

San Ace 92

9HV type

High Static Pressure Fan

Features

High Static Pressure

Maximum static pressure is increased by approximately 2.5 times compared with our conventional product.*

Low Power Consumption

Provides the same cooling performance as three of our conventional products connected in series, while consuming approximately 46% less power.*

* Specification of Model No. 9HV0912P1G001.

Our conventional product is 92 x 92 x 38 mm "San Ace 92", Model No. 9GV0912P1G03.



92×92×38mm

Specifications

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

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM Duty Cycle [%] ^(Note1)	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Air Flow [m ³ /min] [CFM]	MAX. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life ^(Note2) [h]
9HV0912P1G001	12	8 to 12.6	100	5.2	62.4	14,900	5.1 180	1,100 4.42	72	-20 to +70	40,000 / 60°C (70,000 / 40°C)
			0	0.8	9.6	4,500	1.54 54.4	160 0.64	44		
9HV0948P1G001	48	36 to 60	100	1.2	57.6	14,900	5.1 180	1,100 4.42	72		
			0	0.15	7.2	4,500	1.54 54.4	160 0.64	44		

Note1: PWM Frequency: 25 kHz

Note2: Expected life at 40 degreeC ambient is just reference value.

Available options: **Without Sensor** **Pulse Sensor**

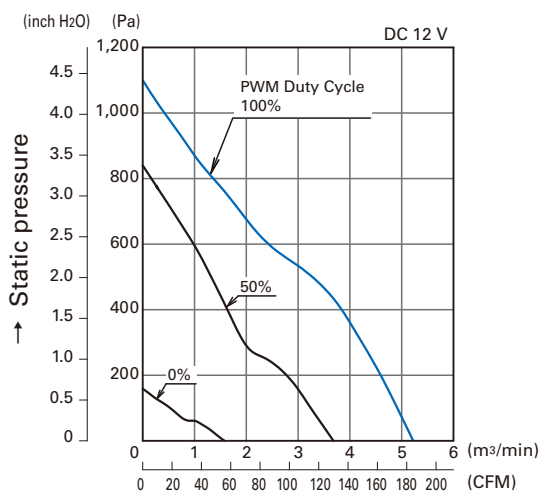
Please inquire as the availability of these functions depend on the model: **Lock Sensor** **Low Speed Sensor**

Common Specifications

- ☐ Material Frame: Plastics (Flammability: UL94V-0), 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. 250 g

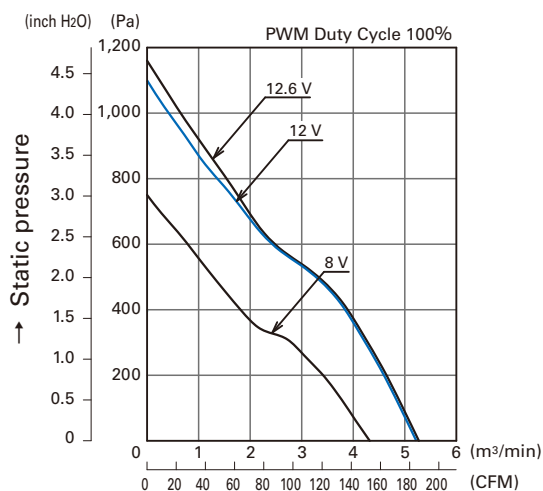
Air Flow - Static Pressure Characteristics

• PWM Duty Cycle

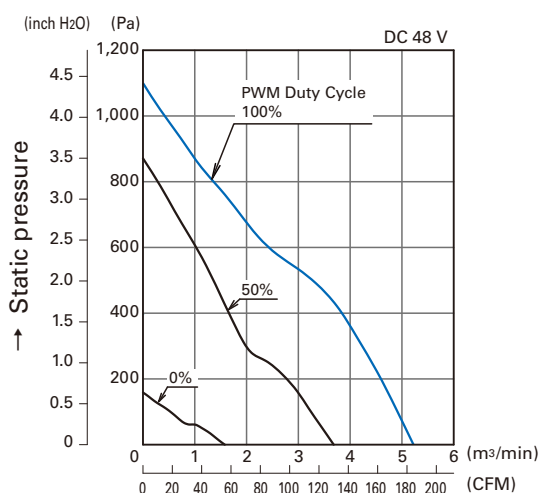


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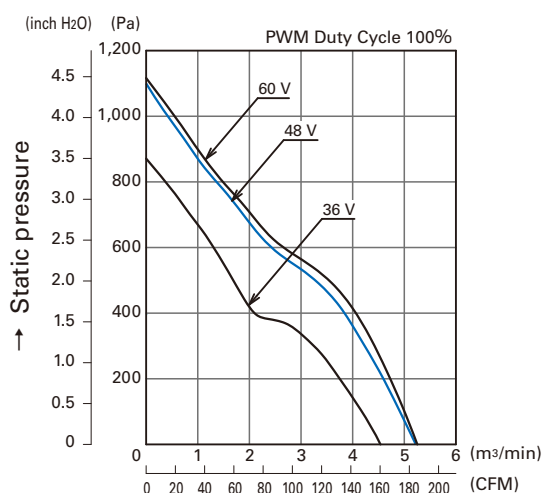
• Operating Voltage Range



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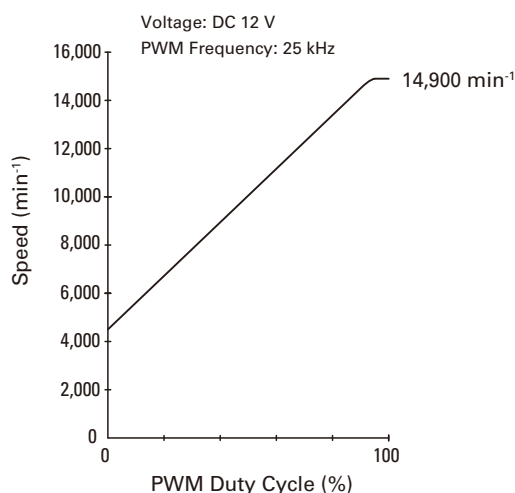


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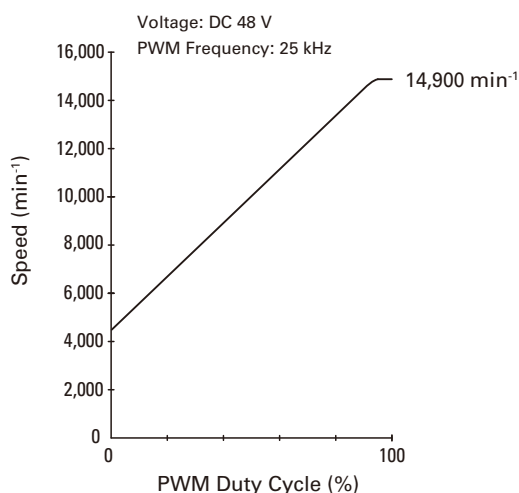


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PWM Duty - Speed Characteristics Example



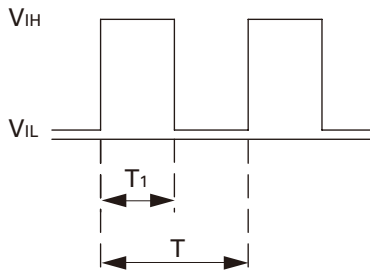
9HV0912P1G001



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PWM Input Signal Example

Input Signal Waveform



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

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

PWM Duty Cycle (%) = $\frac{T_1}{T} \times 100$

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

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

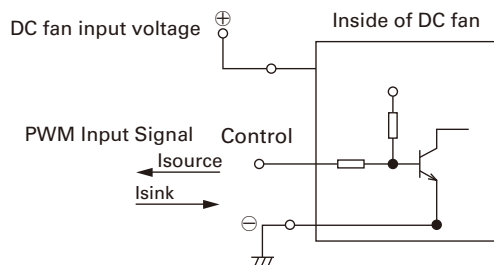
Sink Current (I_{sink}) : 1 mA Max. at control voltage 5.25 V

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%.

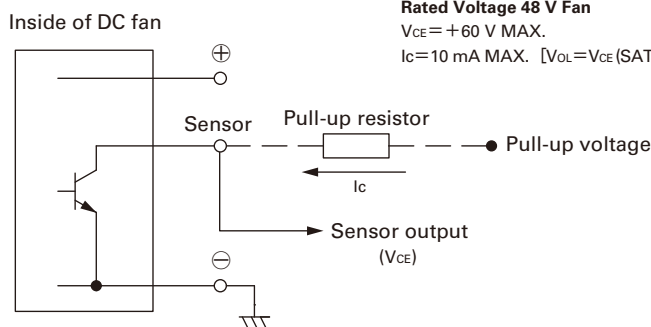
Either TTL input, open collector or open drain can be used for PWM control input signal.

Example of Connection Schematic



Specifications for Pulse Sensors

Output circuit: Open collector



Rated Voltage 12 V Fan

$V_{CE} = +15\text{ V MAX.}$

$I_c = 10\text{ mA MAX. } [V_{OL} = V_{CE(SAT)} = 0.6\text{ V MAX.}]$

Rated Voltage 48 V Fan

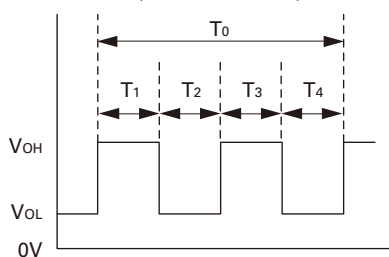
$V_{CE} = +60\text{ V MAX.}$

$I_c = 10\text{ mA MAX. } [V_{OL} = V_{CE(SAT)} = 0.6\text{ V MAX.}]$

Output Waveform (Need pull-up resistor)

In case of steady running

(One revolution)

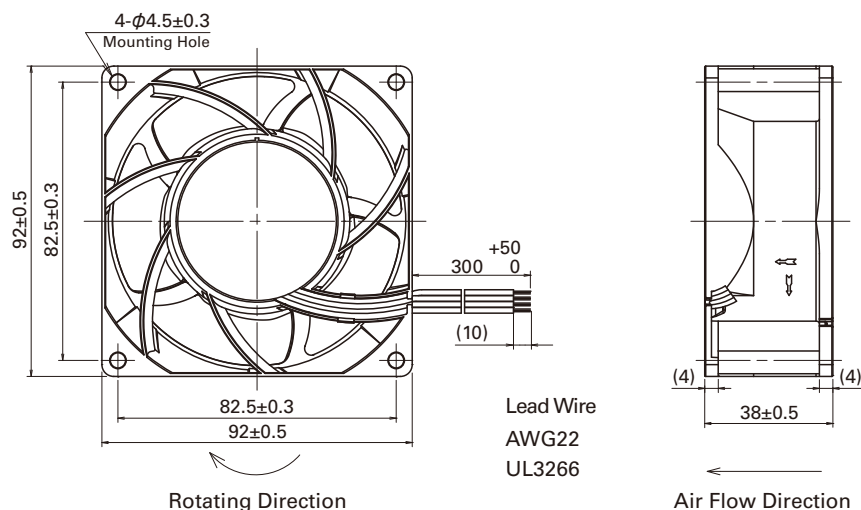


$T_1 \sim 4 \div (1/4) T_0$

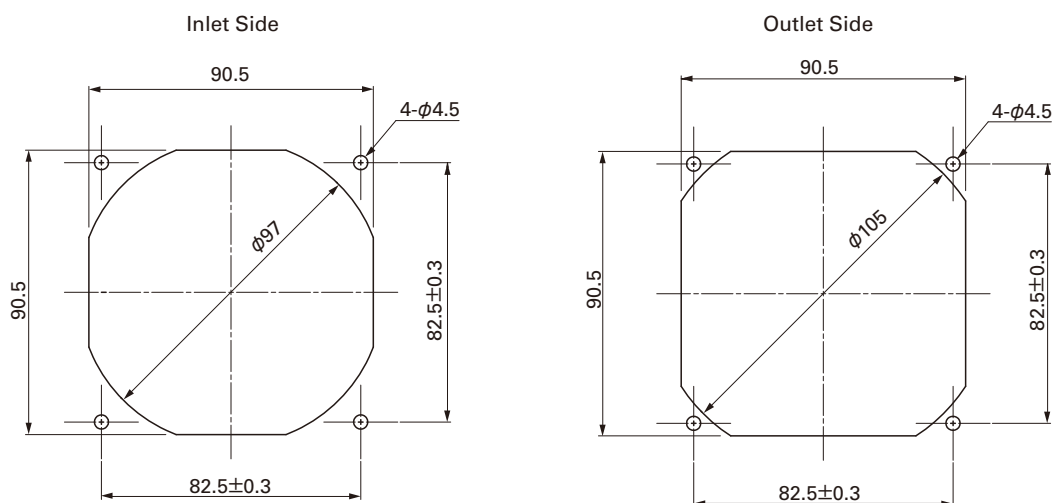
$T_1 \sim 4 \div (1/4) T_0 = 60/4N \text{ (sec)}$

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

■ Dimensions (unit : mm) (With ribs)



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



- 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.

SANYO DENKI CO., LTD. 3-33-1, Minami-Otsuka, Toshima-ku, Tokyo, 170-8451, Japan TEL: +81 3 5927 1020

<http://www.sanyodenki.com>

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CATALOG No. C1031B001 '13.12