

NEW PRODUCT INFORMATION

San Ace 80^{9HVA} type High Static Pressure Fan

SANYO DENKI EUROPE SA. is pleased to introduce its new **San Ace 80 9HVA type** DC fan, measuring 80mm square by 38mm thick.

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: 1,350Pa, increased by 17% compared with our conventional fan
- 2 Suitable for 2U devices**
measuring 80mm square, this new fan is ideal for 2U sized equipment
- 3 PWM Speed Control Function**
to manage power consumption and noise

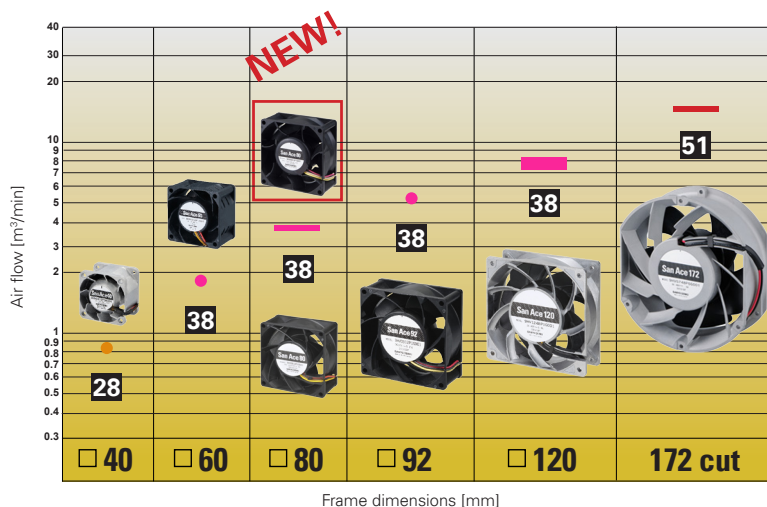
How to read Model Number*

Series name / frame material		PWM control		Speed code		Frame type	
9HVA	08	12	P	1	G	0	01
9HVA	plastic			G, H, J, K		ribbleless alu. frame	
9HV	plast. / alu.					ribbed plastic frame	
						1	ribbleless plastic frame

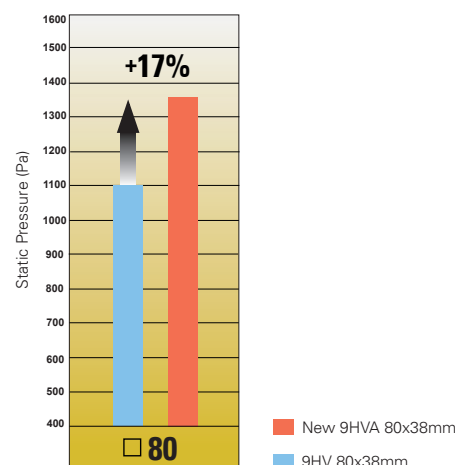
Frame size	Voltage	Frame thickness	Sensor
04 40x40mm	12 12V	3 28mm	01 pulse sensor
06 60x60mm	24 24V	1 38mm	
08 80x80mm	48 48V	5 51mm	
09 92x92mm			
12 120x120mm			
57 diam. 172mm			

(*) contact us for available model numbers

9HV/HVA Product Range



Performance Comparison



Main Specifications 9HV/HVA serie

- Size 6 sizes : 40, 60, 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 1,750Pa
- 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:
- Servers
 - Data storage system
 - Power supplies
 - Optical transport module
 - PV, Wind inverters
 - Industrial inverters and UPS

San Ace 80

9HVA type

High Static Pressure Fan

Features

High Static Pressure

The maximum static pressure increased by approximately 35% compared with our conventional DC fan, while maintaining equivalent maximum airflow performance.*

It is an ideal cooling solution especially for densely-packed equipment.

Suitable for 2U Devices

Measuring 80 mm square, this new fan is ideal for 2U sized equipment.

*: Our conventional DC fan is 80 x 80 x 38 mm "San Ace 80" 9HV type, Model No. 9HV0812P1G001.



80×80×38 mm

Specifications

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

Model No.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle (Note 1,2) [%]	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]
9HVA0812P1G001	12	10.8 to 13.2	100	3.5	42	16,100	3.75 132	1,350 5.4	73	-20 to +70	40,000 / 60°C (70,000 / 40°C)
			20	0.2	2.4	4,200	0.96 33.9	105 0.42	44		

Note1: PWM frequency: 25 kHz Note2: Fan does not rotate when PWM duty cycle is 0%.

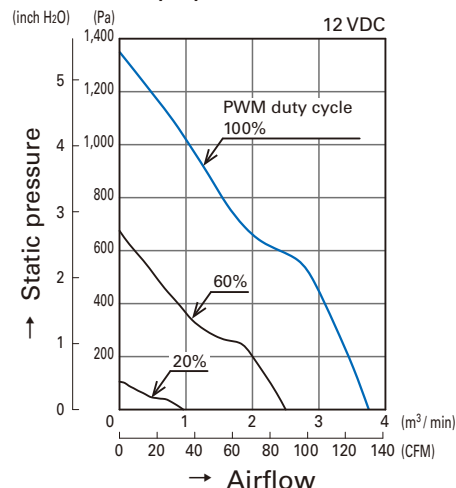
Available options: **Without Sensor**

Common Specifications

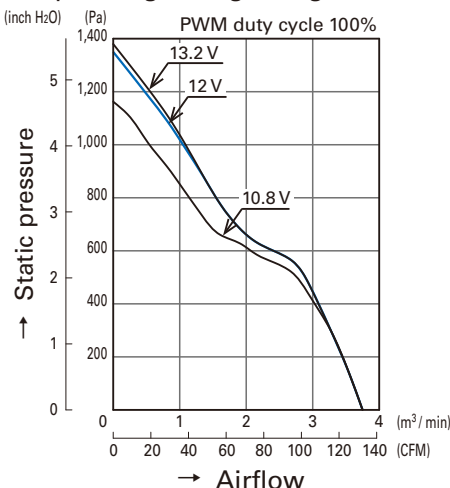
- ☐ Material Frame, Impeller: Plastics (Flammability: UL94V-0)
- ☐ Expected life Refer to specifications
(L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- ☐ Motor protection system Current blocking function and reverse polarity protection
- ☐ Dielectric strength 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 220 g

Airflow - Static Pressure Characteristics

• PWM duty cycle

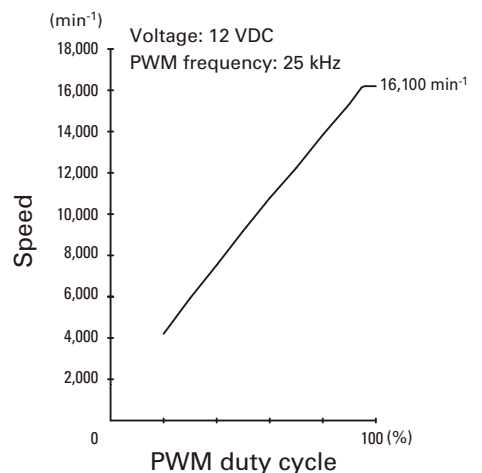


• Operating voltage range



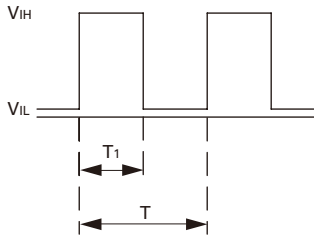
PWM Duty

- Speed Characteristics Example



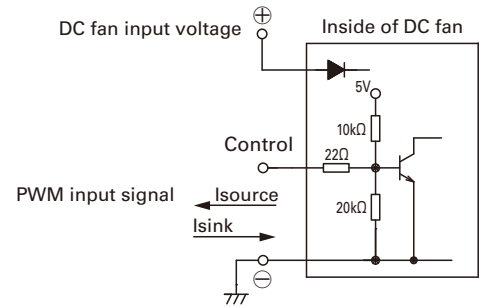
PWM Input Signal Example

Input signal waveform



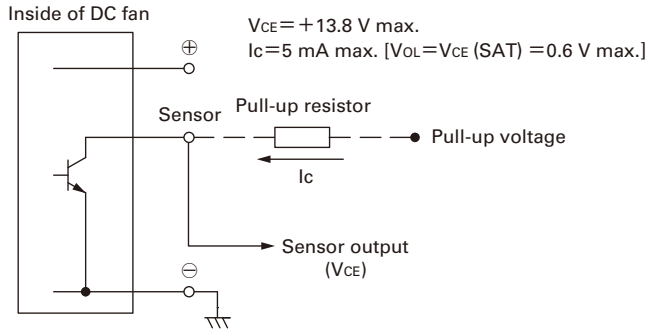
$V_{IH}=4.75\text{ V to }5.25\text{ V}$
 $V_{IL}=0\text{ V to }0.4\text{ V}$
 PWM duty cycle (%) = $\frac{T_1}{T} \times 100$
 PWM frequency 25 (kHz) = $\frac{1}{T}$
 Source current (I_{source}) : 5 mA max. at control voltage 0 V
 Sink current (I_{sink}) : 5 mA max. at control voltage 5.25 V
 Control 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

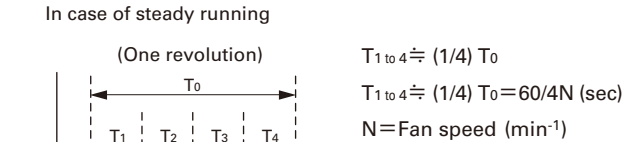


Specifications for Pulse Sensors

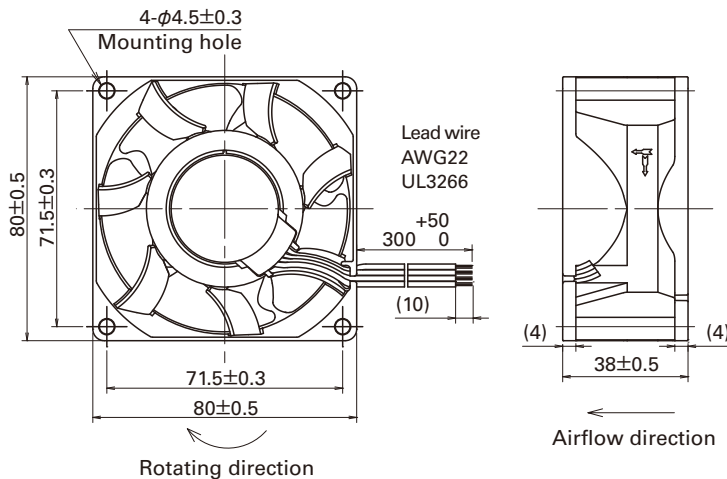
Output circuit: Open collector



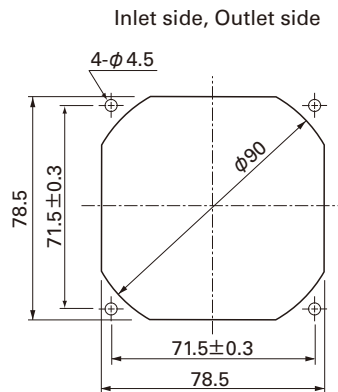
Output waveform (Need pull-up resistor)



Dimensions (unit: mm) (with ribs)



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



Notice

- Please read the "Safety Precautions" on our website before using the product.
- The products shown in this catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.
- For protecting fan bearings against electrolytic corrosion near strong electromagnetic noise sources, we provide effective countermeasures such as Electrolytic Corrosion Proof Fans and EMC guards. Contact us for details.

SANYO DENKI CO., LTD.

3-33-1 Minami-Otsuka, Toshima-ku, Tokyo, 170-8451, Japan TEL: +81 3 5927 1020

<http://www.sanyodenki.com>

The names of companies and/or their products specified in this catalog are the trade names, and/or trademarks and/or registered trademarks of such respective companies.

"San Ace" is a trademark of SANYO DENKI CO., LTD.

Specifications are subject to change without notice.

CATALOG No. C1058B001 '16.1