

San Ace 172 9HV type

High Static Pressure Fan

Features

High Static Pressure

- Static pressure: 1.6 times that of our conventional DC fan.*
- Servers, data storage systems, and ICT devices are becoming denser and generating more heat.
- Offers effective cooling even for these devices with its greatly increased static pressure.

* : Our conventional DC fan is $\phi 172 \times 150 \times 51$ mm "San Ace 172 9SG type", Model No. 9SG5748P5G01.



$\phi 172 \times 150 \times 51$ mm

Specifications

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

Model No.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle (Note1, 2) [%]	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]
9HV5724P5H001	24	16 to 30	100	5.0	120	8,000	12.3 434	1,000 4.02	77	-20 to +70	40,000 / 60 °C (70,000 / 40 °C)
			20	0.50	12.0	3,000	4.60 162	175 0.70	51		
9HV5748P5G001	48	36 to 72	100	5.0	240	10,500	16.1 568	1,600 6.43	83		
			20	0.41	19.7	3,700	5.60 198	250 1.01	57		

Note1: PWM frequency: 25 kHz

Note2: Fans do not rotate when PWM duty cycle is 0%.

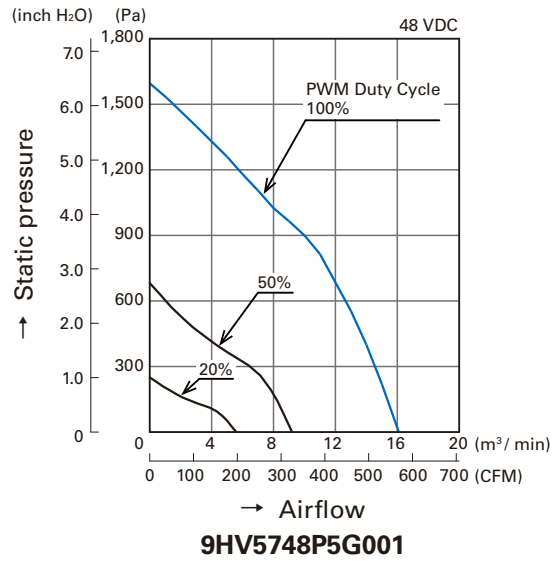
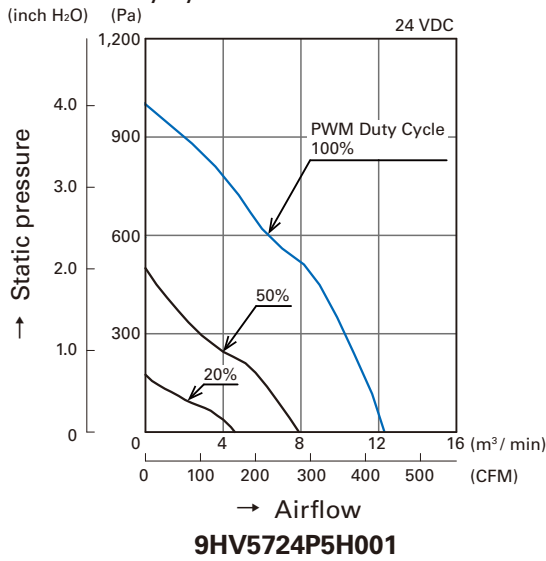
Available options: Without sensor Lock sensor

Common Specifications

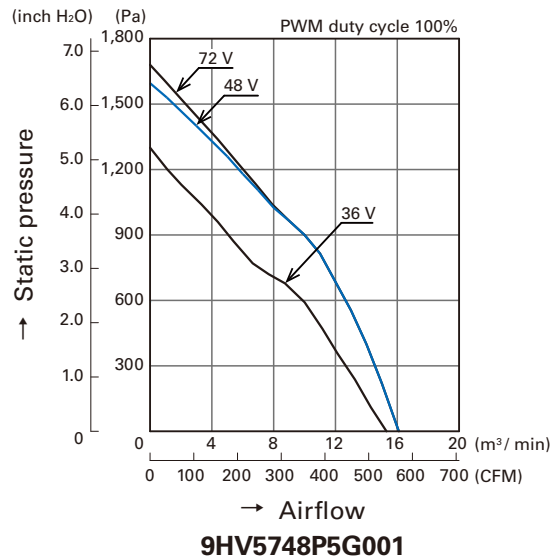
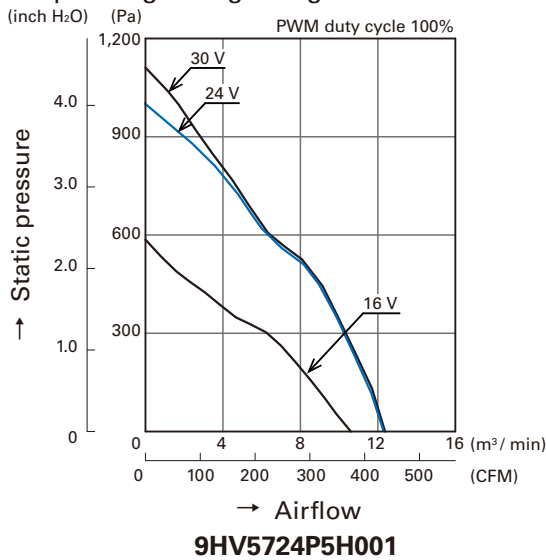
- Material Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
- Expected life Refer to specifications
(L10: Survival rate: 90% at 60 °C, rated voltage, and continuously run in a free air state)
- Motor protection system Current blocking function and reverse polarity protection
- Dielectric strength 50 / 60 Hz, 500 VAC, 1 minute (between lead conductor and frame)
- Sound pressure level (SPL) Expressed as the value at 1 m from air inlet side
- Operating temperature Refer to specifications (Non-condensing)
- Storage temperature -30 °C to +70 °C (Non-condensing)
- Lead wire ⊕Red ⊖Black Sensor: Yellow Control: Brown
- Mass Approx. 800 g

Airflow - Static Pressure Characteristics

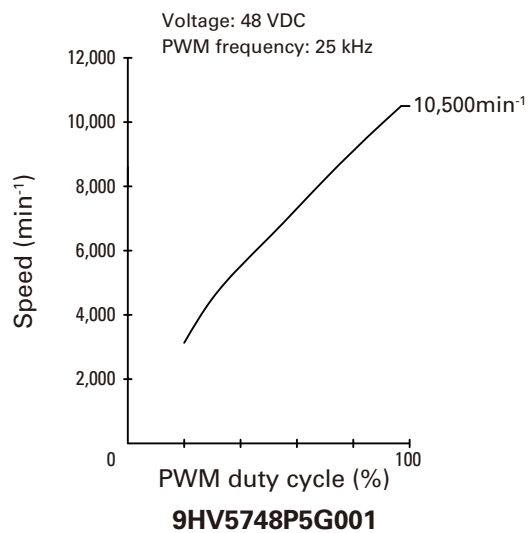
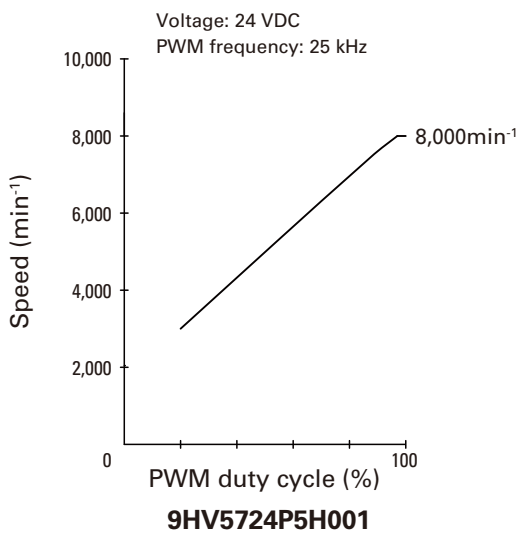
• PWM duty cycle



• Operating voltage range

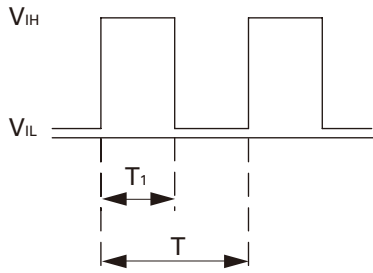


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

Input signal waveform



$V_{IH}=4.75\text{ V to }5.25\text{ V}$

$V_{IL}=0\text{ V to }0.4\text{ V}$

$$\text{PWM duty cycle (\%)} = \frac{T_1}{T} \times 100$$

$$\text{PWM frequency } 25\text{ (kHz)} = \frac{1}{T}$$

Source current (I_{source}): 1 mA max. at control voltage 0 V

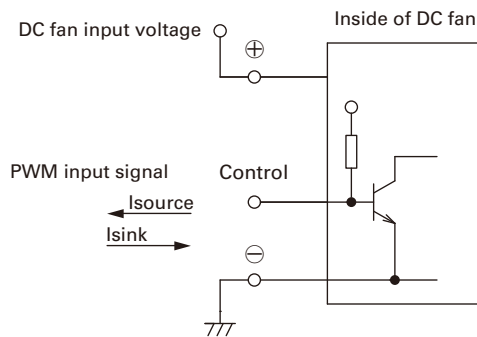
Sink current (I_{sink}): 1 mA max. at control voltage 5.25 V

Control terminal voltage: 5.25 V max. (Open circuit)

When the control lead wire is open, the fan speed is the same as the one at a PWM duty cycle of 100%.

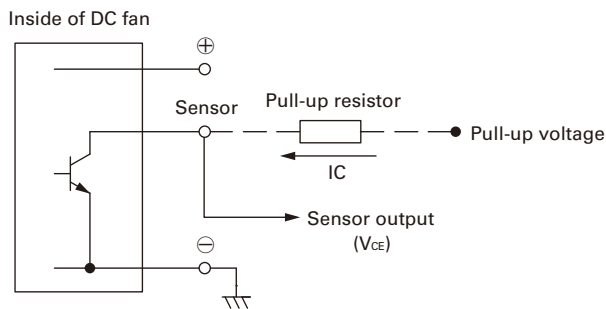
Either TTL input, open collector or open drain can be used for PWM control input signal.

Example of Connection Schematic



Specifications for Pulse Sensors

Output circuit: Open collector



Rated voltage 24 V fan

$V_{CE} = +36\text{ V max.}$

$I_C = 10\text{ mA max. } [V_{OL} = V_{CE}(\text{SAT}) = 1\text{ V max.}]$

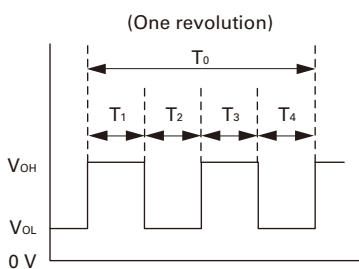
Rated voltage 48 V fan

$V_{CE} = +72\text{ V max.}$

$I_C = 10\text{ mA max. } [V_{OL} = V_{CE}(\text{SAT}) = 1\text{ V max.}]$

Output waveform (Need pull-up resistor)

In case of steady running

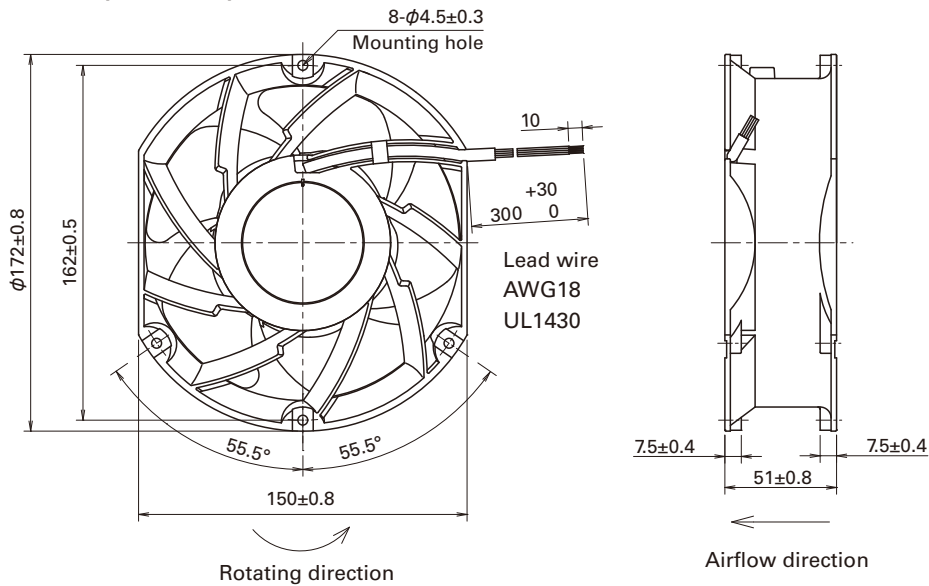


$$T_1 \sim T_4 \doteq (1/4) T_0$$

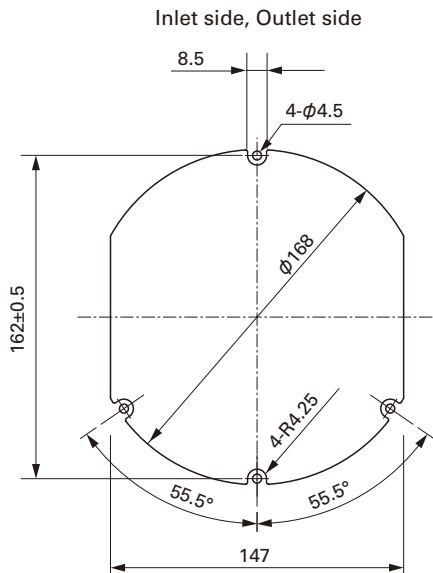
$$T_1 \sim T_4 \doteq (1/4) T_0 = 60/4N \text{ (sec)}$$

$$N = \text{Fan speed (min}^{-1}\text{)}$$

■ Dimensions (unit: mm)



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



Notice

- Please read the "Safety Instructions" on our website once you have decided on a product for use.
- The products shown in this catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.
- To protect against electrolytic corrosion that may occur in locations with strong electromagnetic noise, we provide fans that are unaffected by electrolytic corrosion.

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<http://www.sanyodenki.com>

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CATALOG No. C1050B001 '15.6