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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	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

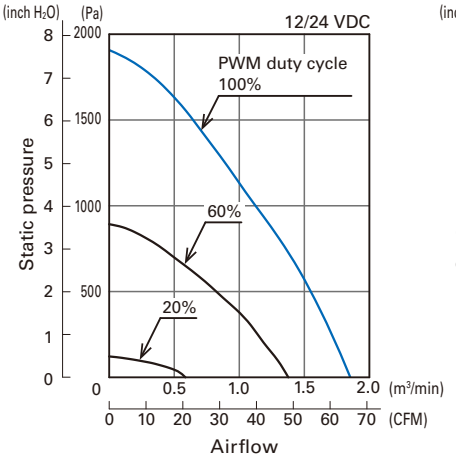
Please inquire as the availability of these options depends on the model: Lock sensor

Common Specifications

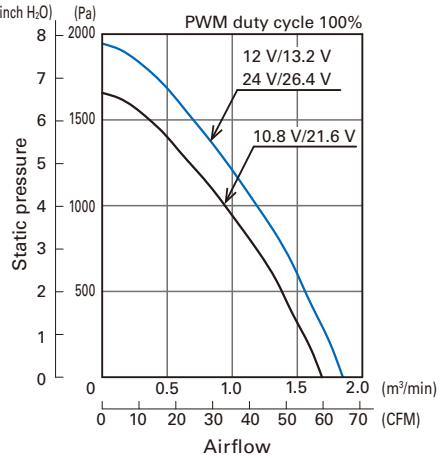
- ☐ Material ····· Frame, Impeller: Plastics (Flammability: UL 94V-0)
- ☐ Expected life ····· Refer to specifications
  (L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
  Expected life at 40°C ambient is just reference value.
- ☐ Motor protection system ····· 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°C (Non-condensing)
- ☐ Lead wire ····· ⊕Red ⊖Black Sensor: Yellow Control: Brown
- ☐ Mass ····· Approx. 200 g

Airflow - Static Pressure Characteristics

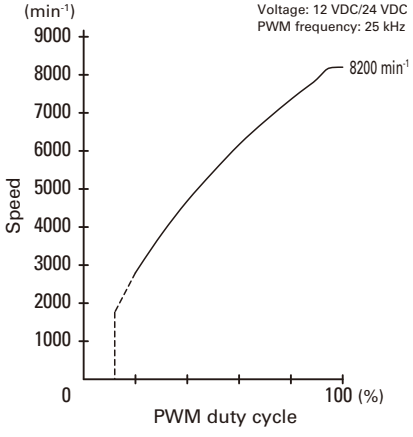
・ PWM duty cycle



・ Operating voltage range

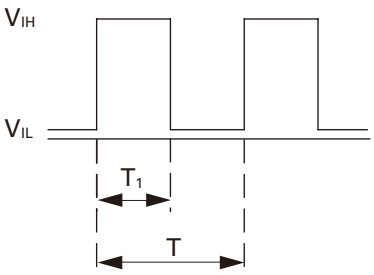


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

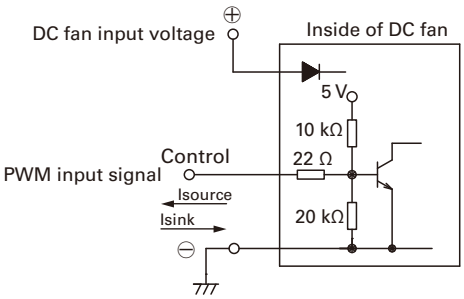
Input signal waveform



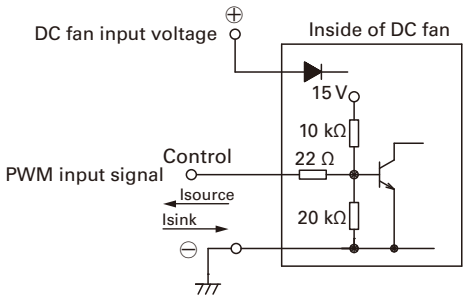
V_{IH}=4.75 to 5.25 V V_{IL}=0 to 0.4 V
PWM duty cycle (%) = $\frac{T_1}{T} \times 100$ PWM frequency 25 (kHz) = $\frac{1}{T}$
Current source (Isource) =1 mA max. (when control voltage is 0 V)
Current sink (Isink) =1 mA max. (when control voltage is 5.25 V)
Control terminal voltage =5.25 V max. (when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

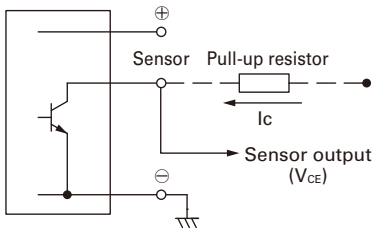


Rated voltage 24 V fan

Specifications for Pulse Sensors

Output circuit: Open collector

Inside of DC fan



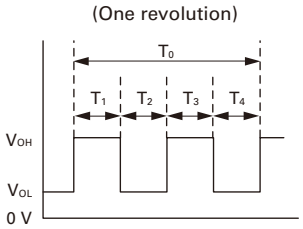
Rated voltage 12 V fan
V_{CE}=+13.8 V max.
Ic=5 mA max.[V_{OL}=V_{CE} (SAT) =0.6 V max.]

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)

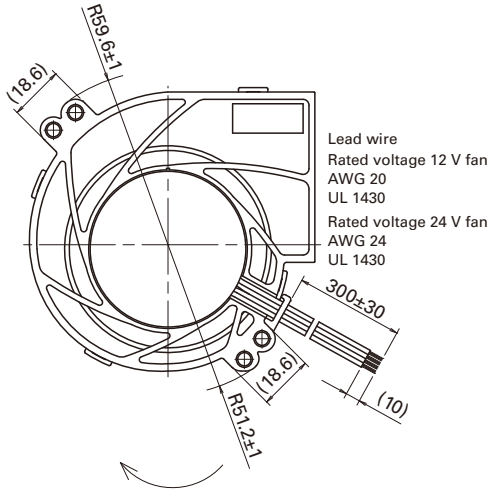
In case of steady running

(One revolution)

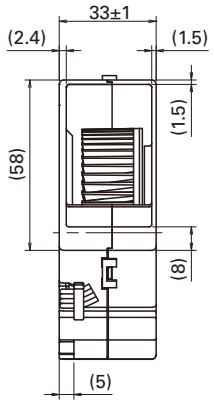


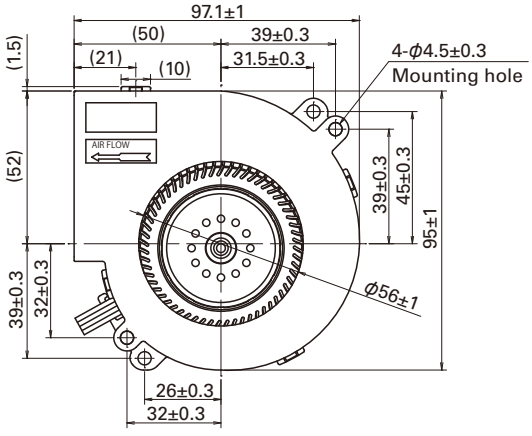
$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0$
$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0 = 60/4N$ (s)
N=Fan speed (min^{-1})

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.

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