

San Ace 60

15mm thick (9GA type), 15mm thick (9P type) 20mm thick (9GA type), 20mm thick (9P type) 25mm thick (9S type), 25mm thick (9G type) 25mm thick (9R type), 25mm thick (San Cooler) (9A type) 38mm thick (9GA type), 38mm thick (9GV type) 38mm thick (9G type)

General Specifications

· Material · · · · · Frame: Plastics (Flammability: UL94V-0), Impeller: Plastics (Flammability: UL94V-1)

• Expected LifeRefer to specifications (L10:Survival rate:90% at 60°C, rated voltage, and continuously run in a free air state)

 $\textbf{\cdot} \, \mathsf{Lead} \, \mathsf{Wire} \, \cdots \cdots \oplus \mathsf{red} \, \, \ominus \mathsf{black} \, \, \underline{\mathsf{Sensor}} \, \mathsf{yellow} \, \, \underline{\mathsf{Control}} \, \mathsf{brown}$

· Storage Temperature $\cdots -30^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ (Non-condensing)





 $60 \times 60 \times 38_{mm} \text{ (Mass: 130g)} \quad 9\text{GV type} \quad \text{Operator of the property of the propert$

Specifications The following nos. have PWM controls, pulse sensors, and ribs. For ribless, append "1" to the model no.

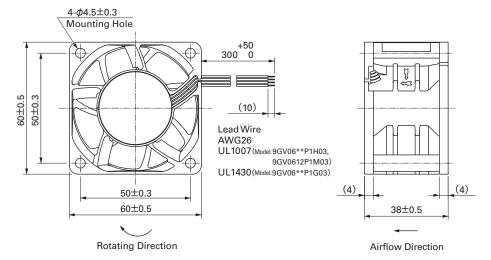
Model No.	Rated Voltage	Operating Voltage Range	PWM duty	Rated Current	Rated Input	Rated Speed	Max. A	Max. Airflow		Max. Static Pressure		Operating Temperature Range	Expected Life
	[V]	[V]	cycle※ [%]	[A]	[W]	[min ⁻¹]	[m³/min]	[CFM]	[Pa]	[inchH ₂ 0]	[dB(A)]	[°C]	[h]
9GV0612P1G03	12	8.0 to 13.8	100	2.8	33.6	16,000	2.37	84	751	3.02	66		40,000
			0	0.12	1.5	3,100	0.44	15	26	0.10	25		
9GV0612P1H03			100	2.0	24.0	14,500	2.15	76	617	2.48	63		
			0	0.1	1.2	2,700	0.40	14	21	0.09	22		
9GV0612P1M03			100	1.5	18.0	13,000	1.93	68	496	1.99	60		
			0	0.08	1.0	2,500	0.38	13	18	0.07	19		
9GV0612P1L01 Note)		10.8 to 13.8	100	0.7	8.4	10,000	1.49	52.6	293	1.17	52		
9GV0624P1G03	24	20.4 to 27.6	100	1.4	33.6	16,000	2.37	84	751	3.02	66		
			0	0.12	2.88	6,000	0.89	31	105	0.42	38		
9GV0624P1M03 ^{Note)}			100	0.73	17.52	13,000	1.93	68.0	496	1.99	60		
9GV0648P1H03	48	38 to 57	100	0.5	24	14,500	2.15	76	617	2.48	63		
			0	0.08	3.84	6,000	0.89	31	105	0.42	38		

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

***PWM Frequency: 25kHz**

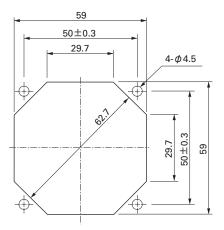
Some models can also be equipped without sensors or with pulse sensors (no PWM control functions) as an option. Please refer to the index (pp. 417 to 437).

Dimensions (unit : mm) (With ribs)



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

Inlet side, Outlet side

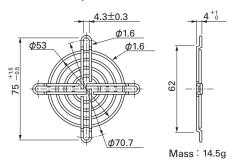


Options (unit:mm)

Finger Guards

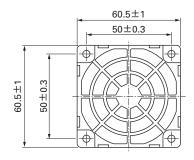
Color Surface treatment : Nickel-chrome plating (silver) Model: 109-139E : 109-139H : Cation electropainting (black)

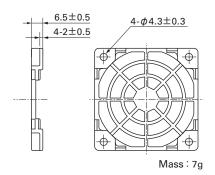
Inlet side, Outlet side



Resin Finger Guards

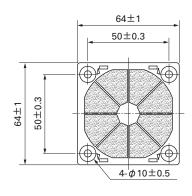
Model: 109-1003G

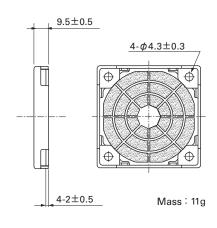




Resin Filter Kits

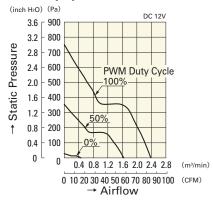
Model: 109-1003F13 (13PPI), 109-1003F20 (20PPI) : 109-1003F30 (30PPI), 109-1003F40 (40PPI)





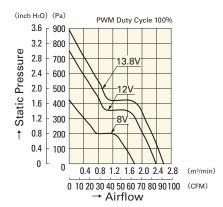
Airflow - Static Pressure Characteristics

PWM Duty Cycle



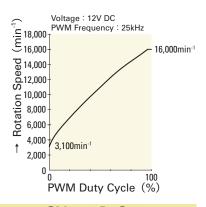
9GV0612P1G03

Operating Voltage Range



9GV0612P1G03

PWM Duty - Speed **Characteristics Example**



9GV0612P1G03

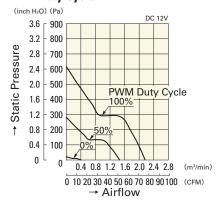


San Ace 60

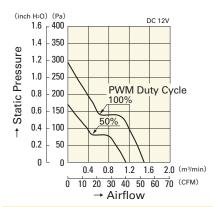
 $60\times60\times38_{mm}~\text{(Mass: 130g)}$

Airflow - Static Pressure Characteristics

PWM Duty Cycle



(inch H₂O) (Pa) 3.6 $_{\sqcap}$ 900 3.2 800 2.8 700 2.4 600 2.0 500 PWM Duty Cycle 1.6 400 1.2 300 8.0 200 50% 0.4 100 0 0 0.4 0.8 1.2 1.6 2.0 2.4 2.8 0 10 20 30 40 50 60 70 80 90 100 (CFM) → Airflow

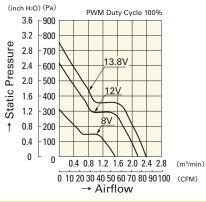


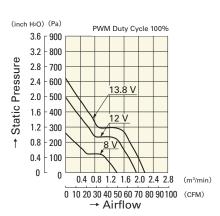
9GV0612P1H03

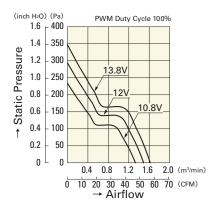
9GV0612P1M03

9GV0612P1L01

Operating Voltage Range





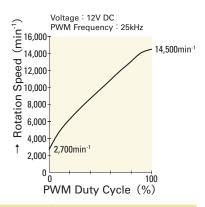


9GV0612P1H03

9GV0612P1M03

9GV0612P1L01

PWM Duty - Speed Characteristics Example



Voltage: 12V DC
PWM Frequency: 25kHz

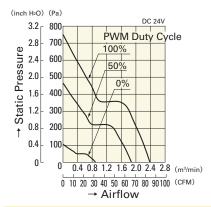
14,000
12,000
10,000
10,000
10,000
100
PWM Duty Cycle (%)

Voltage: 12V DC PWM Frequency: 25kHz .⊑ 11,000 E 10,000 10,000min⁻¹ 9,000 Speed 8,000 7,000 6,000 Rotation 5,000 4,000 3 000 2,000 1,000 100 PWM Duty Cycle (%)

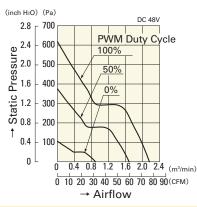
9GV0612P1H03

9GV0612P1M03

9GV0612P1L01



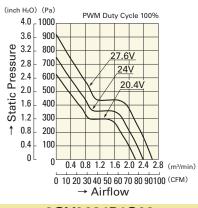
(inch H₂O) (Pa) DC 24V 2.4 - 600 Static Pressure 500 **PWM Duty Cycle** 400 300 200 50% **†** 0.4 100 0 0 04 08 1.2 1.6 2.0 2.4 (m³/min) 10 20 30 40 50 60 70 80 (CFM) → Airflow

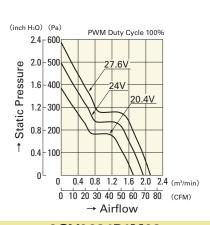


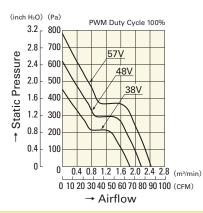
9GV0624P1G03

9GV0624P1M03

9GV0648P1H03



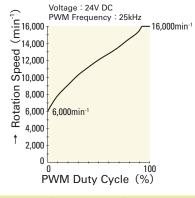


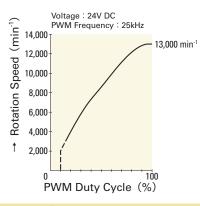


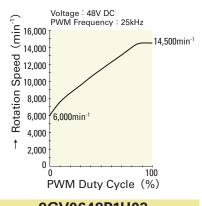
9GV0624P1G03

9GV0624P1M03

9GV0648P1H03







9GV0624P1G03 90

9GV0624P1M03

9GV0648P1H03