San Ace B97 9BMC type
Blower

Features

High Airflow
The maximum airflow has increased by 15% compared with our current model.*

High Static Pressure
The maximum static pressure has increased by 50% compared with our current model.*

Low Noise and High Energy Efficiency
The PWM control function enables the external control of fan speed, contributing to lower noise and higher energy efficiency of devices.

* New model 9BMC12P2G001 compared with our current blower model 9BMB12P2K01, 97 × 33 mm San Ace B97 9BMB type.

97×33 mm

Specifications

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

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min^{-1}]	Max. airflow [m^3/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH_2O]	SPL [dB(A)]	Operating temperature [°C]	Expected life [h]
9BMC12P2G001	12	10.8 to 13.2	100	6.2	74.4	8200	1.85	65.3	1950	7.83	69	-20 to +70	40000/60°C (70000/40°C)
			20	0.38	4.56	2800	0.58	20.4	121.0	0.48	44		
9BMC24P2G001	24	21.6 to 26.4	100	3.1	74.4	8200	1.85	65.3	1950	7.83	69		
			20	0.19	4.56	2800	0.58	20.4	121.0	0.48	44		

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

Models with the following sensor specifications are also available as options: Without sensor | Pulse sensor

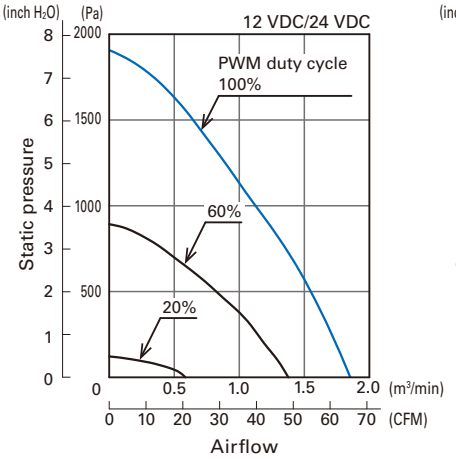
Please inquire as the availability of these options depends on the model: Lock sensor

Common Specifications

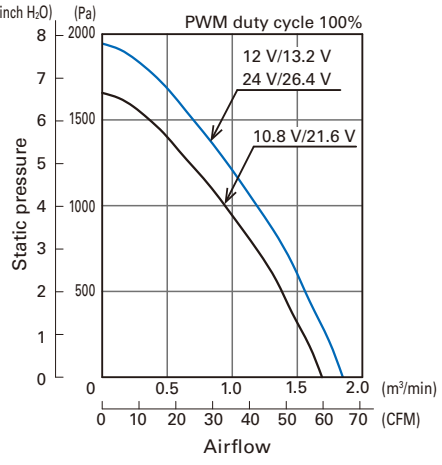
- ☐ Material ····· Frame, Impeller: Plastics (Flammability: UL 94V-0)
- ☐ Expected life ····· Refer to specifications
  (L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- ☐ Motor protection system ····· Current blocking function and reverse polarity protection
- ☐ 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 ····· Approx. 200 g

Airflow - Static Pressure Characteristics

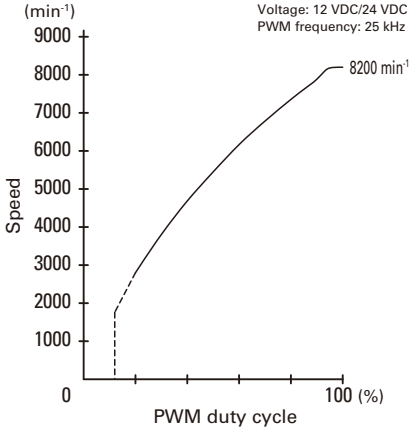
・ PWM duty cycle



・ Operating voltage range

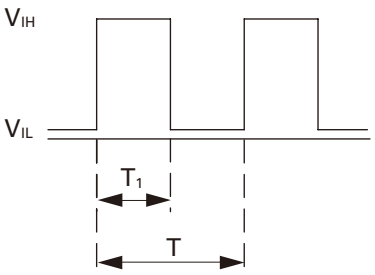


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

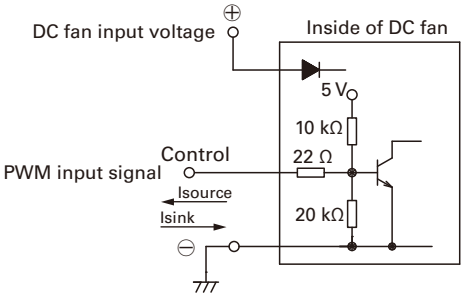
Input signal waveform



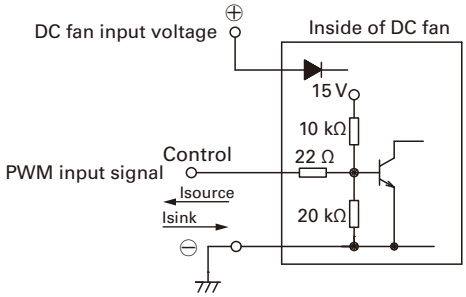
V_{IH}=4.75 to 5.25 V V_{IL}=0 to 0.4 V
PWM duty cycle (%) = $\frac{T_1}{T}\times 100$ PWM frequency 25 (kHz) = $\frac{1}{T}$
Current source (Isource) =1 mA max. (when control voltage is 0 V)
Current sink (Isink) =1 mA max. (when control voltage is 5.25 V)
Control terminal voltage =5.25 V max. (when control terminal is open)

When the control terminal is open,
fan speed is the same as when PWM duty cycle is 100%.
Either TTL input, open collector or open drain can be used for
PWM control input signal.

Example of Connection Schematic



Rated voltage 12 V fan

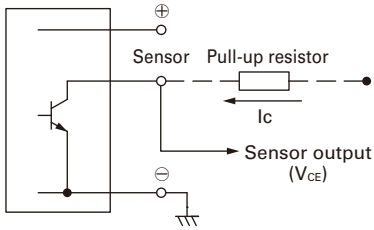


Rated voltage 24 V fan

Specifications for Pulse Sensors

Output circuit: Open collector

Inside of DC fan



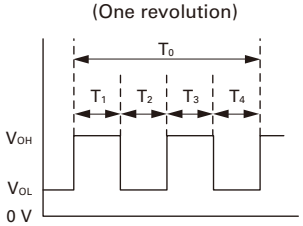
Rated voltage 12 V fan
V_{CE}=+13.8 V max.
Ic=5 mA max.[V_{OL}=V_{CE} (SAT) =0.6 V max.]

Rated voltage 24 V fan
V_{CE}=+26.4 V max.
Ic=10 mA max.[V_{OL}=V_{CE} (SAT) =1.0 V max.]

Output waveform (Need pull-up resistor)

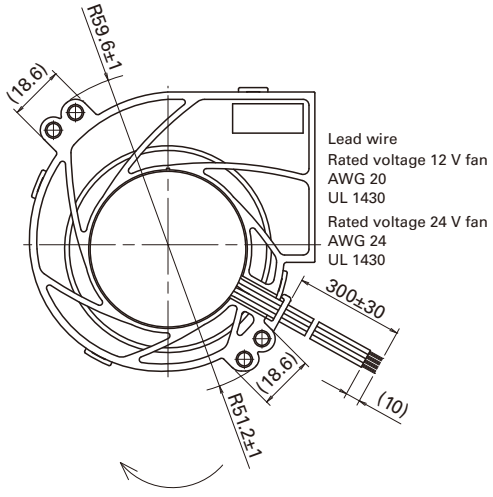
In case of steady running

(One revolution)

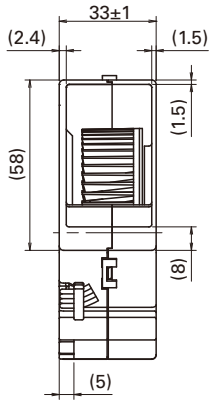


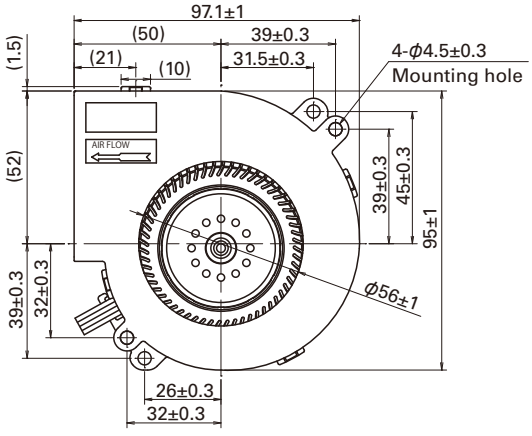
$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0$
$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0 = 60/4N$ (s)
N=Fan speed (min^{-1})

Dimensions (unit: mm)



Rotating direction





Airflow direction

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 https://www.sanyodenki.com

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