

# 97×33 mm

## San Ace B97 9BMB type



### General Specifications

- Material ..... Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 547.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire ..... ⊕Red ⊖Black (Sensor) Yellow (Control) Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 190 g

### Specifications

The models listed below **have pulse sensors with PWM control function.**

| Model no.   | Rated voltage [V] | Operating voltage range [V] | PWM duty cycle* [%] | Rated current [A] | Rated input [W] | Rated speed [min <sup>-1</sup> ] | Max. airflow [m <sup>3</sup> /min] [CFM] | Max. static pressure [Pa] [inchH <sub>2</sub> O] | SPL [dB (A)] | Operating temperature [°C] | Expected life [h] |
|-------------|-------------------|-----------------------------|---------------------|-------------------|-----------------|----------------------------------|------------------------------------------|--------------------------------------------------|--------------|----------------------------|-------------------|
| 9BMB12P2K01 | 12                | 10.8 to 13.2                | 100                 | 3.4               | 40.8            | 6850                             | 1.61 56.8                                | 1280 5.14                                        | 66           | -20 to +70                 | 40000/60°C        |
| 9BMB12P2G01 |                   |                             | 100                 | 1.8               | 21.6            | 5750                             | 1.34 47.3                                | 760 3.05                                         | 61           |                            |                   |
| 9BMB12P2S01 |                   |                             | 100                 | 1.4               | 16.8            | 5250                             | 1.22 43.1                                | 610 2.45                                         | 59           |                            |                   |
| 9BMB12P2H01 |                   |                             | 100                 | 1.1               | 13.2            | 4850                             | 1.11 39.2                                | 490 1.968                                        | 57           |                            |                   |
| 9BMB12P2F01 |                   |                             | 100                 | 0.9               | 10.8            | 4500                             | 1.04 36.7                                | 410 1.64                                         | 56           |                            |                   |
| 9BMB24P2K01 | 24                | 21.6 to 26.4                | 100                 | 1.62              | 38.88           | 6850                             | 1.61 56.8                                | 1280 5.14                                        | 66           |                            |                   |
| 9BMB24P2G01 |                   |                             | 100                 | 0.83              | 19.92           | 5750                             | 1.34 47.3                                | 760 3.05                                         | 61           |                            |                   |
| 9BMB24P2S01 |                   |                             | 100                 | 0.7               | 16.8            | 5250                             | 1.22 43.1                                | 610 2.45                                         | 59           |                            |                   |
| 9BMB24P2H01 |                   |                             | 100                 | 0.55              | 13.2            | 4850                             | 1.11 39.2                                | 490 1.968                                        | 57           |                            |                   |
| 9BMB24P2F01 |                   |                             | 100                 | 0.45              | 10.8            | 4500                             | 1.04 36.7                                | 410 1.64                                         | 56           |                            |                   |

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

The following sensor and control options are available for selection.

Available for all models. **Without sensor** **Pulse sensor**

Differs according to the model. Refer to the table on pp. 566 to 567. **Lock sensor**

The models listed below **have pulse sensors.**

| Model no.  | Rated voltage [V] | Operating voltage range [V] | Rated current [A] | Rated input [W] | Rated speed [min <sup>-1</sup> ] | Max. airflow [m <sup>3</sup> /min] [CFM] | Max. static pressure [Pa] [inchH <sub>2</sub> O] | SPL [dB (A)] | Operating temperature [°C] | Expected life [h] |
|------------|-------------------|-----------------------------|-------------------|-----------------|----------------------------------|------------------------------------------|--------------------------------------------------|--------------|----------------------------|-------------------|
| 9BMB12K201 | 12                | 7 to 13.2                   | 3.4               | 40.8            | 6850                             | 1.61 56.8                                | 1280 5.14                                        | 66           | -20 to +70                 | 40000/60°C        |
| 9BMB12G201 |                   |                             | 1.8               | 21.6            | 5750                             | 1.34 47.3                                | 760 3.052                                        | 61           |                            |                   |
| 9BMB12S201 |                   |                             | 1.4               | 16.8            | 5250                             | 1.22 43.1                                | 610 2.45                                         | 59           |                            |                   |
| 9BMB12H201 |                   |                             | 1.1               | 13.2            | 4850                             | 1.11 39.2                                | 490 1.968                                        | 57           |                            |                   |
| 9BMB12F201 |                   |                             | 0.9               | 10.8            | 4500                             | 1.04 36.7                                | 410 1.647                                        | 56           |                            |                   |
| 9BMB24K201 | 24                | 21.6 to 26.4                | 1.62              | 38.88           | 6850                             | 1.61 56.8                                | 1280 5.14                                        | 66           |                            |                   |
| 9BMB24G201 |                   |                             | 0.83              | 19.9            | 5750                             | 1.34 47.3                                | 760 3.052                                        | 61           |                            |                   |
| 9BMB24S201 |                   |                             | 0.7               | 16.8            | 5250                             | 1.22 43.1                                | 610 2.45                                         | 59           |                            |                   |
| 9BMB24H201 |                   |                             | 0.55              | 13.2            | 4850                             | 1.11 39.2                                | 490 1.968                                        | 57           |                            |                   |
| 9BMB24F201 |                   |                             | 0.45              | 10.8            | 4500                             | 1.04 36.7                                | 410 1.647                                        | 56           |                            |                   |

The following sensor and control options are available for selection.

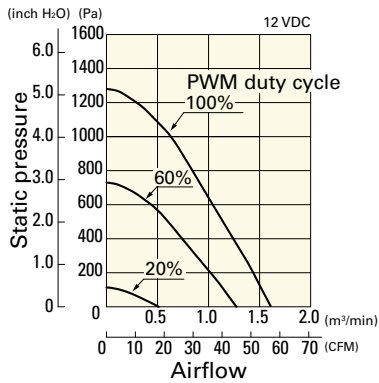
Available for all models. **Without sensor** **PWM control**

Differs according to the model. Refer to the table on pp. 566 to 567. **Lock sensor**

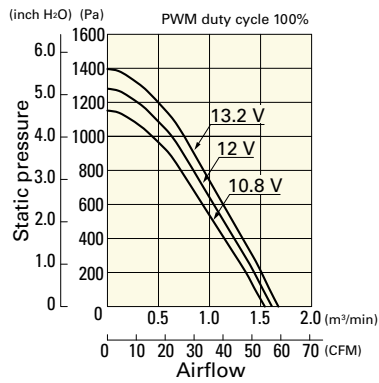
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9BMB12P2K01** With pulse sensor with PWM control function

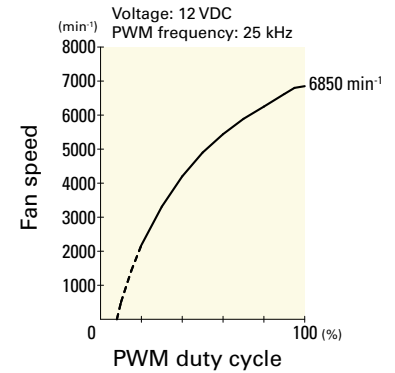
PWM duty cycle



Operating voltage range

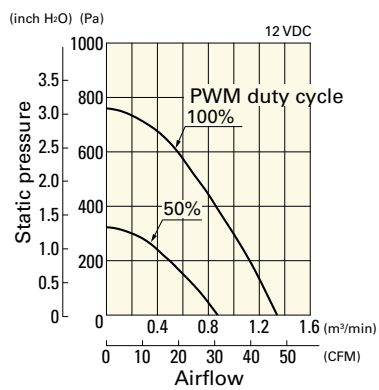


PWM duty - Speed characteristics example

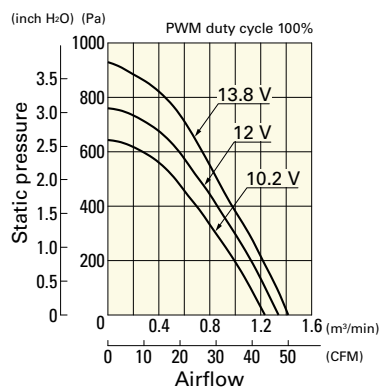


**9BMB12P2G01** With pulse sensor with PWM control function

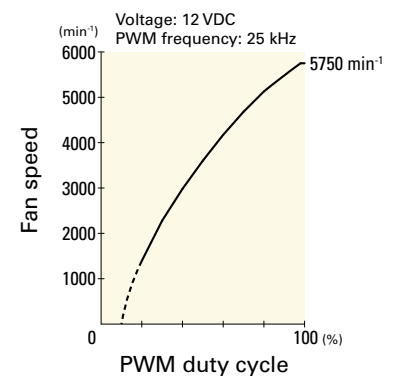
PWM duty cycle



Operating voltage range

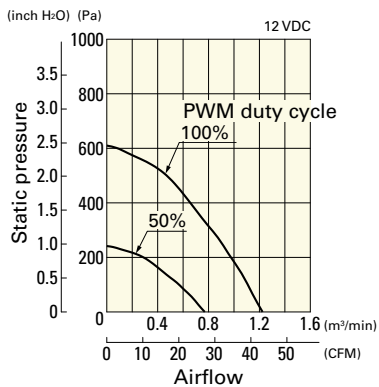


PWM duty - Speed characteristics example

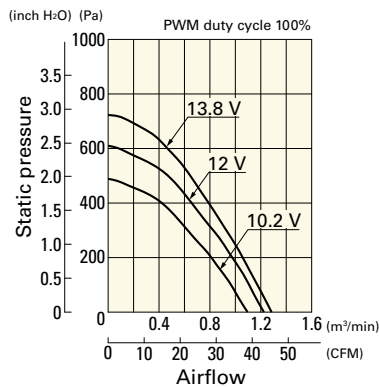


**9BMB12P2S01** With pulse sensor with PWM control function

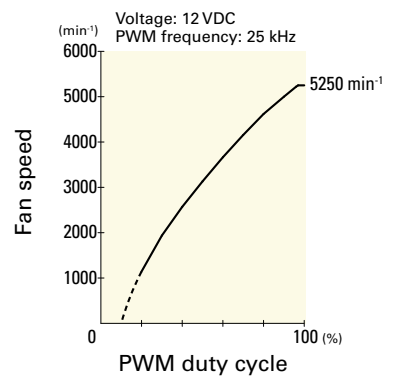
PWM duty cycle



Operating voltage range

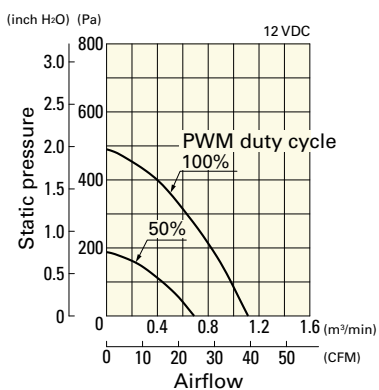


PWM duty - Speed characteristics example

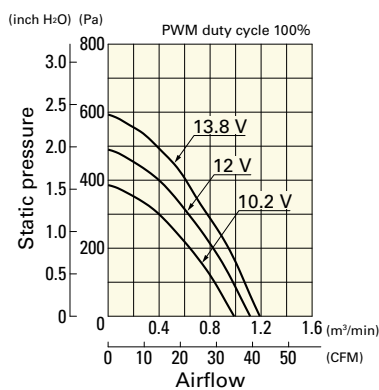


**9BMB12P2H01** With pulse sensor with PWM control function

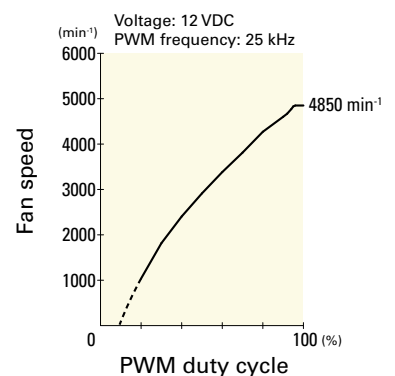
PWM duty cycle



Operating voltage range



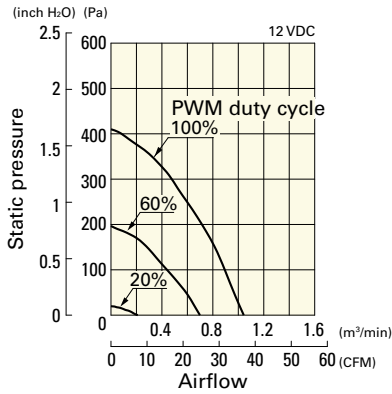
PWM duty - Speed characteristics example



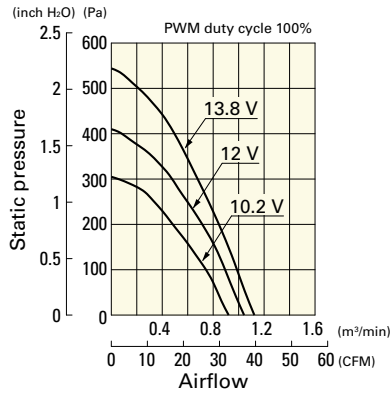
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9BMB12P2F01** With pulse sensor with PWM control function

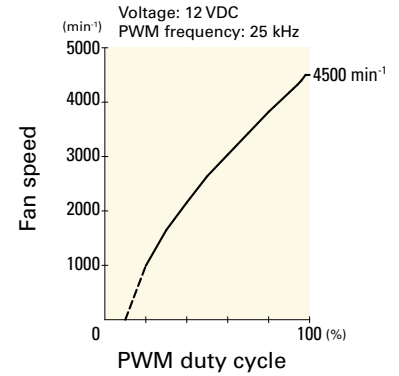
PWM duty cycle



Operating voltage range

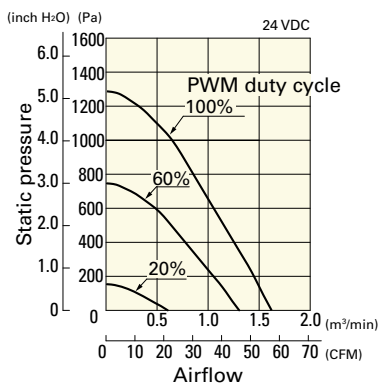


PWM duty - Speed characteristics example

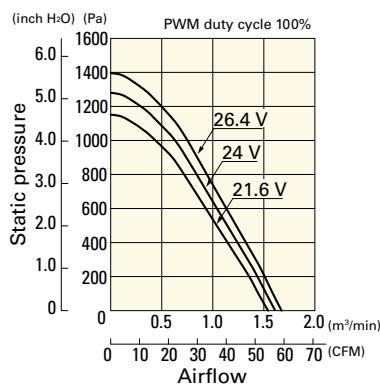


**9BMB24P2K01** With pulse sensor with PWM control function

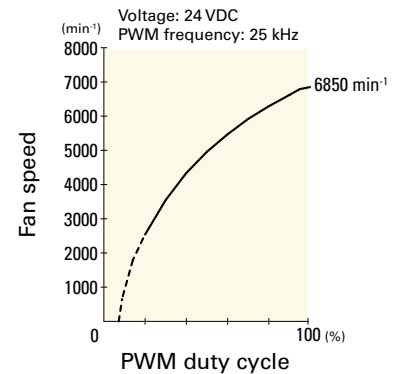
PWM duty cycle



Operating voltage range

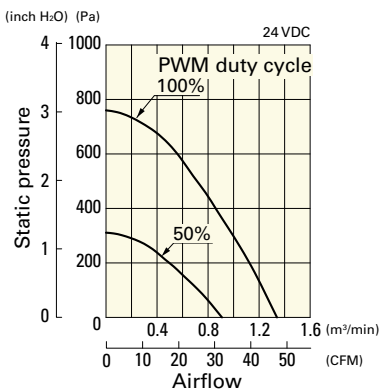


PWM duty - Speed characteristics example

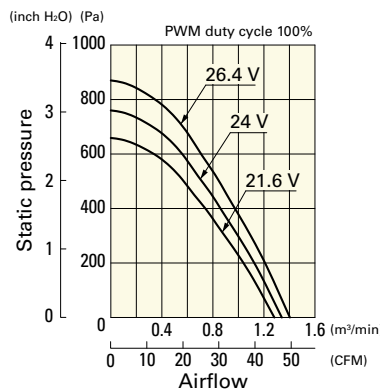


**9BMB24P2G01** With pulse sensor with PWM control function

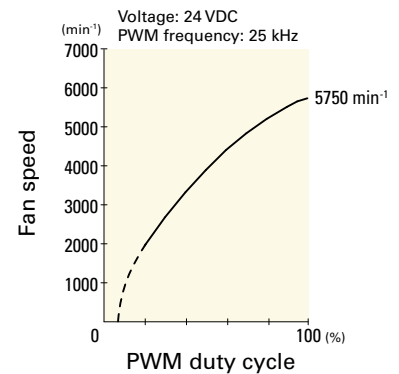
PWM duty cycle



Operating voltage range

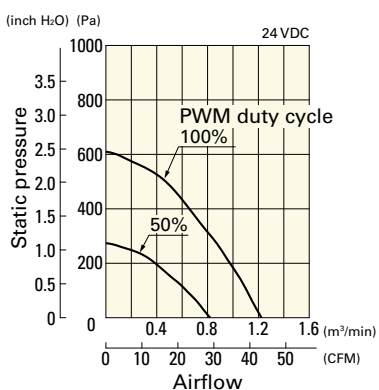


PWM duty - Speed characteristics example

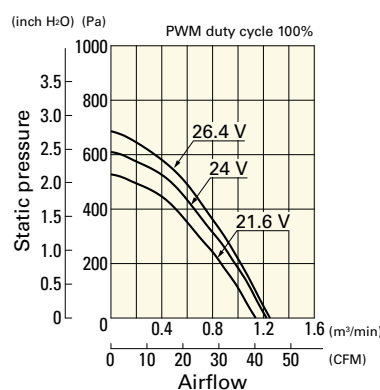


**9BMB24P2S01** With pulse sensor with PWM control function

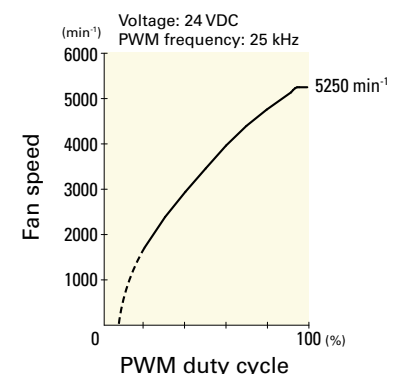
PWM duty cycle



Operating voltage range



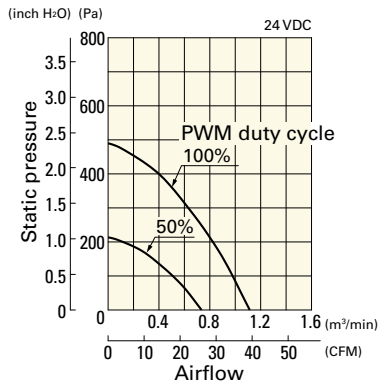
PWM duty - Speed characteristics example



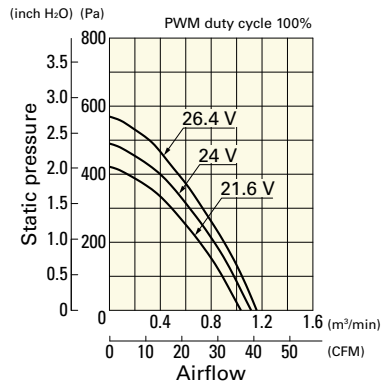
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

### 9BMB24P2H01 With pulse sensor with PWM control function

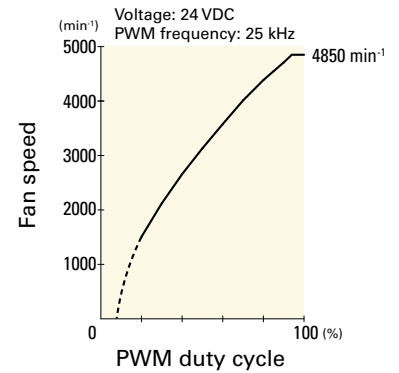
PWM duty cycle



Operating voltage range

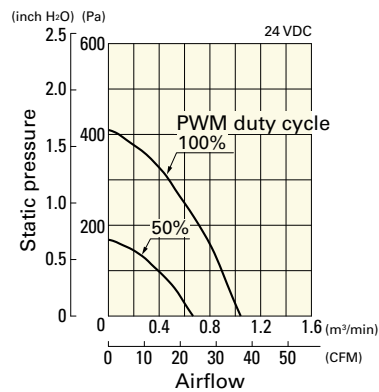


PWM duty - Speed characteristics example

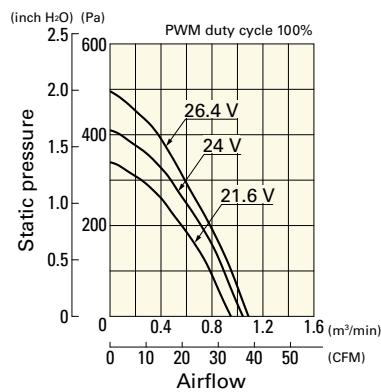


### 9BMB24P2F01 With pulse sensor with PWM control function

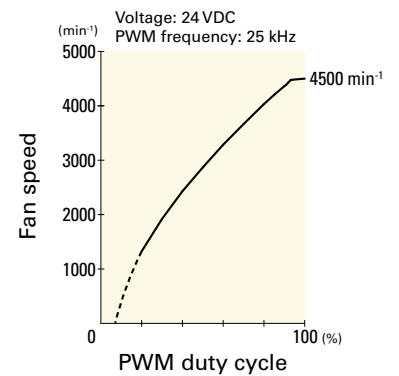
PWM duty cycle



Operating voltage range

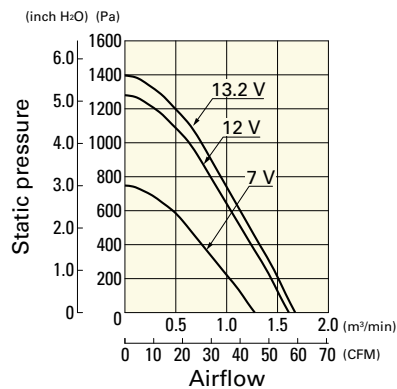


PWM duty - Speed characteristics example



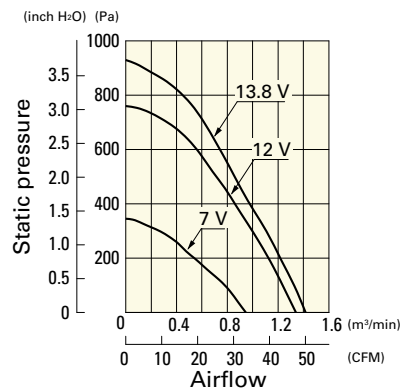
### 9BMB12K201 With pulse sensor

Operating voltage range



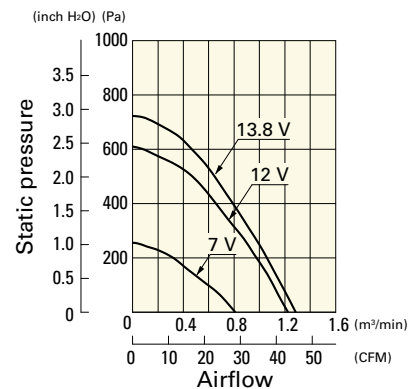
### 9BMB12G201 With pulse sensor

Operating voltage range



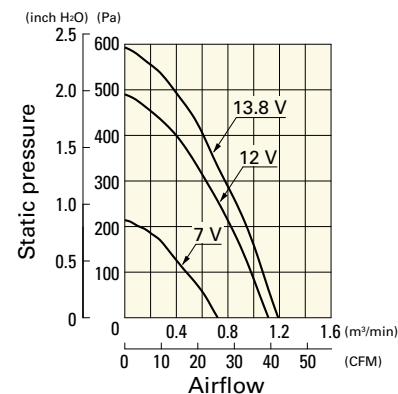
### 9BMB12S201 With pulse sensor

Operating voltage range



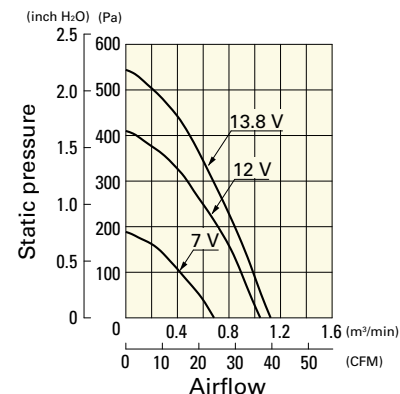
### 9BMB12H201 With pulse sensor

Operating voltage range



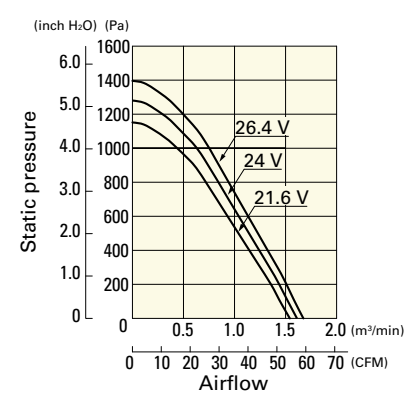
### 9BMB12F201 With pulse sensor

Operating voltage range



### 9BMB24K201 With pulse sensor

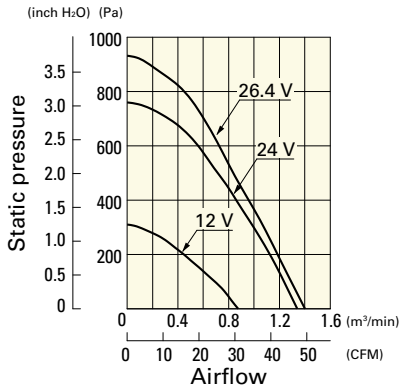
Operating voltage range



## Airflow - Static Pressure Characteristics

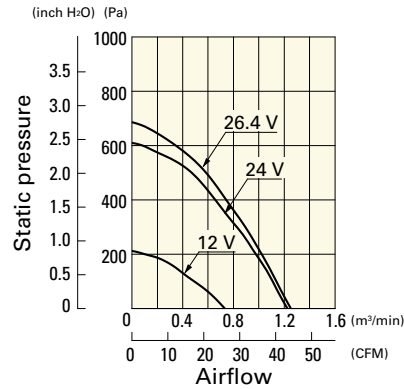
### 9BMB24G201 With pulse sensor

Operating voltage range



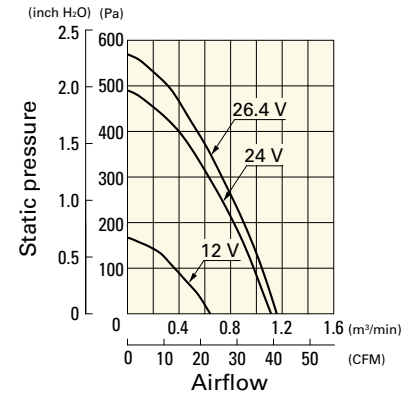
### 9BMB24S201 With pulse sensor

Operating voltage range



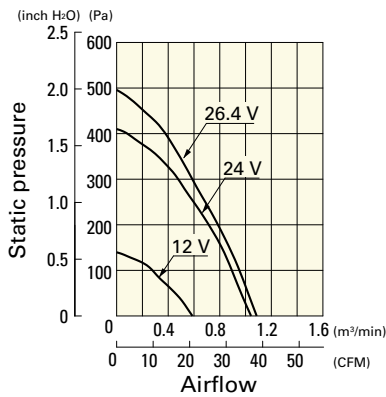
### 9BMB24H201 With pulse sensor

Operating voltage range



### 9BMB24F201 With pulse sensor

Operating voltage range



## Dimensions (unit: mm) (With pulse sensor with PWM control function)

