San Ace 80 GV type

■ Features

Large air flow and high static pressure

·Maximum airflow : increased by approx. 40%
·Maximum static pressure : increased by approx. 115% compared with our conventional product*.

Energy-Saving Design

·Power consumption : reduced by approx. 16% with airflow performance that is identical to our conventional product*.

* Our conventional product is the DC cooling fan :
80 mm square × 25 mm thick fan "San Ace 80" (109R0812G401)

ECO PRODUCTS

80mm square × 25mm thick

■ Specifications

Model No.	Rated Voltage (V)	Operating Voltage Range (V)	PWM duty cycle*(%)	Rated Current (A)	Rated Input (W)	Rated Speed (min⁻¹)	Air Flow (m³/min)	Air Flow (CFM)	Static Pressure (Pa)	Static Pressure (inchH2O)	SPL (dB[A])	Operating Temperature Range (℃)	Life Expectancy (h)
9GV0812P4K03 (031)	12	10.2 to 13.8	100	0.87	10.4	5,600	2.12	75.6	173.0	0.69	52	−10 to＋70	40,000
			0	0.10	1.2	1,400	0.53	18.7	10.8	0.04	18		
9GV0812P4J03 (031)			100	0.47	5.6	4,500	1.72	60.8	110.0	0.44	46		
			0	0.07	0.8	1,200	0.46	16.2	7.8	0.03	14		

The numbers in（　）represent ribless models.

※PWM Frequency:25kHz

■ Common Specifications

- □ Material ···························· Frame: Plastics (Flammability: UL94V-0)，Impeller: Plastics (Flammability: UL94V-1)
- □ Life Expectancy ·················· Varies for each model
  　(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, 500VAC, 1 minute (between lead conductor and frame)
- □ Sound Pressure Level (SPL) ······· Expressed as the value at 1m from air inlet side
- □ Operating Temperature Range ····· Varies for each model (Non-condensing)
- □ Lead Wire ····················· ⊕red ⊖black　Sensor: yellow　Control: brown
- □ Mass ·························· 125g

80mm

San Ace 80 GV type

■ Air Flow and Static Pressure Characteristics

・ PWM Duty Cycle

DC 12V

PWM Duty Cycle 100%

50%

0%
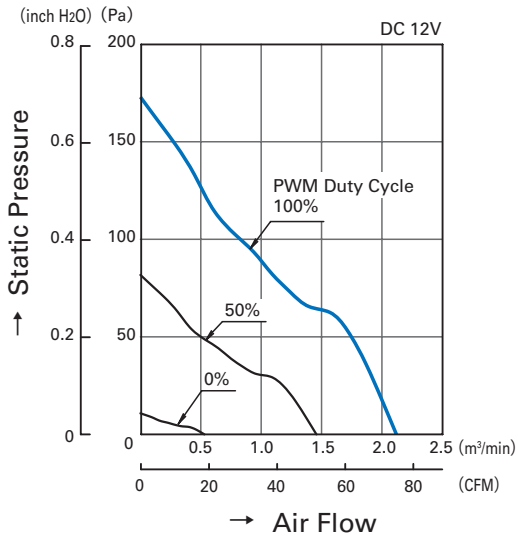
9GV0812P4K03 (031)

・ Operating Voltage Range

PWM Duty Cycle 100%

13.8 V
12 V
10.2 V

9GV0812P4K03 (031)

DC 12V

PWM Duty Cycle 100%

50%

0%

9GV0812P4J03 (031)

PWM Duty Cycle 100%

13.8 V
12 V
10.2 V
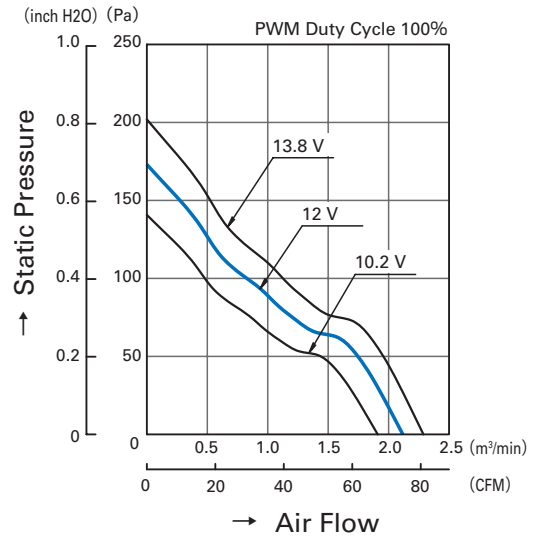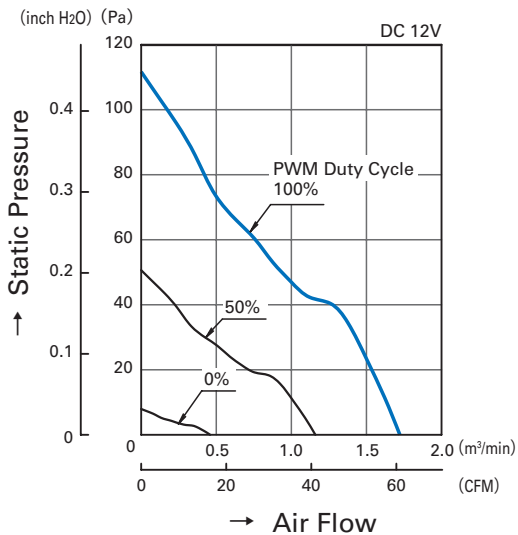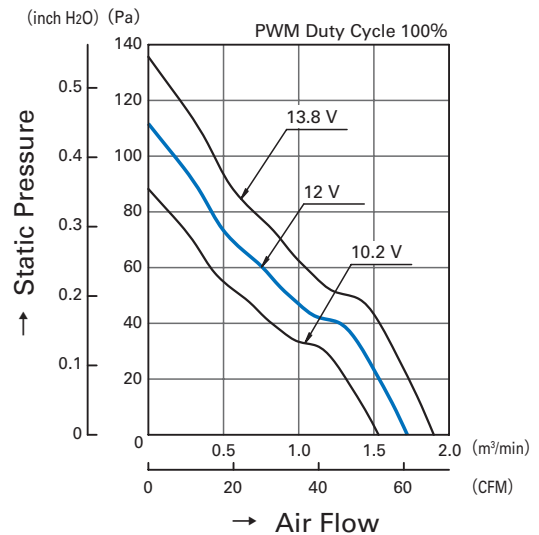
9GV0812P4J03 (031)

■ PWM Duty - Speed Characteristics Example

Voltage：12V DC
PWM Frequency：25kHz

5,600min⁻¹

Nominal

1,400min⁻¹

9GV0812P4K03 (031)

Voltage：12V DC
PWM Frequency：25kHz

4,500min⁻¹

Nominal
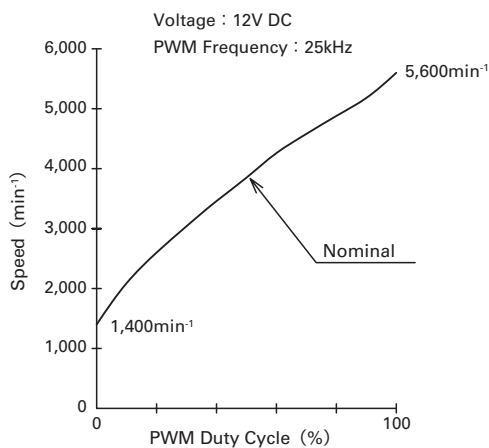
1,200min⁻¹
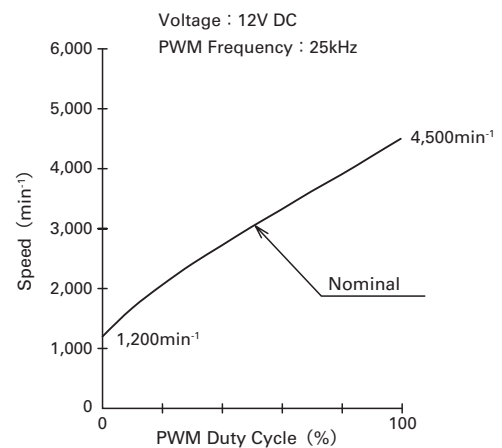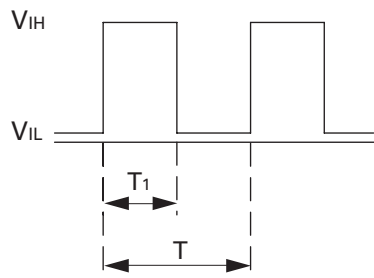
9GV0812P4J03 (031)

■ PWM Input Signal Example

Input Signal Wave Form

V_{IH}=4.75V to 5.25V

V_{IL}=0V to 0.4V

PWM Duty Cycle （%）= $\dfrac{T_1}{T}$ ×100

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

Source Current（Isource）: 1mA Max. at control voltage 0V

Sink Current（Isink）: 1mA Max. at control voltage 5.25V

Control Terminal Voltage : 5.25V Max. (Open Circuit)

When the control lead wire is no connecting,
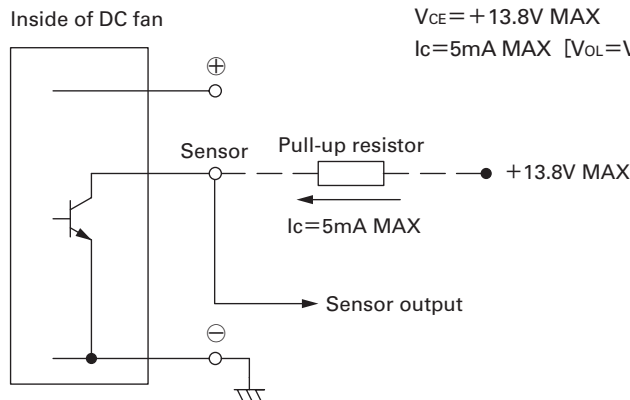the speed is the same speed as at 100% of PWM cycle.

This fan speed should be controlled by PWM input signal
of either TTL input or open collector, drain input.

■ Connection Schematic

DC fan input voltage

Inside of DC fan

PWM Input Signal　Control

Isource

Isink
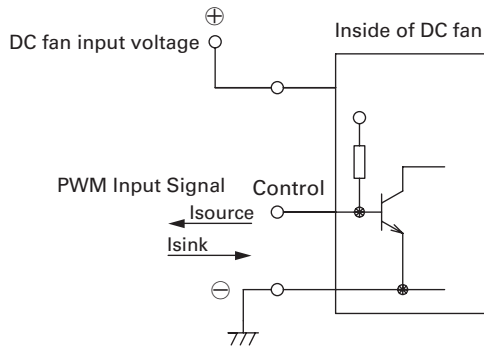
■ Specifications for Pulse Sensors

Output circuit : Open collector

Inside of DC fan

V_{CE}＝＋13.8V MAX

I_c＝5mA MAX ［V_{OL}＝V_{CE} (SAT) ＝0.6V MAX］

Sensor　Pull-up resistor

＋13.8V MAX

I_c＝5mA MAX

Sensor output

Output waveform （Need pull-up resistor）

In case of steady running

（One revolution）
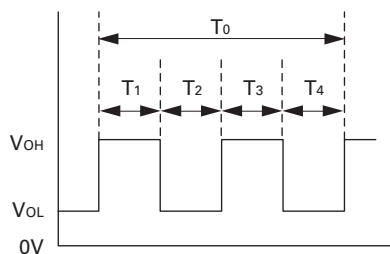
$T_{1\sim4}$≒（1/4）T_0

$T_{1\sim4}$≒（1/4）T_0＝60/4N (sec)

N＝Fan speed（min^{-1}）

T_0

T_1　T_2　T_3　T_4

V_{OH}

V_{OL}

0V

■ Dimensions (unit : mm)

4-φ4.5±0.3

80±0.5
71.5±0.3

71.5±0.3
80±0.5

Rotating Direction

Lead Wire
AWG26
UL1007

+30
300 0

(10)

(4)   (4)

25.2±0.5

Airflow Direction
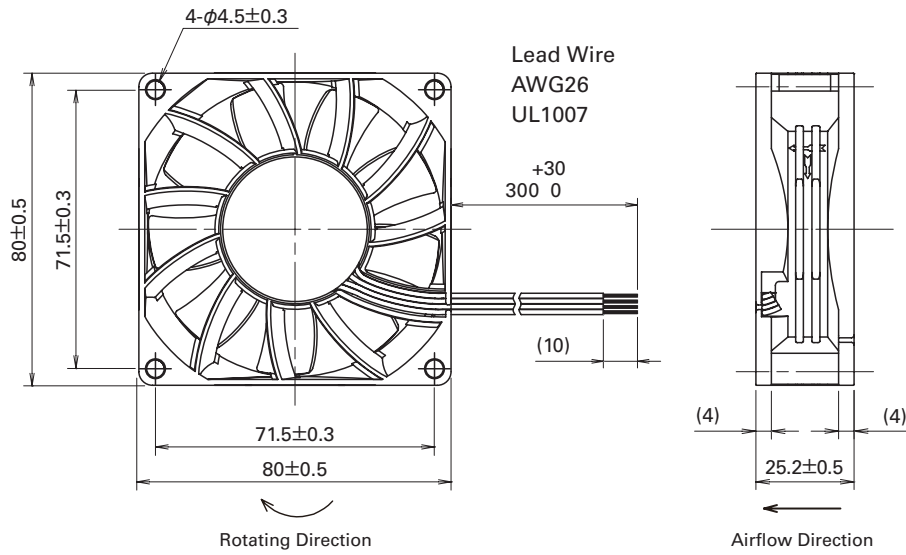
■ Reference dimension of mounting holes and vent opening (unit : mm)

Inlet Side, Outlet Side

71.5±0.3

4-φ4.5

78.5

Φ90

71.5±0.3

78.5