

40mm sq.

San Ace 40W



DC
Splash Proof Fan 40mm

General Specifications

- Material Frame: Aluminum (Black coating),
Impeller: Plastics (Flammability: UL94V-0)
- Expected Life Refer to specifications (Indoor, L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

40×40×28mm (Mass : 70g) **IP 68** **9WL type** **High Airflow Long Life Fan**

Specifications

The following nos. **have PWM controls and pulse sensors.**

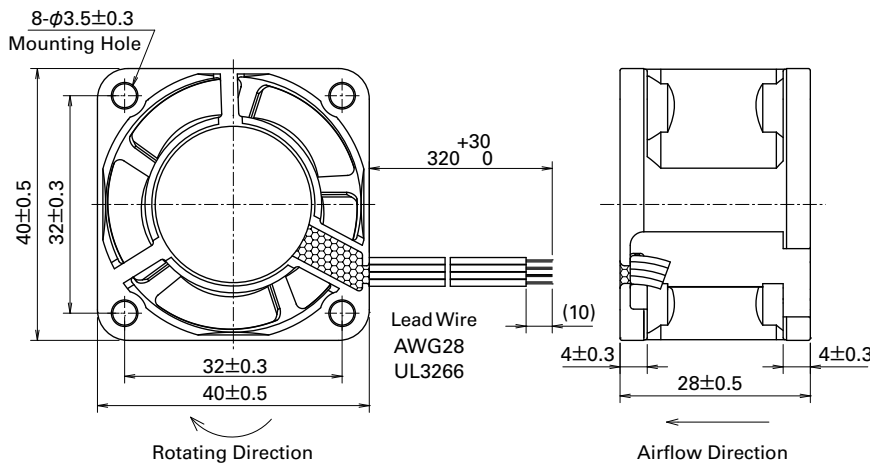
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle [Hz] [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9WL0412P3J001	12	10.8 to 13.2	100	0.52	6.24	17,500	0.63 22.2	400 1.61	51	-20 to +70	150,000/60°C
			20	0.06	0.72	3,600	0.13 4.6	16.9 0.07	20		
9WL0412P3G001	12	10.8 to 13.2	100	0.40	4.80	15,500	0.56 19.7	310 1.24	47		
			20	0.06	0.72	3,300	0.12 4.2	14.0 0.06	18		
9WL0424P3J001	24	21.6 to 26.4	100	0.26	6.24	17,500	0.63 22.2	400 1.61	51		
			20	0.04	0.96	4,000	0.14 5.1	20.9 0.08	22		
9WL0424P3G001	24	21.6 to 26.4	100	0.20	4.80	15,500	0.56 19.7	310 1.24	47		
			20	0.04	0.96	3,000	0.11 3.8	11.6 0.05	16		

Note: Fan does not rotate when PWM duty cycle is 0%.

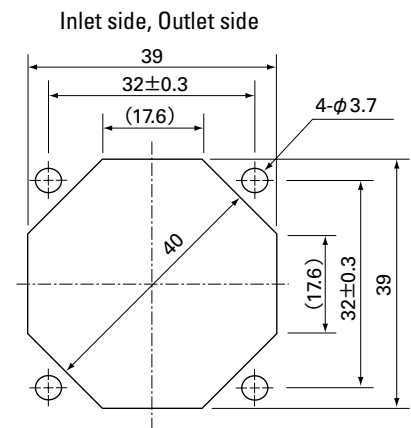
※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 511).

Dimensions (unit: mm)



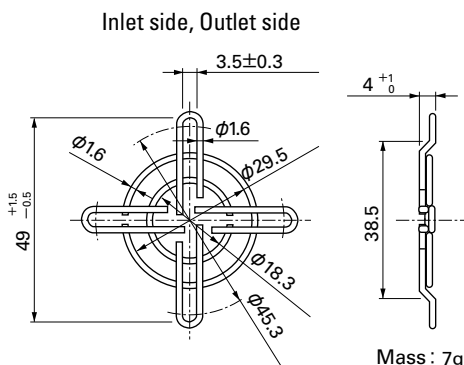
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Options (unit: mm)

Finger Guards

Model : 109-059 Surface treatment : Nickel-chrome plating (silver)
: 109-059H : Cation electropainting (black)



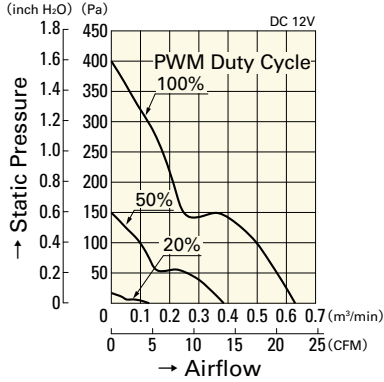
40mm sq.

San Ace 40W

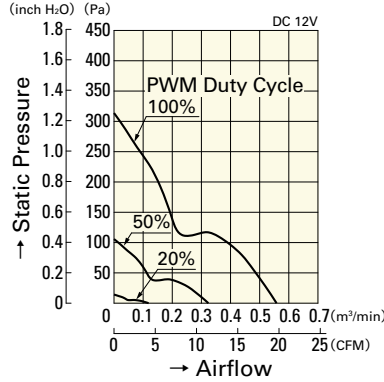
40×40×28mm [Mass : 70g]

Airflow - Static Pressure Characteristics

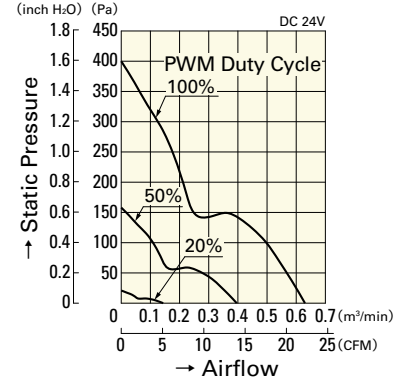
PWM Duty Cycle



9WL0412P3J001

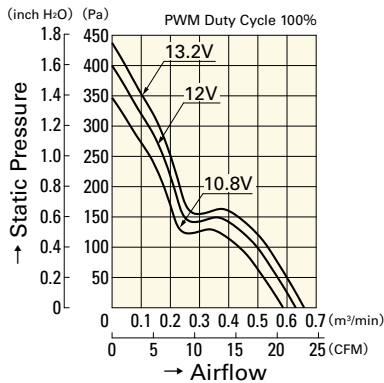


9WL0412P3G001

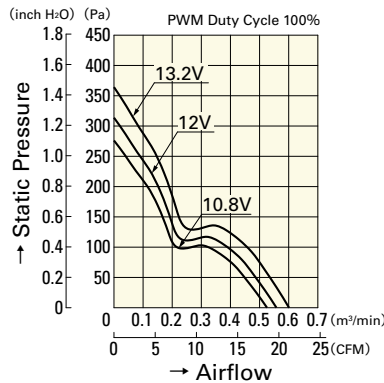


9WL0424P3J001

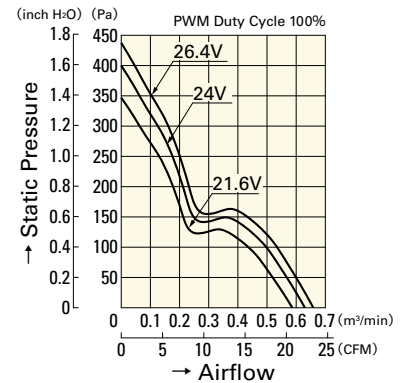
Operating Voltage Range



9WL0412P3J001

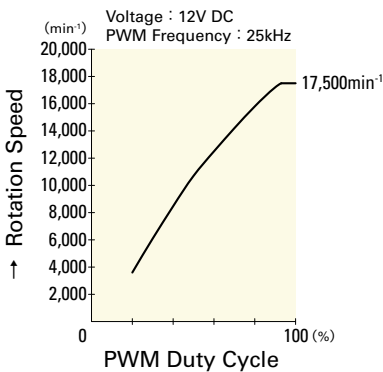


9WL0412P3G001

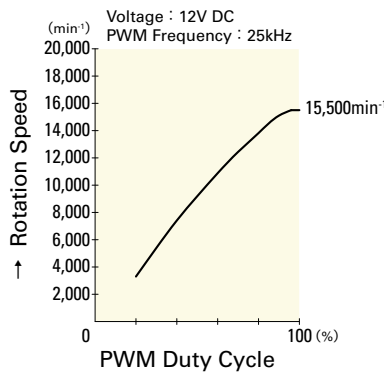


9WL0424P3J001

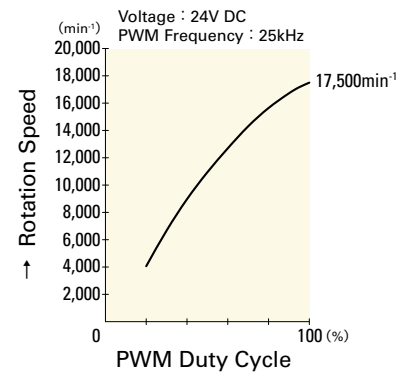
PWM Duty - Speed Characteristics Example



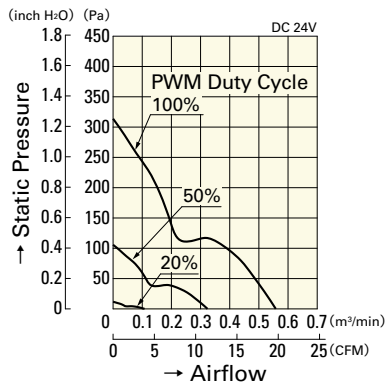
9WL0412P3J001



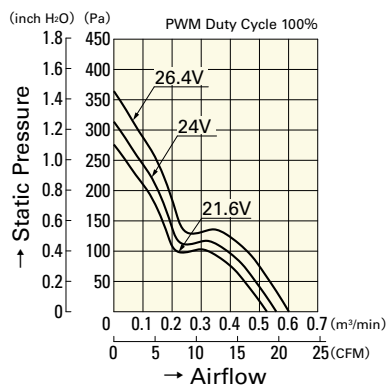
9WL0412P3G001



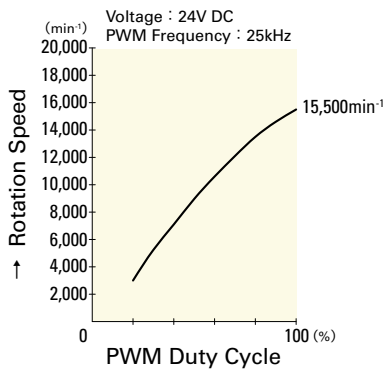
9WL0424P3J001



9WL0424P3G001



9WL0424P3G001



9WL0424P3G001

60mm sq.

San Ace 60W



General Specifications

- Material Frame: Aluminum (Black coating),
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (Indoor, L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

60×60×25mm (Mass : 110g) **IP 68** **9WL type** **High Airflow Long Life Fan**

Specifications

The following nos. **have PWM controls and pulse sensors.**

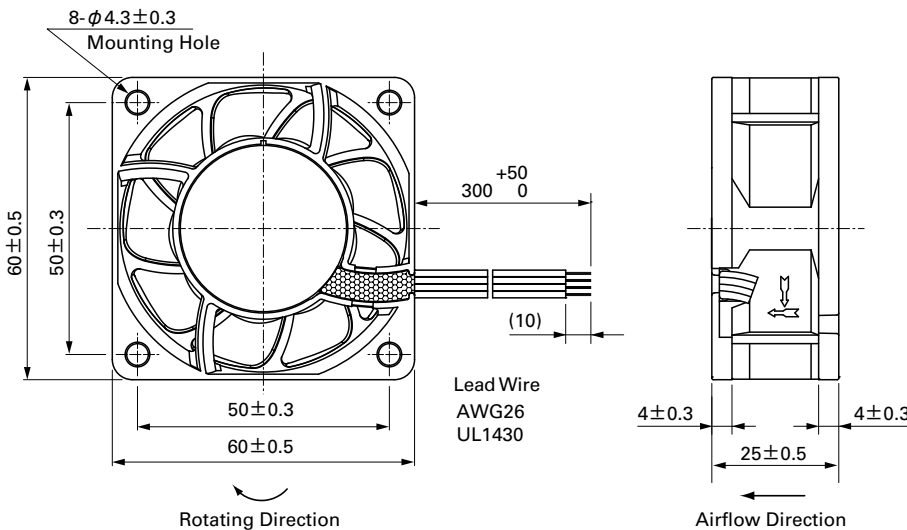
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle <small>Min/Max</small> [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]		
9WL0612P4S001	12	10.8 to 13.2	100	0.67	8.04	11,000	1.40 49.4	300 1.204	53	-20 to +70	180,000/60°C		
			20	0.06	0.72	2,900	0.36 12.7	20.8 0.083	20				
9WL0612P4J001			100	0.39	4.68	8,650	1.10 38.8	182 0.730	47				
			20	0.03	0.36	1,150	0.13 4.8	3.3 0.013	14				
9WL0612P4H001			100	0.17	2.04	6,150	0.78 27.5	97 0.389	36				
			20	0.03	0.36	1,350	0.17 6.0	4.7 0.018	14				
9WL0624P4S001			24	21.6 to 26.4	100	0.34	8.16	11,000	1.40 49.4			300 1.204	53
					20	0.03	0.72	2,900	0.36 12.7			20.8 0.083	20
9WL0624P4J001	100	0.19			4.56	8,650	1.10 38.8	182 0.730	47				
	20	0.02			0.48	2,200	0.28 9.8	12.0 0.048	17				
9WL0624P4H001	100	0.08			1.92	6,150	0.78 27.5	97 0.389	36				
	20	0.02			0.48	1,300	0.16 5.6	4.3 0.017	14				

Note: Fan does not rotate when PWM duty cycle is 0%.

※PWM Frequency : 25kHz

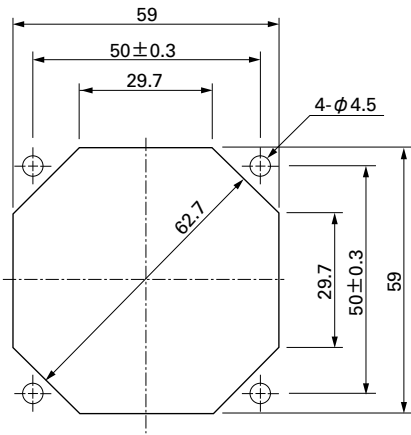
Other sensor specifications are available as options. Please refer to the index (p. 511).

Dimensions (unit: mm)



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

Inlet side, Outlet side



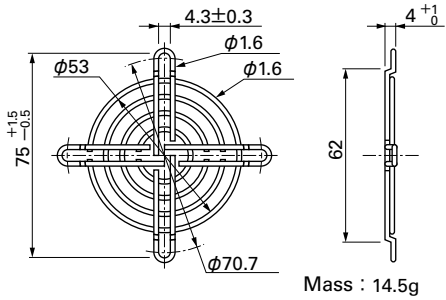
Options (unit: mm)

Finger Guards

Model : 109-139E Surface treatment : Nickel-chrome plating (silver)
 : 109-139H : Cation electropainting (black)

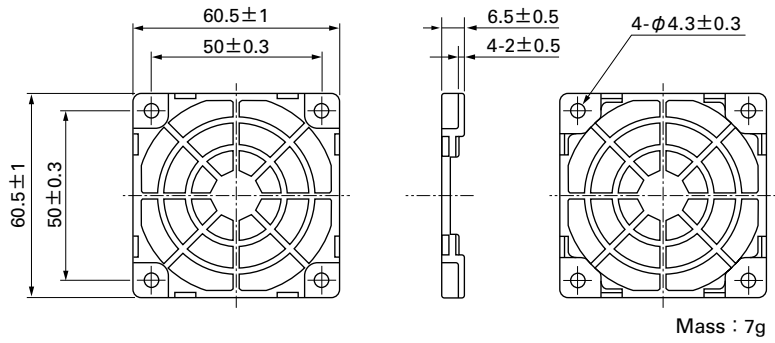
Color

Inlet side, Outlet side



Resin Finger Guards

Model : 109-1003G



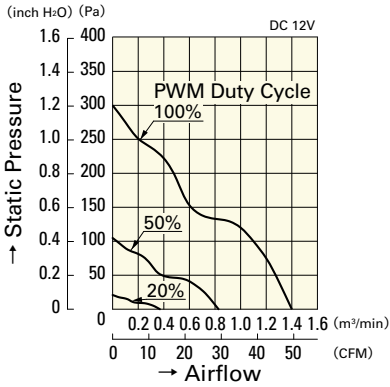
60mm sq.

San Ace 60W

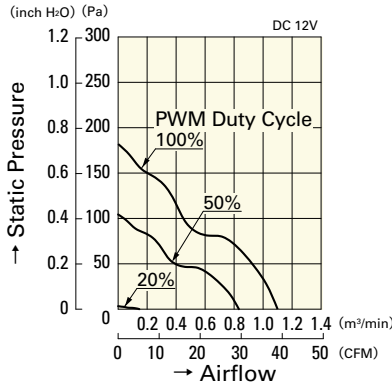
60×60×25mm [Mass : 120g]

Airflow - Static Pressure Characteristics

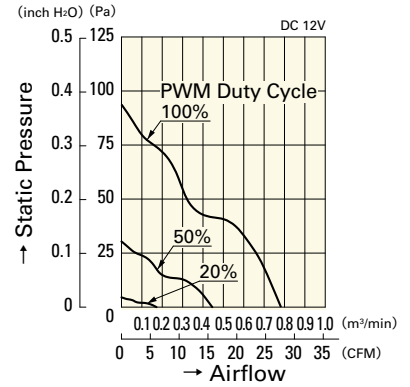
PWM Duty Cycle



9WL0612P4S001

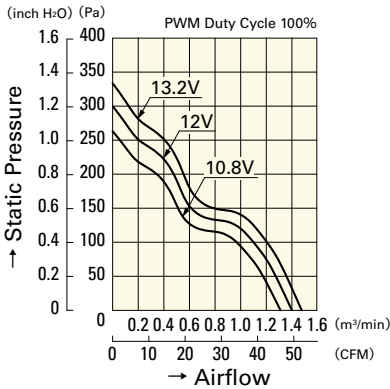


9WL0612P4J001

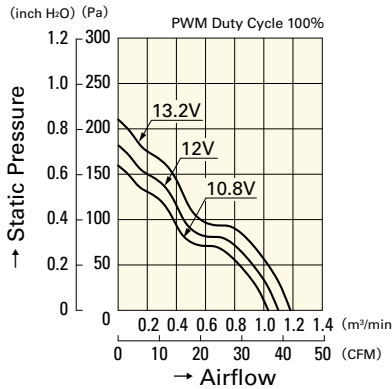


9WL0612P4H001

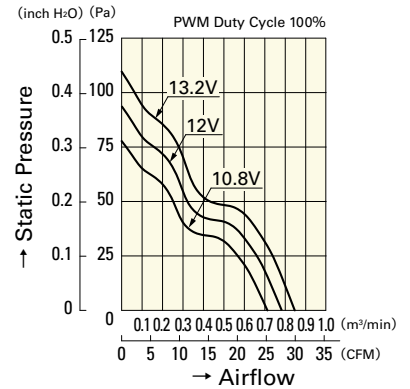
Operating Voltage Range



9WL0612P4S001

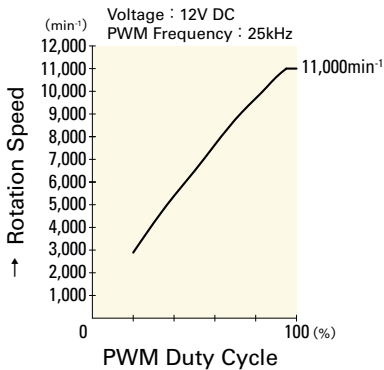


9WL0612P4J001

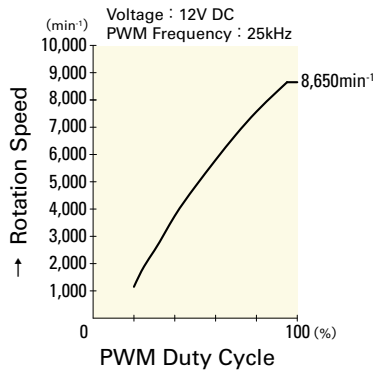


9WL0612P4H001

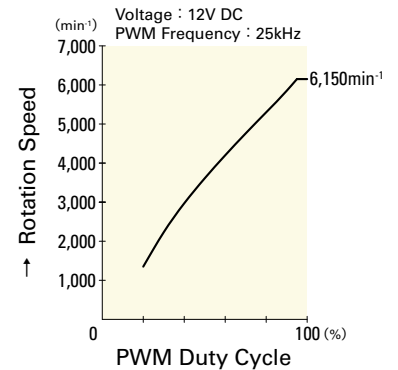
PWM Duty - Speed Characteristics Example



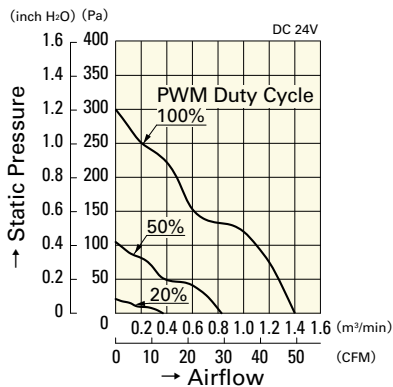
9WL0612P4S001



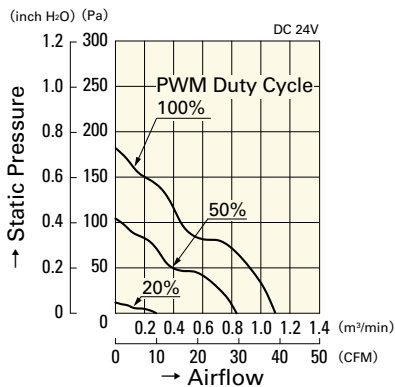
9WL0612P4J001



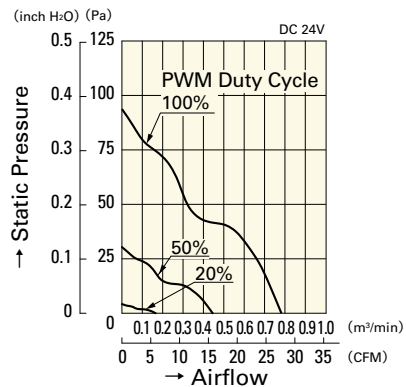
9WL0612P4H001



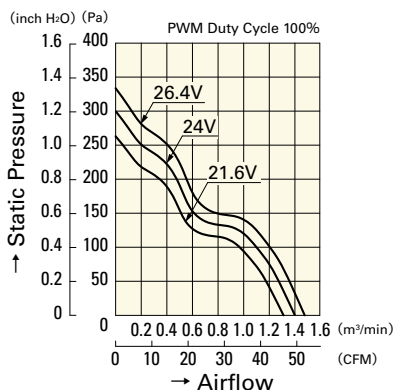
9WL0624P4S001



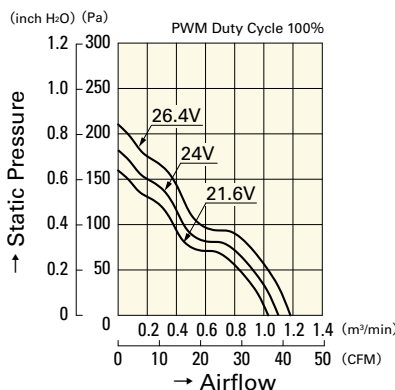
9WL0624P4J001



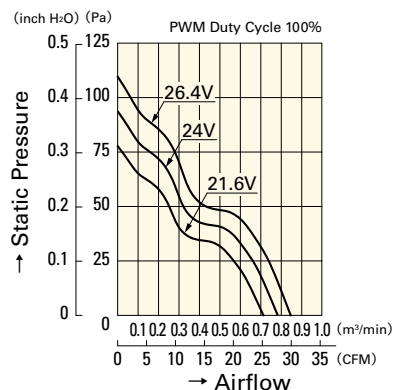
9WL0624P4H001



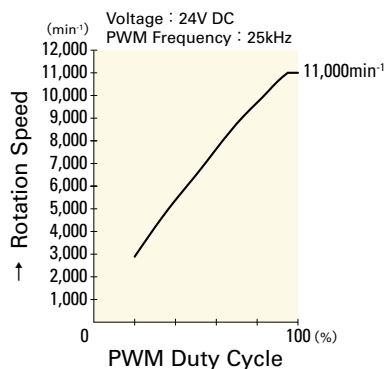
9WL0624P4S001



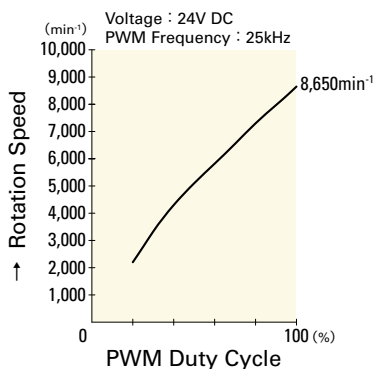
9WL0624P4J001



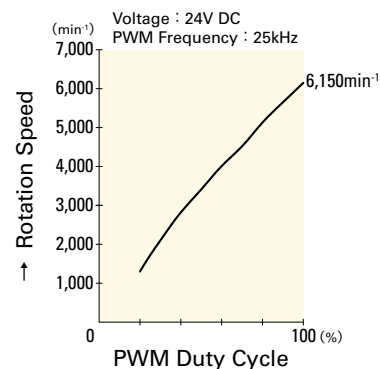
9WL0624P4H001



9WL0624P4S001



9WL0624P4J001



9WL0624P4H001

80 mm sq.

San Ace 80W



General Specifications

- Material Frame: Aluminum (Black coating),
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (Indoor, L10: Survival rate: 90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕ red ⊖ black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

80×80×25mm (Mass : 150g)

IP68

9WL_{type}

High Airflow Long Life Fan



Specifications The following nos. have PWM controls and pulse sensors.

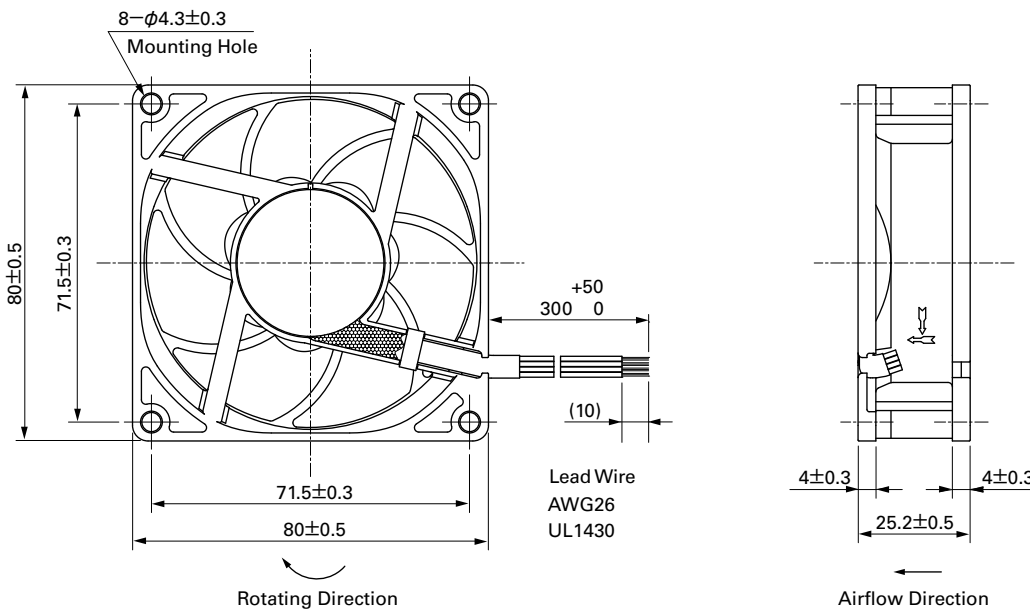
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{*)} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9WL0812P4J001	12	10.8 to 13.2	100	0.6	7.2	7,400	2.07 73.0	177 0.71	49	-20 to +70	180,000/60°C
			20	0.06	0.72	1,800	0.50 17.6	10.4 0.04	16		
9WL0812P4G001			100	0.30	3.60	5,500	1.54 54.3	98 0.39	43		
			25	0.05	0.60	1,400	0.39 13.7	6.3 0.02	14		
9WL0812P4H001			100	0.12	1.44	3,700	1.03 36.3	44 0.17	31		
			25	0.04	0.48	1,100	0.30 10.5	3.9 0.01	13		
9WL0824P4J001	24	21.6 to 26.4	100	0.28	6.72	7,400	2.07 73.0	177 0.71	49		
			20	0.05	1.20	2,400	0.67 23.6	18.6 0.07	22		
9WL0824P4G001			100	0.14	3.36	5,500	1.54 54.3	98 0.39	43		
			20	0.02	0.48	1,200	0.33 11.6	4.6 0.01	13		
9WL0824P4H001			100	0.05	1.2	3,700	1.03 36.3	44 0.17	31		
			30	0.02	0.48	1,100	0.30 10.5	3.9 0.01	13		

Note : Fan does not rotate when PWM duty cycle is 0%.

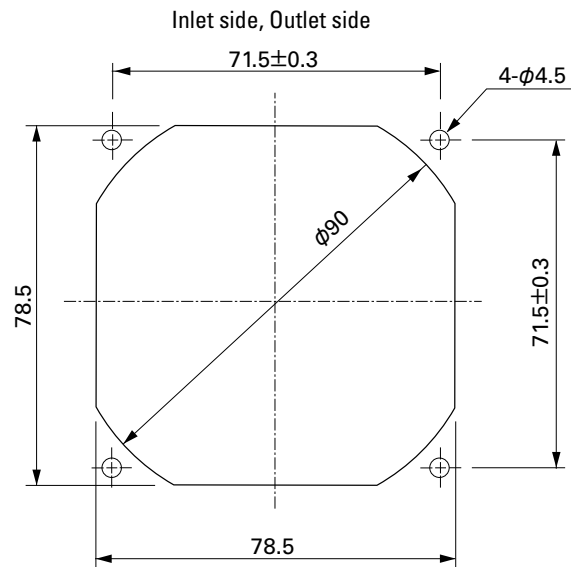
*)PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (pp. 511 to 512).

Dimensions (unit: mm)



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



Options (unit: mm)

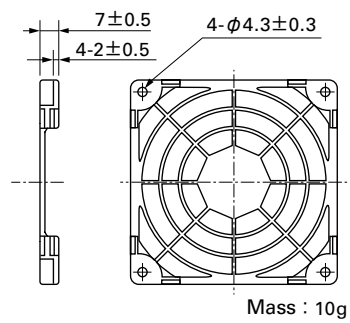
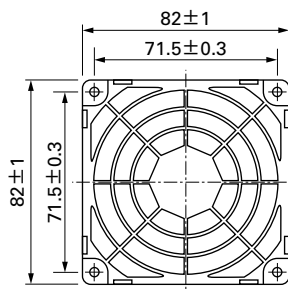
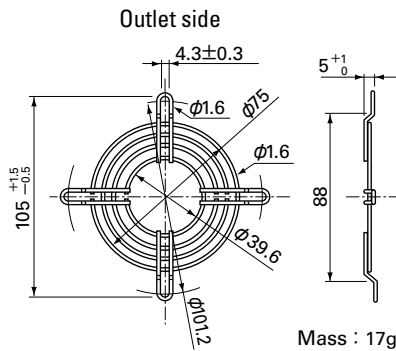
Finger Guards

Model : 109-049C Surface treatment : Nickel-chrome plating (silver) Color

Color

Resin Finger Guards

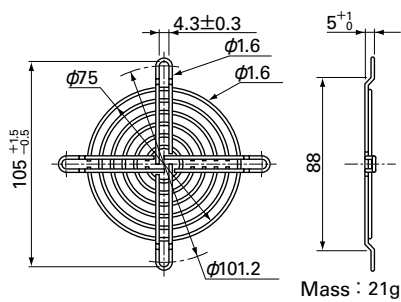
Model : 109-1002G



Model : 109-049E Surface treatment : Nickel-chrome plating (silver) Color
: 109-049H : Cation electropainting (black)

Color

Inlet side, Outlet side



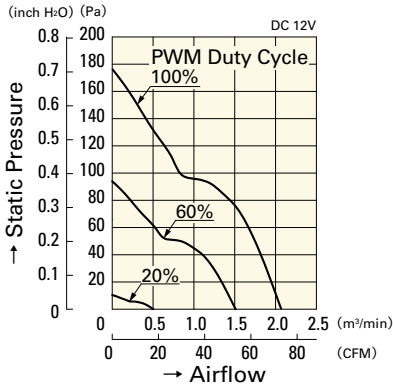
80mm sq.

San Ace 80W

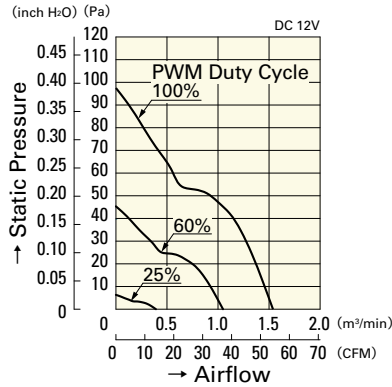
80×80×25mm [Mass : 150g]

Airflow - Static Pressure Characteristics

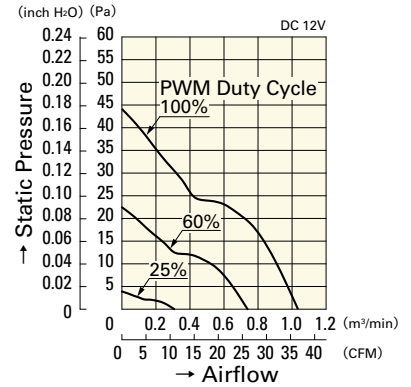
PWM Duty Cycle



9WL0812P4J001

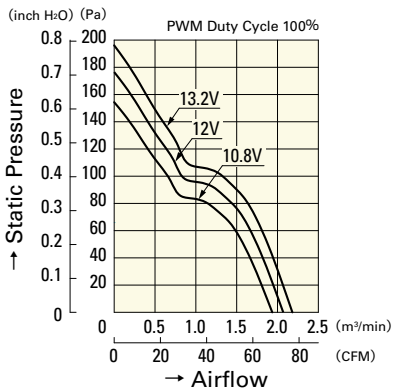


9WL0812P4G001

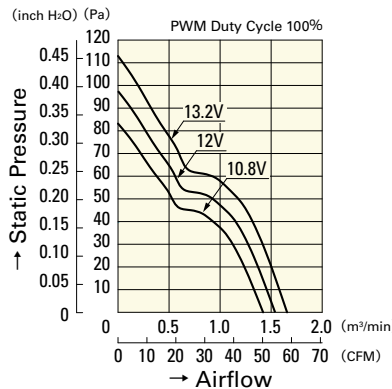


9WL0812P4H001

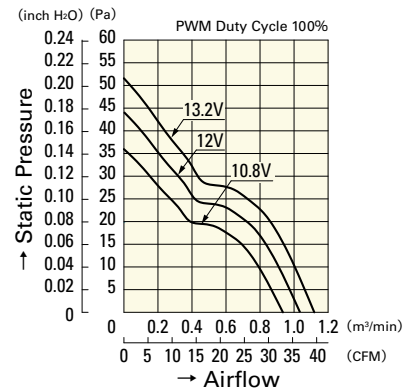
Operating Voltage Range



9WL0812P4J001

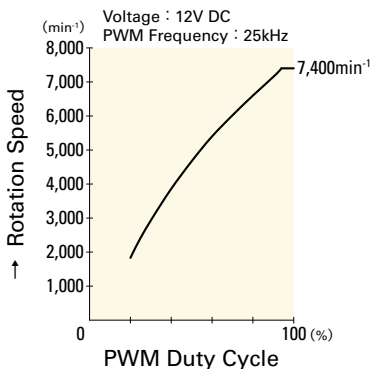


9WL0812P4G001

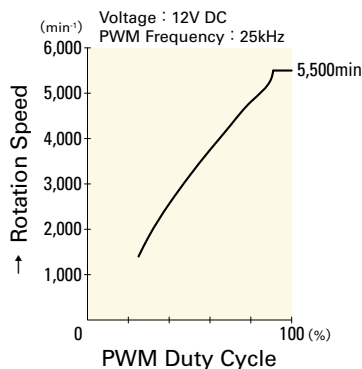


9WL0812P4H001

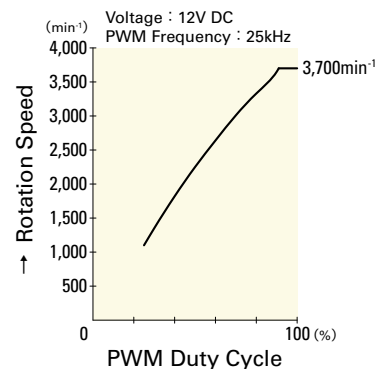
PWM Duty - Speed Characteristics Example



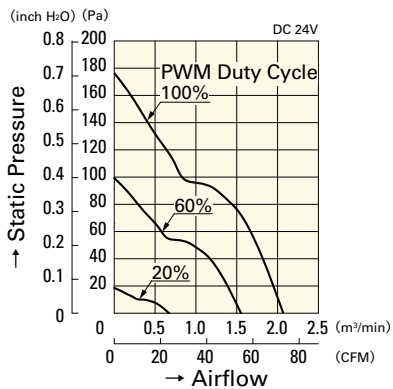
9WL0812P4J001



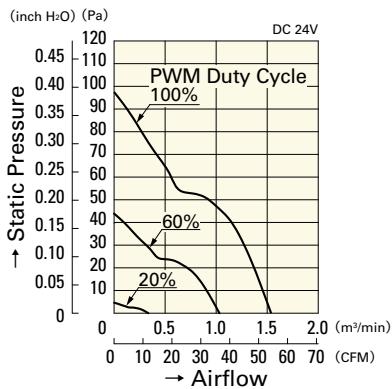
9WL0812P4G001



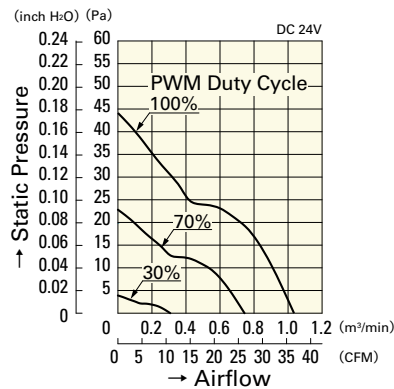
9WL0812P4H001



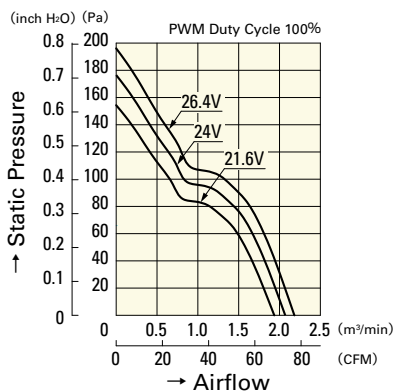
9WL0824P4J001



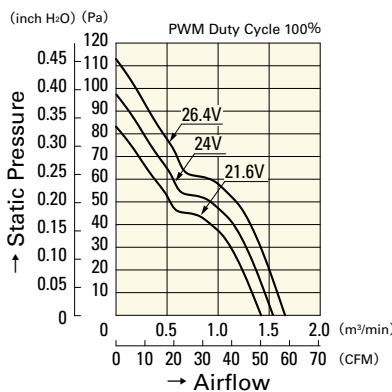
9WL0824P4G001



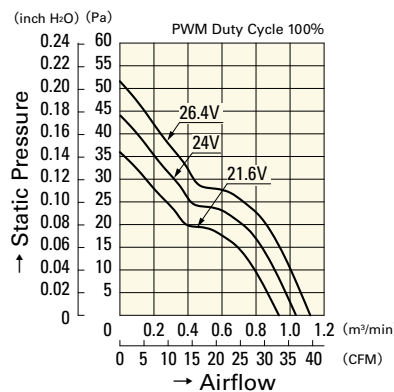
9WL0824P4H001



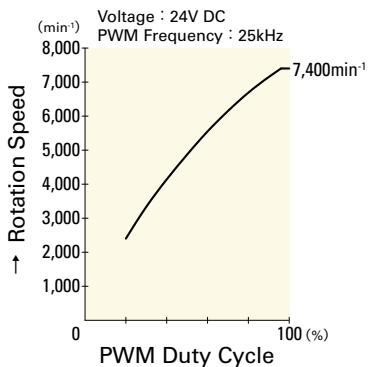
9WL0824P4J001



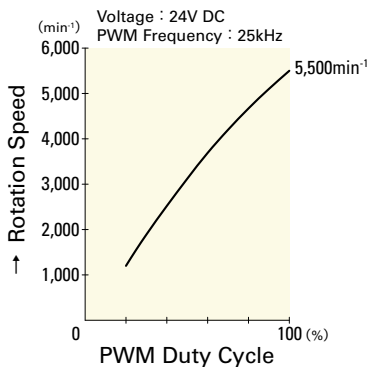
9WL0824P4G001



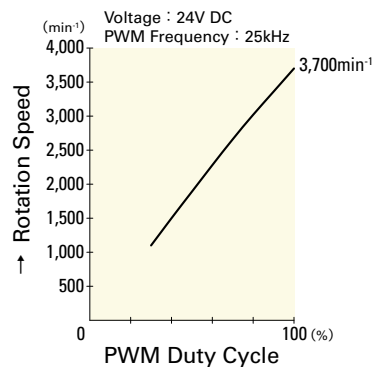
9WL0824P4H001



9WL0824P4J001



9WL0824P4G001



9WL0824P4H001

92mm sq.

San Ace 92W



General Specifications

- Material Frame: Aluminum (Black coating),
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (Indoor, L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

92×92×25mm (Mass : 170g)

IP 68

9WL type

High Airflow Long Life Fan



Specifications

The following nos. **have PWM controls and pulse sensors.**

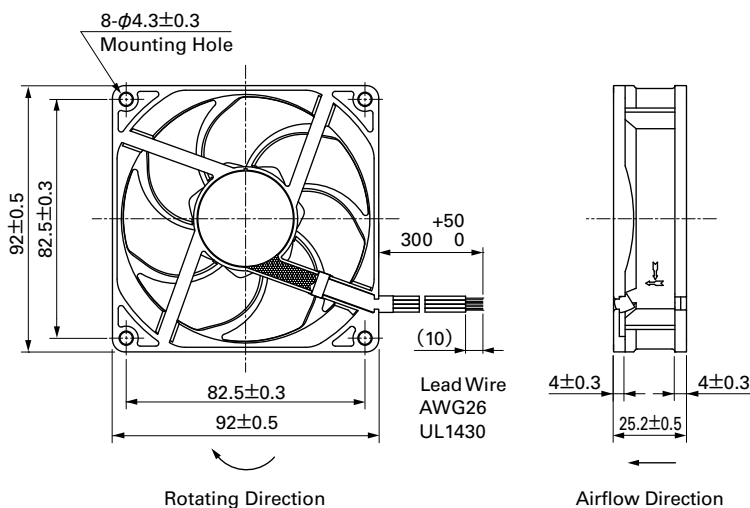
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{Note 1)} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature Range [°C]	Expected Life [h]		
9WL0912P4J001	12	10.8 to 13.2	100	0.42	5.04	5,000	2.2 77.7	105 0.42	44	-20 to +70	180,000/60°C		
			20	0.04	0.48	1,200	0.52 18.4	6.04 0.024	11				
9WL0912P4G001			100	0.30	3.60	4,400	1.93 68.2	81 0.33	40				
			20	0.04	0.48	1,000	0.43 15.1	4.18 0.016	8				
9WL0912P4S001			100	0.22	2.64	3,850	1.69 59.7	62.1 0.25	37				
			30	0.04	0.48	1,400	0.61 21.5	8.21 0.032	13				
9WL0912P4H001			100	0.15	1.80	3,150	1.38 48.7	41.6 0.17	32				
			30	0.04	0.48	1,100	0.48 16.9	5.07 0.020	9				
9WL0924P4J001			24	21.6 to 26.4	100	0.21	5.04	5,000	2.2 77.7			105 0.42	44
					20	0.02	0.48	1,100	0.48 16.9			5.07 0.020	9
9WL0924P4S001					100	0.11	2.64	3,850	1.69 59.7			62.1 0.25	37
					30	0.02	0.48	1,300	0.57 20.1			7.08 0.028	12
9WL0924P4H001	100	0.07			1.68	3,150	1.38 48.7	41.6 0.17	32				
	30	0.02			0.48	1,000	0.43 15.1	4.18 0.016	8				

Note : Fan does not rotate when PWM duty cycle is 0%.

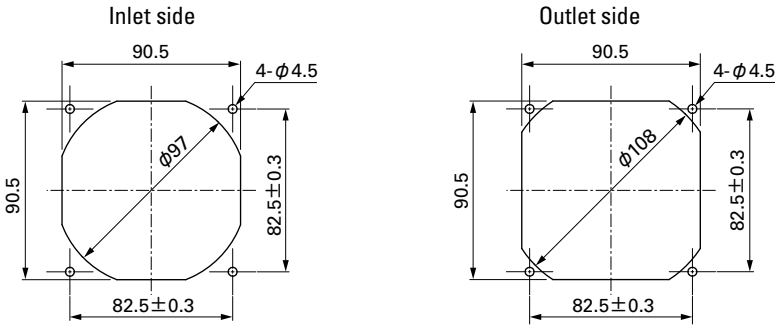
※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 512).

Dimensions (unit: mm)



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

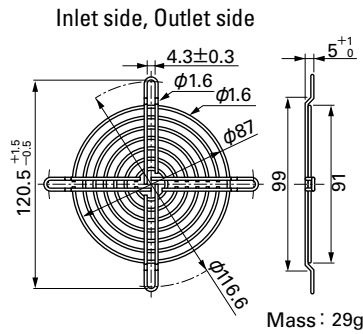
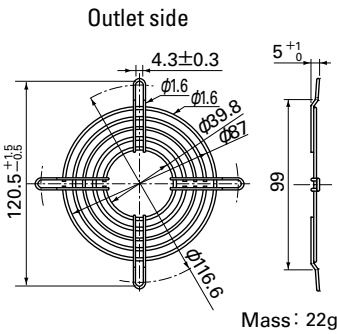


Options (unit: mm)

Finger Guards

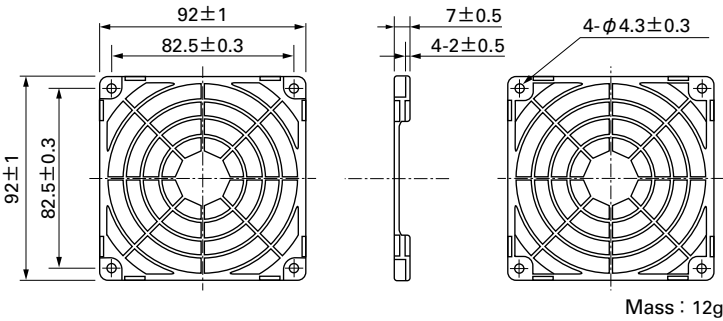
Model : 109-099C Surface treatment : Nickel-chrome plating (silver) Color

Model : 109-099E Surface treatment : Nickel-chrome plating (silver) Color
: 109-099H : Cation electropainting (black)



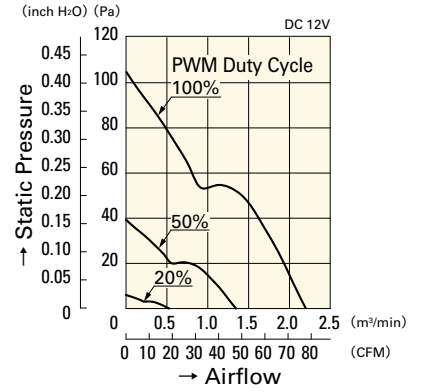
Resin Finger Guards

Model : 109-1001G



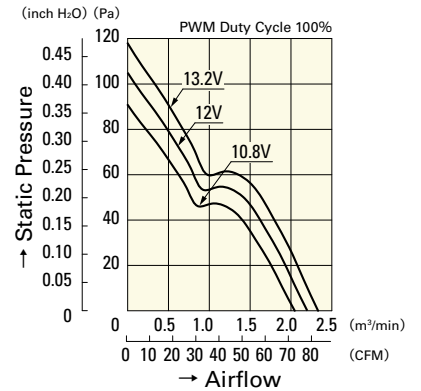
Airflow - Static Pressure Characteristics

PWM Duty Cycle



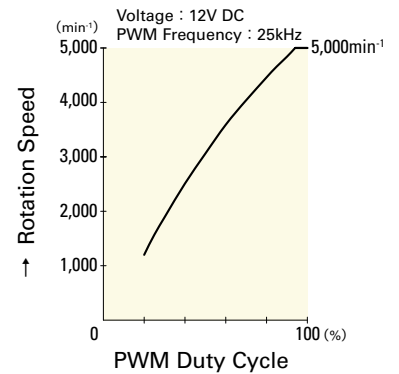
9WL0912P4J001

Operating Voltage Range



9WL0912P4J001

PWM Duty - Speed Characteristics Example



9WL0912P4J001

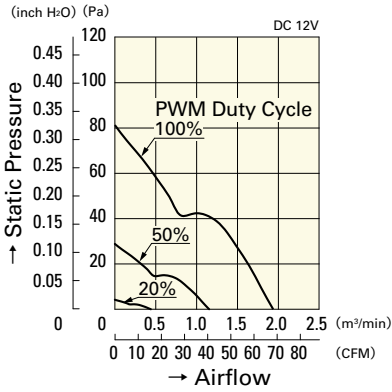
92mm sq.

San Ace 92W

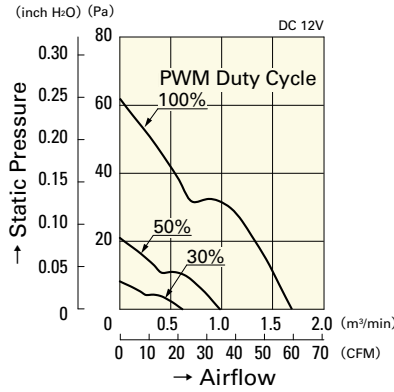
92×92×25mm [Mass : 170g]

Airflow - Static Pressure Characteristics

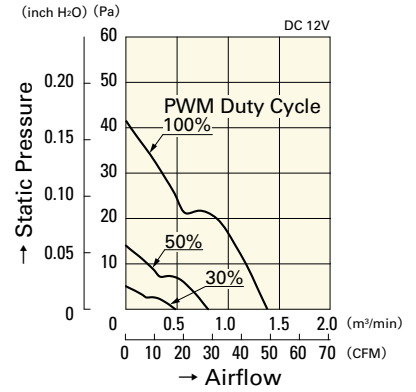
PWM Duty Cycle



9WL0912P4G001

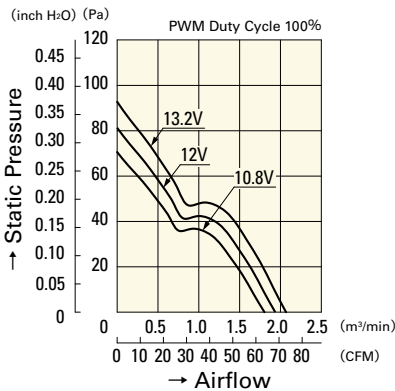


9WL0912P4S001

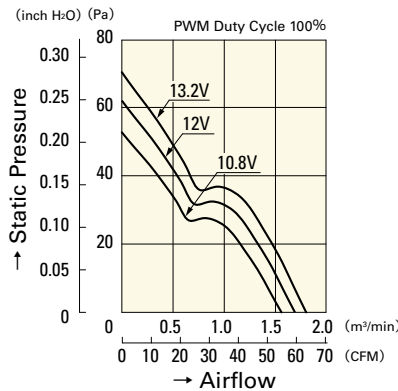


9WL0912P4H001

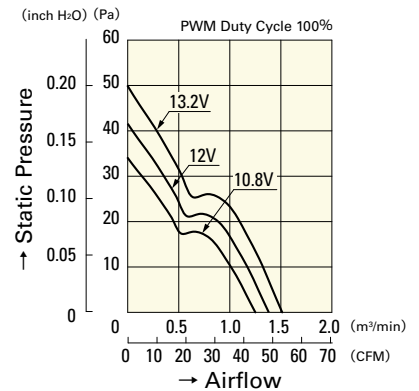
Operating Voltage Range



9WL0912P4G001

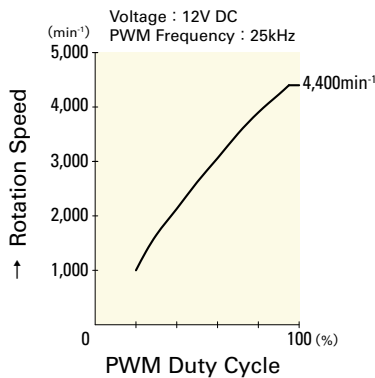


9WL0912P4S001

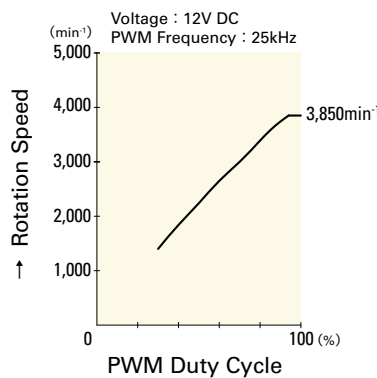


9WL0912P4H001

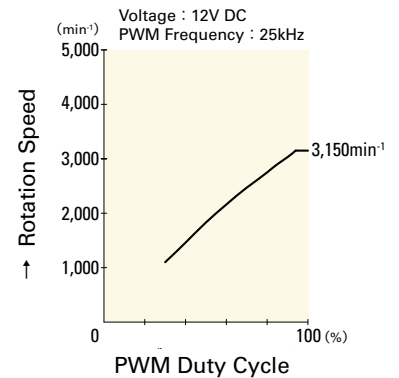
PWM Duty - Speed Characteristics Example



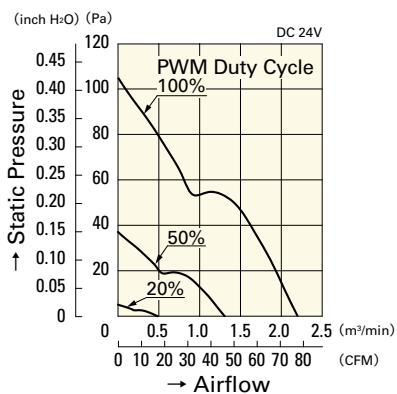
9WL0912P4G001



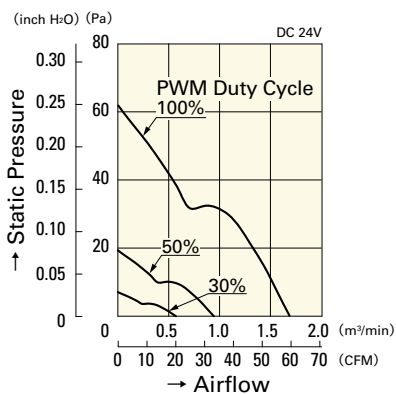
9WL0912P4S001



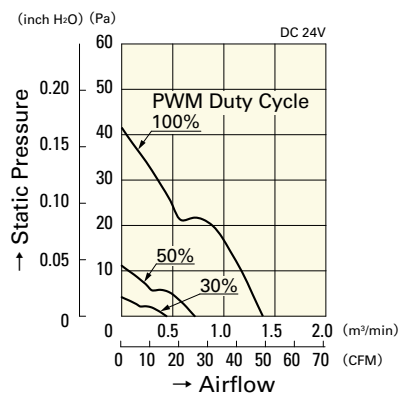
9WL0912P4H001



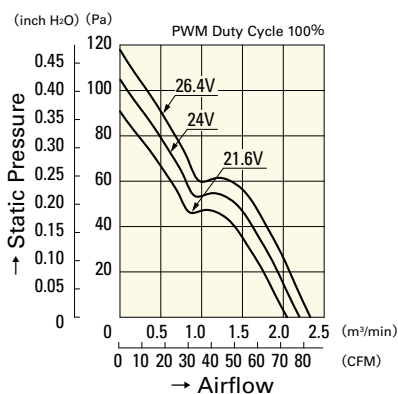
9WL0924P4J001



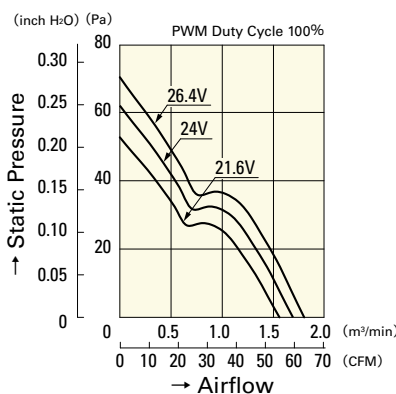
9WL0924P4S001



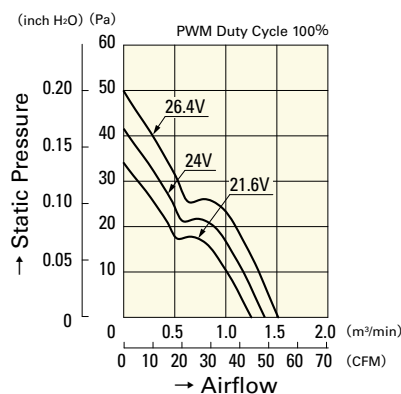
9WL0924P4H001



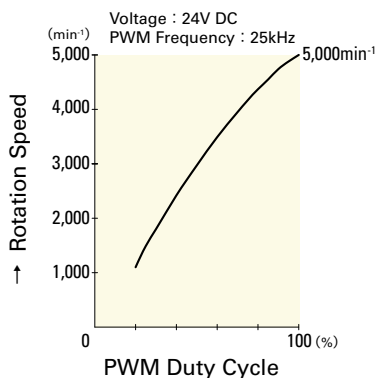
9WL0924P4J001



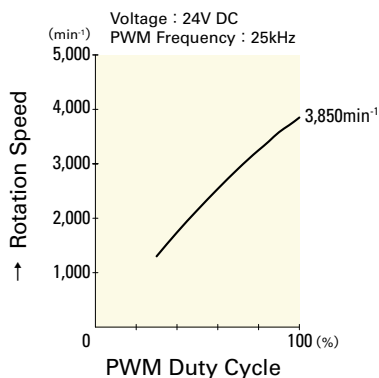
9WL0924P4S001



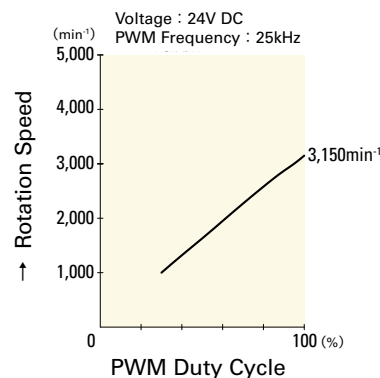
9WL0924P4H001



9WL0924P4J001



9WL0924P4S001



9WL0924P4H001

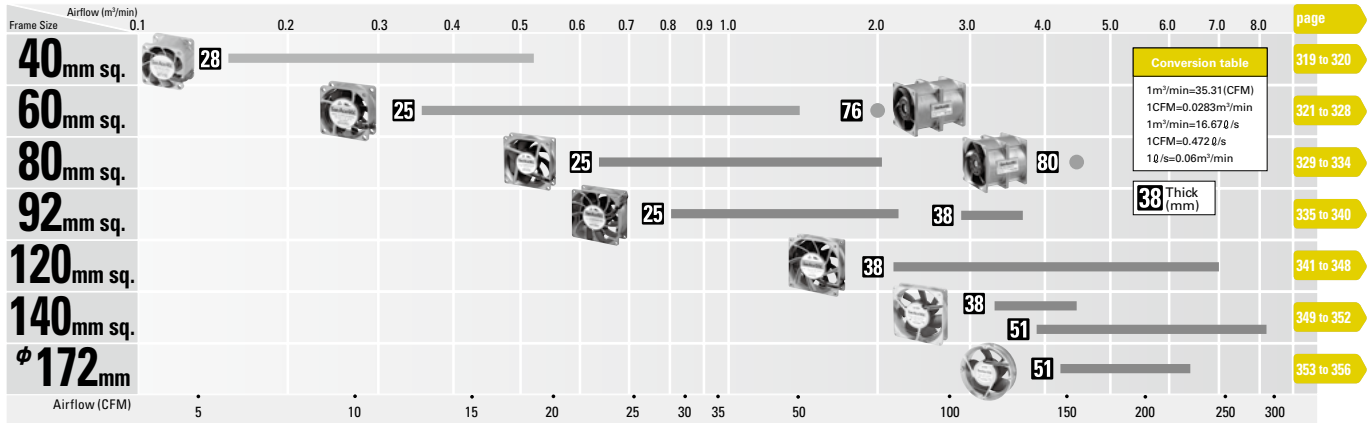
Long Life Fan

Cooling fan with Max. 200,000 hours of expected life.

Related product

Splash Proof, Long Life Fan ⇒ pp. 248, 251, 257, 267

Domain Diagram



Model Numbering System

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

109L	12	12	H	1	01
Type name / frame material 109L / Aluminum 9LB / Aluminum 9GL / Aluminum 9L / Aluminum 9LG / Aluminum 9CRL / Aluminum	Frame size 04: 40×40mm 06: 60×60mm 08: 80×80mm 09: 92×92mm 12: 120×120mm 14: 140×140mm 17: φ172mm 57: φ172mm×150mm (sidecut)	Voltage 12: 12V 24: 24V 48: 48V etc	Speed code E, F, G, H, J, L, M, S etc	Frame thickness 0: 76mm thick 1: 38mm thick 3: 28mm thick 4: 25mm thick 5: 51mm thick 8: 80mm thick	Sensor specifications 01: With a pulse sensor 02: Without a sensor D01: With a lock sensor

Fans with PWM control function

Example :

9LG	06	12	P	4	S	001
Type name / frame material 9LG / Aluminum	Frame size 06: 60×60mm	Voltage 12: 12V	PWM control function	Frame thickness 4: 25mm thick	Speed code	Individual customer's spec 2 or 3 digits

How to Read Specifications

DC Fan											DC	
Model No.	① Rated Voltage [V]	② Operating Voltage Range [V]	③ Rated Current [A]	④ Rated Input [W]	⑤ Rated Speed [min ⁻¹]	⑥ Max. Airflow [m ³ /min] [CFM]		⑦ Max. Static Pressure [Pa] [inchH ₂ O]		⑧ SPL [dB(A)]	⑨ Operating Temperature [°C]	⑩ Expected Life [h]
9GA0412G7001	12	7 to 13.8	0.17	2.04	13,100	0.36	12.7	192	0.77	42	-20 to +70	40,000/60°C (70,000/40°C)

- ① Rated Voltage This is the necessary voltage to drive the fan. 12VDC, 24VDC and 48VDC are available.
- ② Operating Voltage Range... The voltage range over which fan operation is guaranteed
- ③ Rated Current The current value during the fan's rated operation without load
- ④ Rated Input The input value during the fan's rated operation without load
- ⑤ Rated Speed The rotating speed during the fan's rated operation without load
- ⑥ Max. Airflow The maximum air volume that the fan can output during rated operation (according to the company's dual-chamber device).
The volume of air generated by the fan in a given time period
- ⑦ Max. Static Pressure The maximum static pressure value that the fan can output during rated operation (according to the company's dual-chamber device). The static pressure is the fan's force to propel air by overcoming the resistance of the device that uses the fan when it propels air.
- ⑧ SPL "SPL" is Sound Pressure Level. The noise level during the fan's rated operation.
Please refer to the technical material section for the method used to measure the noise level.
- ⑨ Operating Temperature The temperature range over which fan operation is guaranteed (Non- condensing)
- ⑩ Expected Life The fan's expected operating life when the fan operates continuously at the rated voltage at a temperature of 60°C and at relative humidity of 90%. Expected life at 40°C ambient is just reference value.
Please refer to the technical material section for the expected operating life.

DC Fan Common Specifications

Material Frame,Impeller:Plastics / Frame:Aluminum,Impeller:Plastics

* For details, refer to the appropriate page.

Expected LifeVaries for each model (L10:Survival rate:90% at 60°C ,rated voltage, and continuously run in a free air state)

* Splash proof fan: Varies for each model (Indoor, L10:Survival rate:90% at 60°C ,rated voltage, and continuously run in a free air state)

Motor Protection Burnout protection at locked rotor condition and Reverse polarity protection

Dielectric StrengthAC50/60Hz 500VAC 1minute(between lead conductor and frame)

Insulation Resistance10M Ω or more at 500VDC megger (between lead conductor and frame)

Sound Pressure Level(SPL) ..Expressed as the value at 1m from air inlet side

Lead WireFor details, refer to the appropriate page.

Overheating protection function

Protection Functions:

If the fan blades are restricted, an overcurrent occurs and leads to a rise in the fan coil temperature. This can result in reduced performance, damage, or a fire. To prevent this from occurring, SANYO DENKI's fans incorporate an overheating protection function. Refer to the catalog for the types of protection functions.

Burnout protection function at locked rotor condition

- Current cutoff system

If the fan blades are restricted, the coil current is cut off at regular cycles to prevent overheating of the coil. When the hindrance is removed, the fan restarts automatically.

Reverse polarity protection function

No problem about fan even if positive & negative lead are connected in reverse.

However, when wiring fans with sensors or PWM speed control function, connecting positive and negative leads in reverse may damage the fans.

40 mm sq.

San Ace 40L



General Specifications

- Material Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-0)
- Expected Life Refer to specifications (L10:Survival rate: 90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow
- Storage Temperature -30°C to +70°C (Non-condensing)

40×40×28mm (Mass : 55g) **9L type**

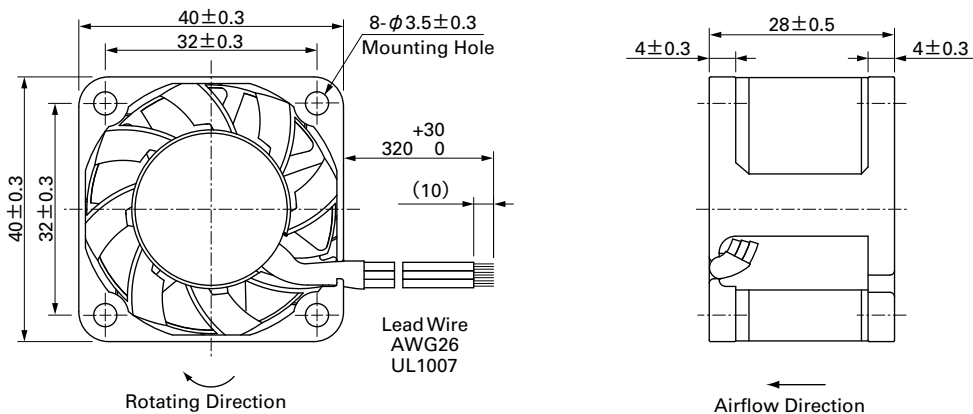
Specifications

The following nos. **have pulse sensors.**

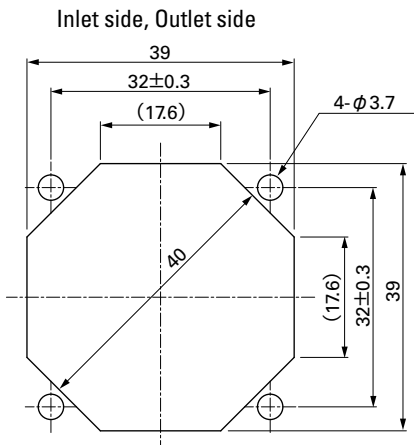
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9L0412J301	12	10.2 to 13.8	0.31	3.72	11,700	0.52 18.4	206 0.827	48	-20 to +70	100,000/60°C
9L0412H301			0.15	1.80	8,400	0.37 13.1	106 0.426	40		
9L0412M301			0.045	0.54	4,000	0.16 5.65	24 0.096	19		

Other sensor specifications are available as options. Please refer to the index (p. 509).

Dimensions (unit: mm)



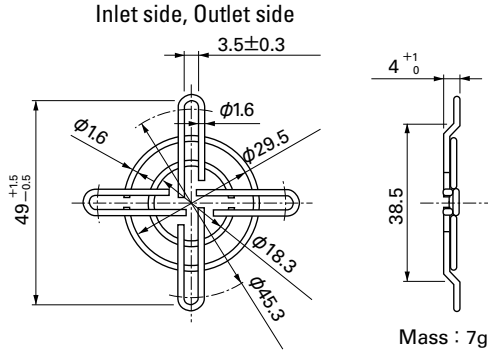
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



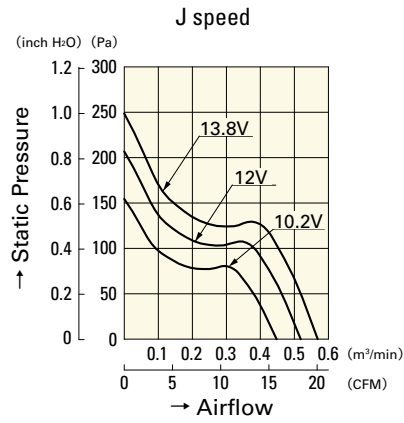
Options (unit: mm)

Finger Guards

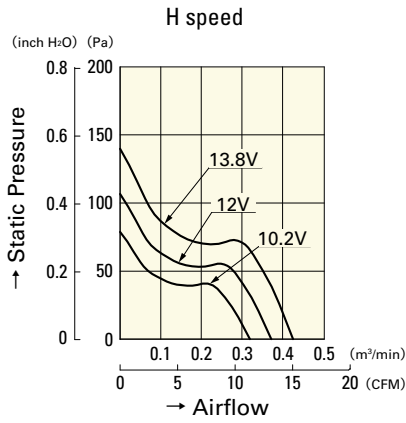
Color
 Model : 109-059 Surface treatment : Nickel-chrome plating (silver)
 : 109-059H : Cation electropainting (black)



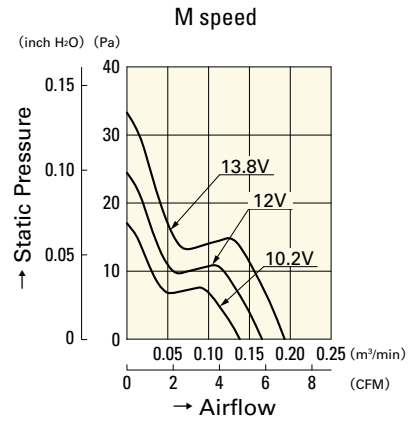
Airflow - Static Pressure Characteristics



9L0412J301



9L0412H301



9L0412M301

DC

Long Life Fan 40mm

60 mm sq.

San Ace 60L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

60×60×25mm (Mass : 100g) **9LG type** **High Airflow**

Specifications

The following nos. **have PWM controls and pulse sensors.**

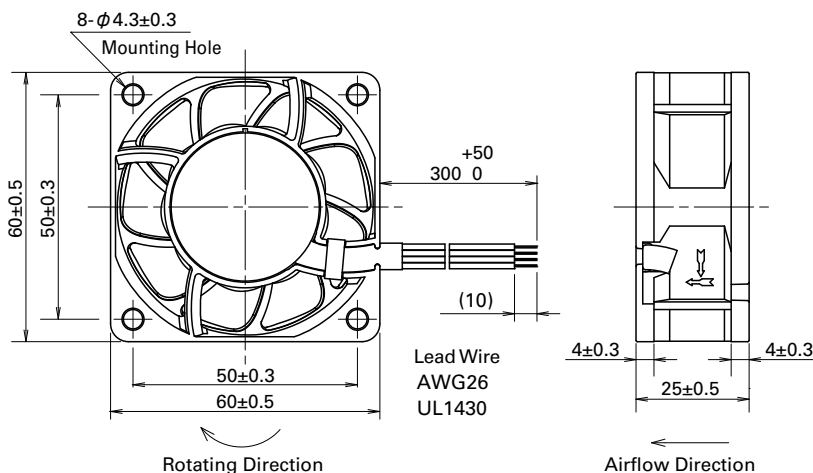
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{Note1)} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]		
9LG0612P4S001	12	10.8 to 13.2	100	0.67	8.04	11,000	1.40 49.4	300 1.204	53	-20 to +70	180,000/60°C		
			20	0.06	0.72	2,900	0.36 12.7	20.8 0.083	20				
9LG0612P4J001			100	0.39	4.68	8,650	1.10 38.8	182 0.730	47				
			20	0.03	0.36	1,150	0.13 4.8	3.3 0.013	14				
9LG0612P4H001			100	0.17	2.04	6,150	0.78 27.5	97 0.389	35				
			20	0.03	0.36	1,350	0.17 6.0	4.7 0.018	14				
9LG0612P4M001			100	0.09	1.08	4,200	0.53 18.7	45 0.180	24				
			20	0.03	0.36	900	0.11 3.8	2.0 0.008	14				
9LG0624P4S001			24	21.6 to 26.4	100	0.34	8.16	11,000	1.40 49.4			300 1.204	53
					20	0.03	0.72	2,900	0.36 12.7			20.8 0.083	20
9LG0624P4J001					100	0.19	4.56	8,650	1.10 38.8			182 0.730	47
					20	0.02	0.48	2,200	0.28 9.8			12.0 0.048	17
9LG0624P4H001	100	0.08			1.92	6,150	0.78 27.5	97 0.389	35				
	20	0.02			0.48	1,300	0.16 5.6	4.3 0.017	14				
9LG0624P4M001	100	0.04			0.96	4,200	0.53 18.7	45 0.180	24				
	20	0.01			0.24	800	0.10 3.5	1.6 0.006	14				
9LG0648P4S001	48	36 to 72			100	0.18	8.64	11,000	1.40 49.4	305 1.224	53		
					20	0.02	0.96	2,900	0.36 12.7	20.8 0.083	20		
9LG0648P4J001					100	0.10	4.80	8,650	1.10 38.8	182 0.730	47		
					20	0.02	0.96	2,100	0.26 9.1	10.7 0.042	17		
9LG0648P4H001			100	0.06	2.88	6,150	0.78 27.5	97 0.389	35				
			20	0.02	0.96	1,000	0.12 4.2	2.5 0.010	14				
9LG0648P4M001			100	0.04	1.92	4,200	0.53 18.7	45 0.180	24				
			20	0.02	0.96	650	0.08 2.8	1.0 0.004	14				

Note : Fan does not rotate when PWM duty cycle is 0%.

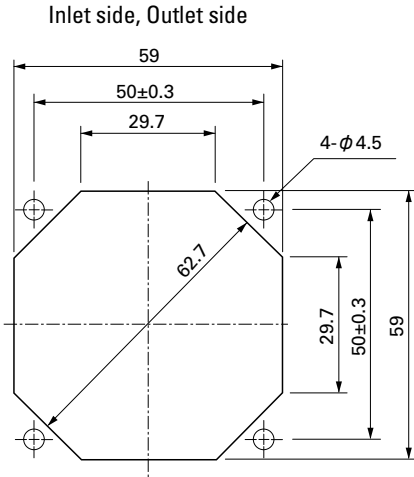
※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 509).

Dimensions (unit: mm)



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



Options (unit: mm)

Finger Guards

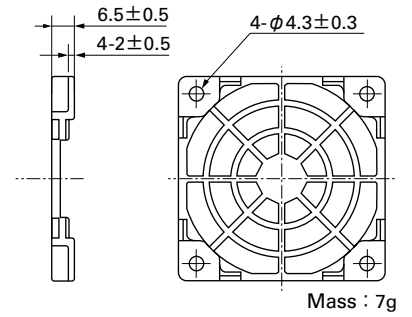
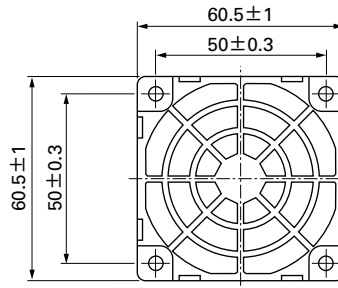
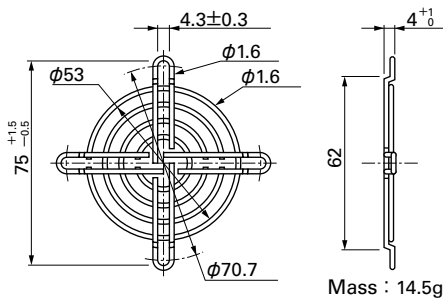
Model : 109-139E Surface treatment : Nickel-chrome plating (silver)
 : 109-139H : Cation electropainting (black)

Color

Resin Finger Guards

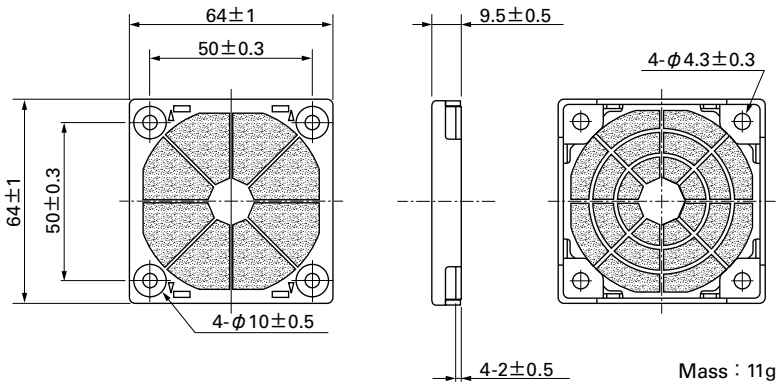
Model : 109-1003G

Inlet side, Outlet side



Resin Filter Kits

Model : 109-1003F13 (13PPI), 109-1003F20 (20PPI)
 : 109-1003F30 (30PPI), 109-1003F40 (40PPI)



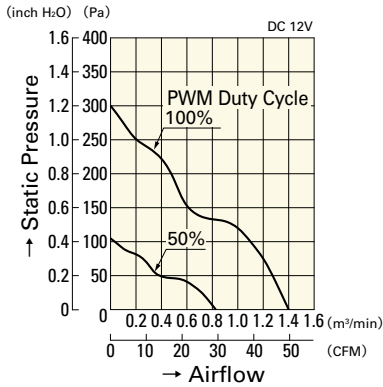
60mm sq.

San Ace 60L

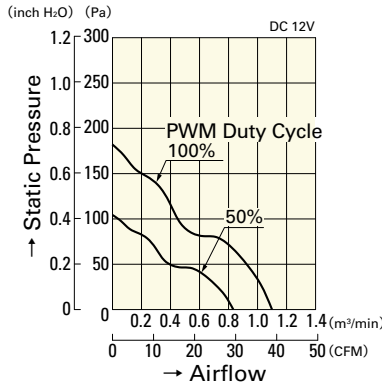
60×60×25mm [Mass : 100g]

Airflow - Static Pressure Characteristics

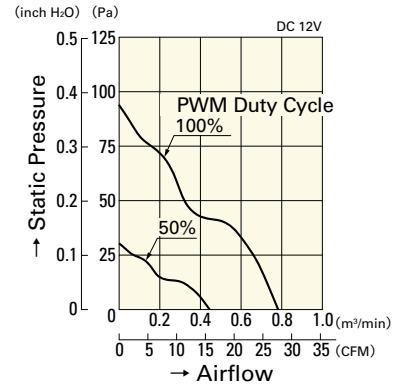
PWM Duty Cycle



9LG0612P4S001

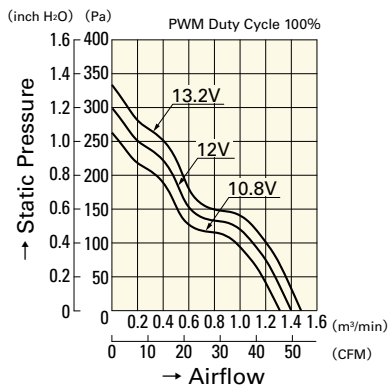


9LG0612P4J001

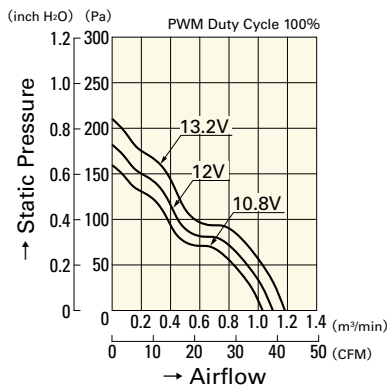


9LG0612P4H001

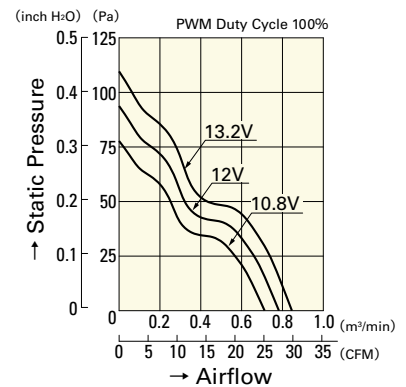
Operating Voltage Range



9LG0612P4S001

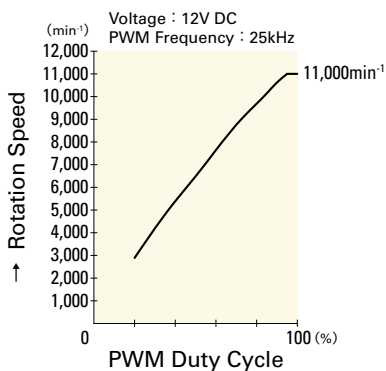


9LG0612P4J001

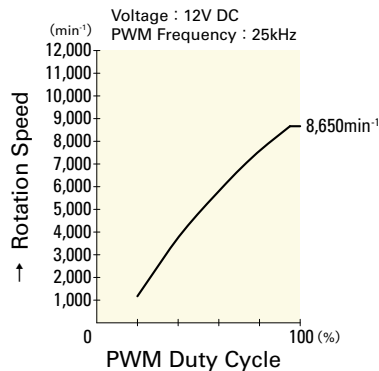


9LG0612P4H001

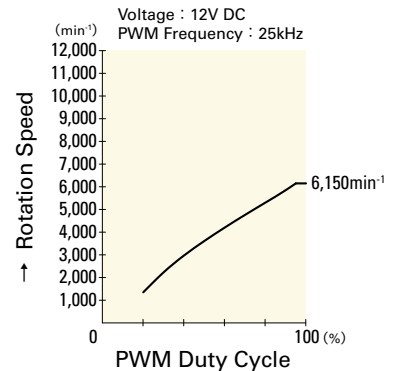
PWM Duty - Speed Characteristics Example



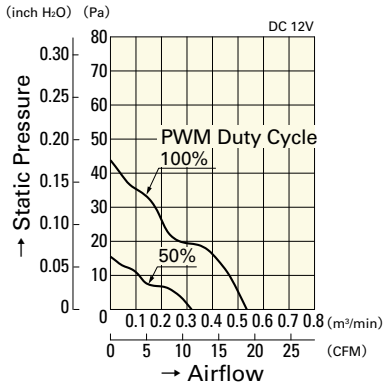
9LG0612P4S001



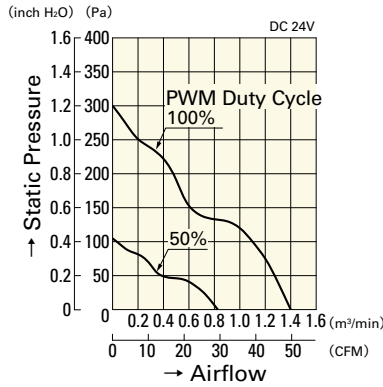
9LG0612P4J001



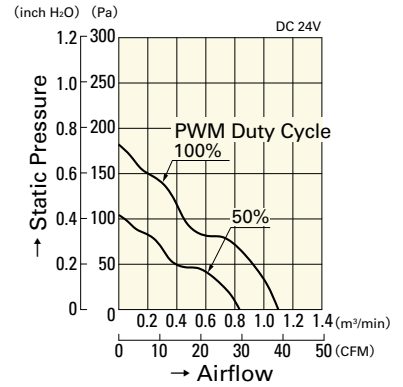
9LG0612P4H001



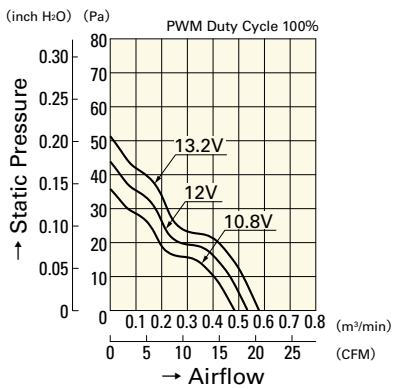
9LG0612P4M001



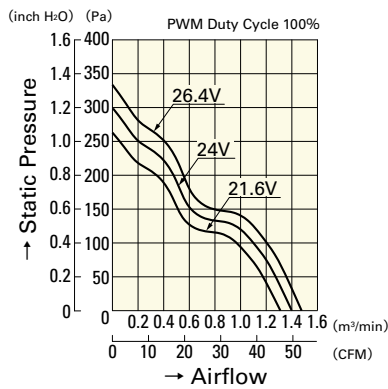
9LG0624P4S001



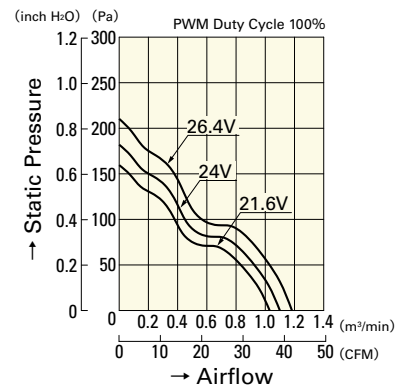
9LG0624P4J001



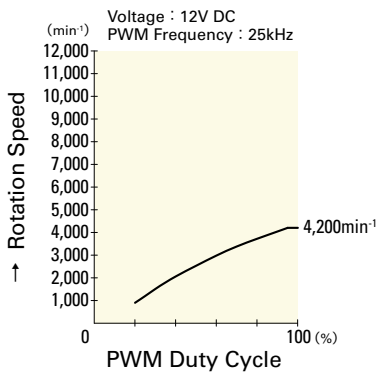
9LG0612P4M001



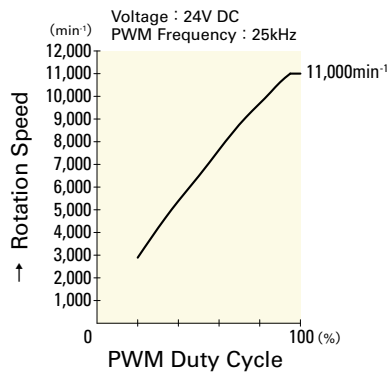
9LG0624P4S001



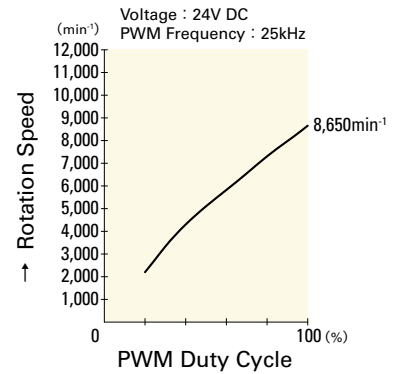
9LG0624P4J001



9LG0612P4M001



9LG0624P4S001



9LG0624P4J001

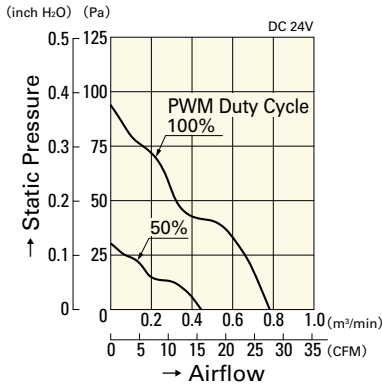
60mm sq.

San Ace 60L

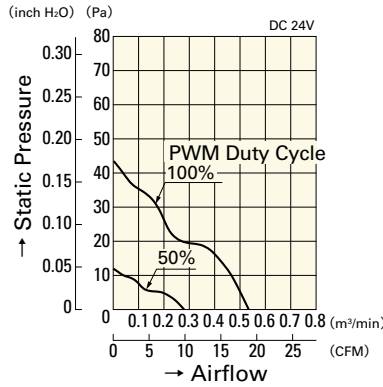
60×60×25mm [Mass : 100g]

Airflow - Static Pressure Characteristics

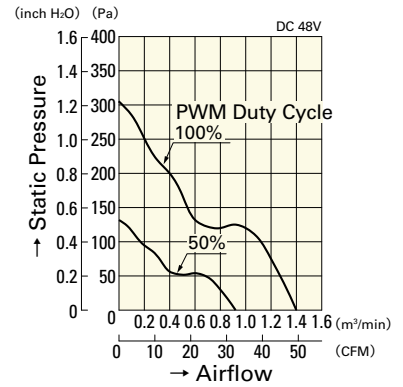
PWM Duty Cycle



9LG0624P4H001

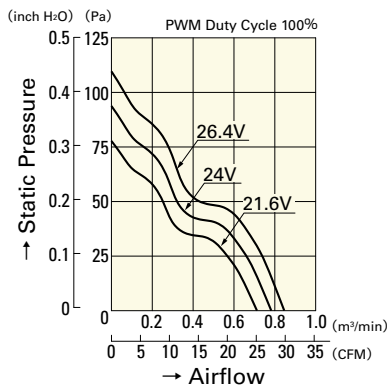


9LG0624P4M001

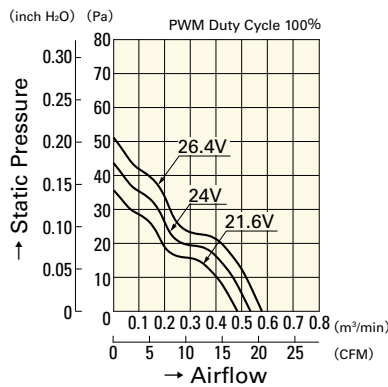


9LG0648P4S001

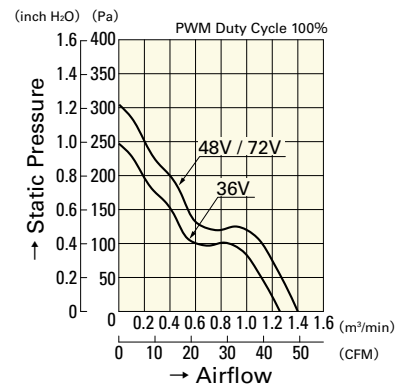
Operating Voltage Range



9LG0624P4H001

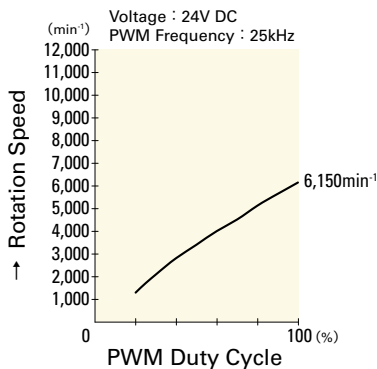


9LG0624P4M001

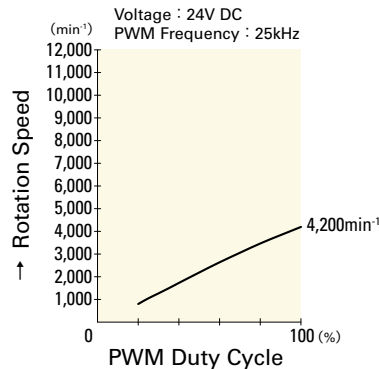


9LG0648P4S001

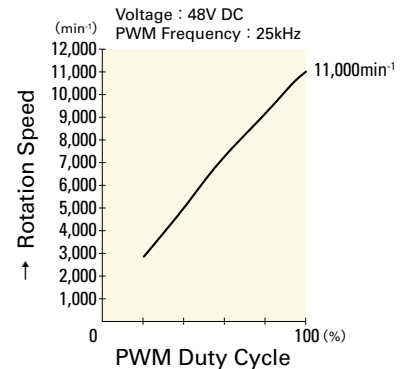
PWM Duty - Speed Characteristics Example



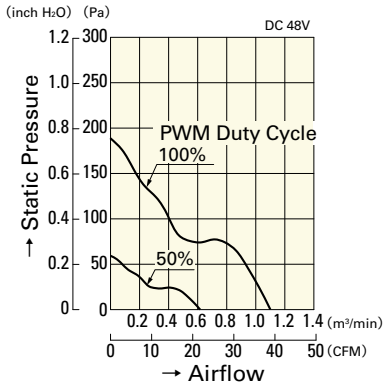
9LG0624P4H001



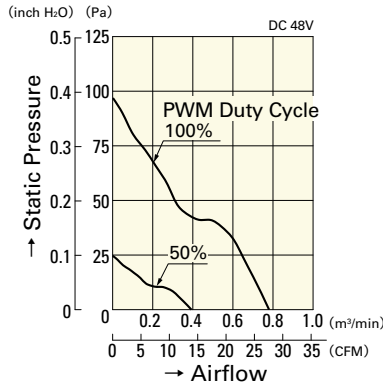
9LG0624P4M001



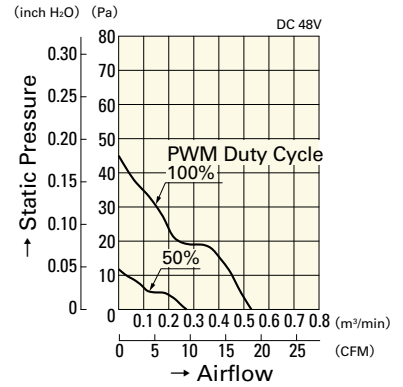
9LG0648P4S001



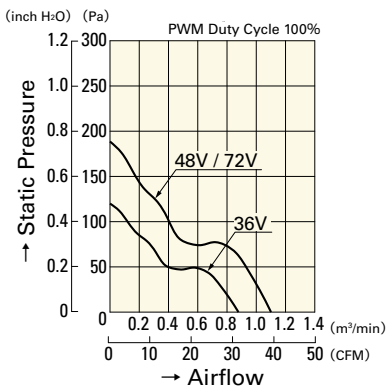
9LG0648P4J001



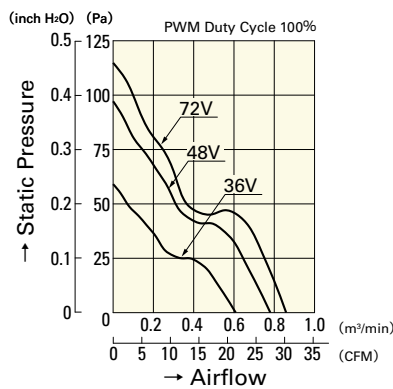
9LG0648P4H001



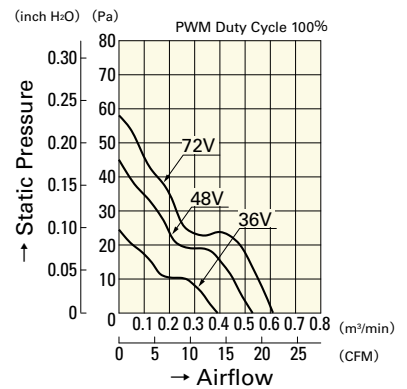
9LG0648P4M001



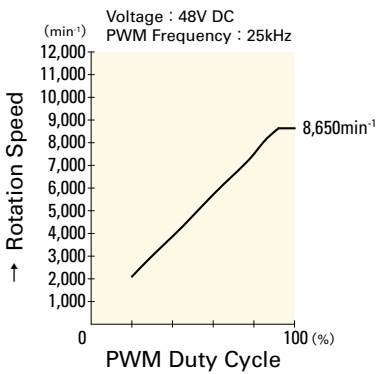
9LG0648P4J001



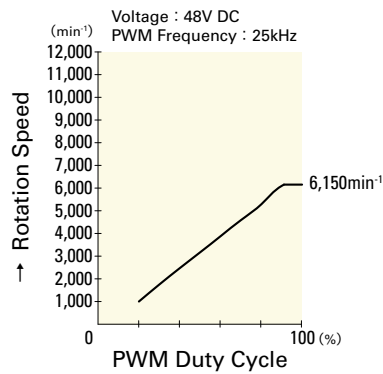
9LG0648P4H001



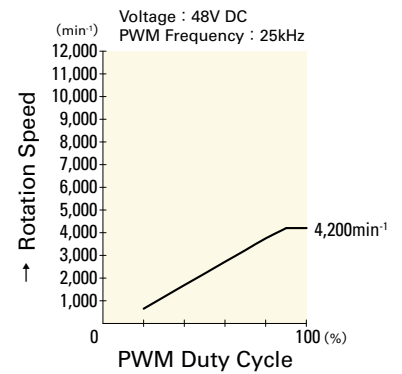
9LG0648P4M001



9LG0648P4J001



9LG0648P4H001



9LG0648P4M001

60mm sq.

San Ace 60L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire Inlet ⊕red ⊖black (Sensor) yellow (Control) brown
Outlet ⊕orange ⊖gray (Sensor) purple (Control) white
- Storage Temperature -30°C to +70°C (Non-condensing)

60×60×76mm (Mass : 300g) **9CRL type** **Counter Rotating**



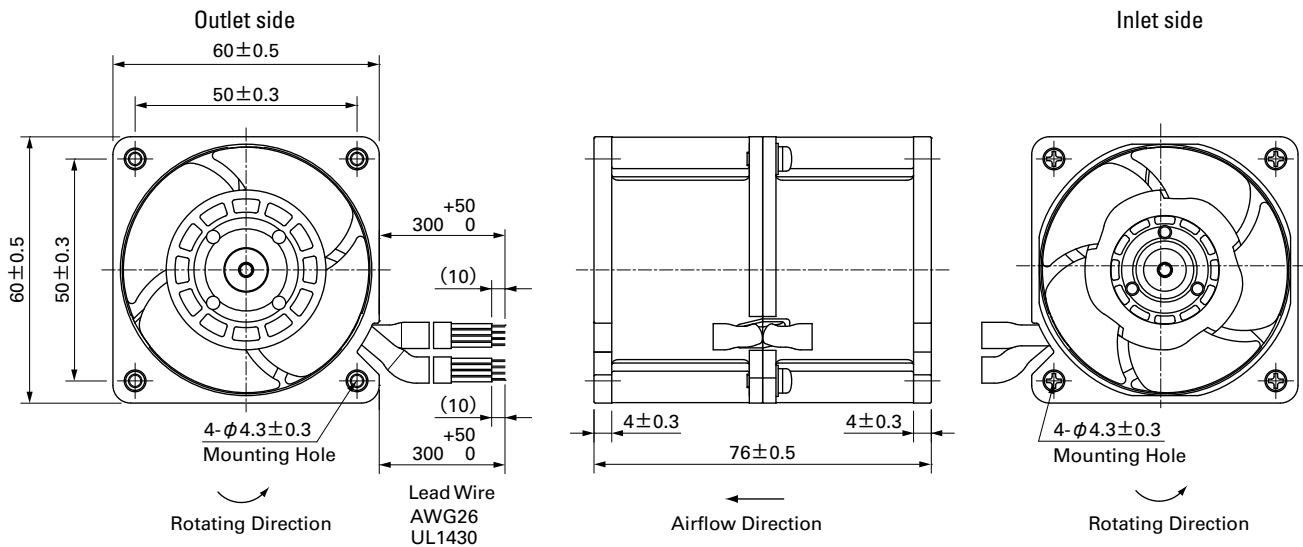
Specifications

The following nos. **have PWM controls and pulse sensors.**

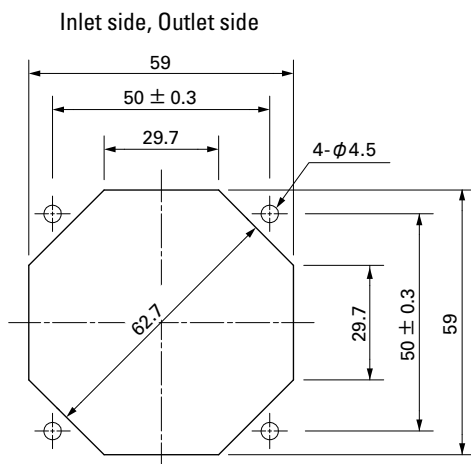
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle* [%]		Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]		Max. Airflow [m ³ /min] [CFM]		Max. Static Pressure [Pa] [inchH ₂ O]		SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
			100	0			Inlet	Outlet	2.0	70.6	1000	4.0			
9CRL0612P0G001	12	10.8 to 13.2	100	2.3	27.6	16,500	13,000	2.0	70.6	1000	4.0	66	-20 to +70	130,000/60°C	
			0	0.22											2.7

*PWM Frequency : 25kHz

Dimensions (unit: mm)



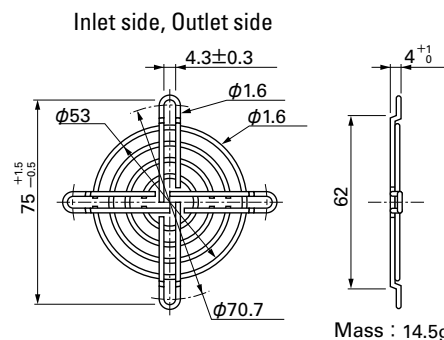
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Options (unit: mm)

Finger Guards

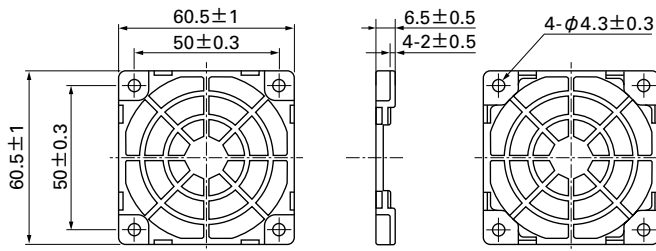
Model : 109-139E Surface treatment : Nickel-chrome plating (silver)
: 109-139H : Cation electropainting (black)



Options (unit: mm)

Resin Finger Guards

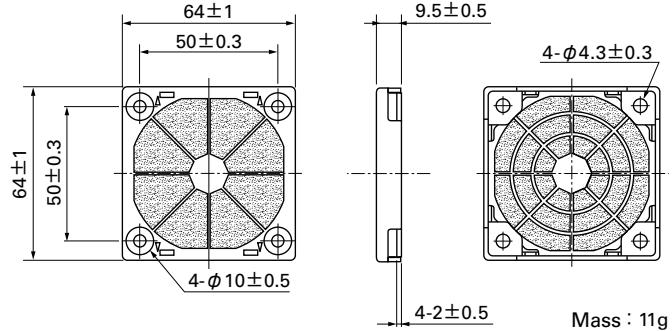
Model : 109-1003G



Mass : 7g

Resin Filter Kits

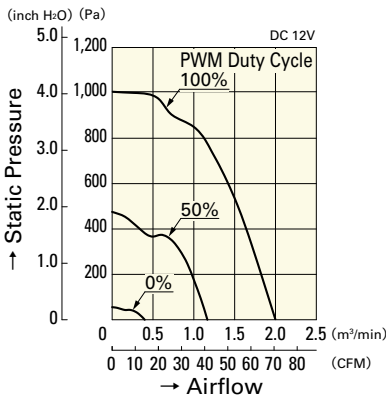
Model : 109-1003F13 (13PPI), 109-1003F20 (20PPI)
: 109-1003F30 (30PPI), 109-1003F40 (40PPI)



Mass : 11g

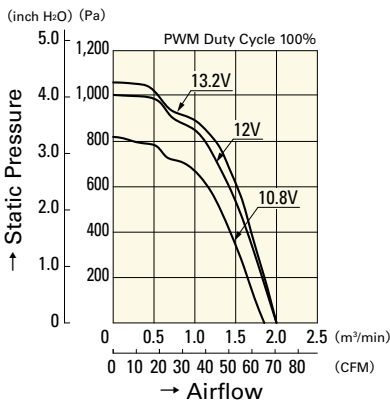
Airflow - Static Pressure Characteristics

PWM Duty Cycle



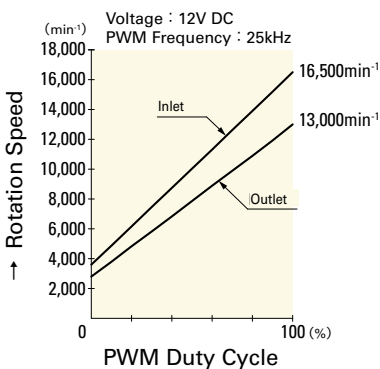
9CRL0612P0G001

Operating Voltage Range



9CRL0612P0G001

PWM Duty - Speed Characteristics Example



9CRL0612P0G001

DC

Long Life Fan 60mm

80 mm sq.

San Ace 80L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

80×80×25mm (Mass : 130g) **9LG type** **High Airflow**

Specifications

The following nos. **have PWM controls and pulse sensors.**

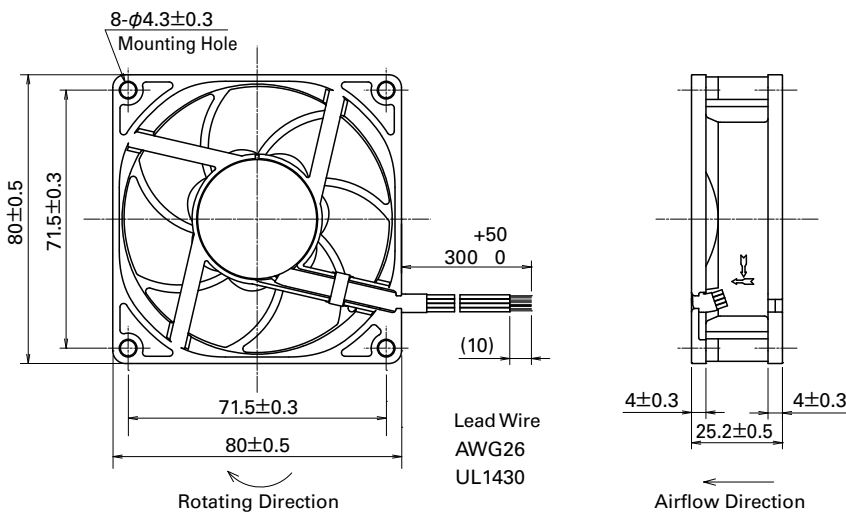
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{Note)1)} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9LG0812P4J001	12	10.8 to 13.2	100	0.6	7.2	7,400	2.07 73.0	177 0.71	49	-20 to +70	180,000/60°C
			20	0.06	0.72	1,800	0.50 17.6	10.4 0.04	16		
9LG0812P4G001			100	0.30	3.60	5,500	1.54 54.3	98 0.39	43		
			25	0.05	0.60	1,400	0.39 13.7	6.3 0.02	14		
9LG0812P4H001			100	0.12	1.44	3,700	1.03 36.3	44 0.17	31		
			25	0.04	0.48	1,100	0.30 10.5	3.9 0.01	13		
9LG0824P4J001	24	21.6 to 26.4	100	0.28	6.72	7,400	2.07 73.0	177 0.71	49		
			20	0.05	1.20	2,400	0.67 23.6	18.6 0.07	22		
9LG0824P4G001			100	0.14	3.36	5,500	1.54 54.3	98 0.39	43		
			20	0.02	0.48	1,200	0.33 11.6	4.6 0.01	13		
9LG0824P4H001			100	0.05	1.2	3,700	1.03 36.3	44 0.17	31		
			30	0.02	0.48	1,100	0.30 10.5	3.9 0.01	13		

Note : Fan does not rotate when PWM duty cycle is 0%.

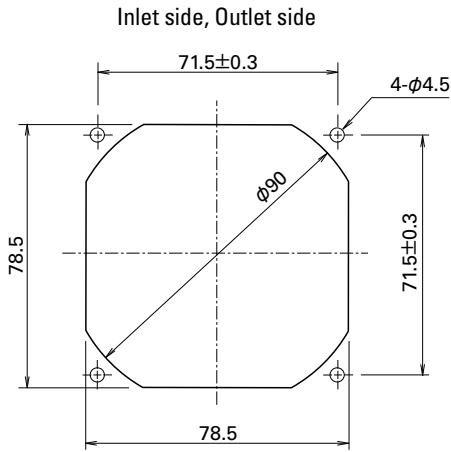
※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 509).

Dimensions (unit: mm)



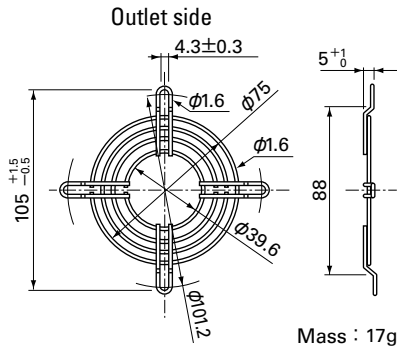
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Options (unit: mm)

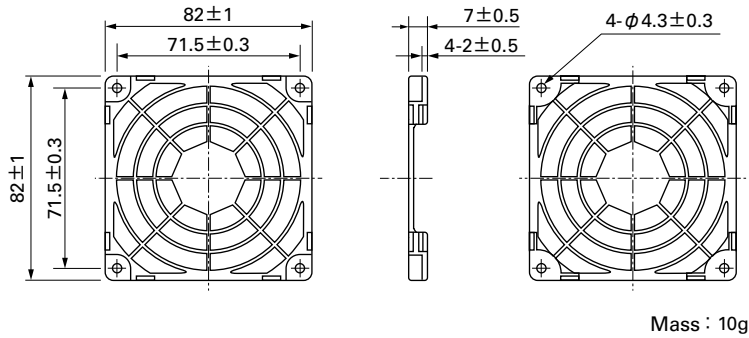
Finger Guards

Model : 109-049C Surface treatment : Nickel-chrome plating (silver) Color : Nickel-chrome plating (silver)



Resin Finger Guards

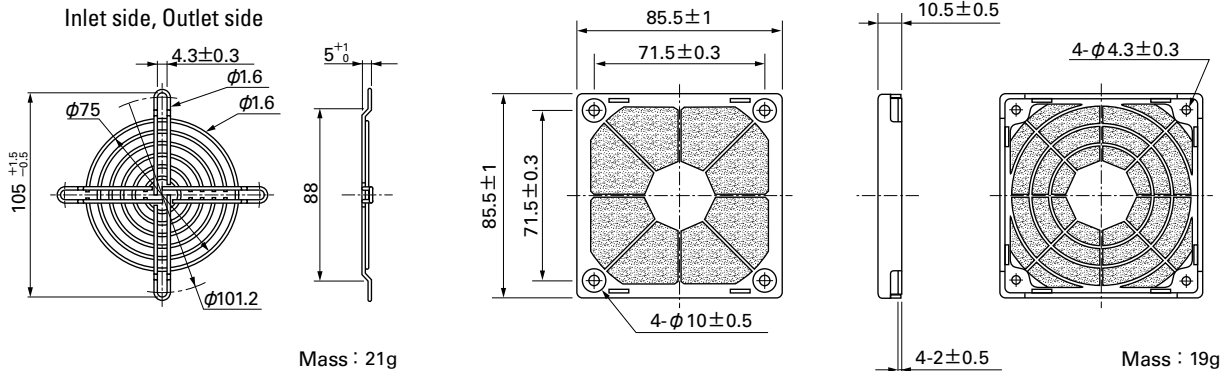
Model : 109-1002G



Model : 109-049E Surface treatment : Nickel-chrome plating (silver) Color : Nickel-chrome plating (silver)
: 109-049H : Cation electropainting (black)

Resin Filter Kits

Model : 109-1002F13 (13PPI), 109-1002F20 (20PPI)
: 109-1002F30 (30PPI), 109-1002F40 (40PPI)



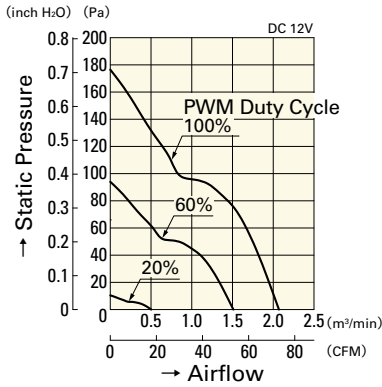
80mm sq.

San Ace 80L

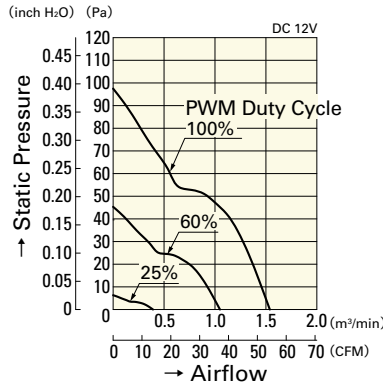
80×80×25mm [Mass : 130g]

Airflow - Static Pressure Characteristics

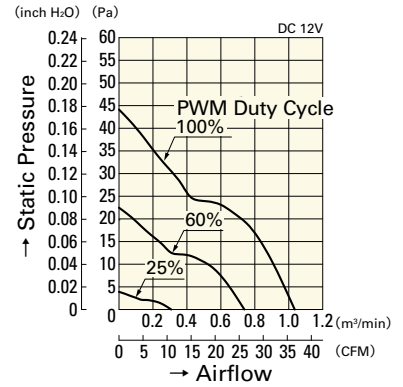
PWM Duty Cycle



9LG0812P4J001

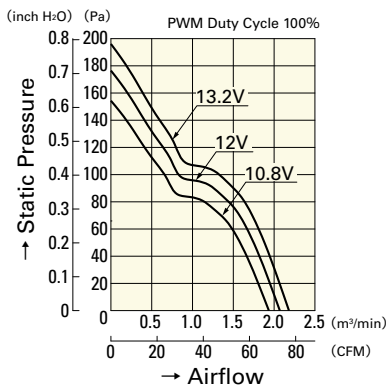


9LG0812P4G001

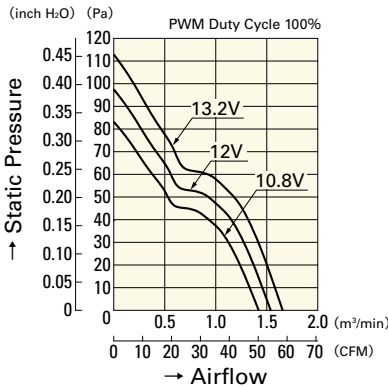


9LG0812P4H001

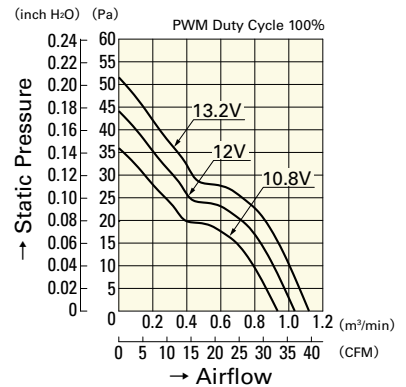
Operating Voltage Range



9LG0812P4J001

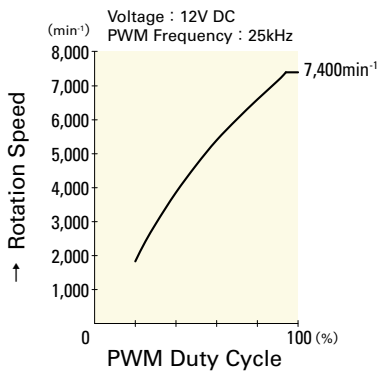


9LG0812P4G001

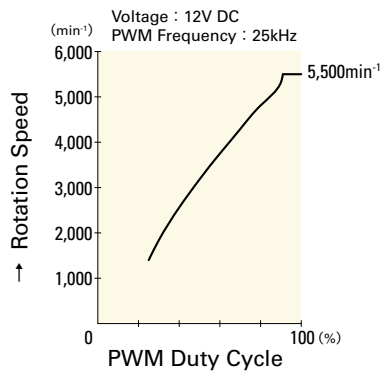


9LG0812P4H001

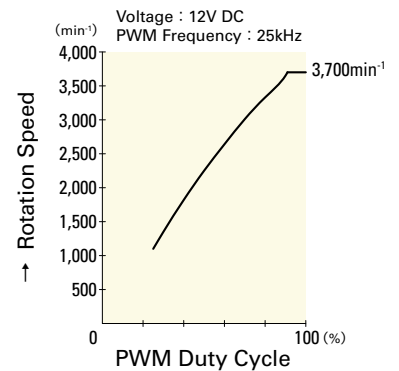
PWM Duty - Speed Characteristics Example



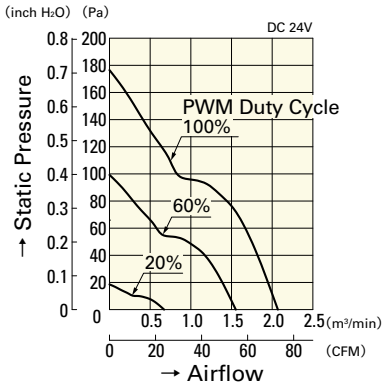
9LG0812P4J001



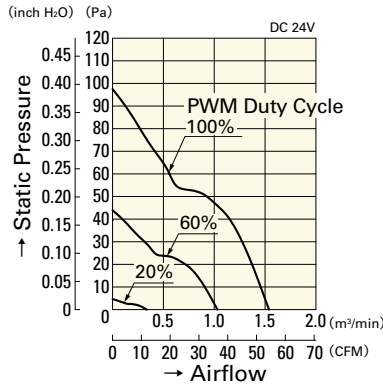
9LG0812P4G001



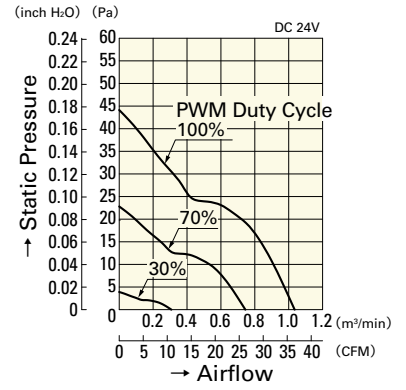
9LG0812P4H001



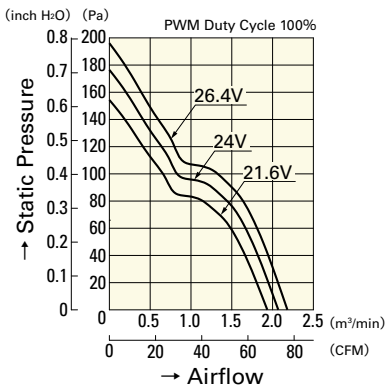
9LG0824P4J001



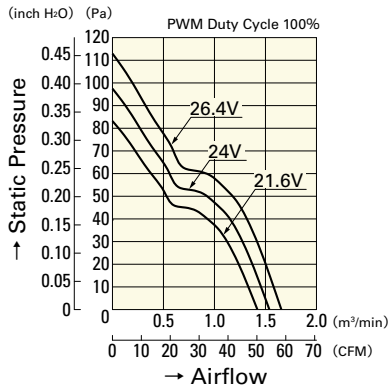
9LG0824P4G001



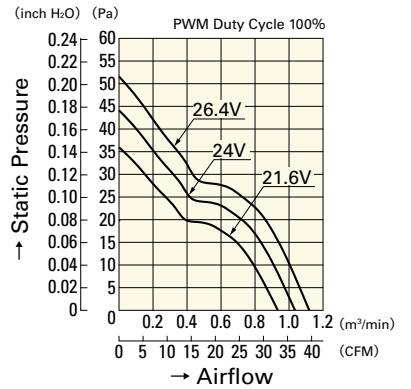
9LG0824P4H001



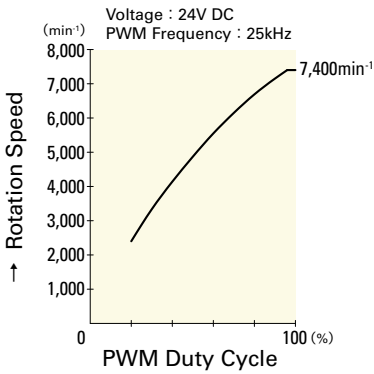
9LG0824P4J001



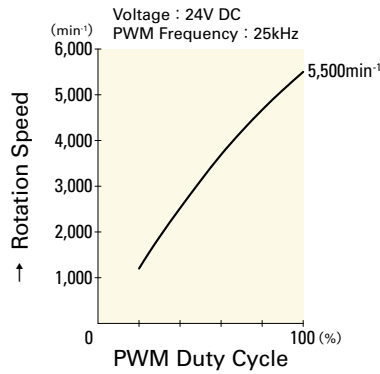
9LG0824P4G001



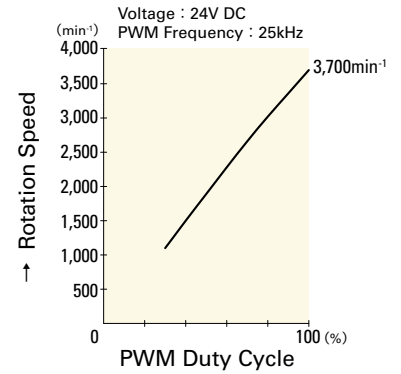
9LG0824P4H001



9LG0824P4J001



9LG0824P4G001



9LG0824P4H001

80 mm sq.

San Ace 80L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire Inlet ⊕red ⊖black (Sensor) yellow (Control) brown
Outlet ⊕orange ⊖gray (Sensor) purple (Control) white
- Storage Temperature -30°C to +70°C (Non-condensing)

80×80×80 mm (Mass : 490g) **9CRL type** **Counter Rotating**



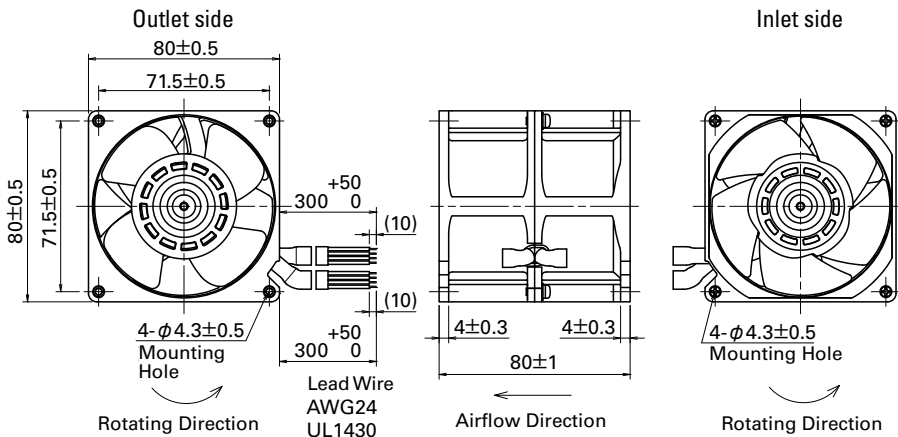
Specifications

The following nos. **have PWM controls and pulse sensors.**

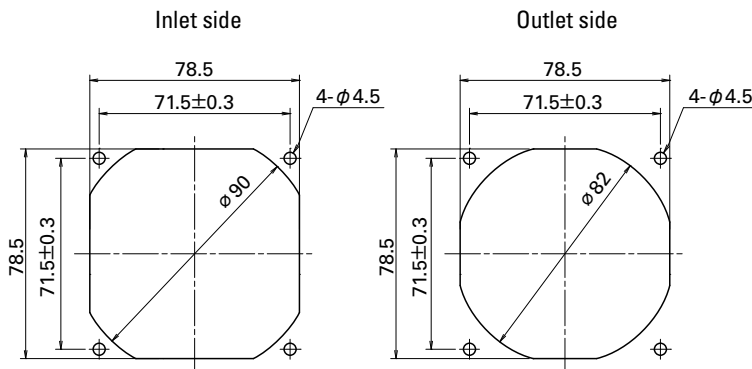
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle* [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]		Max. Airflow [m ³ /min] [CFM]		Max. Static Pressure [Pa] [inchH ₂ O]		SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
						Inlet	Outlet							
9CRL0812P8G001	12	10.8 to 13.2	100	5.3	63.6	12,000	11,300	4.5	158.9	1,150	4.62	76	-20 to +70	130,000/60°C
			0	0.2	2.4	2,000	1,900	0.74	26.1	31.9	0.13	30		

※PWM Frequency : 25kHz

Dimensions (unit: mm)



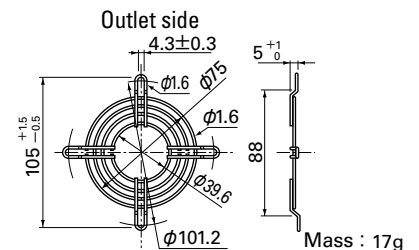
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



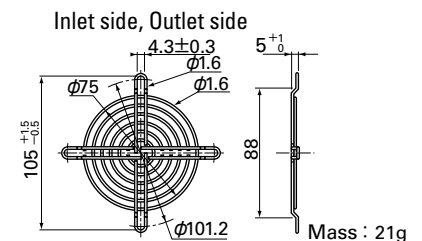
Options (unit: mm)

Finger Guards

Model : 109-049C Surface treatment : Nickel-chrome plating (silver) Color



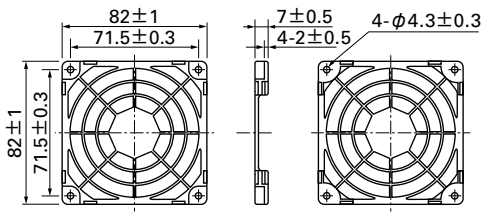
Model : 109-049E Surface treatment : Nickel-chrome plating (silver) Color
: 109-049H : Cation electropainting (black)



Options (unit: mm)

Resin Finger Guards

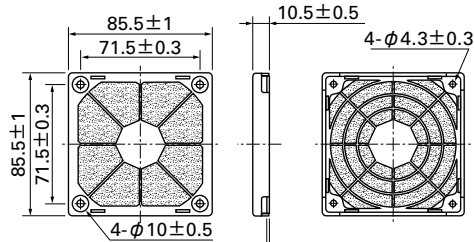
Model : 109-1002G



Mass : 10g

Resin Filter Kits

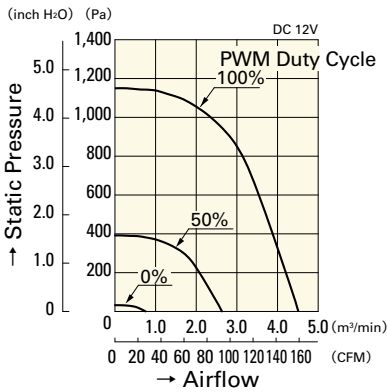
Model : 109-1002F13 (13PPI), 109-1002F20 (20PPI)
: 109-1002F30 (30PPI), 109-1002F40 (40PPI)



Mass : 19g

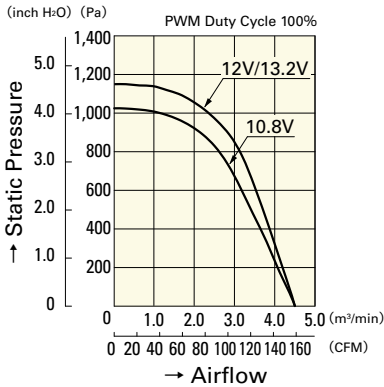
Airflow - Static Pressure Characteristics

PWM Duty Cycle



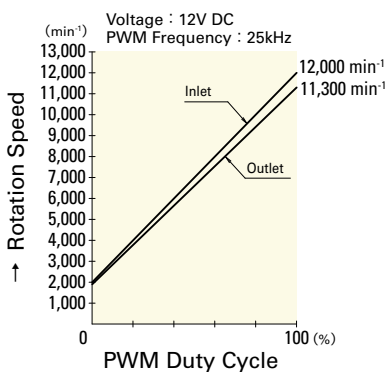
9CRL0812P8G001

Operating Voltage Range



9CRL0812P8G001

PWM Duty - Speed Characteristics Example



9CRL0812P8G001

92mm sq.

San Ace 92L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

92×92×25mm (Mass : 150g) **9LG type** **High Airflow**

Specifications

The following nos. **have PWM controls and pulse sensors.**

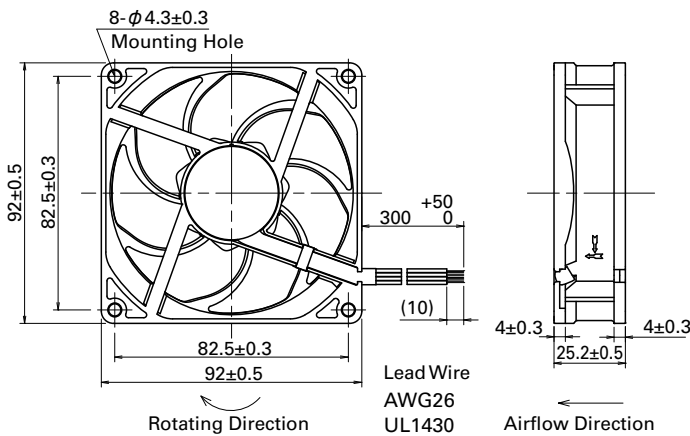
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{Note 1)} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9LG0912P4J001	12	10.8 to 13.2	100	0.42	5.04	5,000	2.20 77.7	105 0.42	44	-20 to +70	180,000/60°C
9LG0912P4G001			100	0.30	3.60	4,400	1.93 68.2	81 0.33	40		
9LG0912P4S001			100	0.22	2.64	3,850	1.69 59.7	62.1 0.25	37		
9LG0912P4H001			100	0.15	1.80	3,150	1.38 48.7	41.6 0.17	32		
9LG0924P4J001	24	21.6 to 26.4	100	0.21	5.04	5,000	2.20 77.7	105 0.42	44		
9LG0924P4G001			100	0.15	3.60	4,400	1.93 68.2	81 0.33	40		
9LG0924P4S001			100	0.11	2.64	3,850	1.69 59.7	62.1 0.25	37		
9LG0924P4H001			100	0.07	1.68	3,150	1.38 48.7	41.6 0.17	32		

Note : Fan does not rotate when PWM duty cycle is 0%.

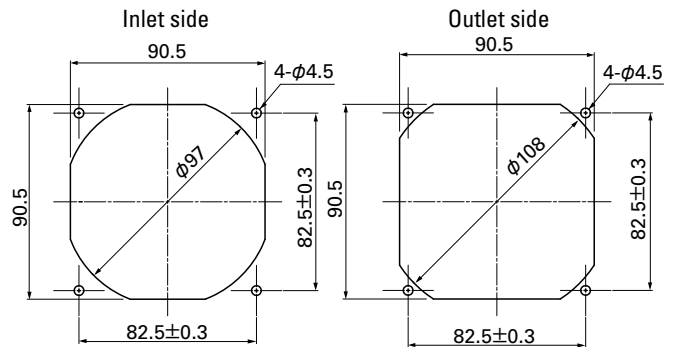
※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 509).

Dimensions (unit: mm)



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

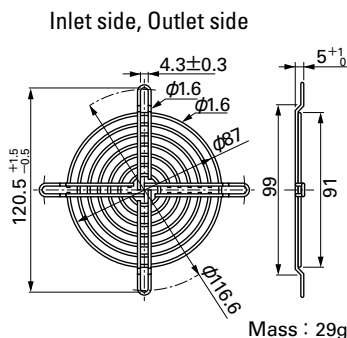
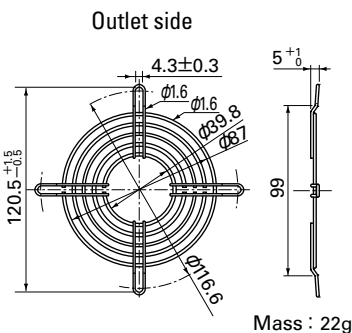


Options (unit: mm)

Finger Guards

Model : 109-099C Surface treatment : Nickel-chrome plating (silver) Color

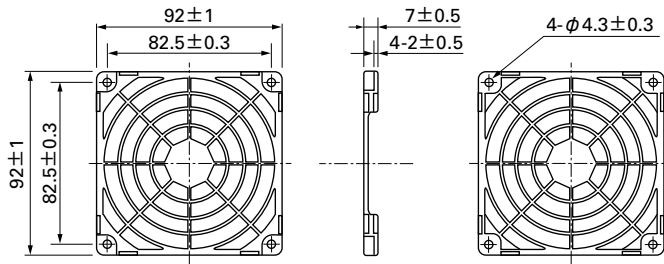
Model : 109-099E Surface treatment : Nickel-chrome plating (silver) Color
: 109-099H : Cation electropainting (black)



Options (unit: mm)

Resin Finger Guards

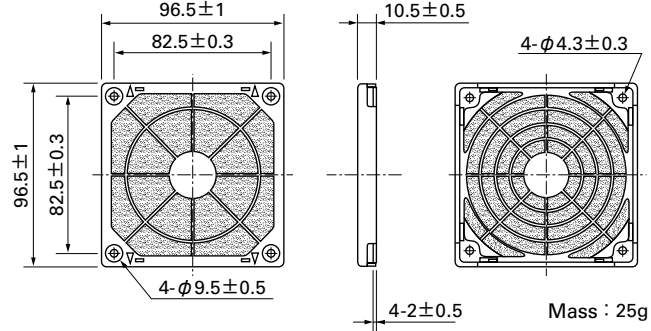
Model : 109-1001G



Mass : 12g

Resin Filter Kits

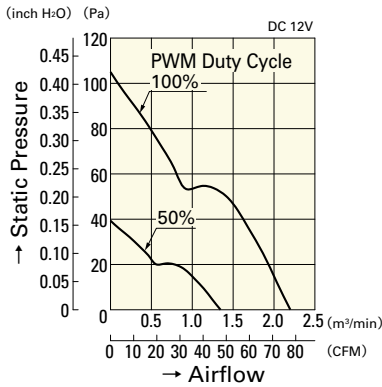
Model : 109-1001F13 (13PPI), 109-1001F20 (20PPI)
: 109-1001F30 (30PPI), 109-1001F40 (40PPI)



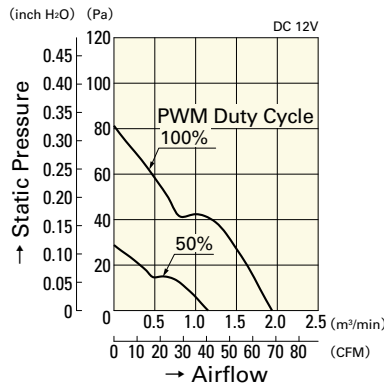
Mass : 25g

Airflow - Static Pressure Characteristics

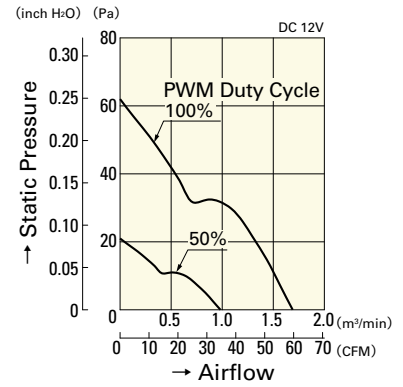
PWM Duty Cycle



9LG0912P4J001

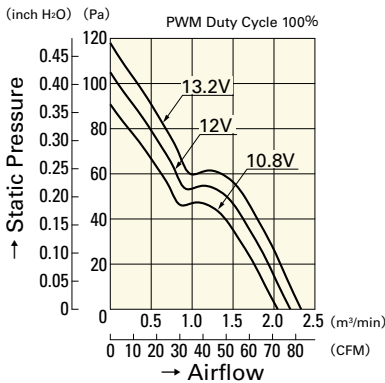


9LG0912P4G001

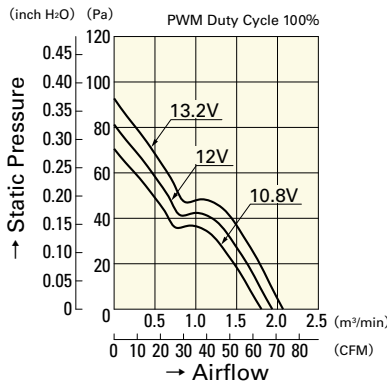


9LG0912P4S001

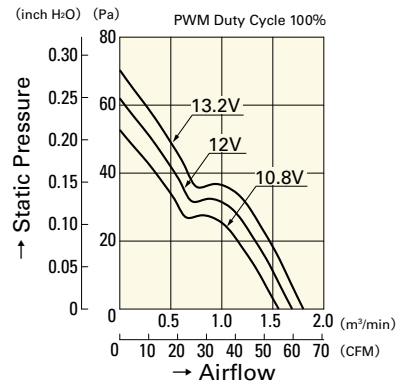
Operating Voltage Range



9LG0912P4J001

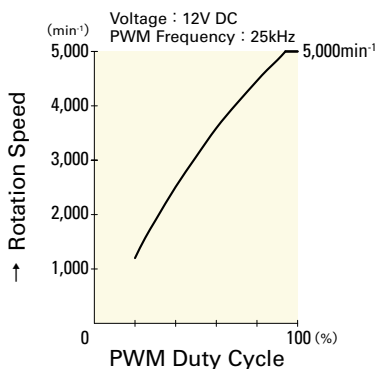


9LG0912P4G001

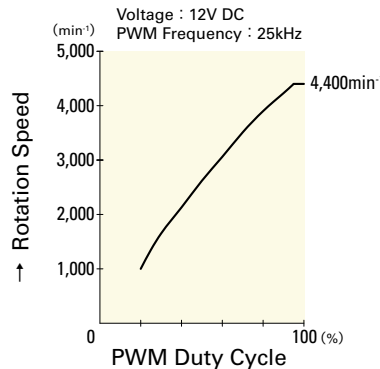


9LG0912P4S001

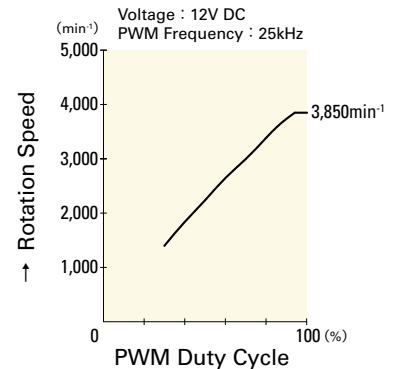
PWM Duty - Speed Characteristics Example



9LG0912P4J001



9LG0912P4G001



9LG0912P4S001

DC
Long Life Fan 92mm

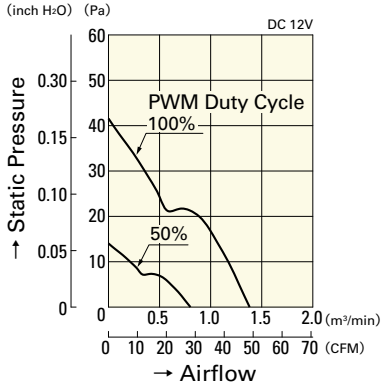
92mm sq.

San Ace 92L

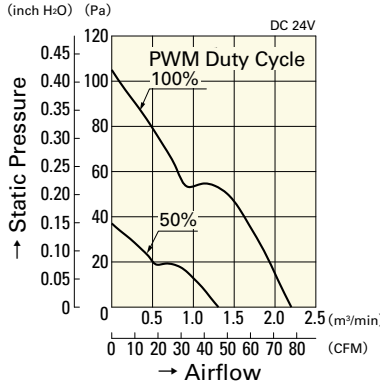
92×92×25mm [Mass : 150g]

Airflow - Static Pressure Characteristics

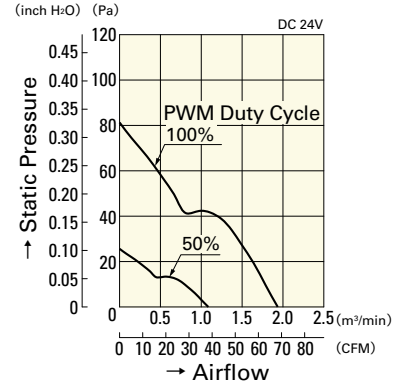
PWM Duty Cycle



9LG0912P4H001

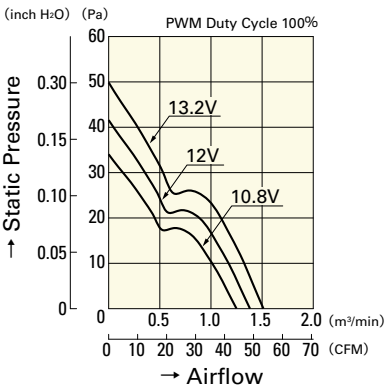


9LG0924P4J001

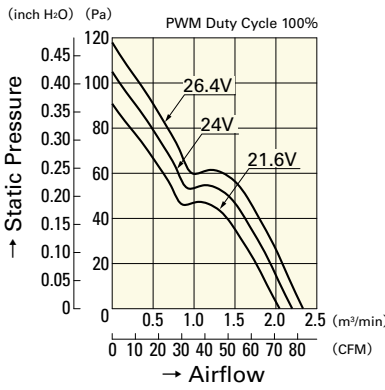


9LG0924P4G001

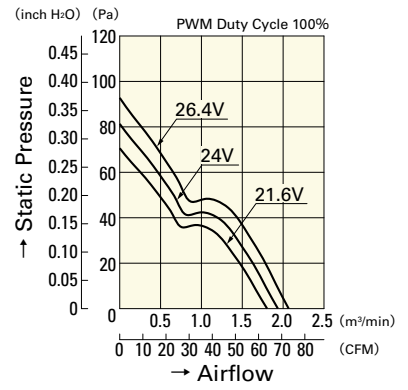
Operating Voltage Range



9LG0912P4H001

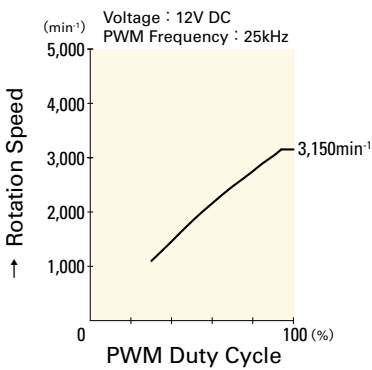


9LG0924P4J001

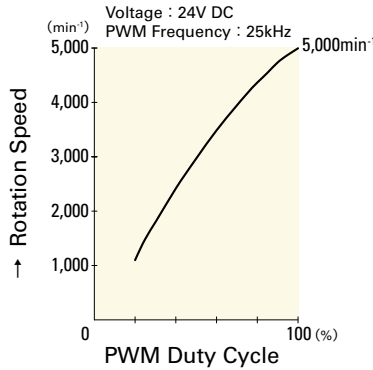


9LG0924P4G001

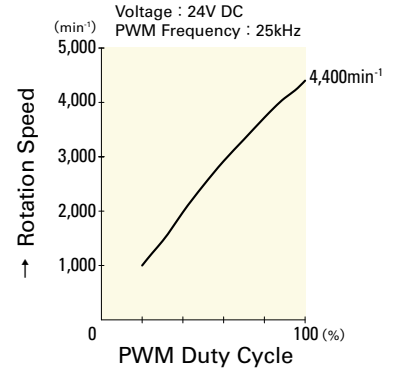
PWM Duty - Speed Characteristics Example



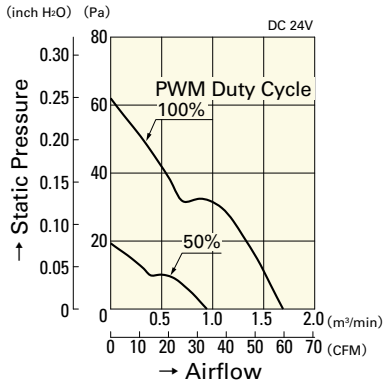
9LG0912P4H001



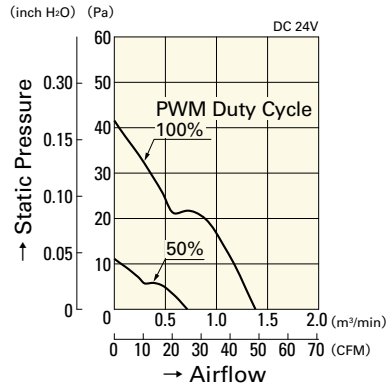
9LG0924P4J001



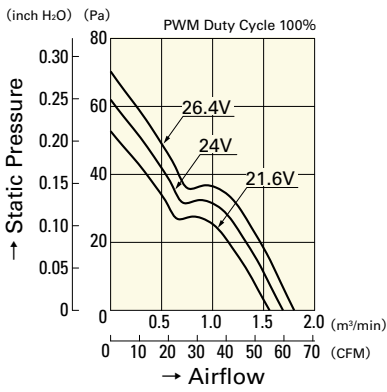
9LG0924P4G001



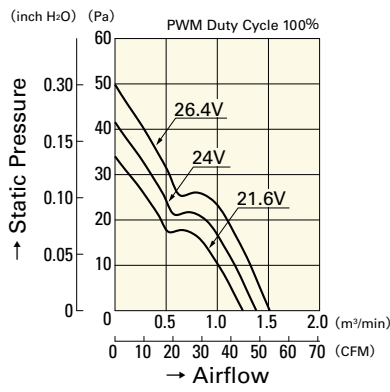
9LG0924P4S001



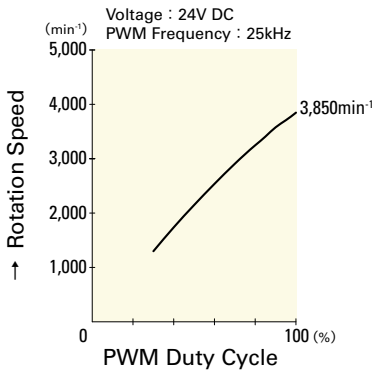
9LG0924P4H001



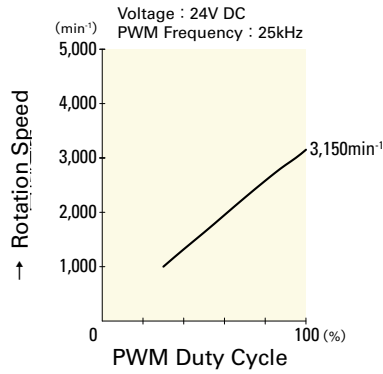
9LG0924P4S001



9LG0924P4H001



9LG0924P4S001



9LG0924P4H001

92mm sq.

San Ace 92L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

92×92×38mm (Mass : 270g) **9LG type High Airflow**

Specifications

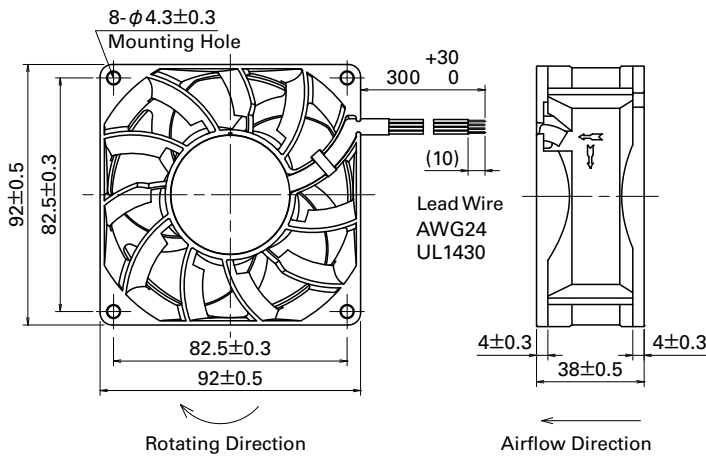
The following nos. **have PWM controls and pulse sensors.**

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{Note 1)} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9LG0912P1H001	12	10.2 to 13.8	100	2.0	24.0	9,000	3.70 130.6	430 1.72	61	-20 to +70	180,000/60°C
			20	0.18	2.16	2,700	1.11 39.1	38.7 0.15	30		
9LG0912P1F001			100	1.0	12.0	7,000	2.90 102.4	263 1.05	55		
			20	0.11	1.32	2,000	0.83 29.3	21.5 0.08	22		
9LG0924P1H001	24	20.4 to 27.6	100	0.9	21.6	9,000	3.70 130.6	430 1.72	61		
			20	0.08	1.92	2,700	1.11 39.1	38.7 0.15	30		
9LG0924P1F001			100	0.5	12.0	7,000	2.90 102.4	263 1.05	55		
			20	0.06	1.44	2,000	0.83 29.3	21.5 0.08	22		

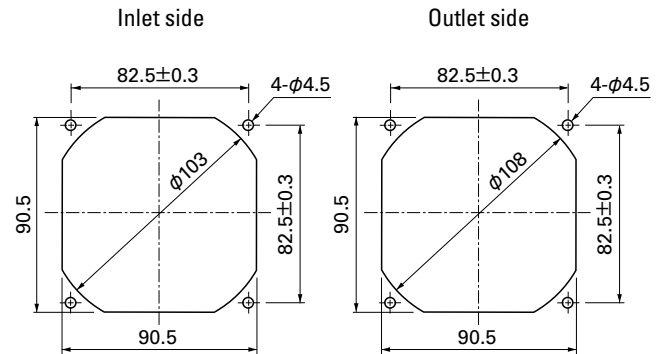
Note : Fan does not rotate when PWM duty cycle is 0%.

※PWM Frequency : 25kHz

Dimensions (unit: mm)



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

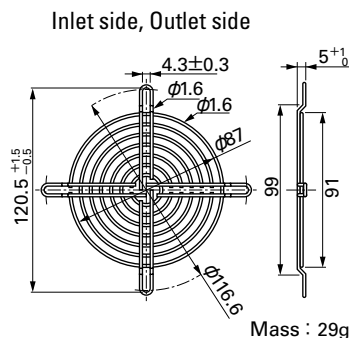
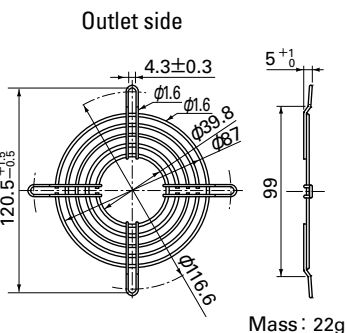


Options (unit: mm)

Finger Guards

Model : 109-099C Surface treatment : Nickel-chrome plating (silver) Color

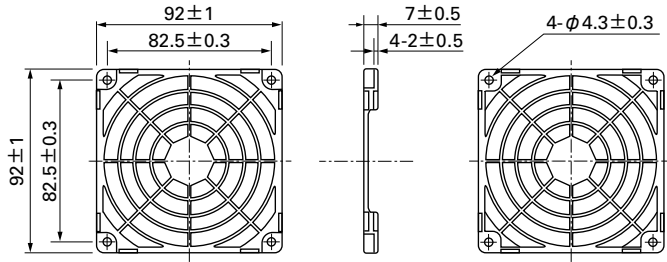
Model : 109-099E Surface treatment : Nickel-chrome plating (silver) Color
: 109-099H : Cation electropainting (black)



Options (unit: mm)

Resin Finger Guards

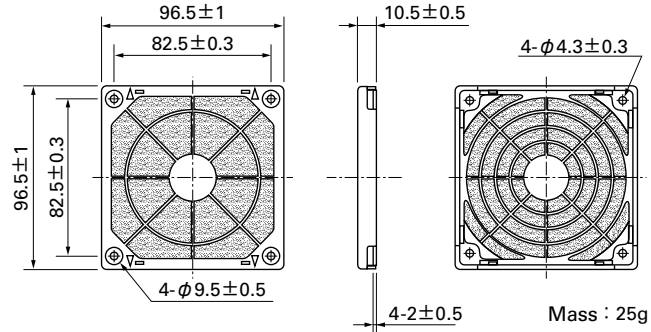
Model : 109-1001G



Mass : 12g

Resin Filter Kits

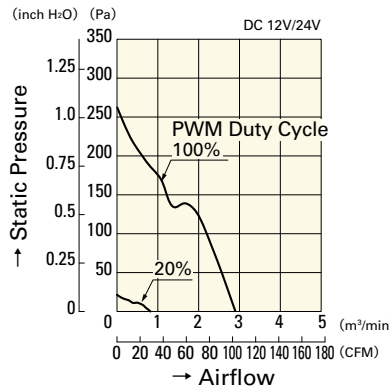
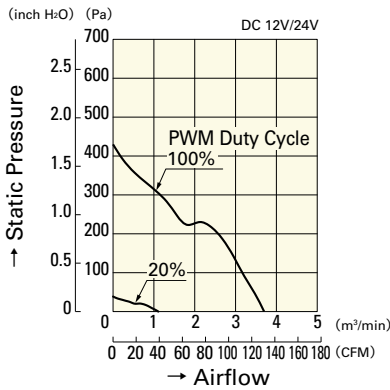
Model : 109-1001F13 (13PPI), 109-1001F20 (20PPI)
: 109-1001F30 (30PPI), 109-1001F40 (40PPI)



Mass : 25g

Airflow - Static Pressure Characteristics

PWM Duty Cycle



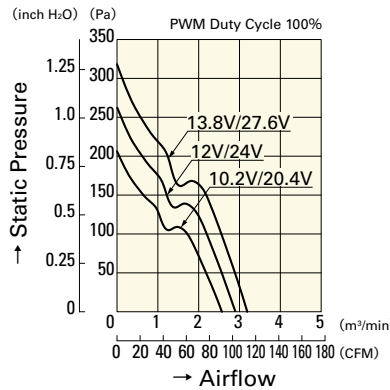
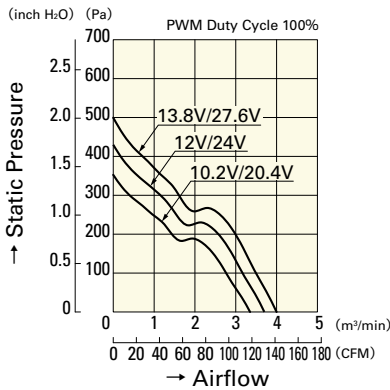
9LG0912P1H001

9LG0924P1H001

9LG0912P1F001

9LG0924P1F001

Operating Voltage Range



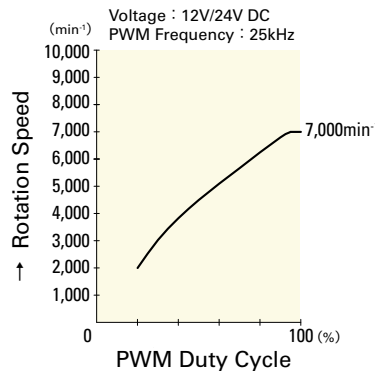
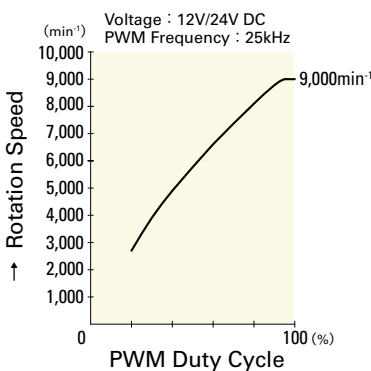
9LG0912P1H001

9LG0924P1H001

9LG0912P1F001

9LG0924P1F001

PWM Duty - Speed Characteristics Example



9LG0912P1H001

9LG0924P1H001

9LG0912P1F001

9LG0924P1F001

DC
Long Life Fan 92mm

120mm sq.

San Ace 120L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -30°C to +70°C (Non-condensing)

120×120×38mm [Mass : 420g] **9LG type** **High Airflow**



Specifications

The following nos. **have PWM controls and pulse sensors.**

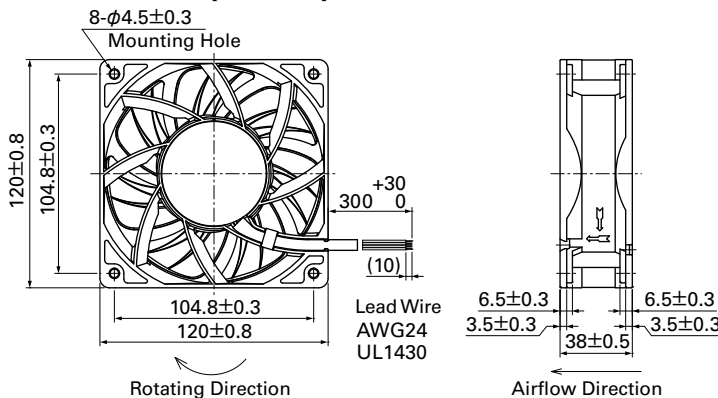
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{Model#} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9LG1212P1G001	12	8.0 to 13.8	100	3.2	38.4	6,550	7.00 247.1	370 1.48	62	-20 to +70	180,000/60°C
			20	0.24	2.88	2,000	2.13 75.2	34.4 0.13	36		
9LG1212P1S001			100	2.2	26.4	5,600	6.00 211.8	270 1.08	58		
			20	0.24	2.88	2,000	2.13 75.2	34.4 0.13	36		
9LG1212P1H001			100	1.4	16.8	4,700	5.00 176.5	190 0.76	54		
			20	0.24	2.88	2,000	2.13 75.2	34.4 0.13	36		
9LG1224P1G001	24	15 to 30	100	1.6	38.4	6,550	7.00 247.1	370 1.48	62		
			20	0.12	2.88	2,000	2.13 75.2	34.4 0.13	36		
9LG1224P1S001			100	1.1	26.4	5,600	6.00 211.8	270 1.08	58		
			20	0.12	2.88	2,000	2.13 75.2	34.4 0.13	36		
9LG1224P1H001			100	0.7	16.8	4,700	5.00 176.5	190 0.76	54		
			20	0.12	2.88	2,000	2.13 75.2	34.4 0.13	36		
9LG1248P1G001	48	36 to 60	100	0.8	38.4	6,550	7.00 247.1	370 1.48	62		
			20	0.08	3.84	2,000	2.13 75.2	34.4 0.13	36		
9LG1248P1S001			100	0.55	26.4	5,600	6.00 211.8	270 1.08	58		
			20	0.08	3.84	2,000	2.13 75.2	34.4 0.13	36		
9LG1248P1H001			100	0.35	16.8	4,700	5.00 176.5	190 0.76	54		
			20	0.08	3.84	2,000	2.13 75.2	34.4 0.13	36		

Note : Fan does not rotate when PWM duty cycle is 0%.

*PWM Frequency : 25kHz

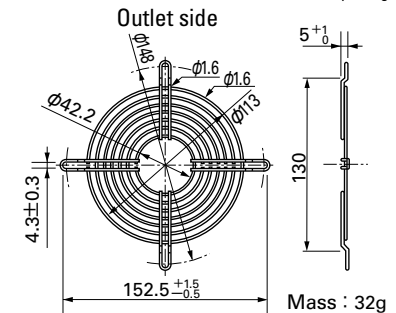
Other sensor specifications are available as options. Please refer to the index (p. 509).

Dimensions (unit: mm)

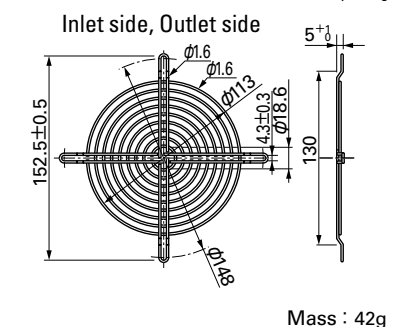


Options (unit: mm)

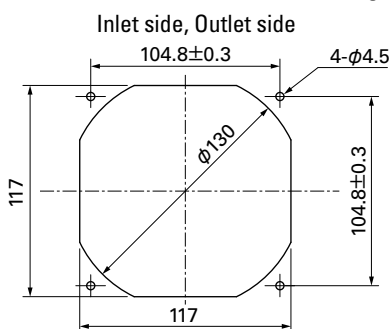
Finger Guards
Model : 109-019C Surface treatment : Nickel-chrome plating (silver)
: 109-019H : Cation electropainting (black)



Model : 109-019E Surface treatment : Nickel-chrome plating (silver)
: 109-019K : Cation electropainting (black)



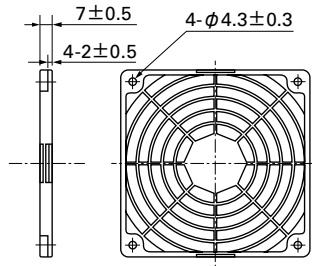
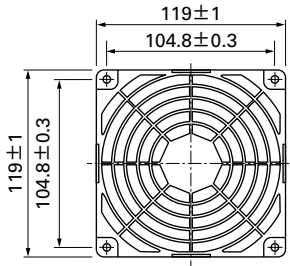
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Options (unit: mm)

Resin Finger Guards

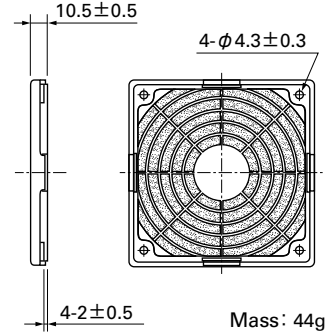
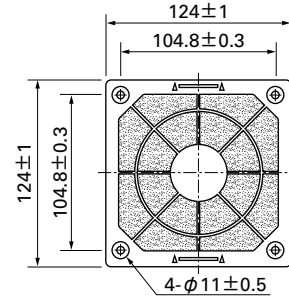
Model : 109-1000G



Mass : 23g

Resin Filter Kits

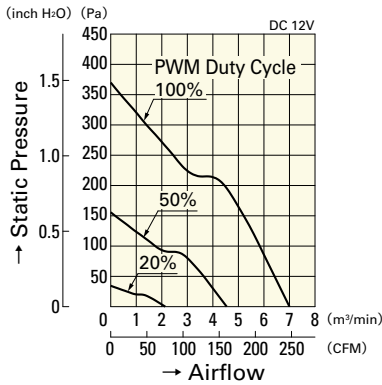
Model : 109-1000F13 (13PPI), 109-1000F20 (20PPI)
: 109-1000F30 (30PPI), 109-1000F40 (40PPI)



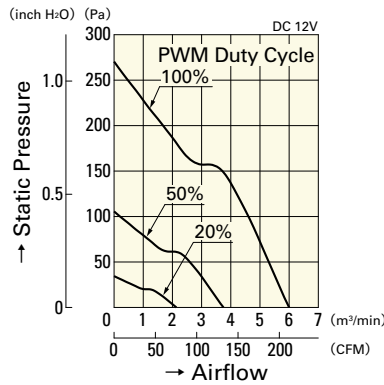
Mass : 44g

Airflow - Static Pressure Characteristics

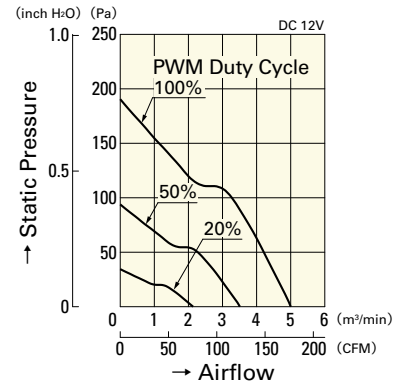
PWM Duty Cycle



9LG1212P1G001

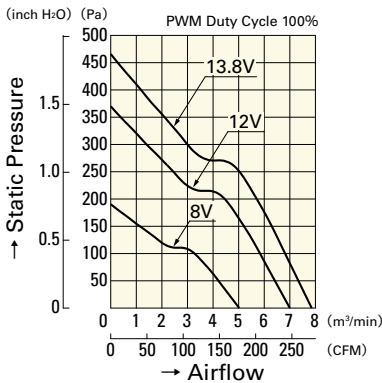


9LG1212P1S001

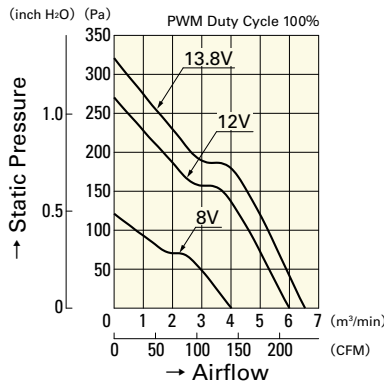


9LG1212P1H001

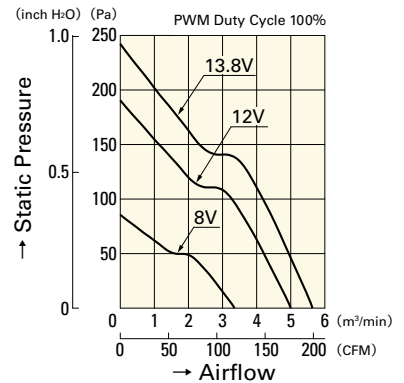
Operating Voltage Range



9LG1212P1G001

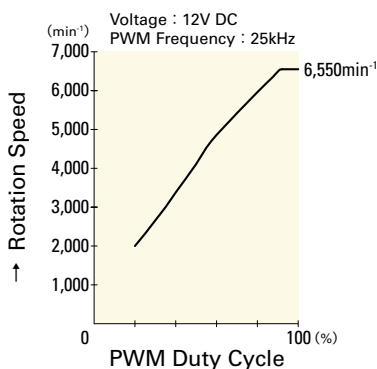


9LG1212P1S001

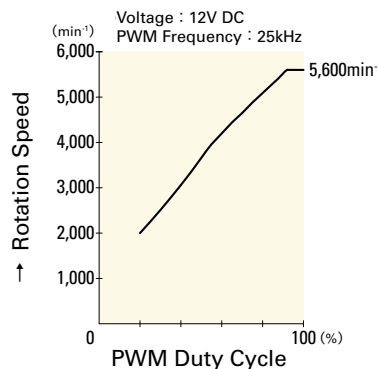


9LG1212P1H001

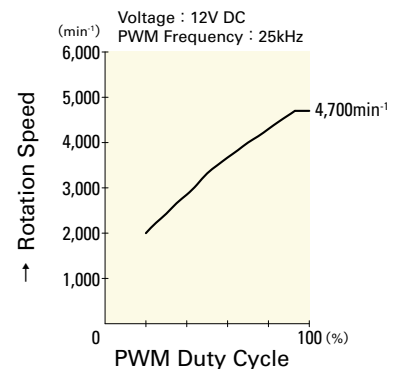
PWM Duty - Speed Characteristics Example



9LG1212P1G001



9LG1212P1S001



9LG1212P1H001

DC

Long Life Fan 120mm

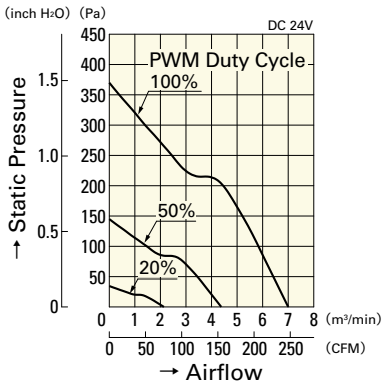
120mm sq.

San Ace 120L

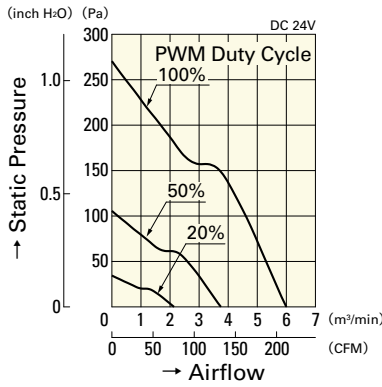
120×120×38mm [Mass : 420g]

Airflow - Static Pressure Characteristics

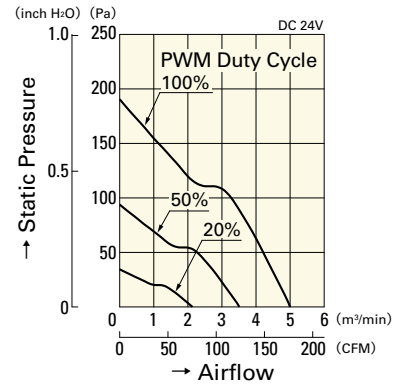
PWM Duty Cycle



9LG1224P1G001

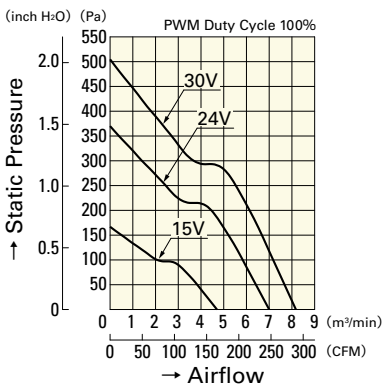


9LG1224P1S001

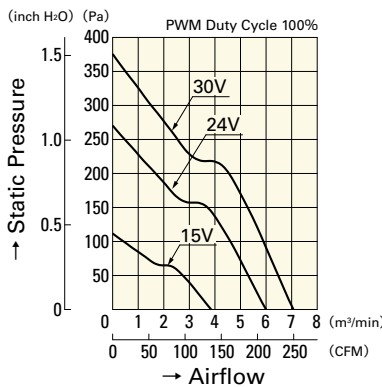


9LG1224P1H001

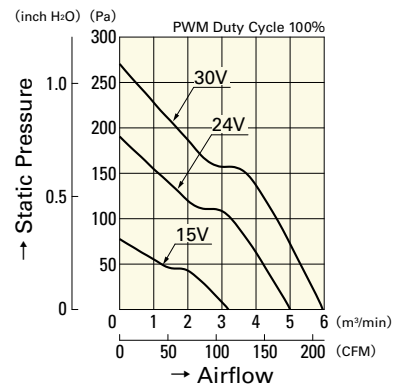
Operating Voltage Range



9LG1224P1G001

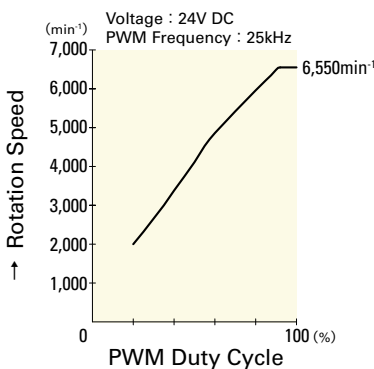


9LG1224P1S001

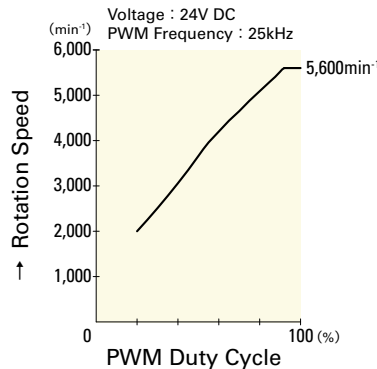


9LG1224P1H001

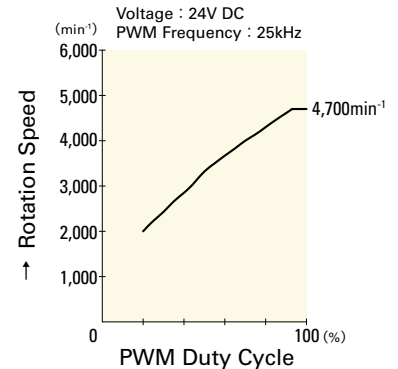
PWM Duty - Speed Characteristics Example



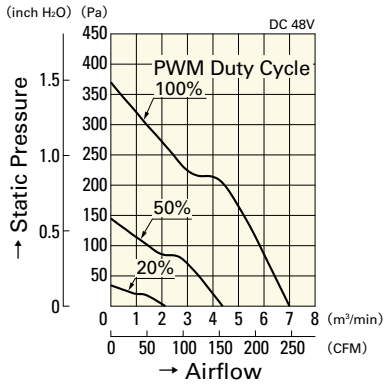
9LG1224P1G001



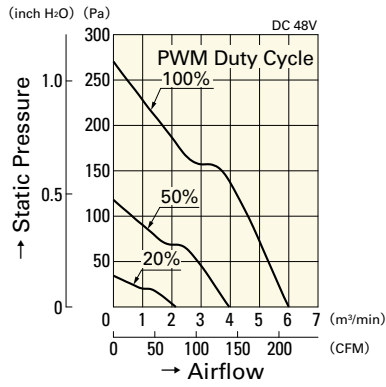
9LG1224P1S001



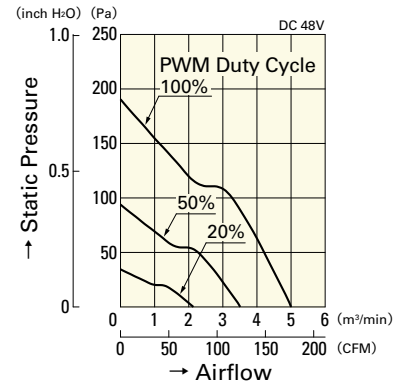
9LG1224P1H001



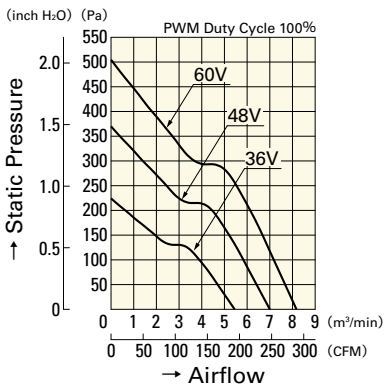
9LG1248P1G001



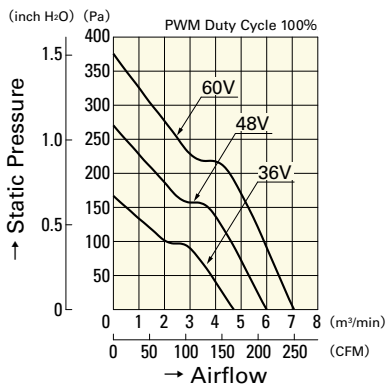
9LG1248P1S001



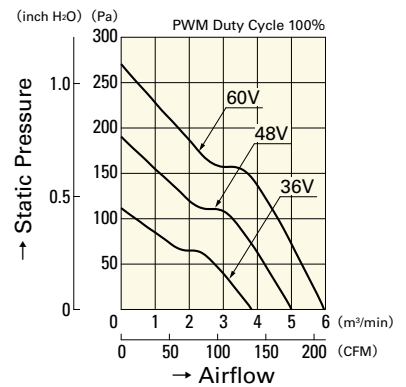
9LG1248P1H001



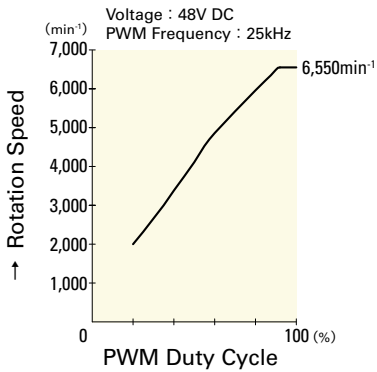
9LG1248P1G001



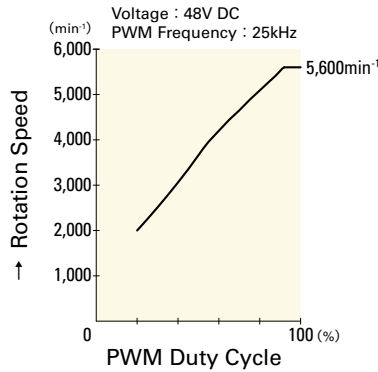
9LG1248P1S001



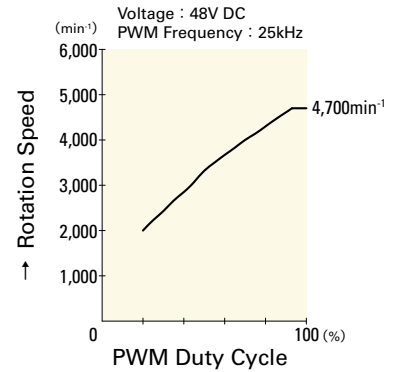
9LG1248P1H001



9LG1248P1G001



9LG1248P1S001



9LG1248P1H001

120mm sq.

San Ace 120L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate: 90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black or blue (Sensor) yellow
- Storage Temperature -30°C to +70°C (Non-condensing)

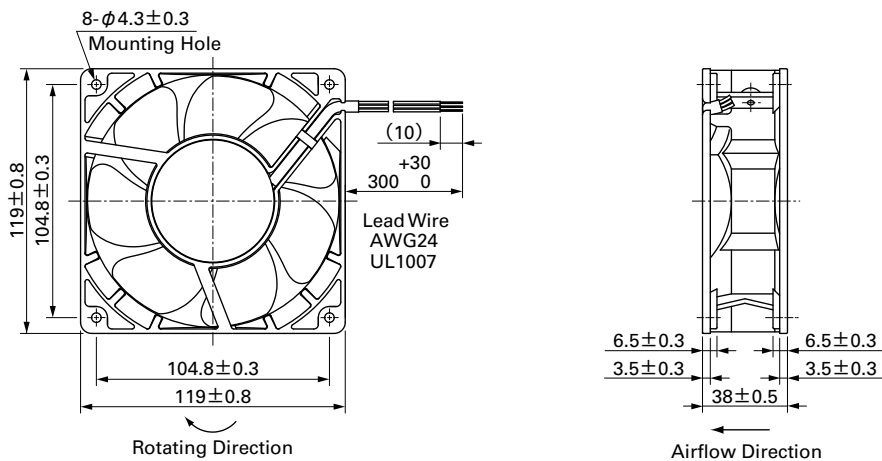
120×120×38mm (Mass : 370g) **9GL type**

Specifications The following nos. have pulse sensors.

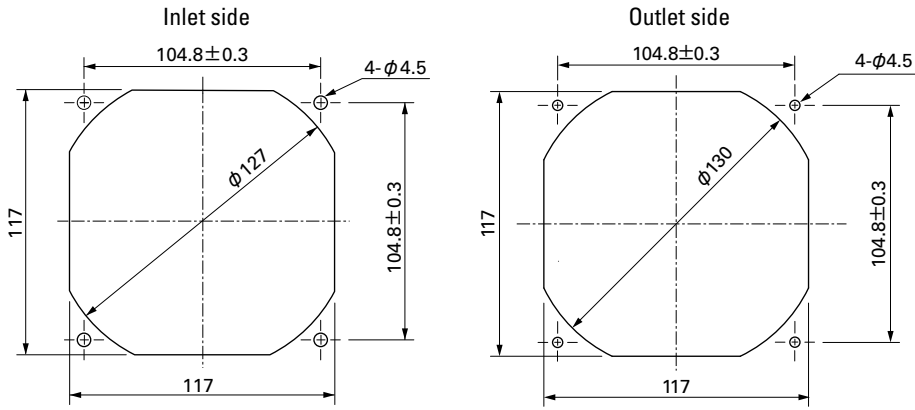
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]	
9GL1212G101	12	10.2 to 13.8	0.98	11.8	3,600	3.88 137	135 0.542	49	- 20 to + 70	80,000/60°C	
9GL1212E101			0.61	7.32	3,100	3.34 118	100 0.402	46		100,000/60°C	
9GL1212H101		7 to 13.8	0.38	4.56	2,600	2.80 99	70.4 0.283	39		80,000/60°C	
9GL1212F101			0.28	3.36	2,280	2.45 87	54.2 0.218	36		100,000/60°C	
9GL1212M101			0.21	2.52	1,950	2.10 74	39.6 0.159	32		80,000/60°C	
9GL1224G101	24	20.4 to 27.6	0.50	12.0	3,600	3.88 137	135 0.542	49		- 20 to + 70	80,000/60°C
9GL1224E101			0.34	8.16	3,100	3.34 118	100 0.402	46			100,000/60°C
9GL1224H101		14 to 27.6	0.22	5.28	2,600	2.80 99	70.4 0.283	39			80,000/60°C
9GL1224F101			0.16	3.84	2,280	2.45 87	54.2 0.218	36			100,000/60°C
9GL1224M101			0.11	2.64	1,950	2.10 74	39.6 0.159	32			80,000/60°C
9GL1248G101	48	40.8 to 55.2	0.25	12.0	3,600	3.88 137	135 0.542	49	- 20 to + 70		80,000/60°C
9GL1248E101			0.17	8.16	3,100	3.34 118	100 0.402	46			100,000/60°C
9GL1248H101			0.11	5.28	2,600	2.80 99	70.4 0.283	39			80,000/60°C
9GL1248F101			0.09	4.32	2,280	2.45 87	54.2 0.218	36			100,000/60°C
9GL1248M101			0.07	3.36	1,950	2.10 74	39.6 0.159	32			80,000/60°C

Other sensor specifications are available as options. Please refer to the index (p. 506).

Dimensions (unit: mm)



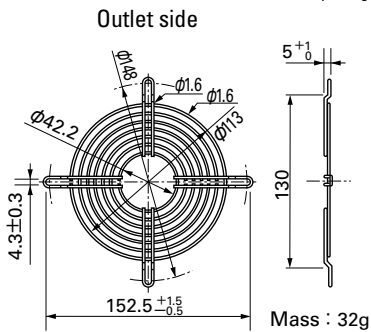
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Options (unit: mm)

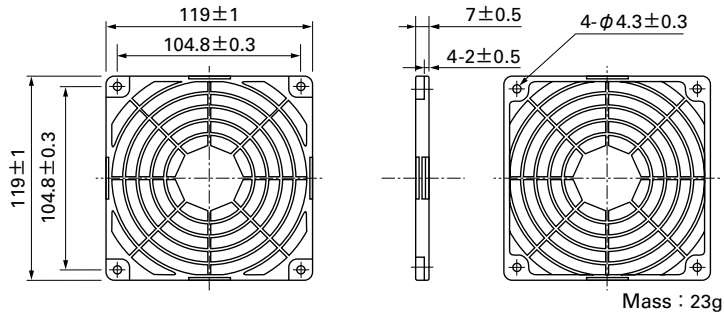
Finger Guards

Model : 109-019C Surface treatment : Nickel-chrome plating (silver) Color
 : 109-019H : Cation electropainting (black)

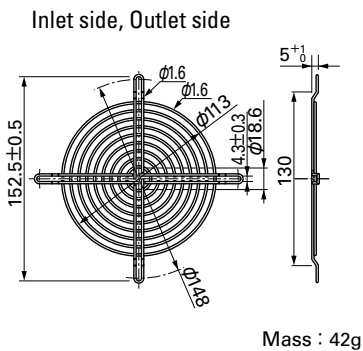


Resin Finger Guards

Model : 109-1000G

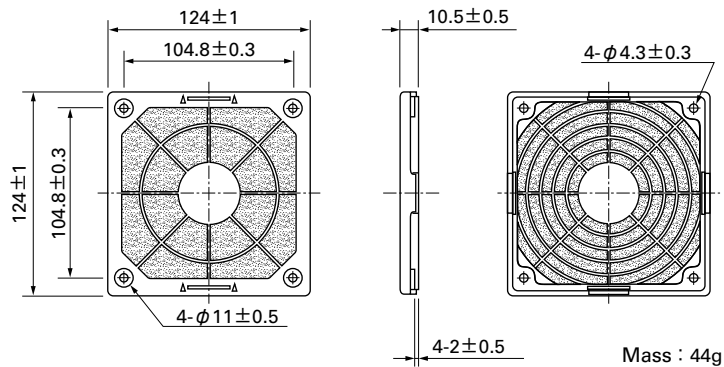


Model : 109-019E Surface treatment : Nickel-chrome plating (silver) Color
 : 109-019K : Cation electropainting (black)



Resin Filter Kits

Model : 109-1000F13 (13PPI), 109-1000F20 (20PPI)
 : 109-1000F30 (30PPI), 109-1000F40 (40PPI)

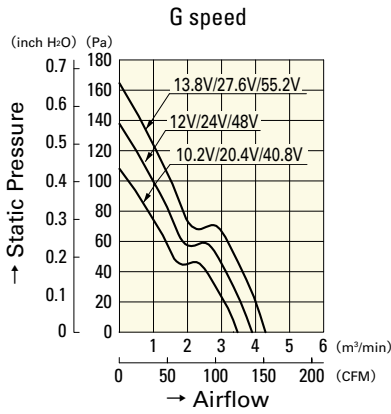


120 mm sq.

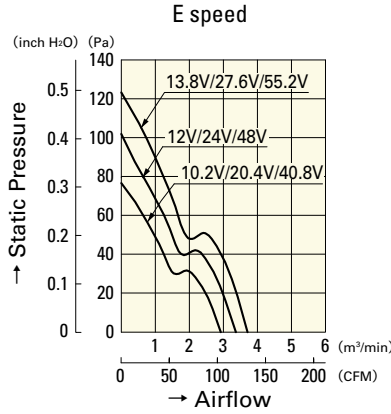
San Ace 120L

120×120×38mm (Mass : 370g)

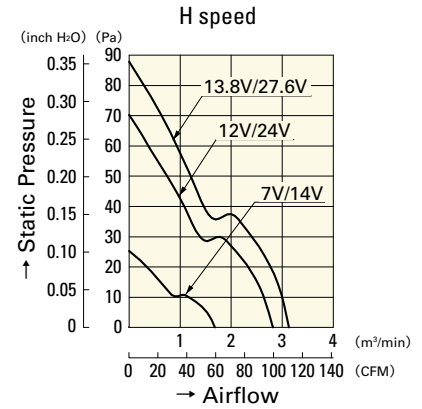
Airflow - Static Pressure Characteristics



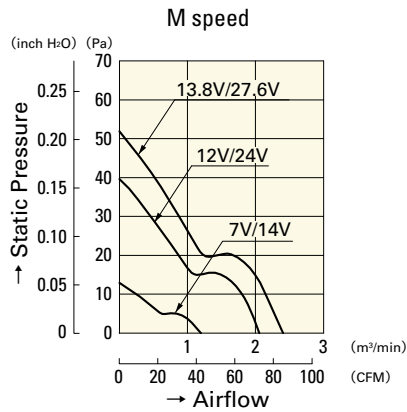
9GL1212G101
9GL1224G101
9GL1248G101



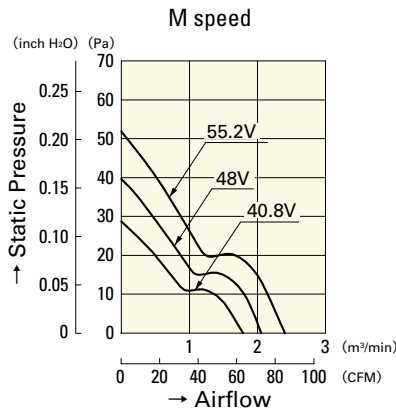
9GL1212E101
9GL1224E101
9GL1248E101



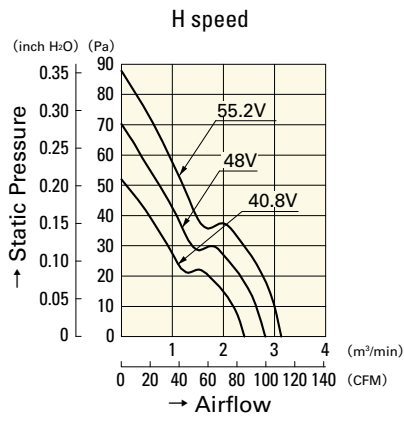
9GL1212H101
9GL1224H101



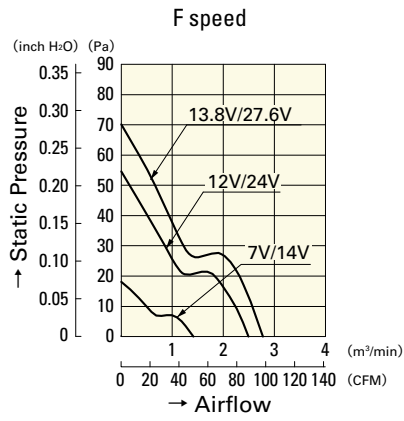
9GL1212M101
9GL1224M101



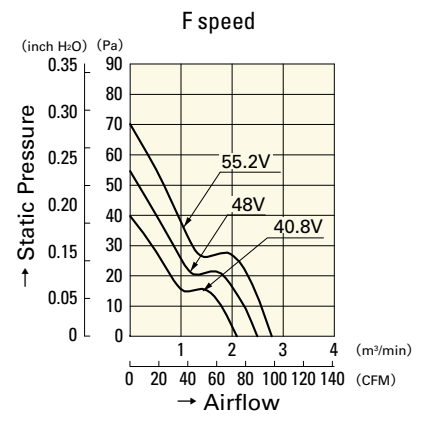
9GL1248M101



9GL1248H101



9GL1212F101
9GL1224F101



9GL1248F101

140 mm sq.

San Ace 140L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate: 90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black or blue (Sensor) yellow
- Storage Temperature -30°C to +70°C (Non-condensing)

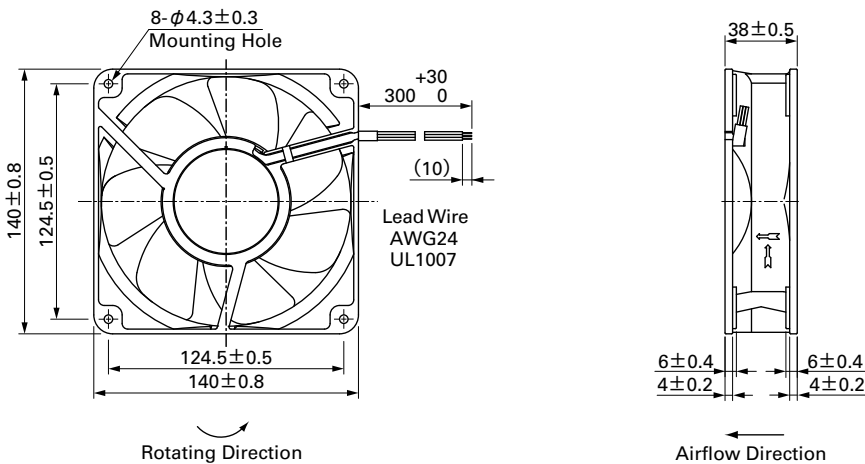
140×140×38mm (Mass : 600g) **9L type**

Specifications The following nos. have pulse sensors.

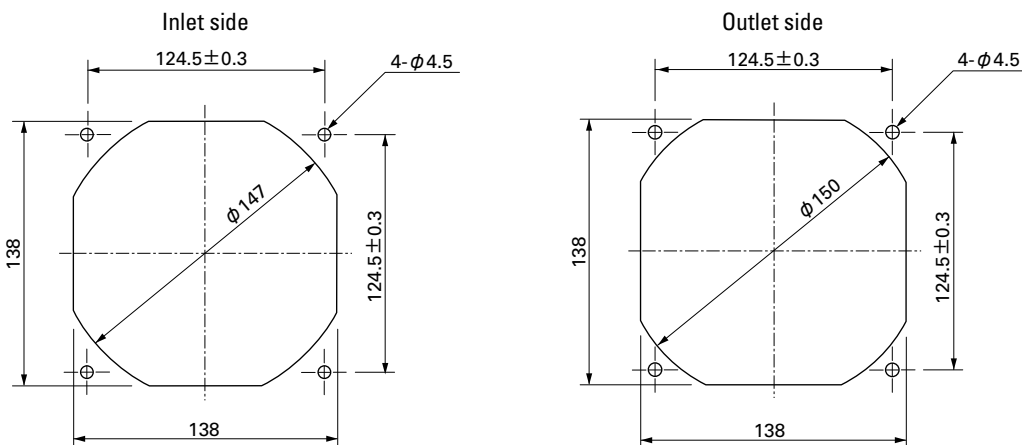
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
109L1412H101	12	10.2 to 13.8	0.73	8.76	2,600	4.6 159	98 0.394	46	- 20 to + 70	100,000/60°C
109L1412M101			0.3	3.6	1,900	3.3 117	52 0.209	38		
109L1424H101	24	20.4 to 27.6	0.37	8.88	2,600	4.6 159	98 0.394	46		
109L1424M101			0.16	3.84	1,900	3.3 117	52 0.209	38		
109L1448H101	48	40.8 to 55.2	0.2	9.6	2,600	4.6 159	98 0.394	46		
109L1448M101			0.09	4.32	1,900	3.3 117	52 0.209	38		

Other sensor specifications are available as options. Please refer to the index (pp. 496).

Dimensions (unit: mm)



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



140mm sq.

San Ace 140L



Model no. 9LB1424B501, 9LB1448F501 are not certified.

General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate: 90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black or blue (Sensor) yellow
- Storage Temperature -30°C to +70°C (Non-condensing)

140×140×51mm (Mass : 610g) **9LB type**

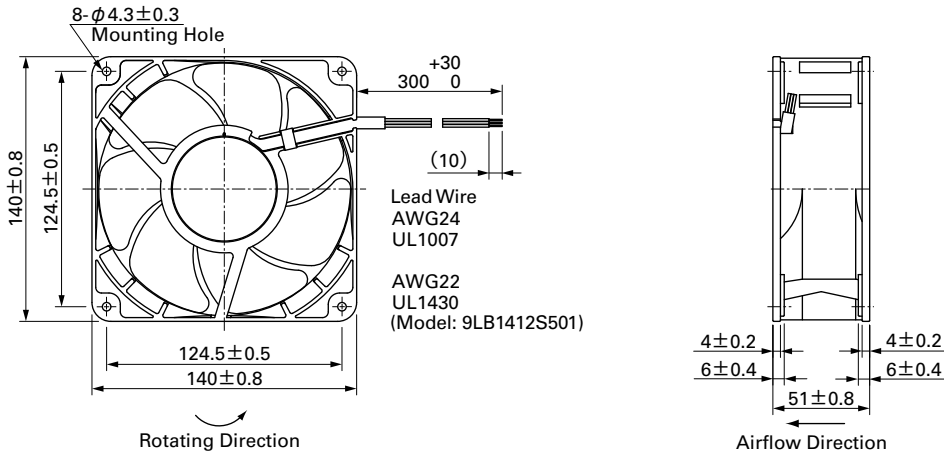
Specifications

The following nos. **have pulse sensors.**

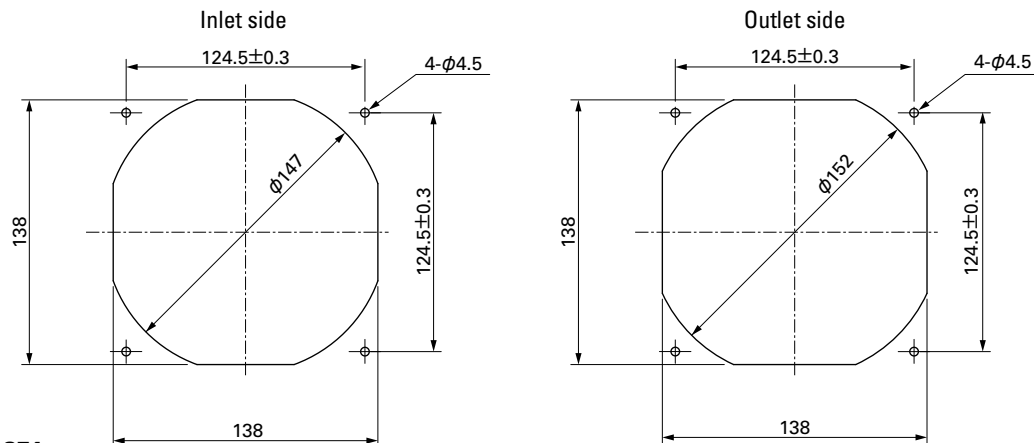
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]	
9LB1412S501	12	10.2 to 13.8	2.7	32.4	4,200	8.1	286.2	240 0.96	- 20 to + 70	60,000/60°C	
9LB1412H501			1.25	15.0	3,100	5.9	208.5	130 0.52		100,000/60°C	
9LB1412M501			0.46	5.52	2,050	3.9	138	63 0.25		39	
9LB1424S501	24	20.4 to 27.6	1.38	33.12	4,200	8.1	286.2	240 0.96		57	60,000/60°C
9LB1424B501			0.97	23.3	3,700	7.1	251	186 0.75		55	100,000/60°C
9LB1424H501			0.60	14.4	3,100	5.9	208.5	130 0.52		49	
9LB1424M501			0.22	5.28	2,050	3.9	138	63 0.25		39	
9LB1448S501	48	40.8 to 55.2	0.71	34.08	4,200	8.1	286.2	240 0.96		57	60,000/60°C
9LB1448H501			0.27	12.96	3,100	5.9	208.5	130 0.52		49	100,000/60°C
9LB1448F501			0.18	8.6	2,550	4.8	169	91 0.37		44	100,000/60°C
9LB1448M501			0.12	5.76	2,050	3.9	138	63 0.25	39		

Other sensor specifications are available as options. Please refer to the index (p. 509).

Dimensions (unit: mm)



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



φ 172mm

San Ace 172L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate: 90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black or blue (Sensor) yellow
- Storage Temperature -30°C to +70°C (Non-condensing)

φ 172mm × 150mm × 51mm (Mass : 760g) **9L type** **Sidecut type**

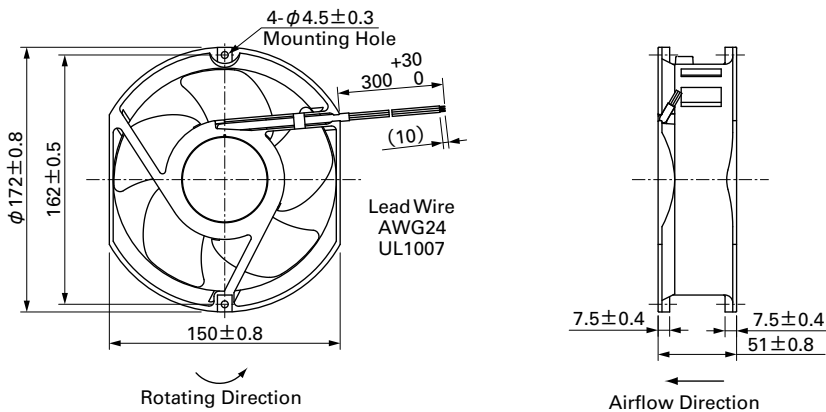
Specifications

The following nos. have pulse sensors.

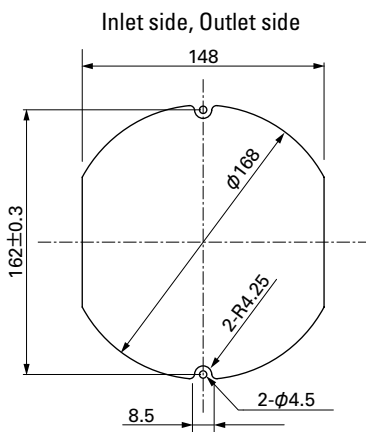
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
109L5712H501	12	10.2 to 13.8	1.2	14.4	3,050	6.4 226	137.2 0.551	52	- 20 to + 70	100,000/60°C
109L5712M501			0.48	5.76	2,000	4.2 148	67.6 0.271	41		
109L5724H501	24	20.4 to 27.6	0.58	13.92	3,050	6.4 226	137.2 0.551	52		
109L5724M501			0.2	4.80	2,000	4.2 148	67.6 0.271	41		
109L5748H501	48	40.8 to 55.2	0.28	13.44	3,050	6.4 226	137.2 0.551	52		
109L5748M501			0.11	5.28	2,000	4.2 148	67.6 0.271	41		

Other sensor specifications are available as options. Please refer to the index (p. 496).

Dimensions (unit: mm)



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



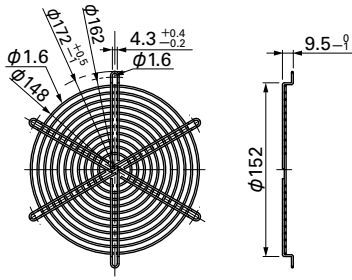
Options (unit: mm)

Finger Guards

Model : 109-319E Surface treatment : Nickel-chrome plating (silver) Color : 109-319H Cation electropainting (black)

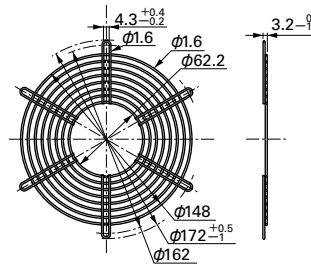
Model : 109-320 Surface treatment : Nickel-chrome plating (silver) Color

Inlet side, Outlet side



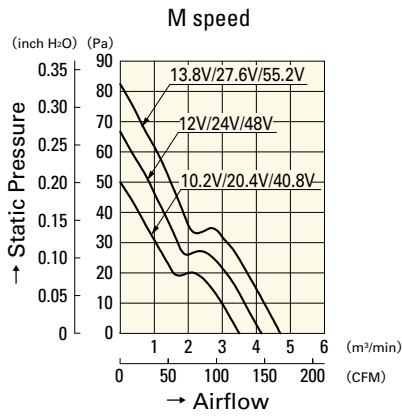
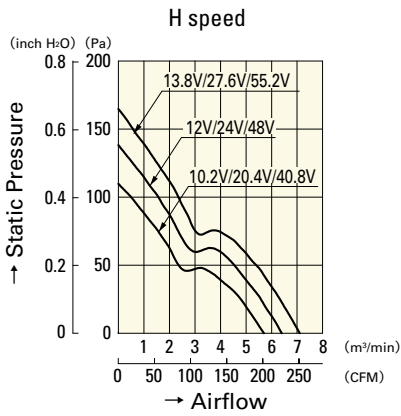
Mass : 69g

Outlet side



Mass : 53g

Airflow - Static Pressure Characteristics



109L5712H501

109L5724H501

109L5748H501

109L5712M501

109L5724M501

109L5748M501

φ172mm

San Ace 172L



General Specifications

- Material Frame: Aluminum,
Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate: 90% at 60°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black or blue (Sensor) yellow
- Storage Temperature -30°C to +70°C (Non-condensing)

φ172mm×51mm (Mass : 780g) **9L type** **Round type**

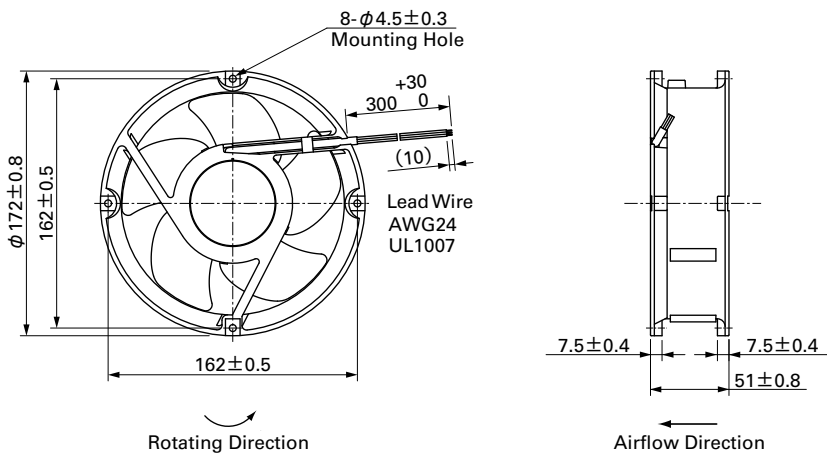
Specifications

The following nos. **have pulse sensors.**

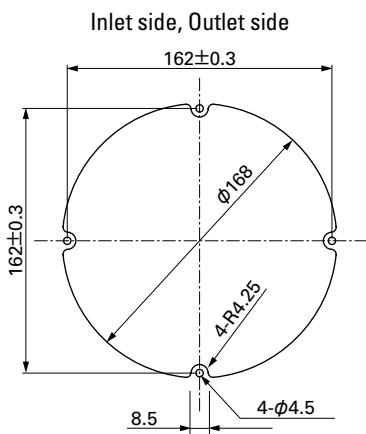
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
109L1712H501	12	10.2 to 13.8	1.2	14.4	3,050	6.4 226	137.2 0.551	47	- 20 to + 70	100,000/60°C
109L1712M501			0.48	5.76	2,000	4.2 148	67.6 0.271	36		
109L1724H501	24	20.4 to 27.6	0.58	13.92	3,050	6.4 226	137.2 0.551	47		
109L1724M501			0.2	4.80	2,000	4.2 148	67.6 0.271	36		
109L1748H501	48	40.8 to 55.2	0.28	13.44	3,050	6.4 226	137.2 0.551	47		
109L1748M501			0.11	5.28	2,000	4.2 148	67.6 0.271	36		

Other sensor specifications are available as options. Please refer to the index (p. 496).

Dimensions (unit: mm)



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



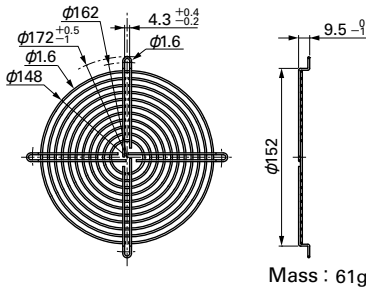
Options (unit: mm)

Finger Guards

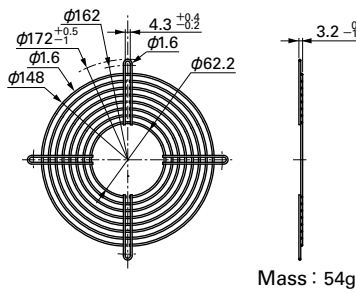
Model : 109-1066 Surface treatment : Nickel-chrome plating (silver) Color

Model : 109-1068 Surface treatment : Nickel-chrome plating (silver) Color

Inlet side, Outlet side



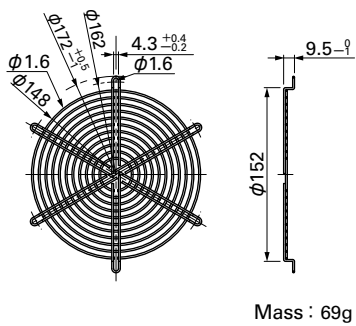
Outlet side



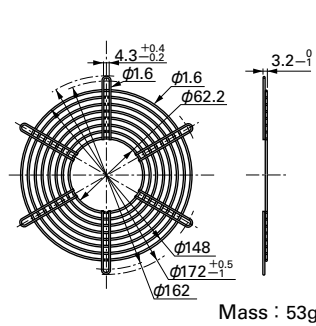
Model : 109-319E Surface treatment : Nickel-chrome plating (silver) Color
: 109-319H : Cation electropainting (black)

Model : 109-320 Surface treatment : Nickel-chrome plating (silver) Color

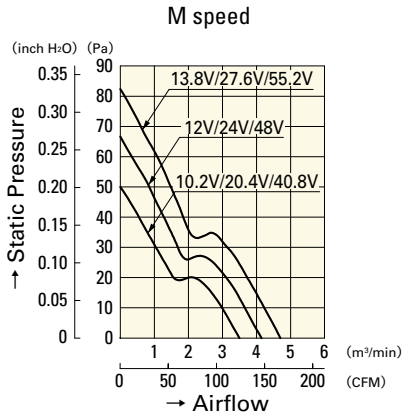
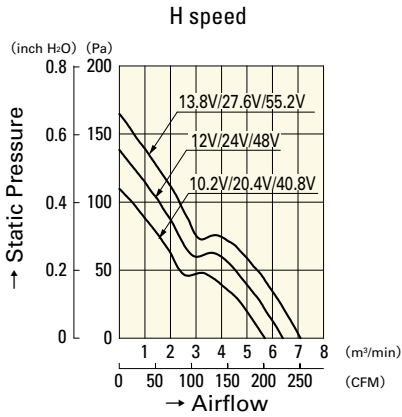
Inlet side, Outlet side



Outlet side



Airflow - Static Pressure Characteristics



109L1712H501

109L1724H501

109L1748H501

109L1712M501

109L1724M501

109L1748M501

DC
Long Life Fan 172mm