NEW *PRODUCT INFORMATION*

San Ace 172 9HV type
High Static Pressure Fan

SANYO DENKI *EUROPE SA.* is pleased to introduce its new **San Ace 172 9HV type** DC fan, measuring 172mm diameter by 51mm thick, side cut. This high static pressure fan has been designed to enhance the High Performance serie with higher static pressure and less power consumption than current models.

Features

1 High Static Pressure
max. static pressure: 1,600Pa

2 High Reliability
expected life time 70,000 hours at 40°C

3 PWM Speed Control Function
to manage power consumption and noise

How to read Model Number*

9HV	57	48	P	5	G	0	01	

Series name / frame material

9HV	plast. / alu.

PWM control

Speed code

G, H, K

Frame type

	ribbless alu. frame
	ribbed plastic frame
1	ribbless plastic frame

Frame size

04	40x40mm
08	80x80mm
09	92x92mm
12	120x120mm
57	diam. 172mm

Voltage

12	12V
24	24V
48	48V

Frame thickness

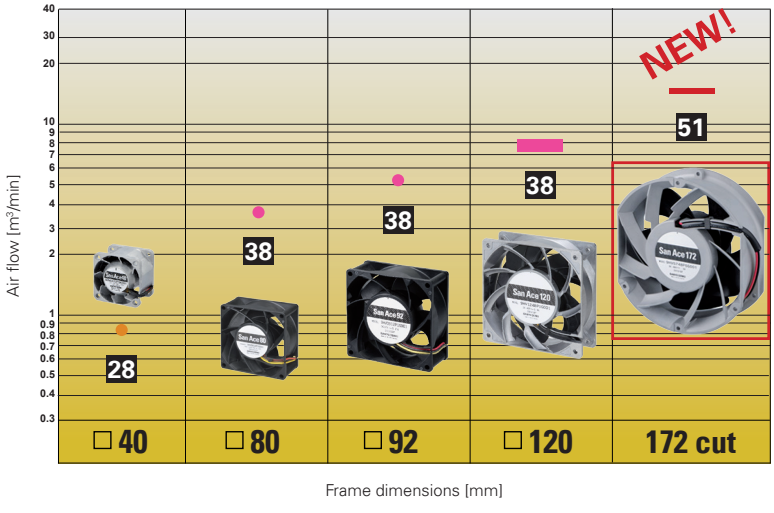
3	28mm
1	38mm
5	51mm

Sensor

01	pulse sensor

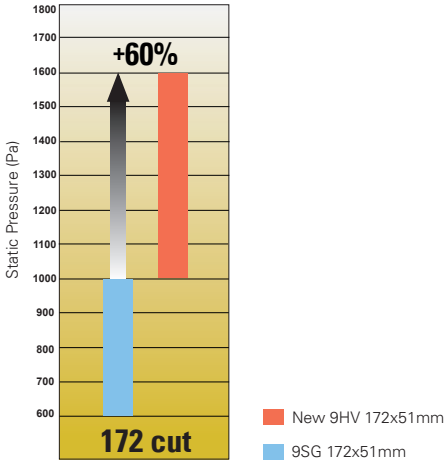
(*) contact us for available model numbers

9HV Product Range



Frame dimensions [mm]

Performance Comparison



Main Specifications 9HV serie

- Size ..... 5 sizes : 40, 80, 92,120 & 172mm by 3 thicknesses
- Air flow ..... from 0.83 to 16.1m³/min - 29.3 to 568CFM
- Static pressure ..... from 1,000 to 1,600Pa
- Rated voltage ..... 12 or 48VDC depending on models
- Expected life time ..... 70,000 hours at 40°C
- Speed control ..... PWM (25kHz)
- Speed feedback ..... pulse sensor

Target Applications

Information, Environment, Industry:
- Server
- Data storage system
- ATCA cabinet, Telecom enclosure
- Optical transport module
- PV, Wind inverters
- Industrial inverters and UPS

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 ϕ172 x 150 x 51 mm "San Ace 172 9SG type", Model No. 9SG5748P5G01.

ϕ172×150×51mm

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 [℃]	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 ℃ (70,000 / 40 ℃)
			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%.

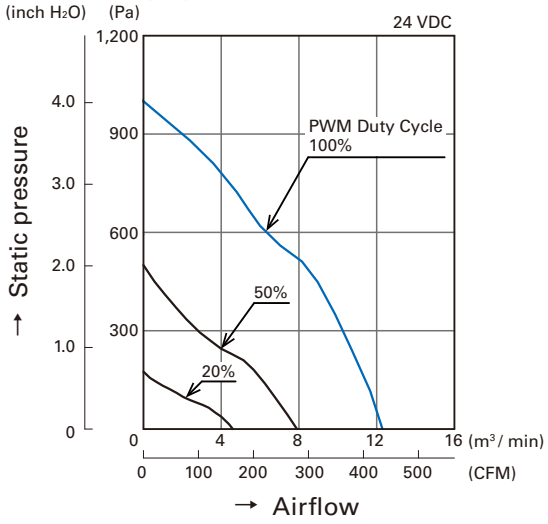
Available options: Without sensor Lock sensor

Common Specifications

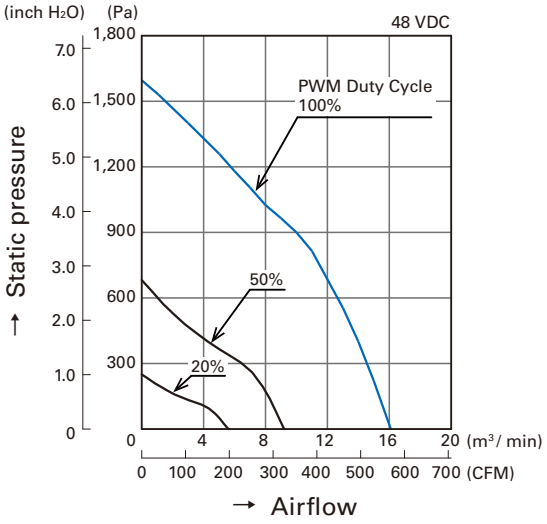
☐Material	Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
☐Expected life	Refer to specifications (L10: Survival rate: 90% at 60 ℃, rated voltage, and continuously run in a free air state)
☐Motor protection system	Current blocking function and reverse polarity protection
☐Dielectric strength	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 ℃ to +70 ℃ (Non-condensing)
☐Lead wire	⊕Red ⊖Black Sensor: Yellow Control: Brown
☐Mass	Approx. 800 g

Airflow - Static Pressure Characteristics

• PWM duty cycle

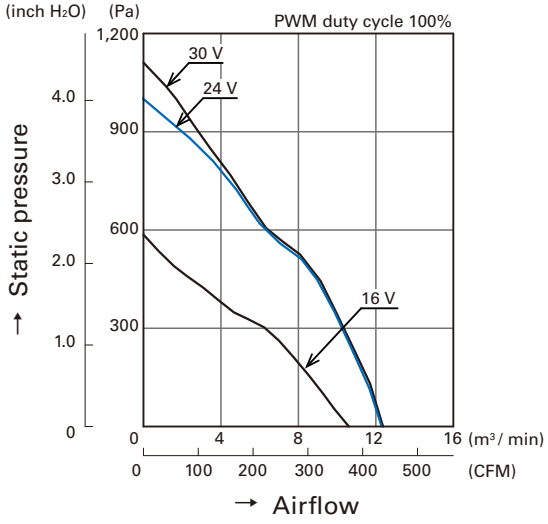


9HV5724P5H001

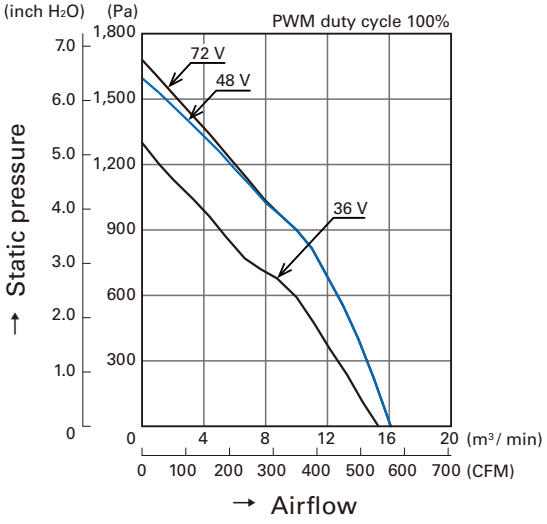


9HV5748P5G001

• Operating voltage range

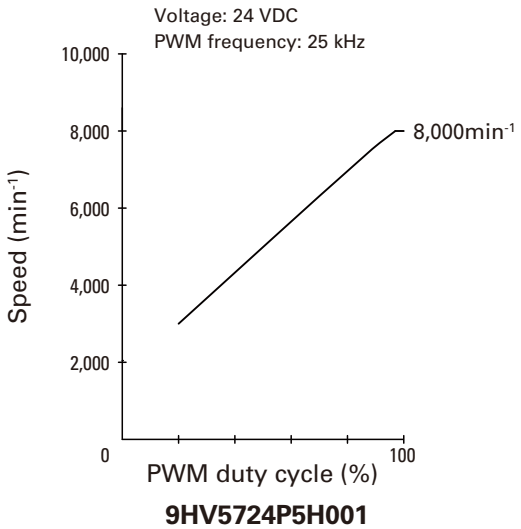


9HV5724P5H001

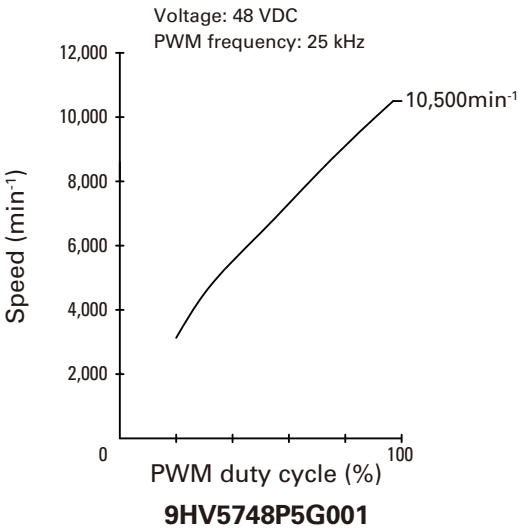


9HV5748P5G001

PWM Duty - Speed Characteristics Example



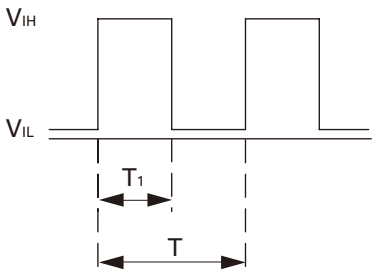
9HV5724P5H001



9HV5748P5G001

PWM Input Signal Example

Input signal waveform



V_{IH}=4.75 V to 5.25 V

V_{IL}=0 V to 0.4 V

PWM duty cycle (%) = $\frac{T1}{T} \times 100$

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

Source current (Isource) : 1 mA max. at control voltage 0 V

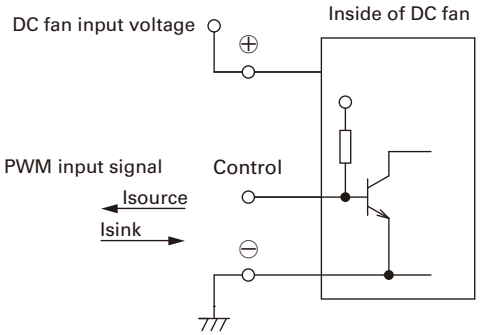
Sink current (Isink) : 1 mA max. at control voltage 5.25 V

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%.

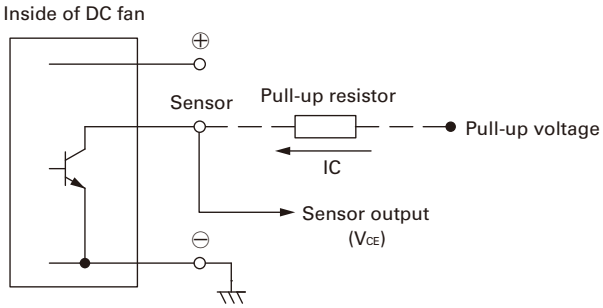
Either TTL input, open collector or open drain can be used for
PWM control input signal.

Example of Connection Schematic



Specifications for Pulse Sensors

Output circuit: Open collector



Rated voltage 24 V fan

V_{CE}=+36 V max.

Ic=10 mA max. [V_{OL}=V_{CE} (SAT) =1 V max.]

Rated voltage 48 V fan

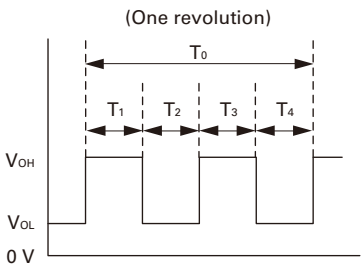
V_{CE}=+72 V max.

Ic=10 mA max. [V_{OL}=V_{CE} (SAT) =1 V max.]

Output waveform (Need pull-up resistor)

In case of steady running

(One revolution)

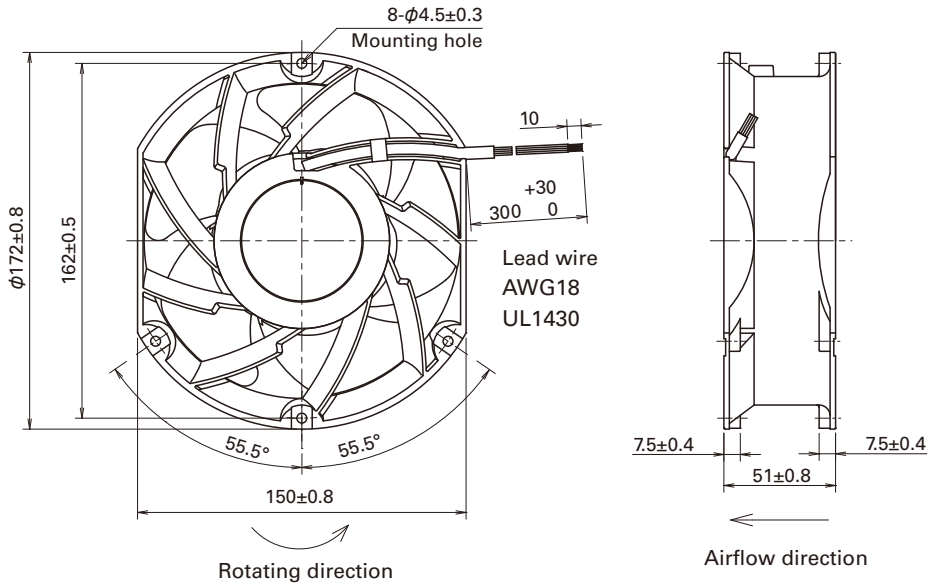


$T_{1\sim4} \fallingdotseq$ (1/4) T0

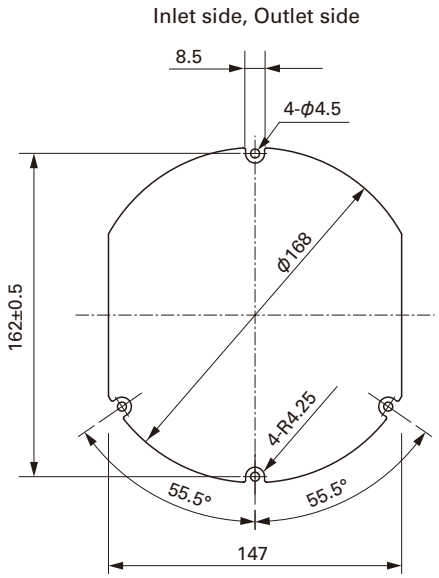
$T_{1\sim4} \fallingdotseq$ (1/4) T0=60/4N (sec)

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

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.

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

CATALOG No. C1050B001 '15.6