97×33 mm

San Ace B97 9BMC 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) Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection For details, please refer to p. 573.
- 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
- Mass ..... 200 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⁻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 input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

The following sensor and control options are available for selection.

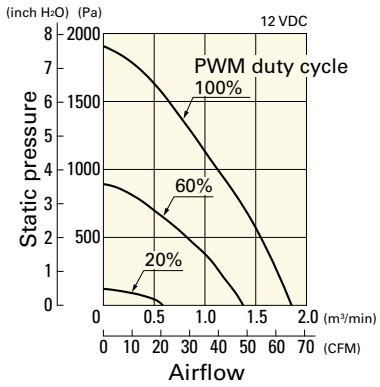
Differs according to the model. Refer to the table on p. 599. Without sensor

The mark indicates Short Lead Time Service applicable models. See p. 626 for details.

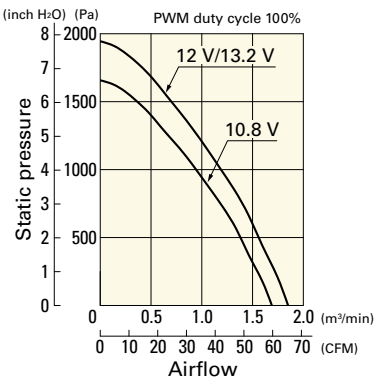
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMC12P2G001 With pulse sensor with PWM control function

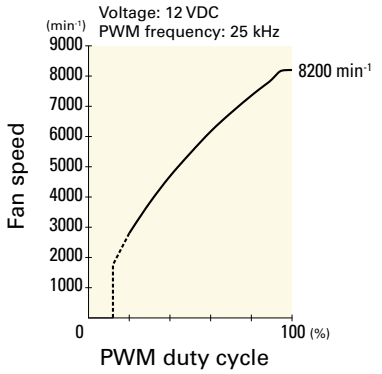
PWM duty cycle



Operating voltage range



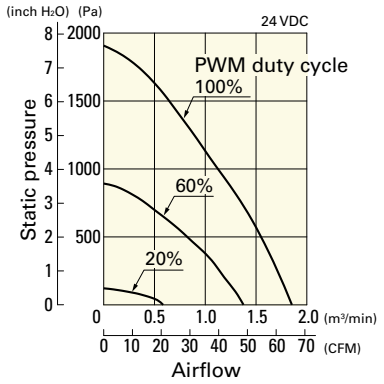
PWM duty - Speed characteristics example



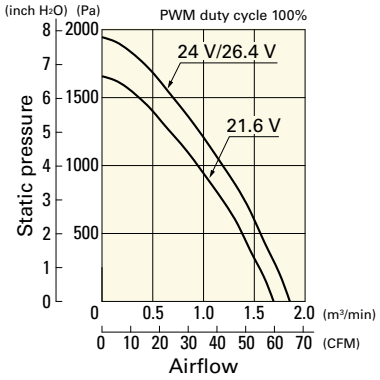
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMC24P2G001 With pulse sensor with PWM control function

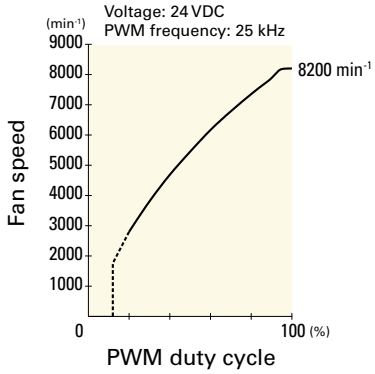
PWM duty cycle



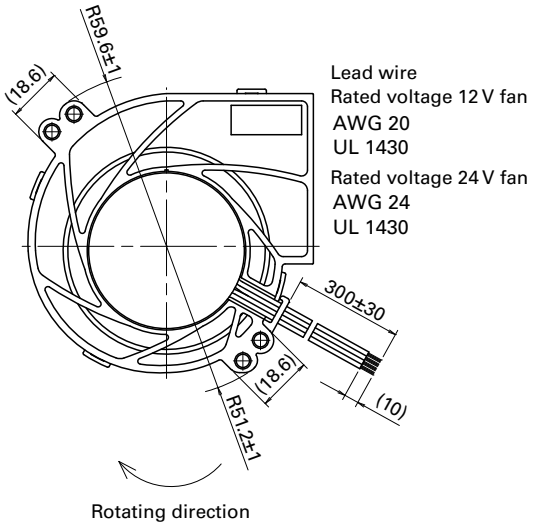
Operating voltage range

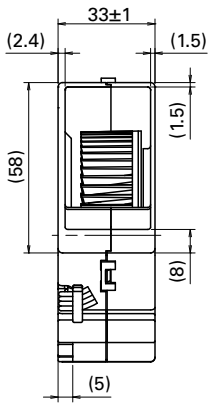


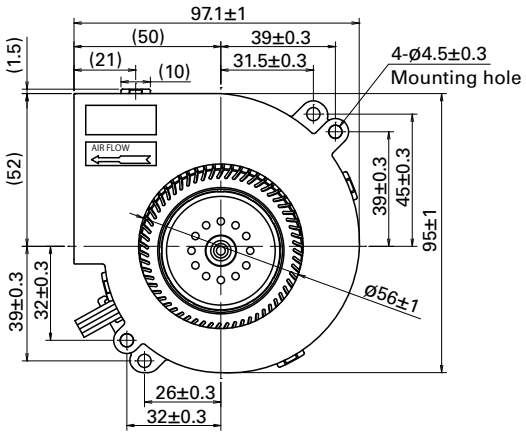
PWM duty - Speed characteristics example



Dimensions (unit: mm)







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) Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection For details, please refer to p. 573.
- 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⁻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]
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 (70000/40˚C)
9BMB12P2G01		10.2 to 13.8	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 input frequency is 25 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 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 p. 599. **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⁻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]
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 (70000/40˚C)
9BMB12G201		7 to 13.8	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		12 to 26.4	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**

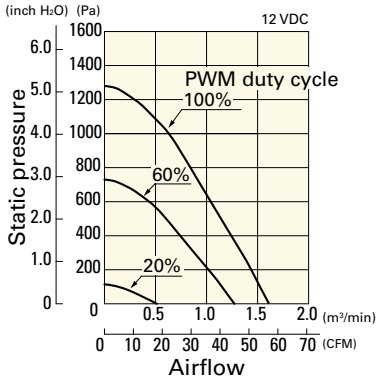
Differs according to the model. Refer to the table on p. 599. **Lock sensor**

The » mark indicates Short Lead Time Service applicable models. See p. 626 for details.

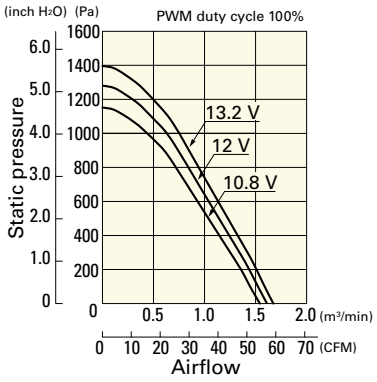
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMB12P2K01 With pulse sensor with PWM control function

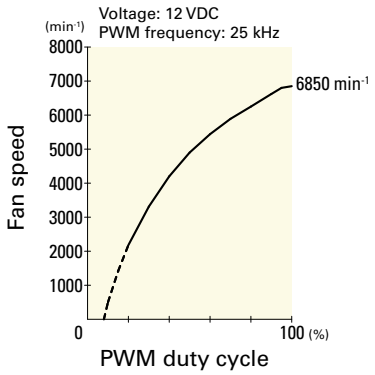
PWM duty cycle



Operating voltage range

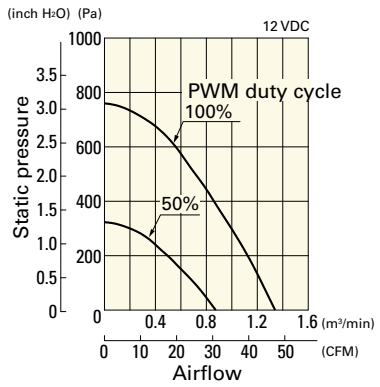


PWM duty - Speed characteristics example

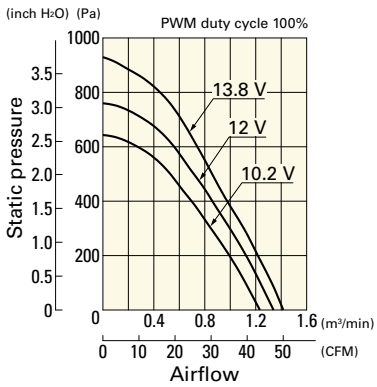


9BMB12P2G01 With pulse sensor with PWM control function

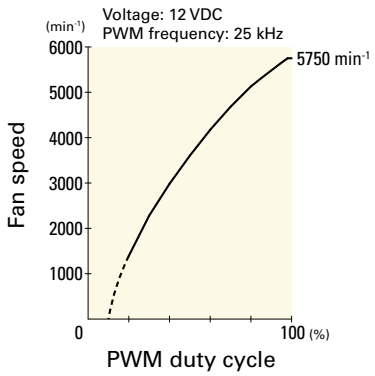
PWM duty cycle



Operating voltage range

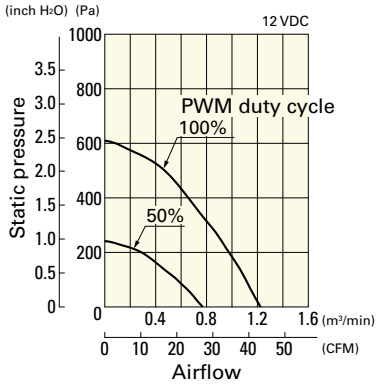


PWM duty - Speed characteristics example

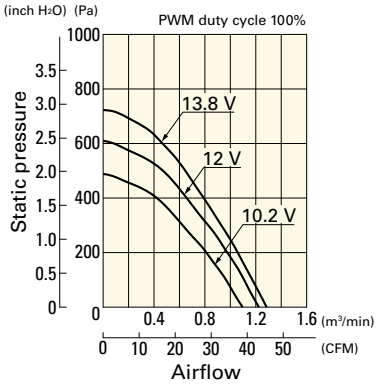


9BMB12P2S01 With pulse sensor with PWM control function

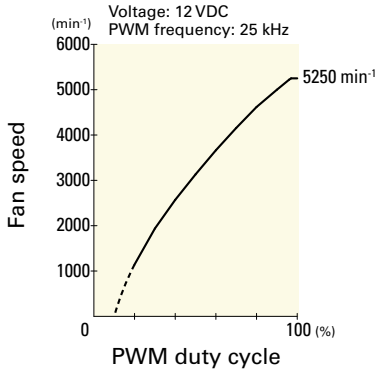
PWM duty cycle



Operating voltage range

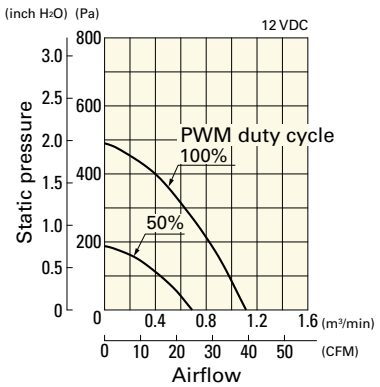


PWM duty - Speed characteristics example

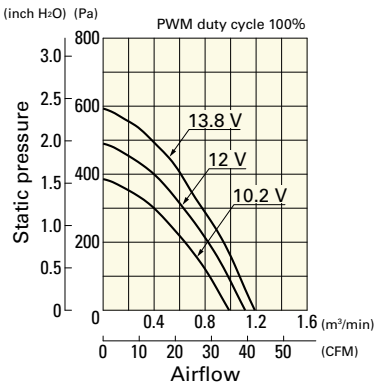


9BMB12P2H01 With pulse sensor with PWM control function

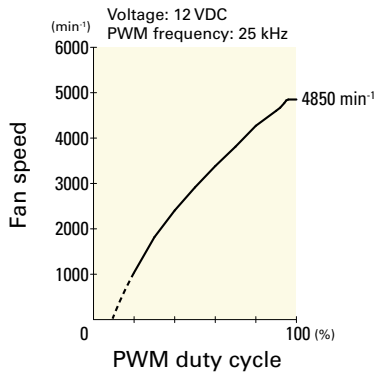
PWM duty cycle



Operating voltage range



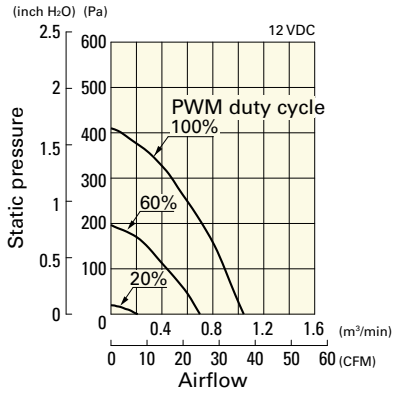
PWM duty - Speed characteristics example



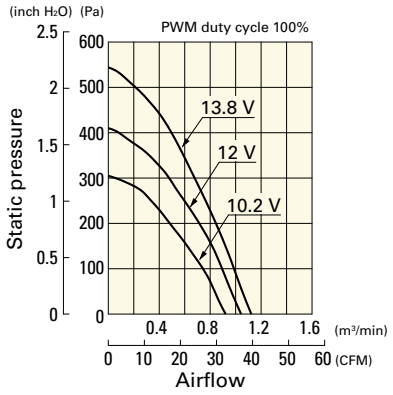
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMB12P2F01 With pulse sensor with PWM control function

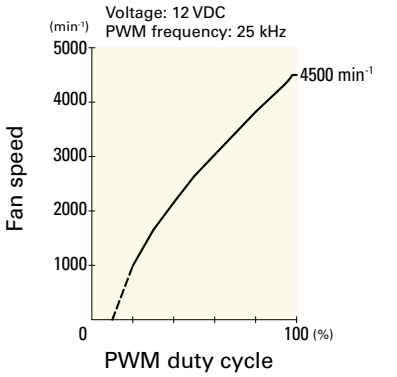
PWM duty cycle



Operating voltage range

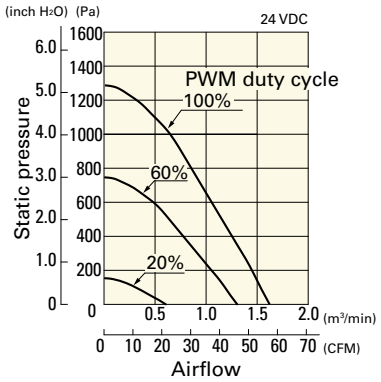


PWM duty - Speed characteristics example

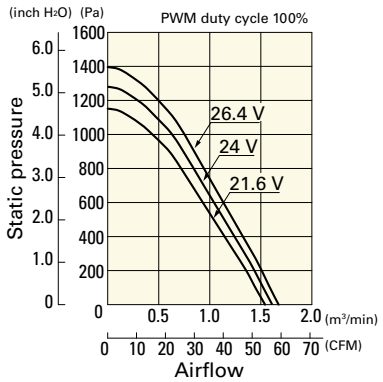


9BMB24P2K01 With pulse sensor with PWM control function

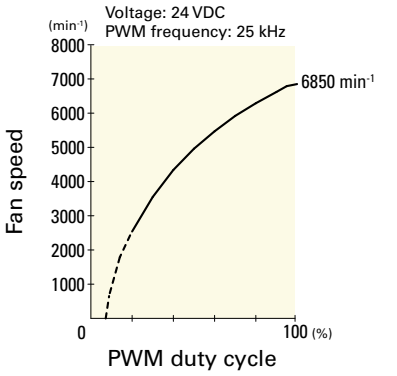
PWM duty cycle



Operating voltage range

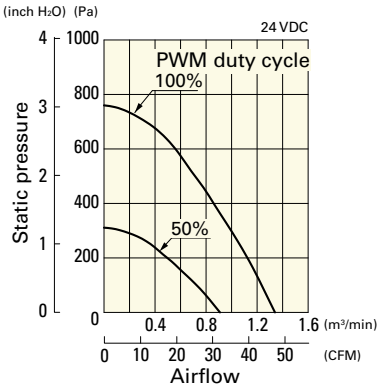


PWM duty - Speed characteristics example

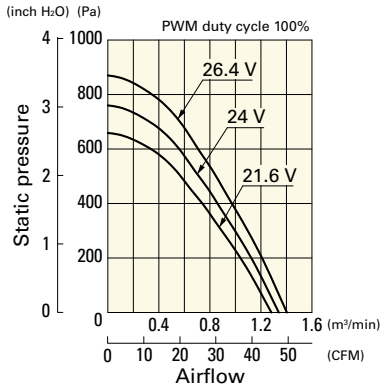


9BMB24P2G01 With pulse sensor with PWM control function

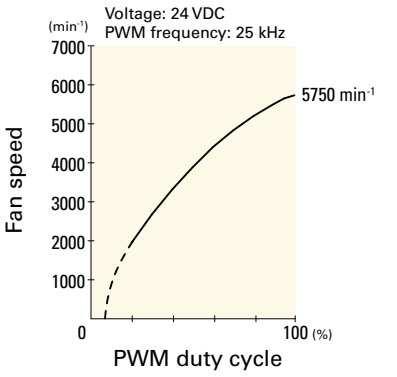
PWM duty cycle



Operating voltage range

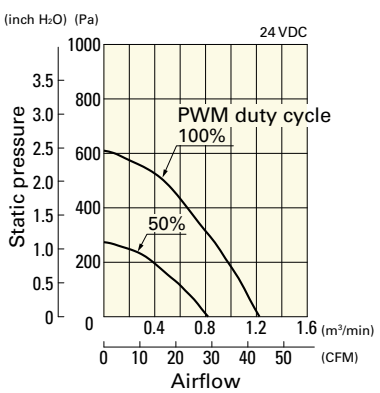


PWM duty - Speed characteristics example

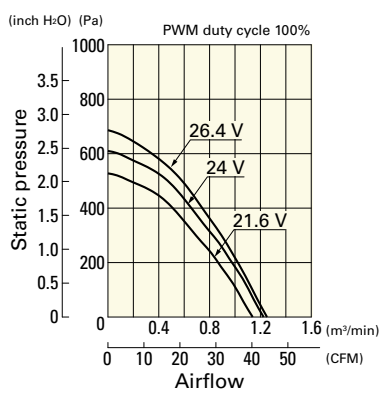


9BMB24P2S01 With pulse sensor with PWM control function

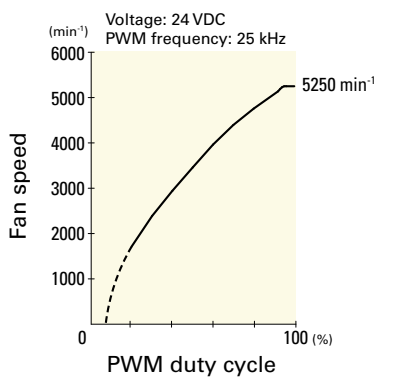
PWM duty cycle



Operating voltage range



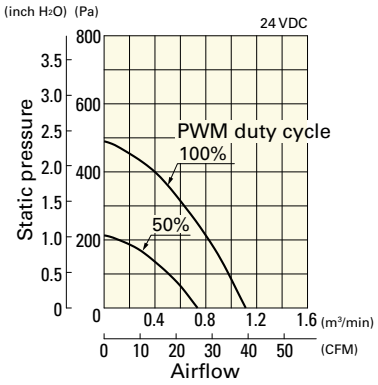
PWM duty - Speed characteristics example



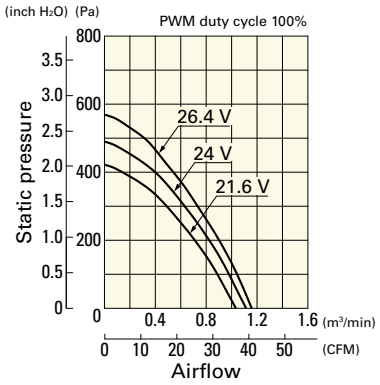
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMB24P2H01 With pulse sensor with PWM control function

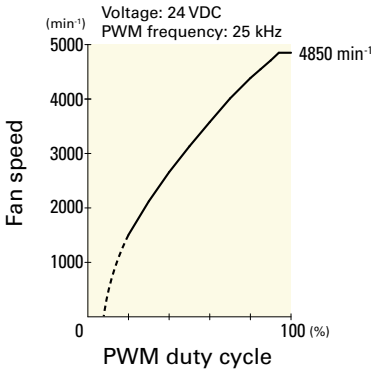
PWM duty cycle



Operating voltage range

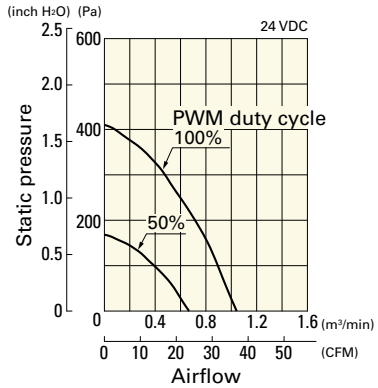


PWM duty - Speed characteristics example

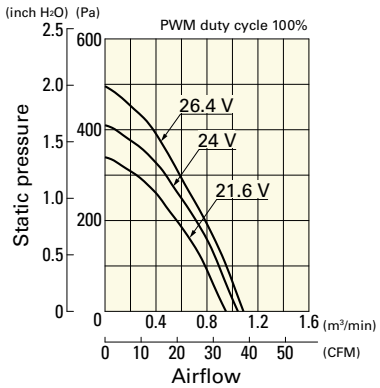


9BMB24P2F01 With pulse sensor with PWM control function

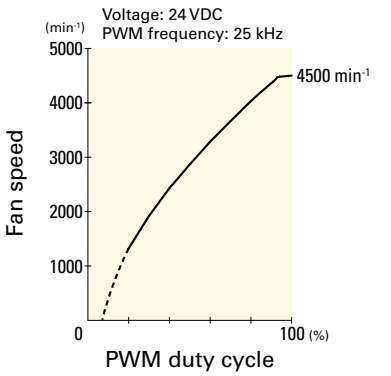
PWM duty cycle



Operating voltage range



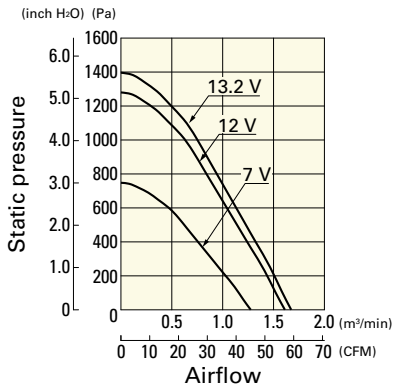
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

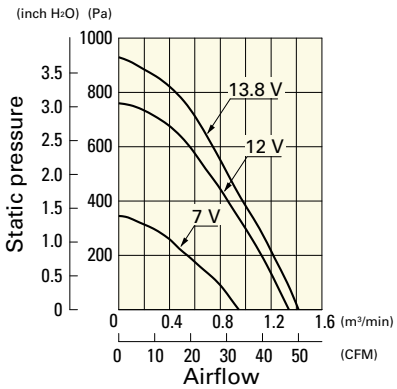
9BMB12K201 With pulse sensor

Operating voltage range



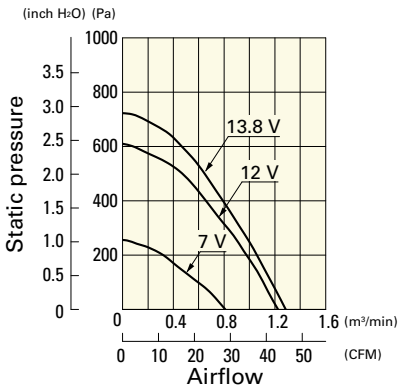
9BMB12G201 With pulse sensor

Operating voltage range



9BMB12S201 With pulse sensor

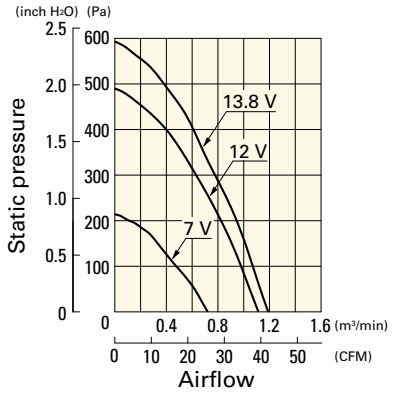
Operating voltage range



Airflow - Static Pressure Characteristics

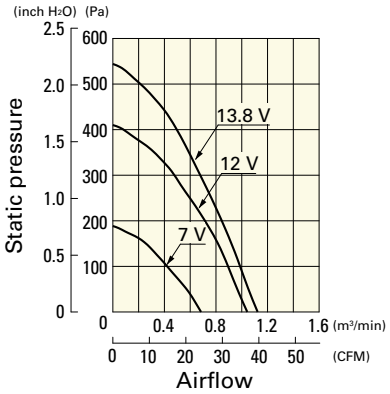
9BMB12H201 With pulse sensor

Operating voltage range



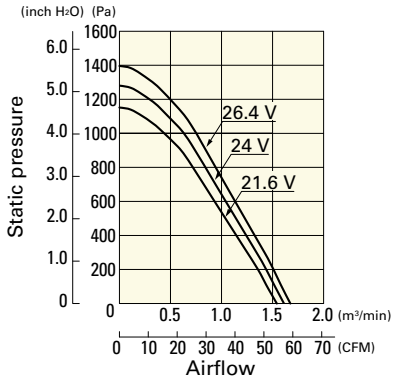
9BMB12F201 With pulse sensor

Operating voltage range



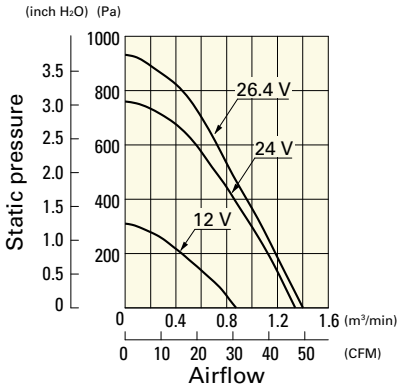
9BMB24K201 With pulse sensor

Operating voltage range



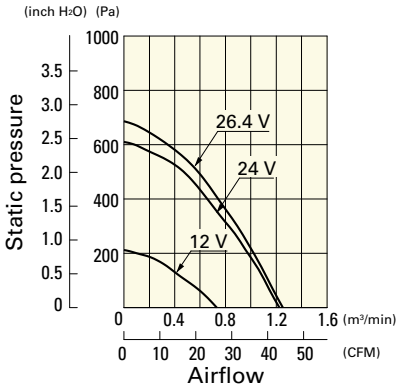
9BMB24G201 With pulse sensor

Operating voltage range



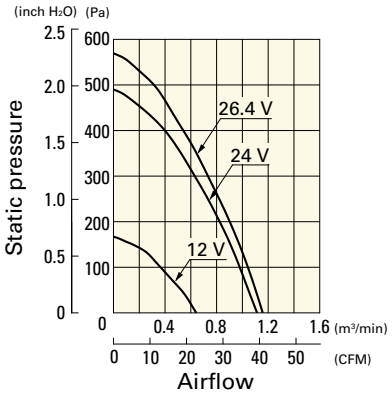
9BMB24S201 With pulse sensor

Operating voltage range



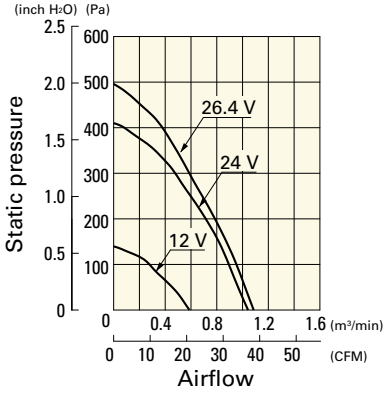
9BMB24H201 With pulse sensor

Operating voltage range

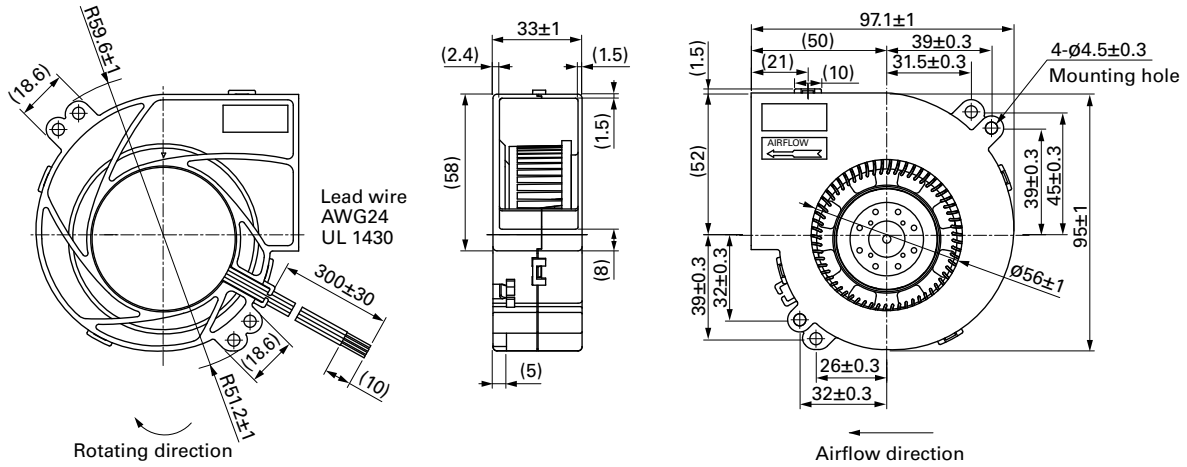


9BMB24F201 With pulse sensor

Operating voltage range



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



97×33 mm

San Ace B97 9BM 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) Expected life at 40°C is for reference only.
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection For details, please refer to p. 573.
- 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
- Mass ..... 175 g

Specifications

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⁻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]
109BM12GC2-1	12	7 to 13.8	0.6	7.2	3800	0.82	28.9	281	1.129	51.5	-20 to +70	40000/60˚C (70000/40˚C)
109BM12HC2-1			0.4	4.8	3300	0.71	25.1	204	0.819	48.5		
109BM12MC2-1			0.26	3.12	2700	0.58	20.5	119	0.478	43.5		
109BM24GC2-1	24	12 to 27.6	0.31	7.44	3800	0.82	28.9	281	1.129	51.5		
109BM24HC2-1			0.26	6.24	3300	0.71	25.1	204	0.819	48.5		
109BM24MC2-1			0.15	3.6	2700	0.58	20.5	119	0.478	43.5		

The following sensor and control options are available for selection.

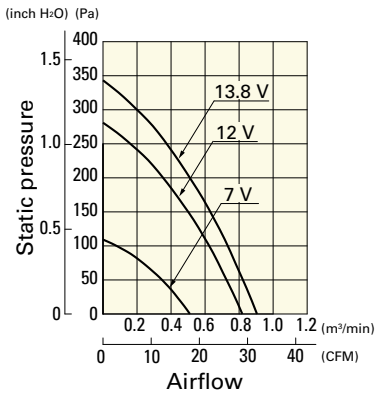
Available for all models. **Without sensor** **Lock sensor**

Differs according to the model. Refer to the table on p. 594. **PWM control**

Airflow - Static Pressure Characteristics

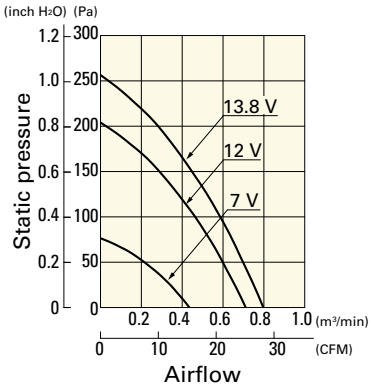
109BM12GC2-1 With pulse sensor

Operating voltage range



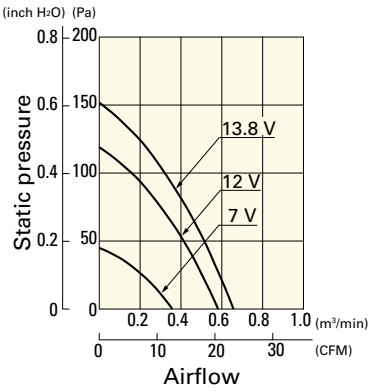
109BM12HC2-1 With pulse sensor

Operating voltage range



109BM12MC2-1 With pulse sensor

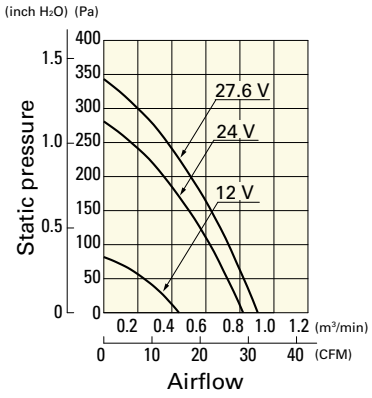
Operating voltage range



Airflow - Static Pressure Characteristics

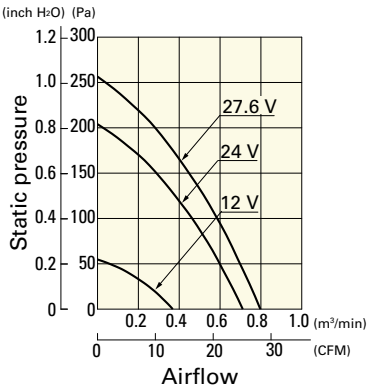
109BM24GC2-1 With pulse sensor

Operating voltage range



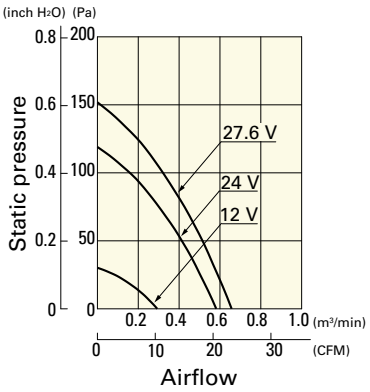
109BM24HC2-1 With pulse sensor

Operating voltage range



109BM24MC2-1 With pulse sensor

Operating voltage range



Dimensions (unit: mm)