NEW *PRODUCT INFORMATION*

San Ace B97 9BMC type Blower

SANYO DENKI *EUROPE SA.* is pleased to introduce its new **San Ace B97 9BMC type** blower measuring 97mm by 33mm thick. This product has been designed to meet the requirements for high cooling performances and lower noise in ultra high density equipements of the IT, Communication and OA industries.

Product Features of B97

1 High Air Flow & Static Pressure

- Max. air flow: 1.85m³/min
- Max. static pressure: 1,950Pa
- High cooling performance even in equipment with high system impedance

2 Low Noise & High Energy Efficiency

Its PWM control function enables the external control of fan rotational speed, contributing to the lower noise and higher energy efficiency of devices.

How to read Model Number*

9B	MC	24	P	2	G	0	01

Series name / frame material	
9B	plastics

Frame size	
MB	97mm
MC	97mm
FB	120mm

Voltage	
12	12V
24	24V

PWM control	
P	

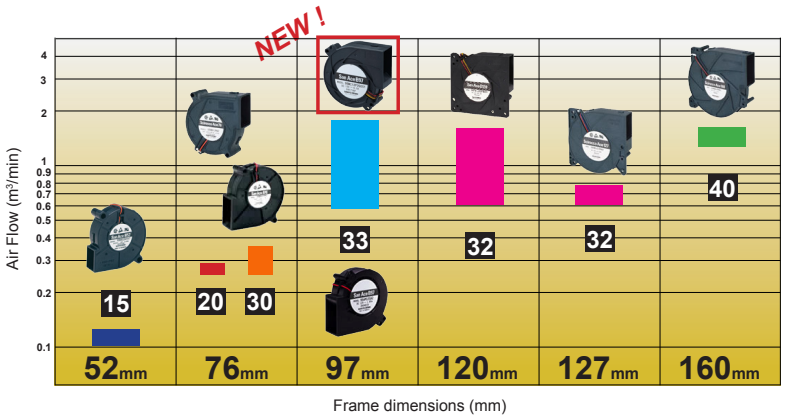
Frame thickness	
2	32mm
2	33mm

Speed code	
G	H,G,S...

Sensor	
01	pulse sensor

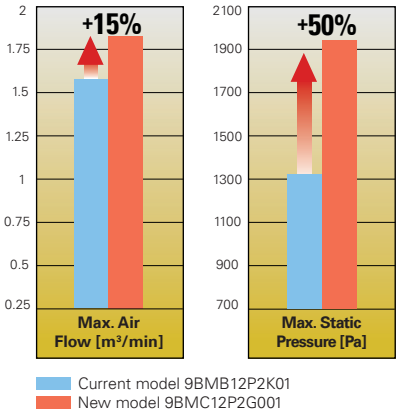
(*) contact us for available model numbers

Blower Product Range



Frame dimensions (mm)

Performance Comparison



Current model 9BMB12P2K01
New model 9BMC12P2G001

Main Specifications of the Range

- Size ..... 6 sizes by various thickness - 9 models
- Air flow ..... from 0.125 to 1.85m³/min - 4.4 to 65.3CFM
- Static pressure ..... from 151.9 to 1,950Pa
- Rated voltage ..... 12 or 24VDC depending on models
- Expected life time ..... 40,000 hours at 60°C
- Standard sensor ..... pulse sensor & without sensor (in option)

Target Applications

- Servers
- Power supplies
- Printers
- Copiers
- Air purifiers
- House ventilation
- Fuel cells

For further information on Sanyo Denki **blowers**, please contact us at **+33 1 48 63 26 61** or email us at **info@sanyodenki.eu**.

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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

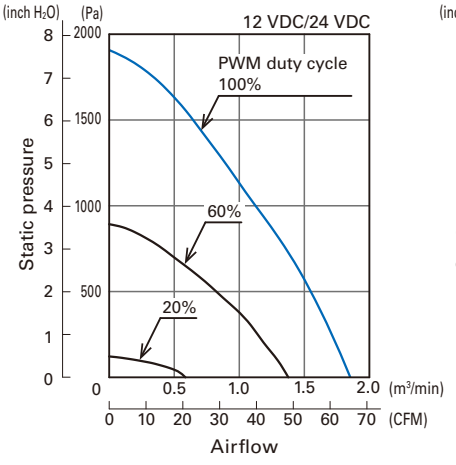
Please inquire as the availability of these options depends on the model: Lock sensor

Common Specifications

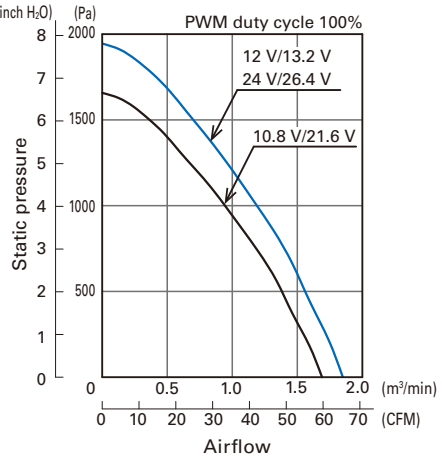
- ☐ Material ····· Frame, Impeller: Plastics (Flammability: UL 94V-0)
- ☐ Expected life ····· Refer to specifications
  (L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- ☐ Motor protection system ····· Current blocking function and reverse polarity protection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

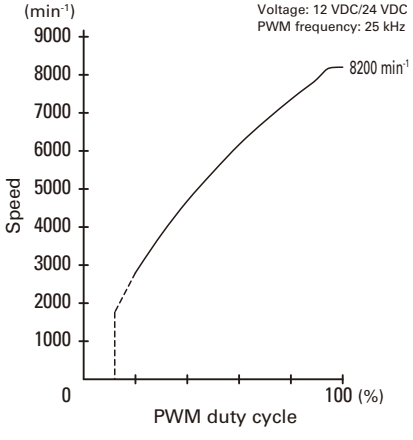
・ PWM duty cycle



・ Operating voltage range

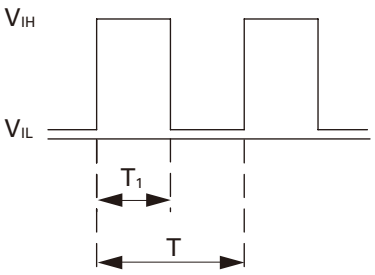


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

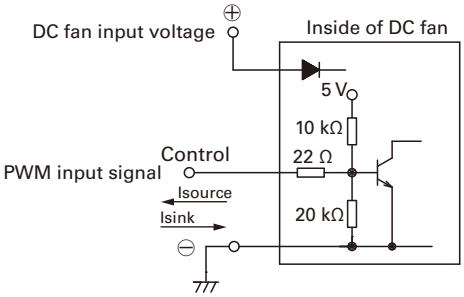
Input signal waveform



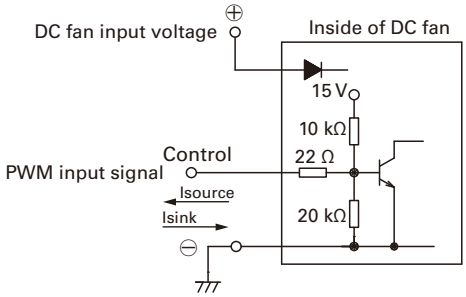
V_{IH}=4.75 to 5.25 V V_{IL}=0 to 0.4 V
PWM duty cycle (%) = $\frac{T_1}{T}\times 100$ PWM frequency 25 (kHz) = $\frac{1}{T}$
Current source (Isource) =1 mA max. (when control voltage is 0 V)
Current sink (Isink) =1 mA max. (when control voltage is 5.25 V)
Control terminal voltage =5.25 V max. (when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

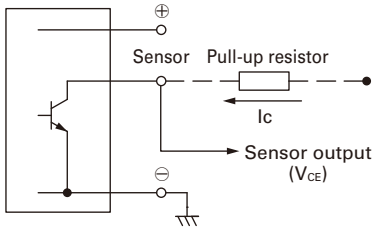


Rated voltage 24 V fan

Specifications for Pulse Sensors

Output circuit: Open collector

Inside of DC fan



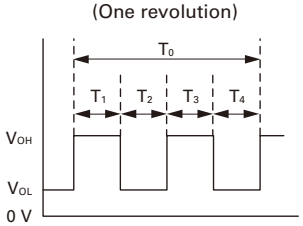
Rated voltage 12 V fan
V_{CE}=+13.8 V max.
Ic=5 mA max.[V_{OL}=V_{CE} (SAT) =0.6 V max.]

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)

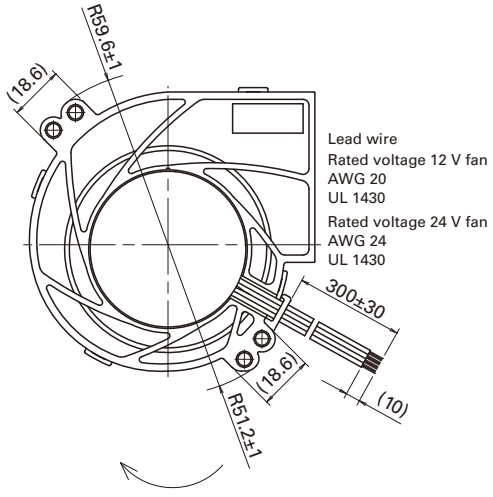
In case of steady running

(One revolution)

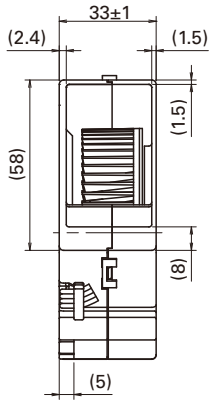


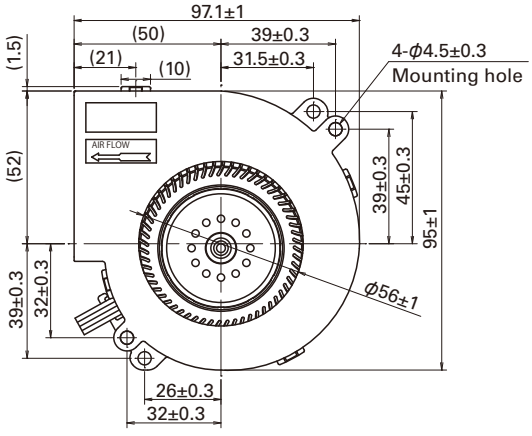
$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0$
$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0 = 60/4N$ (s)
N=Fan speed (min^{-1})

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.

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