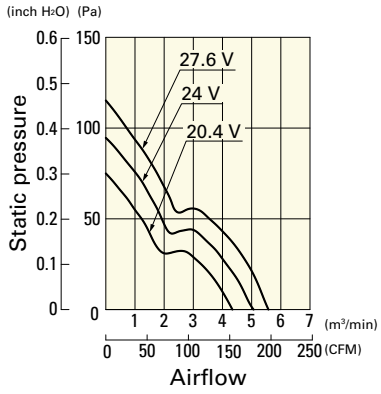
109E5724H501 With pulse sensor

Operating voltage range



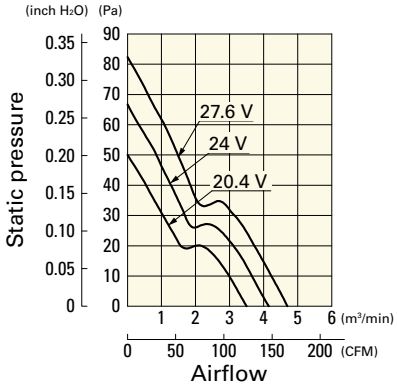
109E5724F501 With pulse sensor

Operating voltage range



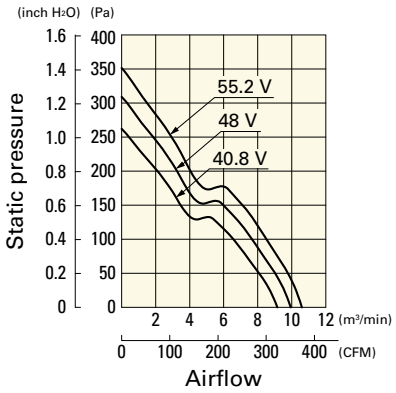
109E5724M501 With pulse sensor

Operating voltage range



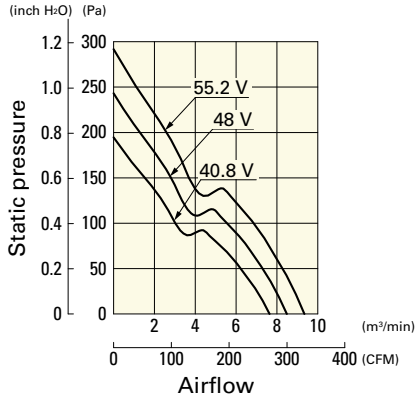
109E5748C501 With pulse sensor

Operating voltage range



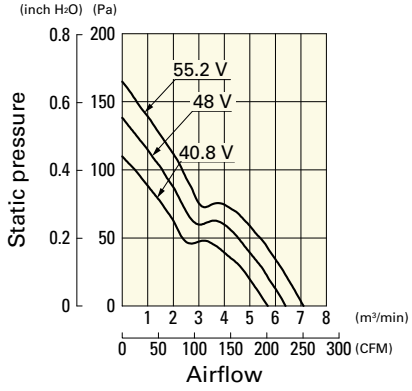
109E5748K501 With pulse sensor

Operating voltage range



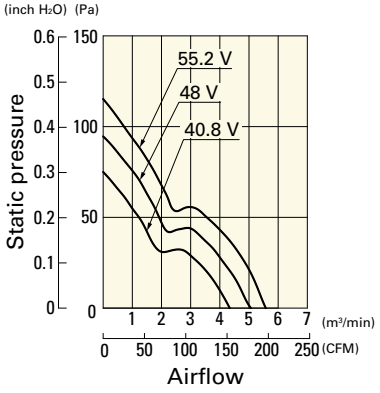
109E5748H501 With pulse sensor

Operating voltage range



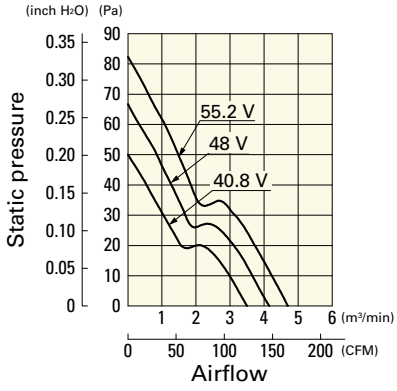
109E5748F501 With pulse sensor

Operating voltage range

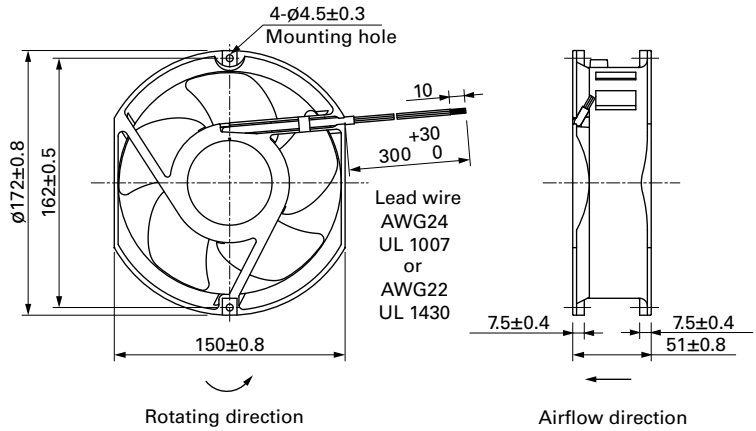


109E5748M501 With pulse sensor

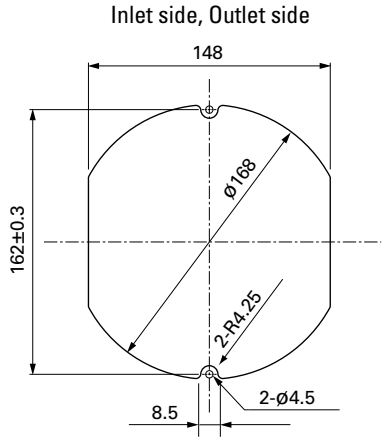
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 515

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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.**

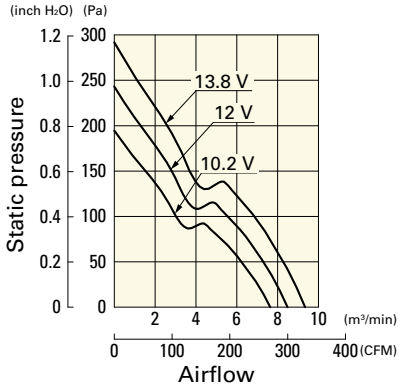
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109E1712K501	12	10.2 to 13.8	2.9	34.8	4100	8.5	300	243.0	0.976	55	-20 to +60	40000/60˚C
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			0.9	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	

Other sensor specifications are available as options. Refer to the index (p. 542).

Airflow - Static Pressure Characteristics

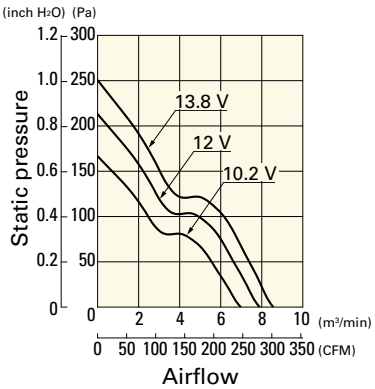
109E1712K501 With pulse sensor

Operating voltage range



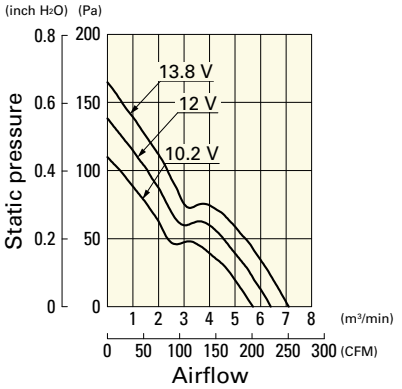
109E1712Y501 With pulse sensor

Operating voltage range



109E1712H501 With pulse sensor

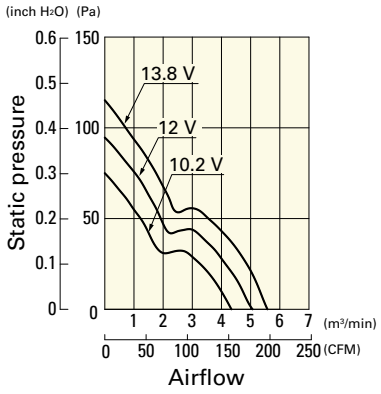
Operating voltage range



Airflow - Static Pressure Characteristics

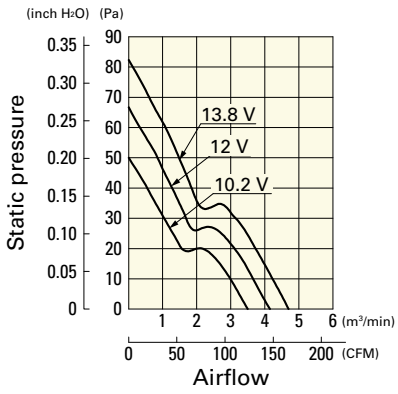
109E1712F501 With pulse sensor

Operating voltage range



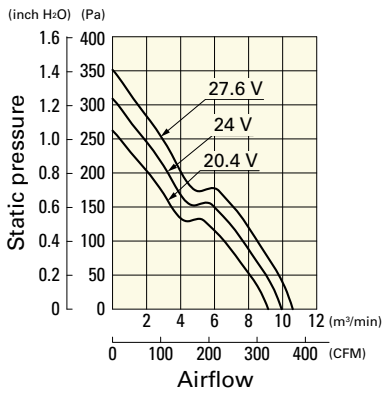
109E1712M501 With pulse sensor

Operating voltage range



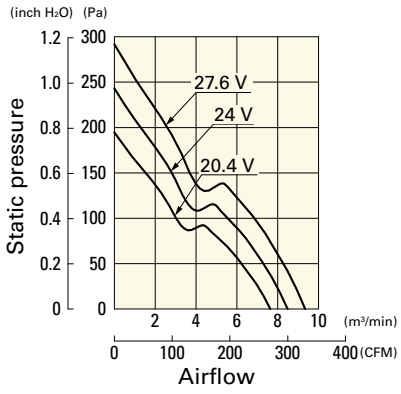
109E1724C501 With pulse sensor

Operating voltage range



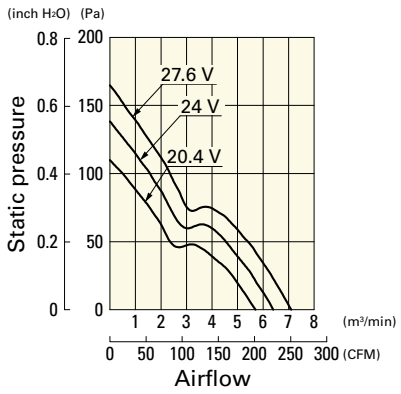
109E1724K501 With pulse sensor

Operating voltage range



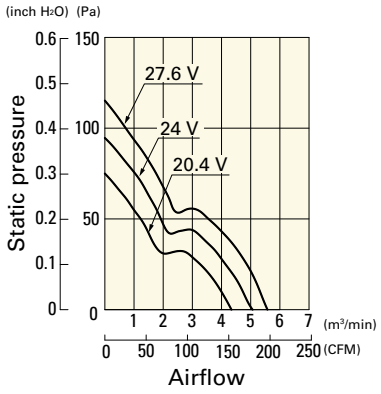
109E1724H501 With pulse sensor

Operating voltage range



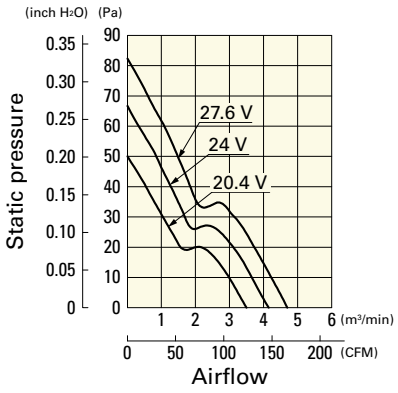
109E1724F501 With pulse sensor

Operating voltage range



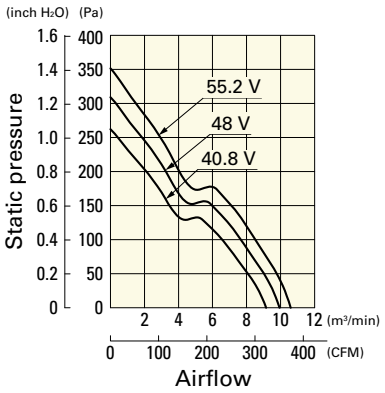
109E1724M501 With pulse sensor

Operating voltage range



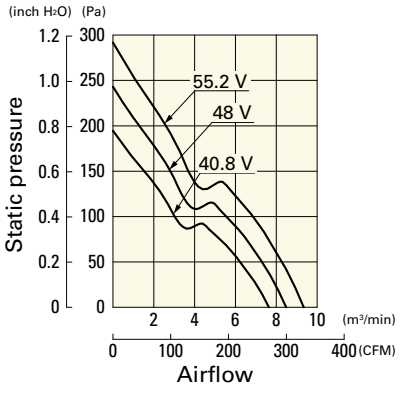
109E1748C501 With pulse sensor

Operating voltage range



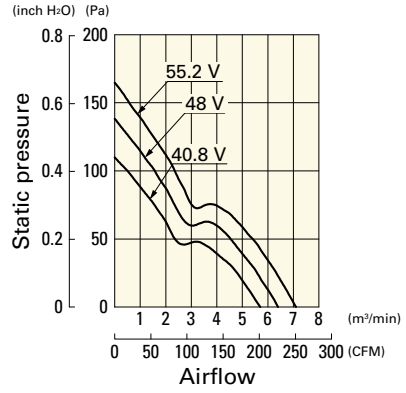
109E1748K501 With pulse sensor

Operating voltage range



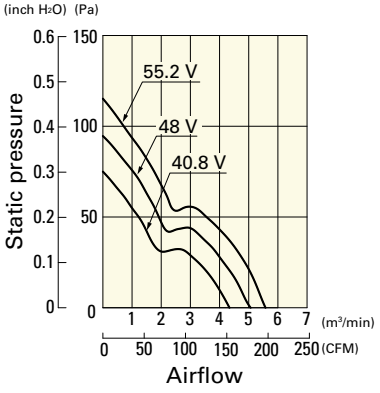
109E1748H501 With pulse sensor

Operating voltage range



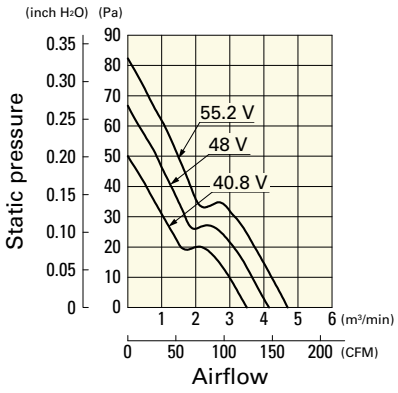
109E1748F501 With pulse sensor

Operating voltage range

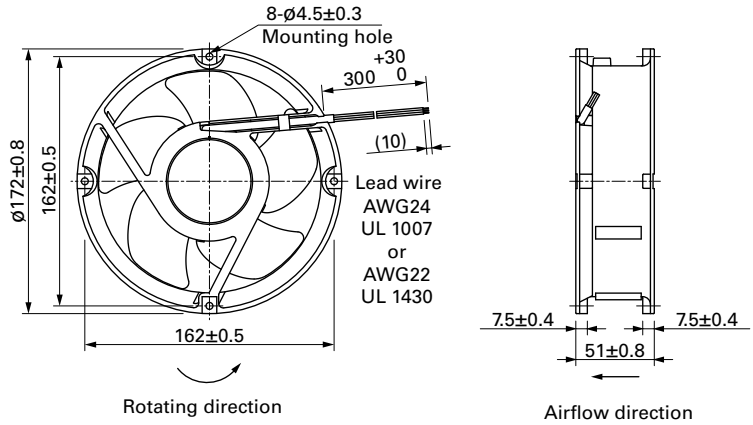


109E1748M501 With pulse sensor

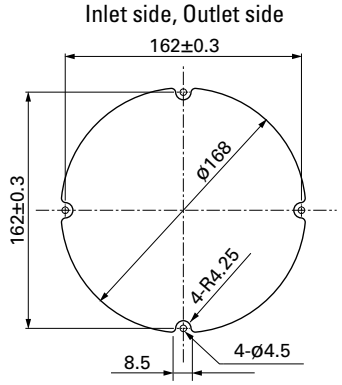
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 515

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

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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

Power on when current is shut off. Do not power on 15 s or more after power off.

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)

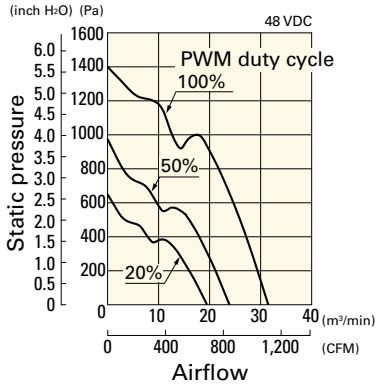
* PWM frequency: 1 kHz ** Fan does not rotate when PWM duty cycle is 0%.

Other sensor specifications are available as options. Refer to the index (p. 556).

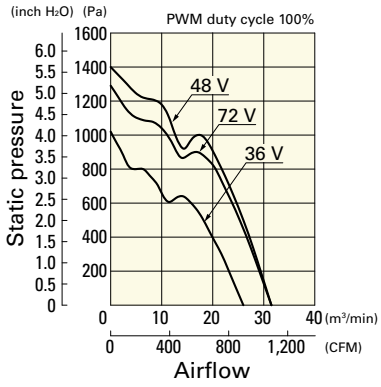
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GV2048P0G201 With pulse sensor with PWM control function

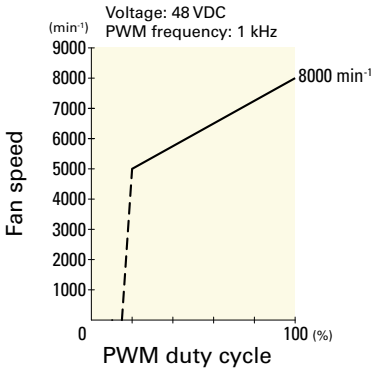
PWM duty cycle



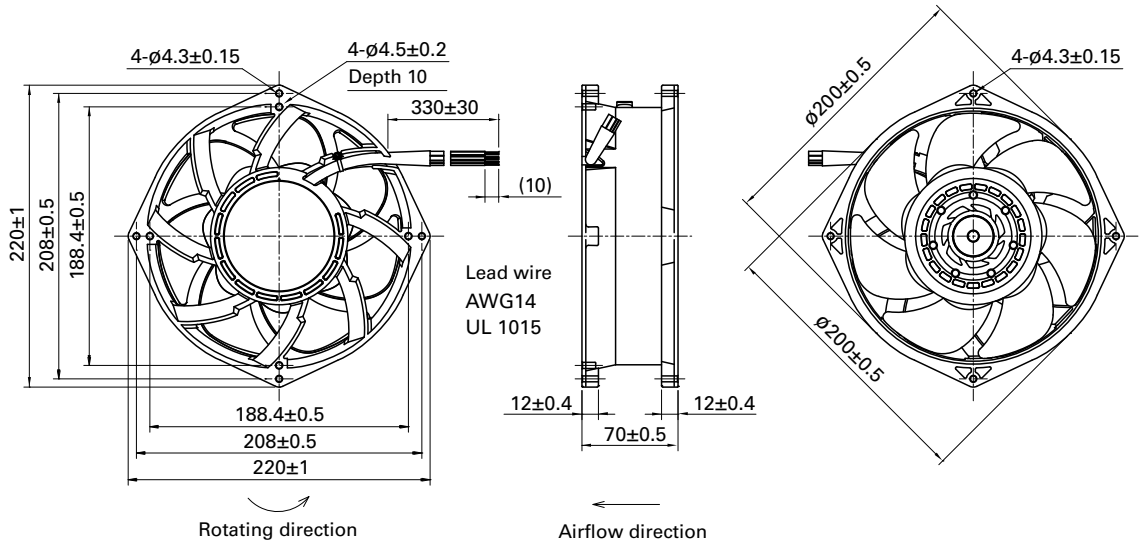
Operating voltage range



PWM duty - Speed characteristics example

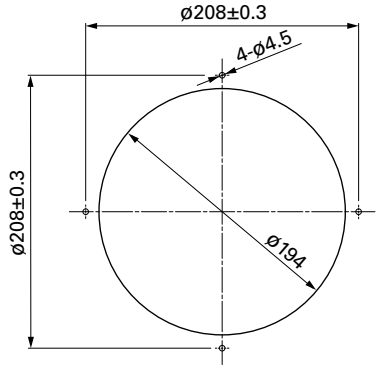


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

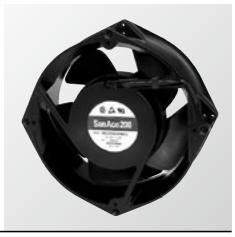
Finger guards page: p. 516

Model no.: 109-1102, 109-1103

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)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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

Power on when current is shut off. Do not power on 10 s or more after power off.

Specifications

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

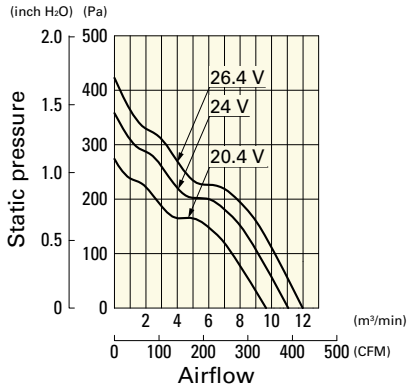
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
9EC2024H001	24	20.4 to 26.4	2.0	48.0	3600	11.0	388	360	1.446	60	-20 to +60	40000/60˚C
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		

Other sensor specifications are available as options. Refer to the index (p. 548).

Airflow - Static Pressure Characteristics

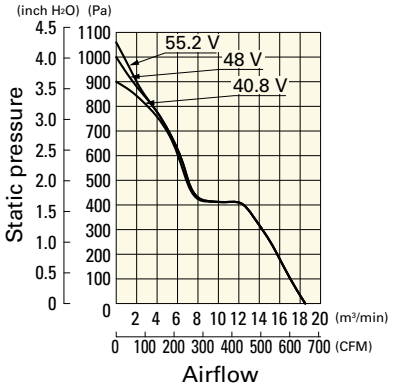
9EC2024H001 With pulse sensor

Operating voltage range



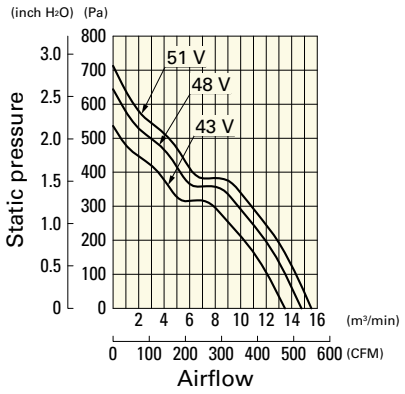
9EC2048J001 With pulse sensor

Operating voltage range



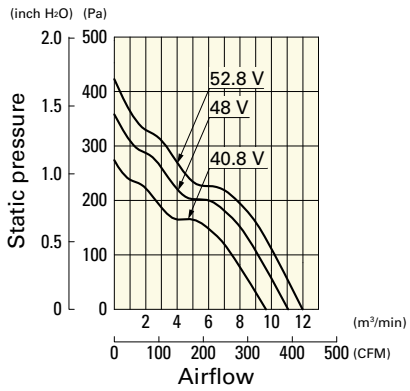
9EC2048A001 With pulse sensor

Operating voltage range

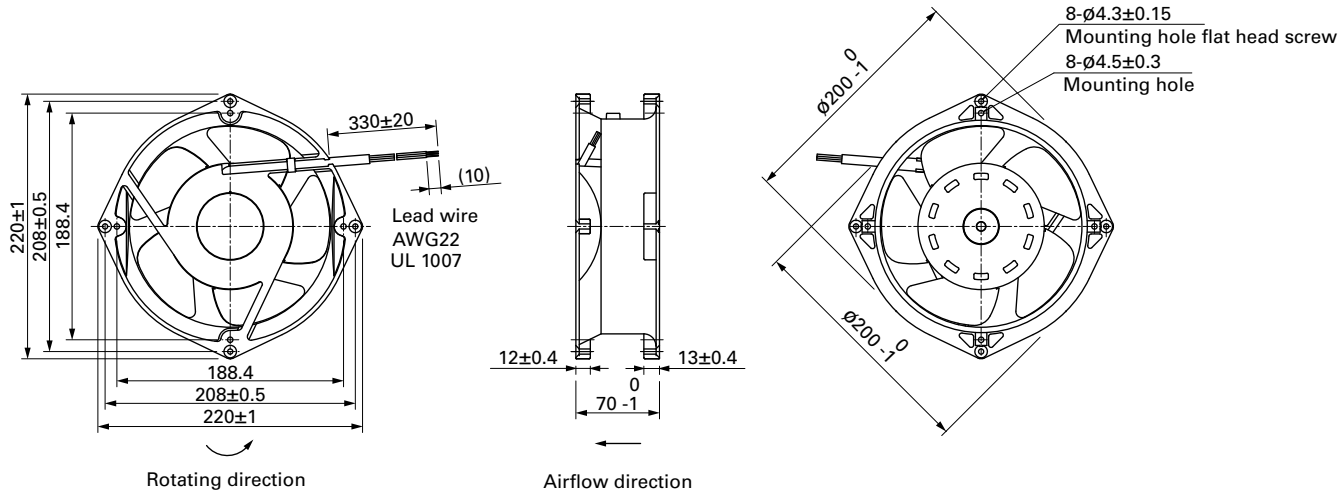


9EC2048H001 With pulse sensor

Operating voltage range

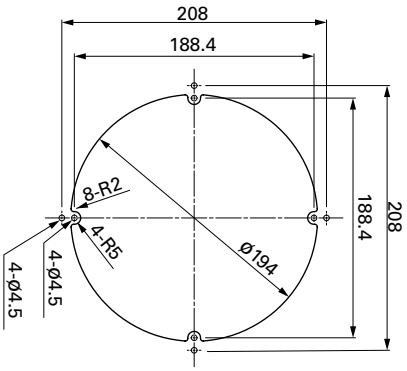


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 516

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