

Blower

Cooling fan specialized for high static pressure.

Related product: Splash Proof Blower p. 421

Model Numbering System Not every combination of the following codes or characters is available. Contact us for an available combination.

109B	C	12	G	C	7	-1
Type name	Frame size	Voltage	Speed code	Sensor specifications	Frame thickness	Individual customer's spec

9B	MB	12	G	2	01	-1
Type name	Frame size	Voltage	Speed code	Frame thickness	Sensor specifications	Individual customer's spec

Fans with PWM control

9B	MB	12	P	2	G	01
Type name	Frame size	Voltage	PWM control	Frame thickness	Speed code	Individual customer's spec (2 to 3 digits)

Type name	109B	9B				
Frame size (mm)	C	D	F, FB	G	J	M, MB, MC
	52	76	120	160	127	97
Voltage (V)	12	24				
	12	24				
Speed code	F	G	H	K	M	S etc.
Sensor specifications	A, 02, 002			C, 01, 001		D
	Without a sensor			With a pulse sensor		With a lock sensor
Frame thickness (mm)	1	2	7	6		
	40	30, 32, 33	15	20		

How to Read Specifications (DC fan) The following is a sample. See respective product pages for detailed information.

Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9GA0412G7001	12	7 to 13.8	0.17	2.04	13100	0.36 12.7	192 0.77	42	-20 to +70	40000/60°C (70000/40°C)

Rated voltage This is the necessary voltage to drive the fan. E.g.) 12 VDC, 24 VDC, 48 VDC

Operating voltage range The voltage range over which fan operation is guaranteed.

Rated current The current when the fan is operating at rated voltage (at free air).

Rated input The power value when the fan is operating at rated voltage (at free air).

Rated speed The speed when the fan is operating at rated voltage (at free air).

Max. airflow The airflow at 0 Pa static pressure when the fan is operating at rated voltage. (Measured using the double chamber method)

Max. static pressure The static pressure at 0 m³/min airflow when the fan is operating at rated voltage. (Measured using the double chamber method)

SPL A-weighted sound pressure level (SPL) when the fan operates at the rated speed.

For the measurement method, see the Technical Materials section in the catalog.

Operating temperature The temperature range over which fan operation is guaranteed (Non-condensing).

Expected life Service life hours that 90% of bearings will survive without failing when continuously operated at the rated voltage and 60°C temperature. Expected life at 40°C is for reference only.

For more information, please refer to the technical material section.

52×15 mm

San Ace B52 9BC 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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted 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 33 g

Specifications

The models listed below **have a pulse sensor.**

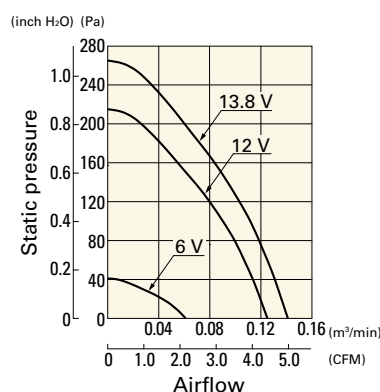
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109BC12GC7-1	12	6 to 13.8	0.12	1.44	6200	0.125 4.4	215 0.86	43	-20 to +70	40000/60°C (70000/40°C)
109BC12HC7-1			0.1	1.2	5600	0.112 4.0	165 0.66	40		
109BC12FC7-1			0.08	0.96	5100	0.101 3.6	130 0.52	38		
109BC12MC7-1			0.06	0.72	4600	0.091 3.2	100 0.4	35		
109BC24GC7-1	24	12 to 27.6	0.07	1.68	6200	0.125 4.4	215 0.86	43		
109BC24HC7-1			0.05	1.2	5600	0.112 4.0	165 0.66	40		
109BC24FC7-1			0.04	0.96	5100	0.101 3.6	130 0.52	38		

Note: Sensor and control options are available for selection. Refer to the table on p. 644.

Airflow - Static Pressure Characteristics

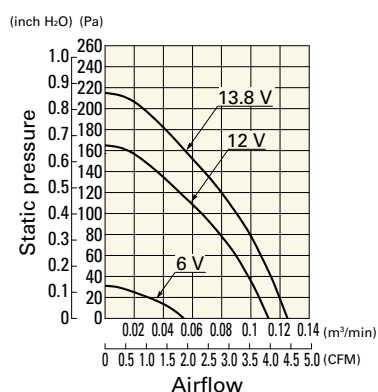
109BC12GC7-1 With pulse sensor

Operating voltage range



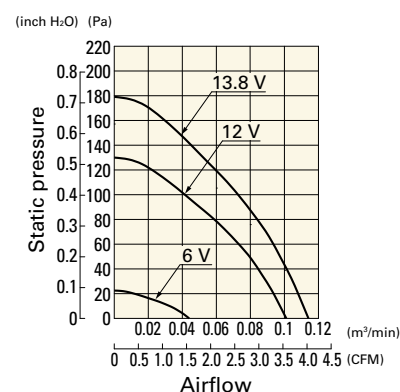
109BC12HC7-1 With pulse sensor

Operating voltage range



109BC12FC7-1 With pulse sensor

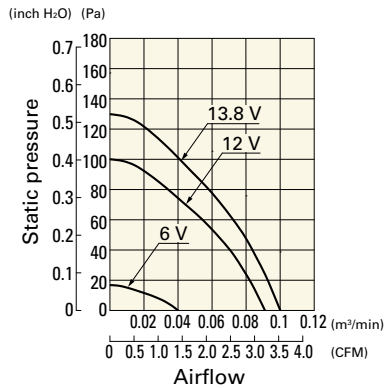
Operating voltage range



Airflow - Static Pressure Characteristics

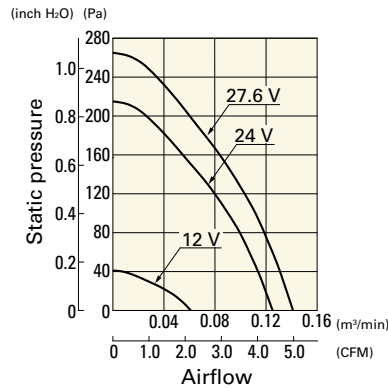
109BC12MC7-1 With pulse sensor

Operating voltage range



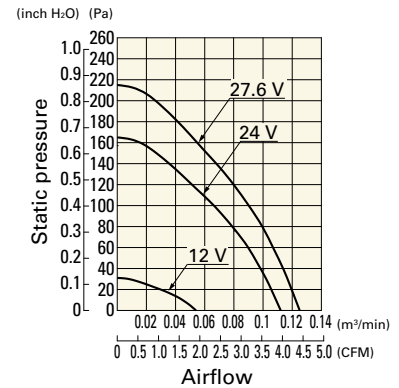
109BC24GC7-1 With pulse sensor

Operating voltage range



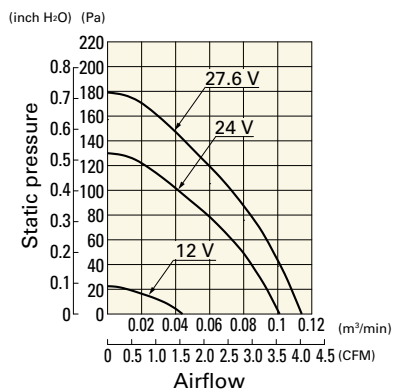
109BC24HC7-1 With pulse sensor

Operating voltage range

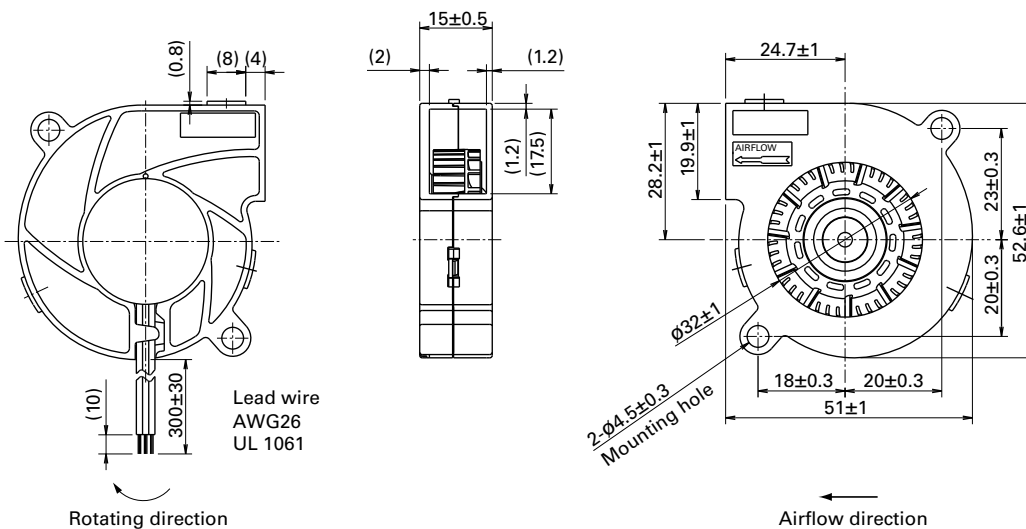


109BC24FC7-1 With pulse sensor

Operating voltage range



Dimensions (unit: mm)



76x20 mm

San Ace B76 9BD type  

 DC
Blower 76 mm

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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted 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 58 g

Specifications

 The models listed below **have a pulse sensor**.

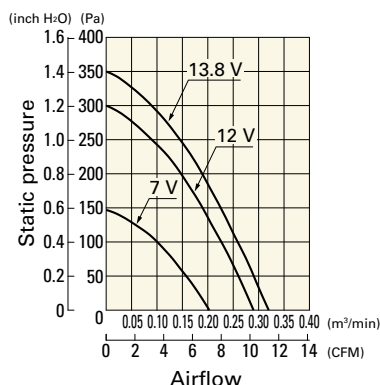
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9BD12SC6-1	12	7 to 13.8	0.28	3.36	4500	0.29 10.2	300 1.2	43	-20 to +70	40000/60°C (70000/40°C)
9BD12HC6-1			0.21	2.52	4200	0.27 9.5	230 0.92	41		
9BD12FC6-1			0.18	2.16	3900	0.25 8.8	200 0.8	39		
9BD24SC6-40	24	10 to 27.6	0.16	3.84	4500	0.29 10.2	300 1.2	43		
9BD24HC6-1			0.12	2.88	4200	0.27 9.5	230 0.92	41		
9BD24FC6-1			0.1	2.4	3900	0.25 8.8	200 0.8	39		

Note: Sensor and control options are available for selection. Refer to the table on p. 645 to 646.

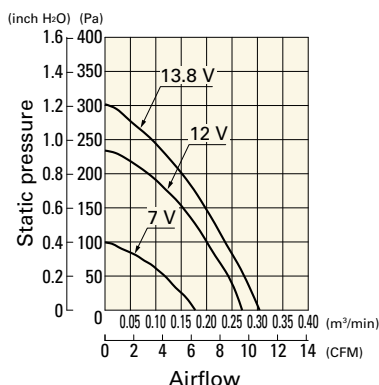
Airflow - Static Pressure Characteristics

9BD12SC6-1 With pulse sensor

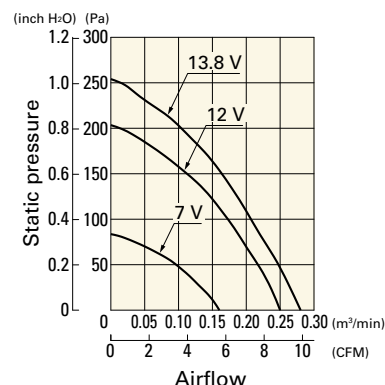
Operating voltage range


9BD12HC6-1 With pulse sensor

Operating voltage range


9BD12FC6-1 With pulse sensor

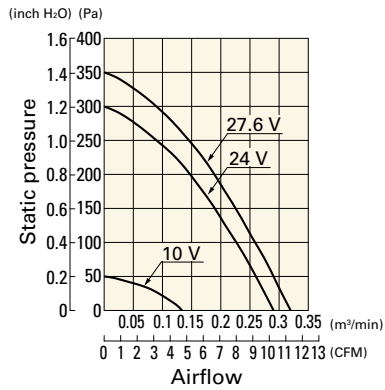
Operating voltage range



Airflow - Static Pressure Characteristics

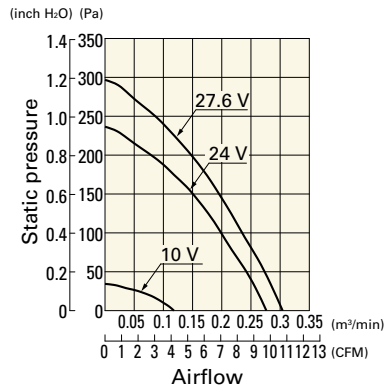
9BD24SC6-40 With pulse sensor

Operating voltage range



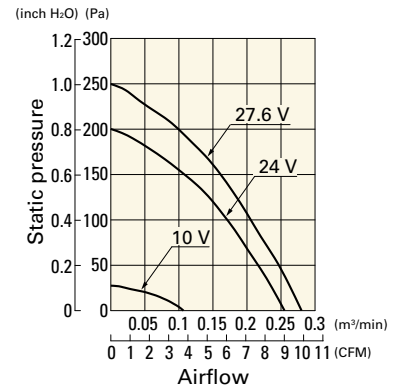
9BD24HC6-1 With pulse sensor

Operating voltage range

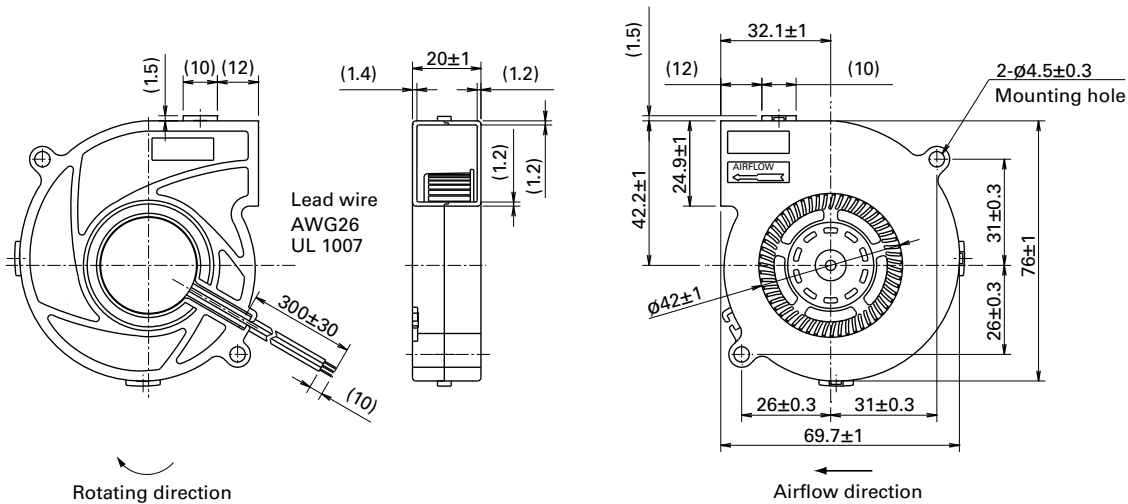


9BD24FC6-1 With pulse sensor

Operating voltage range



Dimensions (unit: mm)



Blower 76 mm DC

76×30 mm

San Ace B76 9BD type   

 DC
Blower 76 mm

General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-1)
- 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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black or Blue Sensor Yellow
- Mass 100 g

Specifications

 The models listed below **have a pulse sensor.**

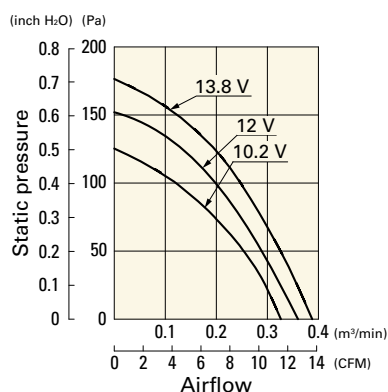
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109BD12HC2	12	10.2 to 13.8	0.37	4.44	3000	0.36 12.7	151.9 0.61	41.5	-20 to +60	40000/60°C (70000/40°C)
109BD12FC2			0.27	3.24	2600	0.31 10.9	98 0.394	37	-20 to +70	
109BD12MC2			0.14	1.68	2100	0.25 8.8	58.8 0.236	32.5	-20 to +60	
109BD24HC2	24	20.4 to 27.6	0.17	4.08	3000	0.36 12.7	151.9 0.61	41.5	-20 to +60	
109BD24FC2			0.14	3.36	2600	0.31 10.9	98 0.394	37	-20 to +70	
109BD24MC2			0.1	2.4	2100	0.25 8.8	58.8 0.236	32.5	-20 to +70	

Note: Sensor and control options are available for selection. Refer to the table on p. 644.

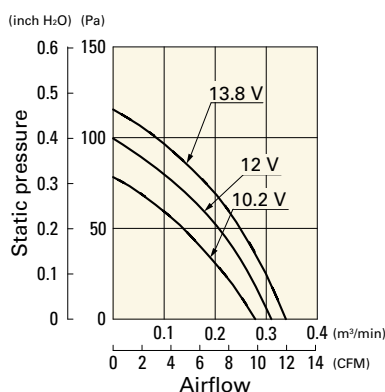
Airflow - Static Pressure Characteristics

109BD12HC2 With pulse sensor

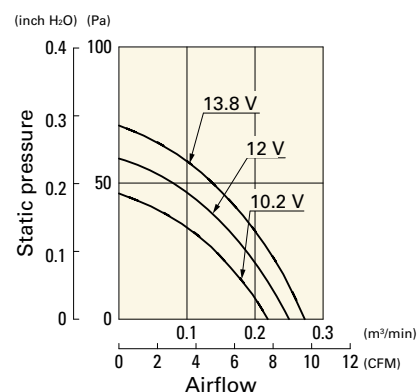
Operating voltage range


109BD12FC2 With pulse sensor

Operating voltage range


109BD12MC2 With pulse sensor

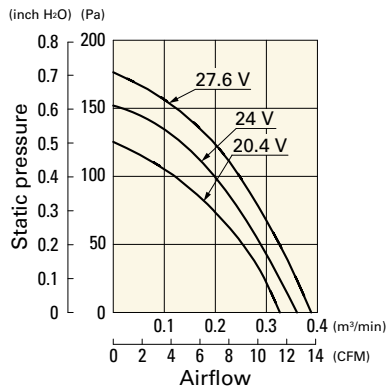
Operating voltage range



Airflow - Static Pressure Characteristics

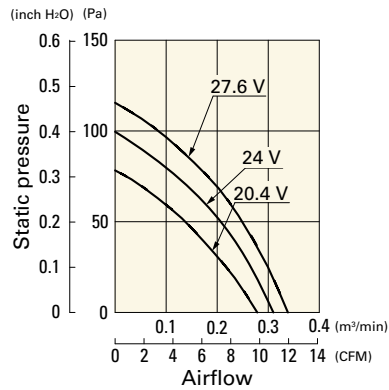
109BD24HC2 With pulse sensor

Operating voltage range



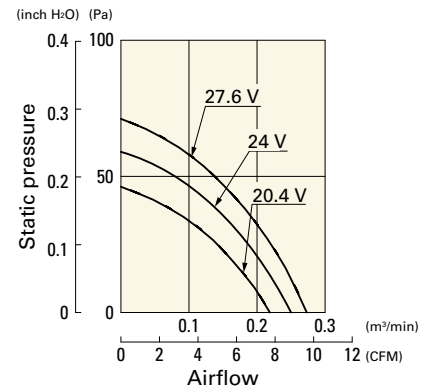
109BD24FC2 With pulse sensor

Operating voltage range

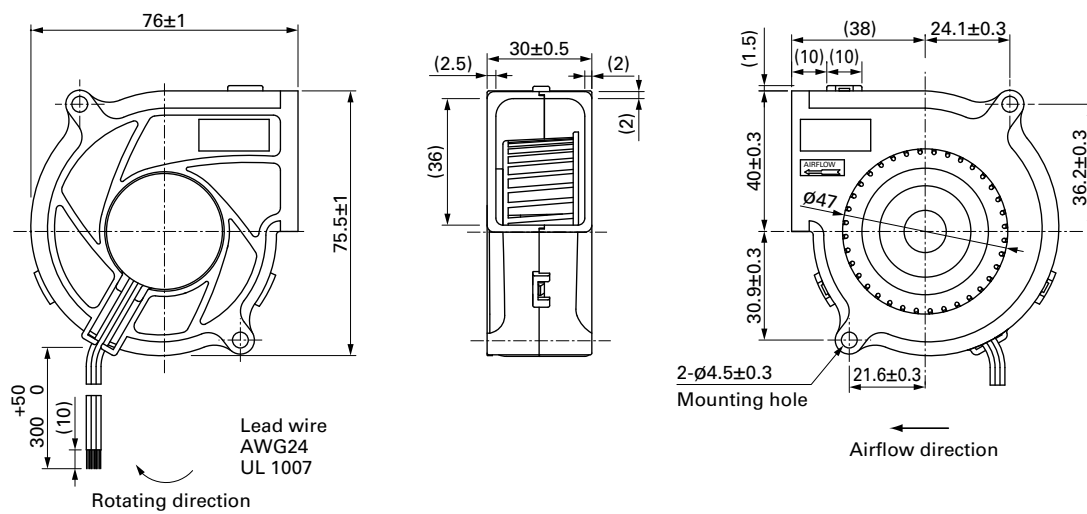


109BD24MC2 With pulse sensor

Operating voltage range



Dimensions (unit: mm)



97×33 mm

San Ace B97 9BMC type


 DC
Blower 97 mm

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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted 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 a pulse sensor with PWM control.**

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] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	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		

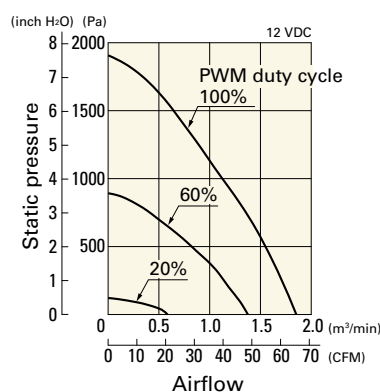
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Sensor and control options are available for selection. Refer to the table on p. 646.

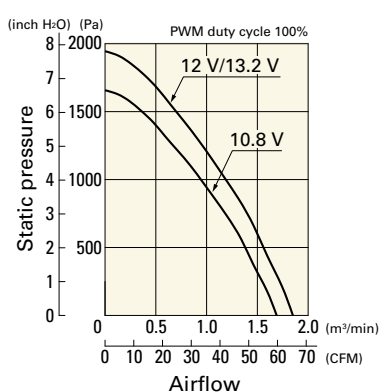
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMC12P2G001 With pulse sensor with PWM control

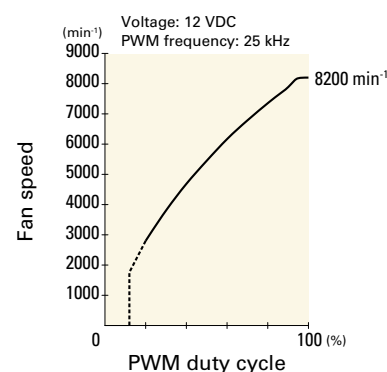
PWM duty cycle



Operating voltage range



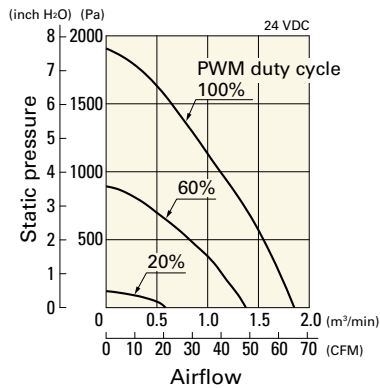
PWM duty - Speed characteristics example



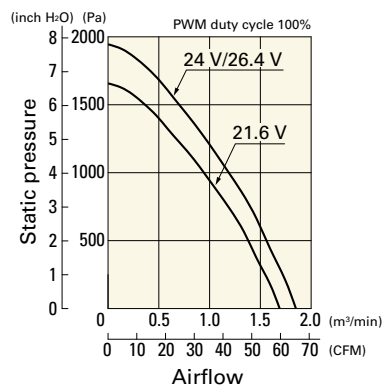
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMC24P2G001 With pulse sensor with PWM control

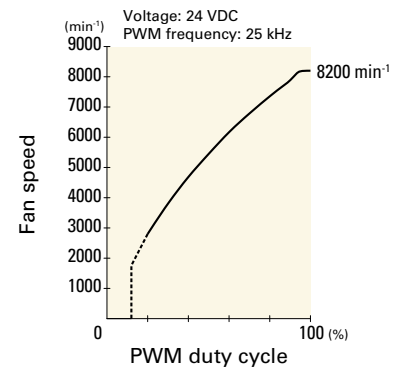
PWM duty cycle



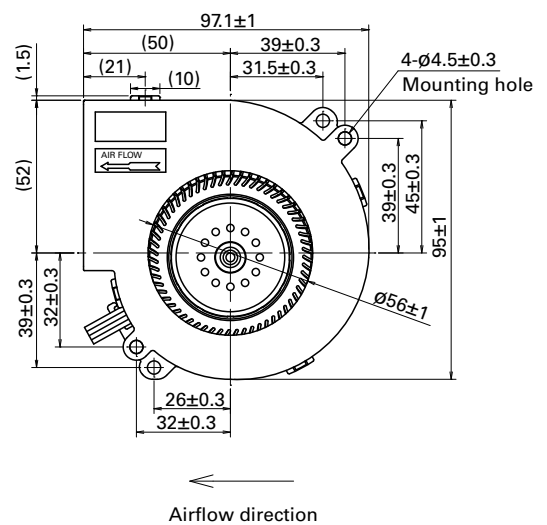
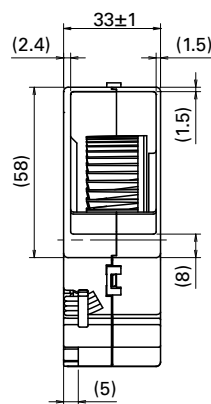
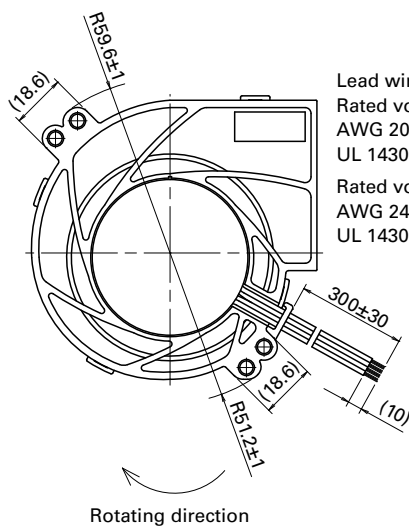
Operating voltage range



PWM duty - Speed characteristics example



Dimensions (unit: mm)



Blower 97 mm DC

97×33 mm

San Ace B97 9BMB type  

DC

Blower 97 mm

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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted 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, there is no speed control wiring.)
- Mass 190 g

Specifications

The models listed below **have a pulse sensor with PWM control.**

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] [CFM]	Max. static pressure [Pa] [inchH ₂ 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 (70000/40°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 is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

The models listed below **have a pulse sensor.**

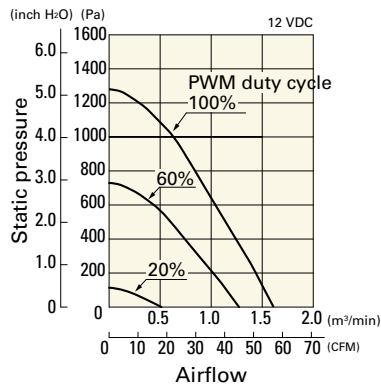
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9BMB12K201	12	7 to 13.2	3.4	40.8	6850	1.61 56.8	1280 5.14	66	-20 to +70	40000/60°C (70000/40°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		

Note: Sensor and control options are available for selection. Refer to the table on p. 646.

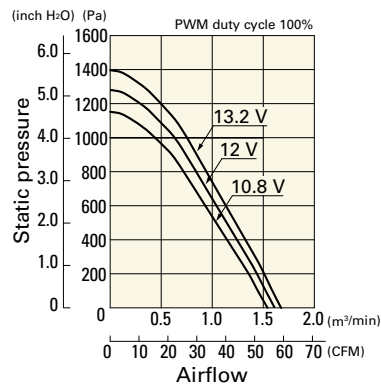
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMB12P2K01 With pulse sensor with PWM control

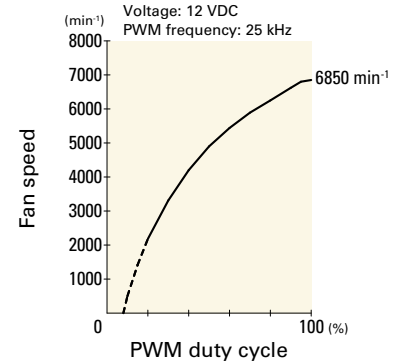
PWM duty cycle



Operating voltage range

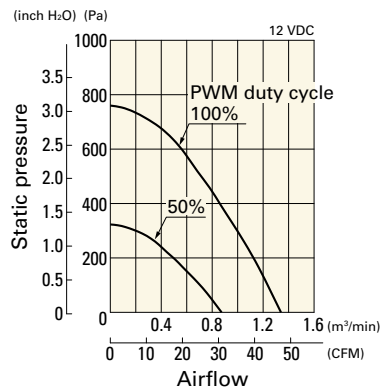


PWM duty - Speed characteristics example

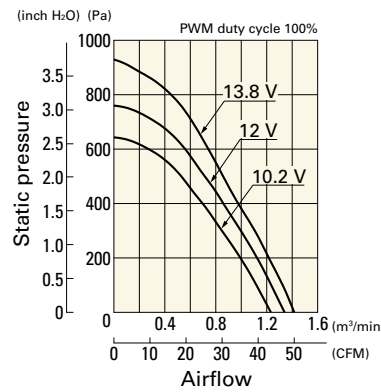


9BMB12P2G01 With pulse sensor with PWM control

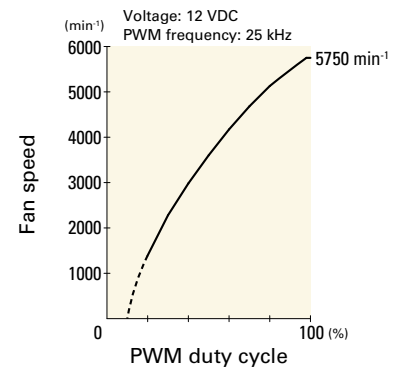
PWM duty cycle



Operating voltage range

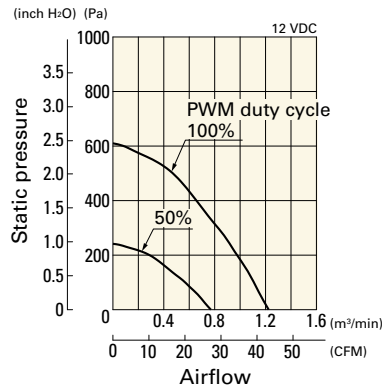


PWM duty - Speed characteristics example

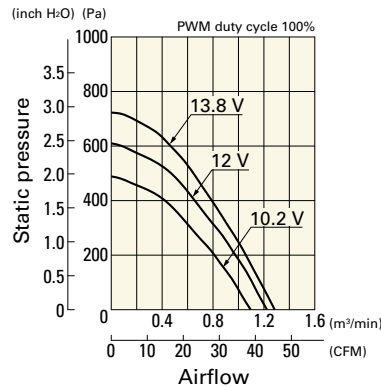


9BMB12P2S01 With pulse sensor with PWM control

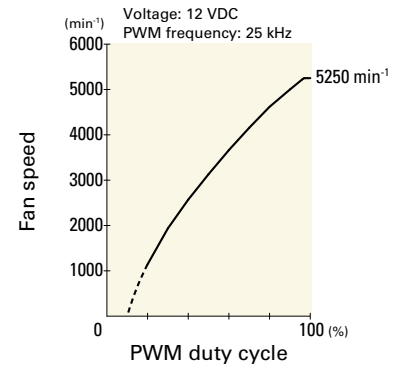
PWM duty cycle



Operating voltage range

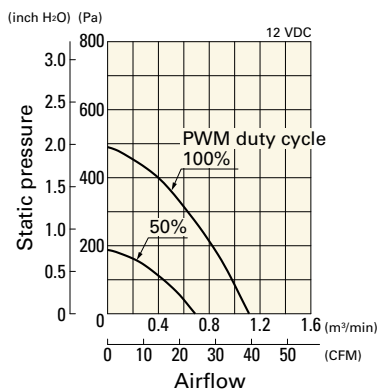


PWM duty - Speed characteristics example

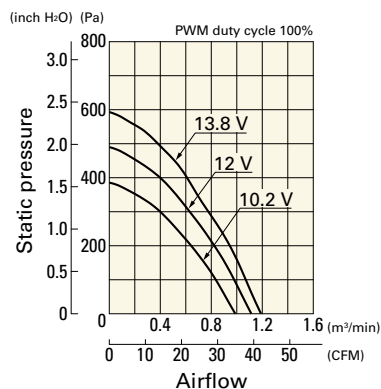


9BMB12P2H01 With pulse sensor with PWM control

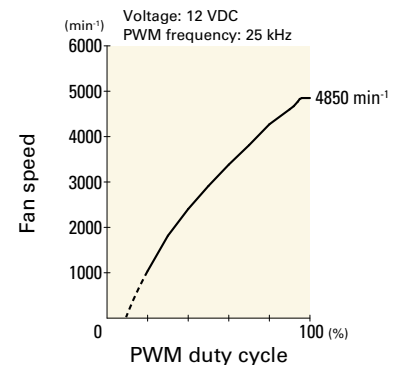
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

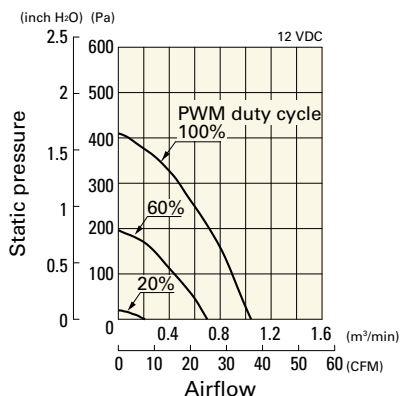


Blower 97 mm DC

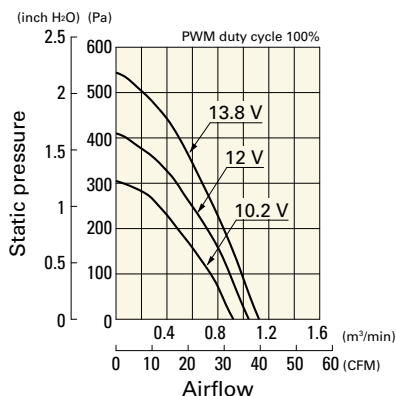
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMB12P2F01 With pulse sensor with PWM control

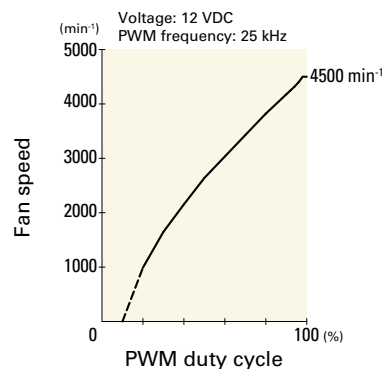
PWM duty cycle



Operating voltage range

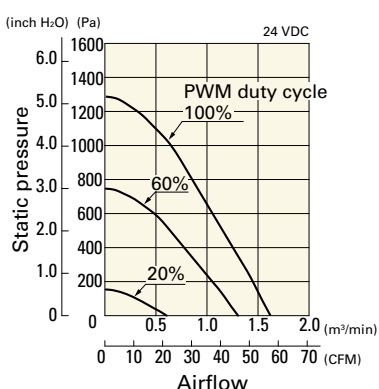


PWM duty - Speed characteristics example

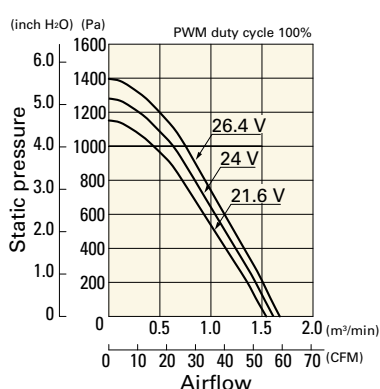


9BMB24P2K01 With pulse sensor with PWM control

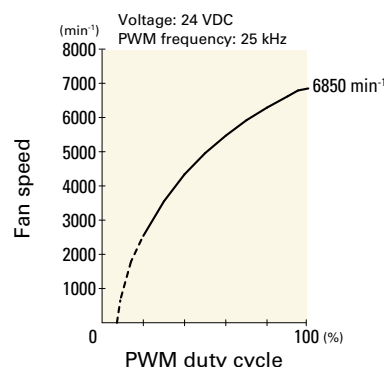
PWM duty cycle



Operating voltage range

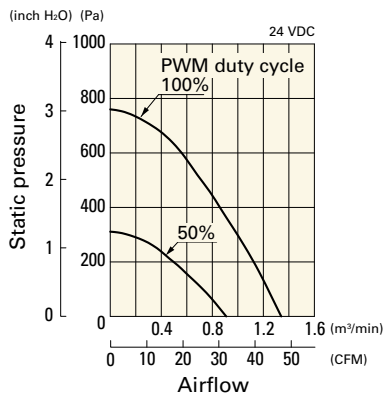


PWM duty - Speed characteristics example

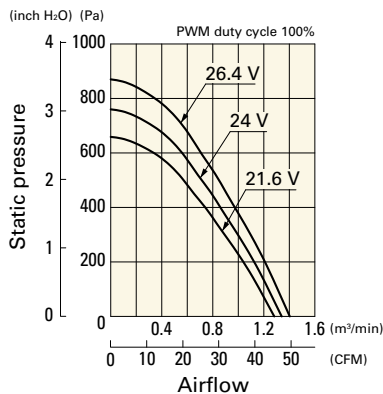


9BMB24P2G01 With pulse sensor with PWM control

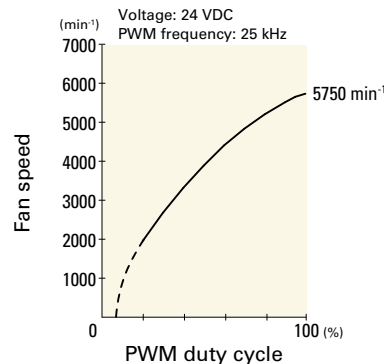
PWM duty cycle



Operating voltage range

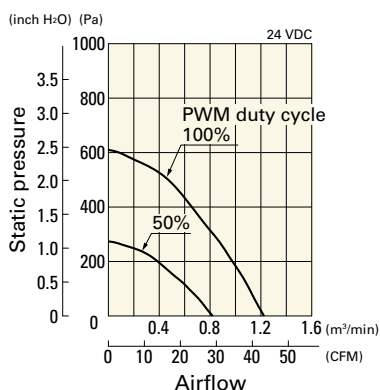


PWM duty - Speed characteristics example

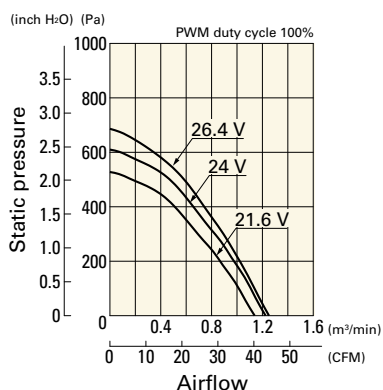


9BMB24P2S01 With pulse sensor with PWM control

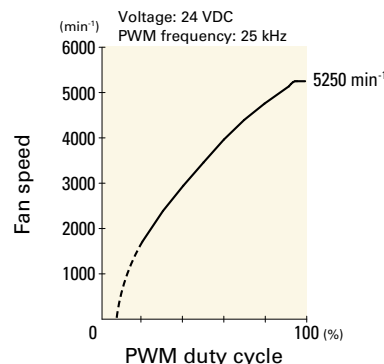
PWM duty cycle



Operating voltage range



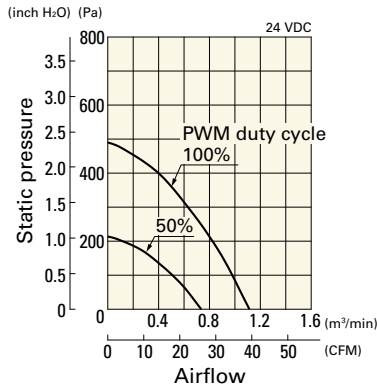
PWM duty - Speed characteristics example



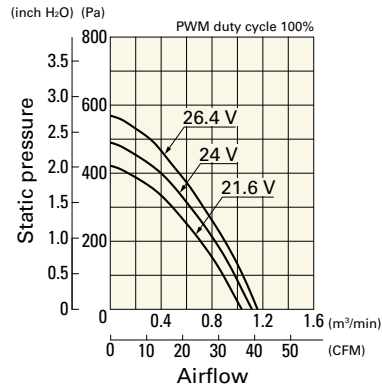
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BMB24P2H01 With pulse sensor with PWM control

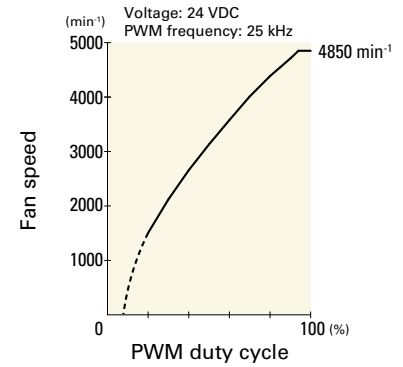
PWM duty cycle



Operating voltage range

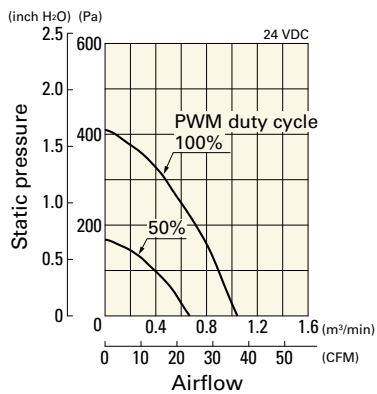


PWM duty - Speed characteristics example

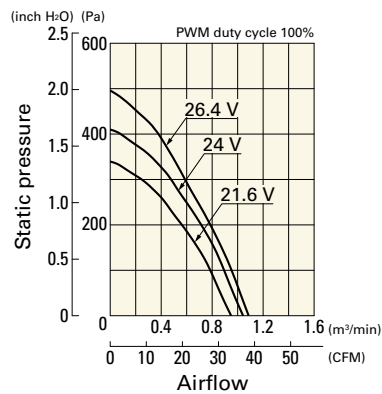


9BMB24P2F01 With pulse sensor with PWM control

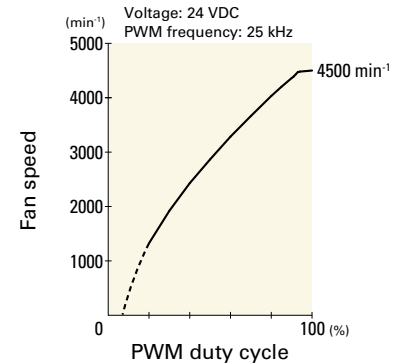
PWM duty cycle



Operating voltage range



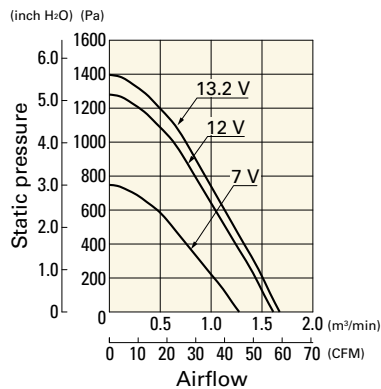
PWM duty - Speed characteristics example



Airflow - Static Pressure Characteristics

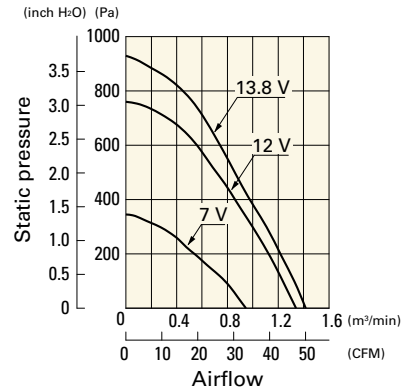
9BMB12K201 With pulse sensor

Operating voltage range



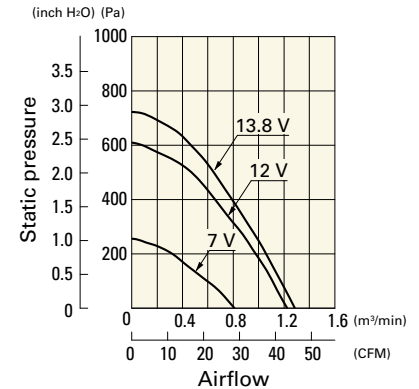
9BMB12G201 With pulse sensor

Operating voltage range



9BMB12S201 With pulse sensor

Operating voltage range

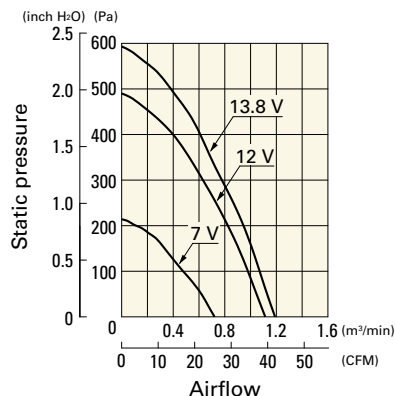


Airflow - Static Pressure Characteristics

Blower 97 mm DC

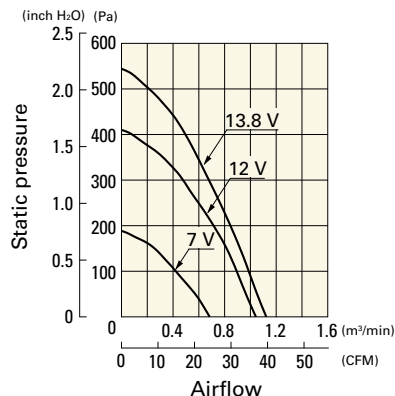
9BMB12H201 With pulse sensor

Operating voltage range



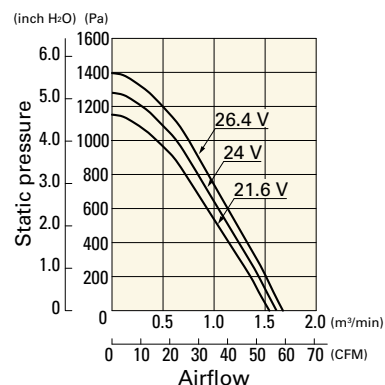
9BMB12F201 With pulse sensor

Operating voltage range



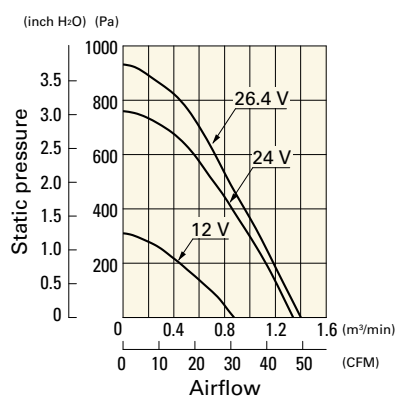
9BMB24K201 With pulse sensor

Operating voltage range



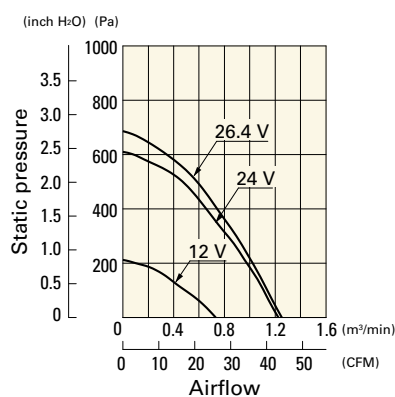
9BMB24G201 With pulse sensor

Operating voltage range



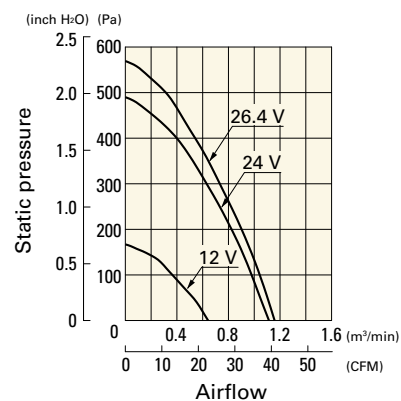
9BMB24S201 With pulse sensor

Operating voltage range



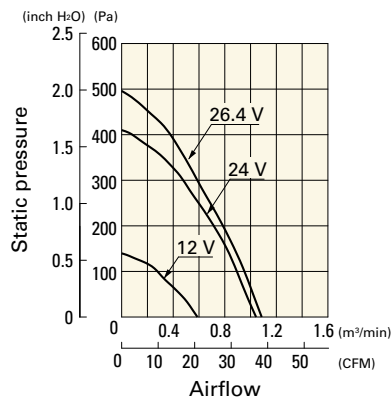
9BMB24H201 With pulse sensor

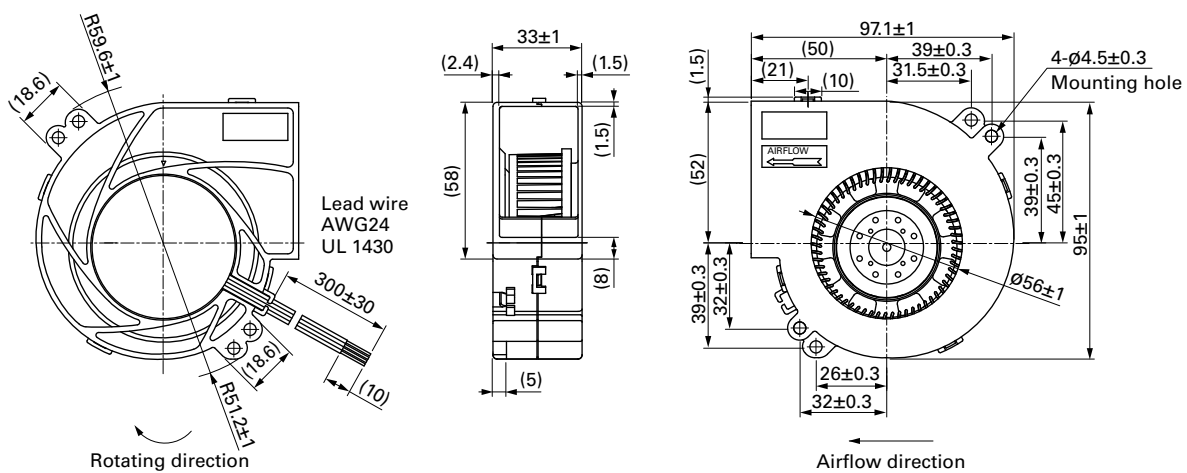
Operating voltage range



9BMB24F201 With pulse sensor

Operating voltage range





97×33 mm

San Ace B97 9BM_{type} c 

Blower 97 mm

DC

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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted 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 a pulse sensor**.

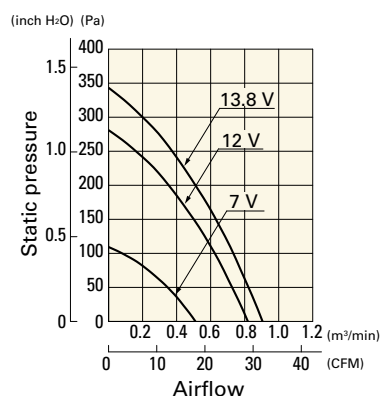
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109BM12GC2-1	12	7 to 13.8	0.6	7.2	3800	0.82 28.9	281 1.129	51.5	-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		

Note: Sensor and control options are available for selection. Refer to the table on p. 644.

Airflow - Static Pressure Characteristics

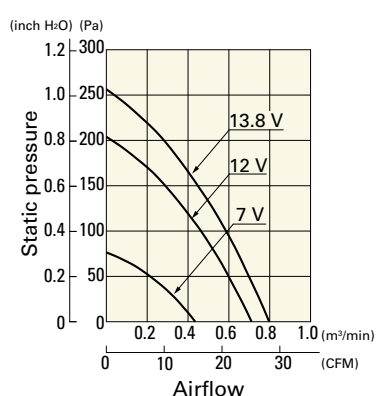
109BM12GC2-1 With pulse sensor

Operating voltage range



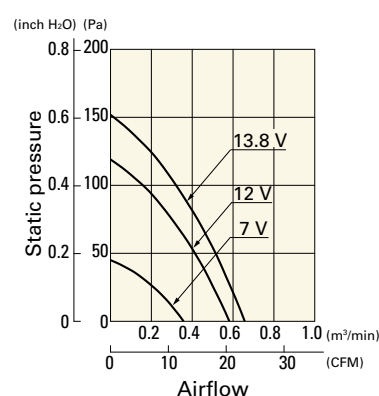
109BM12HC2-1 With pulse sensor

Operating voltage range



109BM12MC2-1 With pulse sensor

Operating voltage range





120×32 mm

San Ace B120 9BFB type


 DC
Blower 120 mm

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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted 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 340 g

Specifications

The models listed below **have a pulse sensor with PWM control.**

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] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9BFB12P2H003	12	10.8 to 13.2	100	2.3	27.6	3750	1.6 56.5	1250 5.02	62	-20 to +70	40000/60°C (70000/40°C)
9BFB24P2H003	24	21.6 to 26.4	100	1.1	26.4	3750	1.6 56.5	1250 5.02	62		
			0	0.12	2.88	1300	0.46 16.2	43 0.17	41		

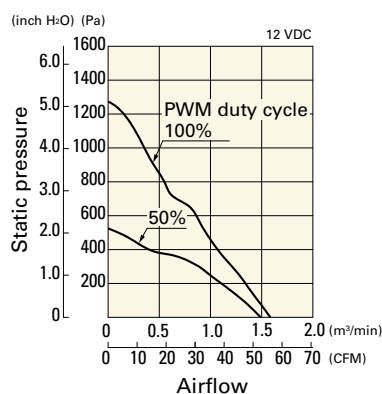
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Sensor and control options are available for selection. Refer to the table on p. 646.

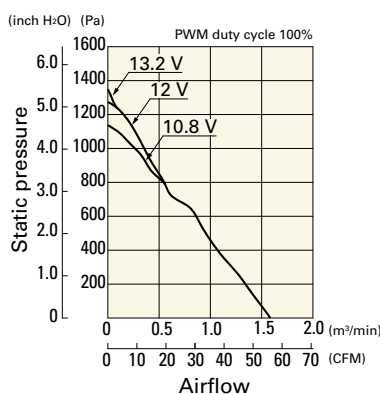
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9BFB12P2H003 With pulse sensor with PWM control

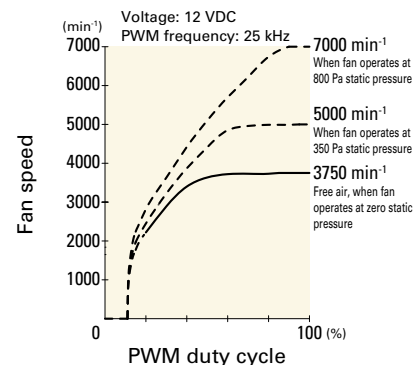
PWM duty cycle



Operating voltage range

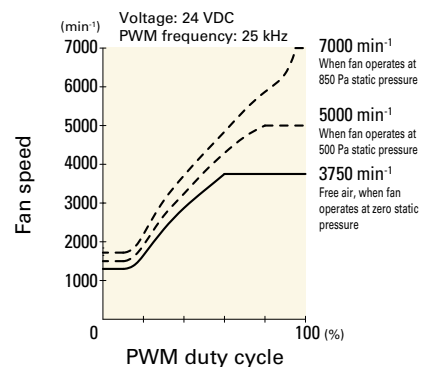


PWM duty - Speed characteristics example



9BFB24P2H003 With pulse sensor with PWM control

PWM duty - Speed characteristics example



Blower 120 mm DC

[illegible]

127×32 mm

San Ace B127 9BJ type


DC Blower 127 mm

General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-1)
- 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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black or Blue Sensor Yellow
- Mass 290 g

Specifications

 The models listed below **have a pulse sensor**.

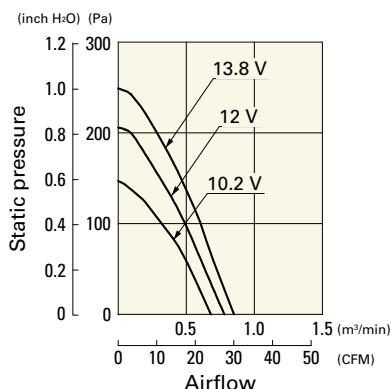
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109BJ12HC2	12	10.2 to 13.8	0.52	6.24	2400	0.78	27.5	205.8	0.826	46	-20 to +70	40000/60°C (70000/40°C)
109BJ12MC2			0.29	3.48	1900	0.61	21.5	109.8	0.441	40		
109BJ24HC2	24	20.4 to 27.6	0.26	6.24	2400	0.78	27.5	205.8	0.826	46	-20 to +60	
109BJ24MC2			0.15	3.6	1900	0.61	21.5	109.8	0.441	40		

Note: Sensor and control options are available for selection. Refer to the table on p. 644.

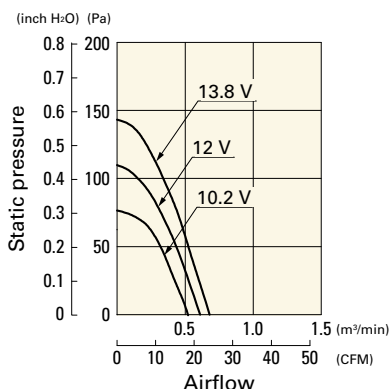
Airflow - Static Pressure Characteristics

109BJ12HC2 With pulse sensor

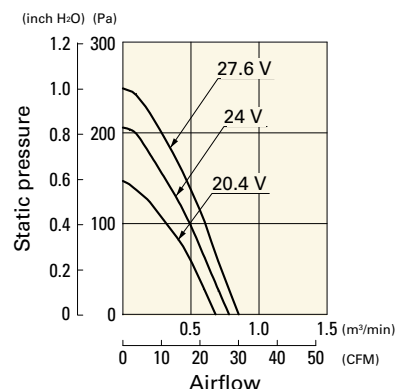
Operating voltage range


109BJ12MC2 With pulse sensor

Operating voltage range


109BJ24HC2 With pulse sensor

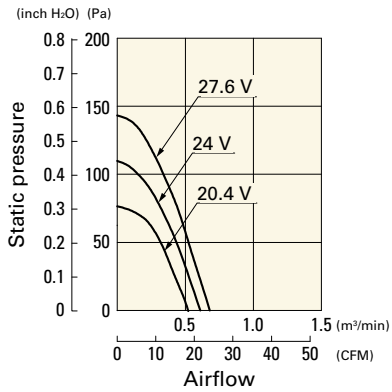
Operating voltage range



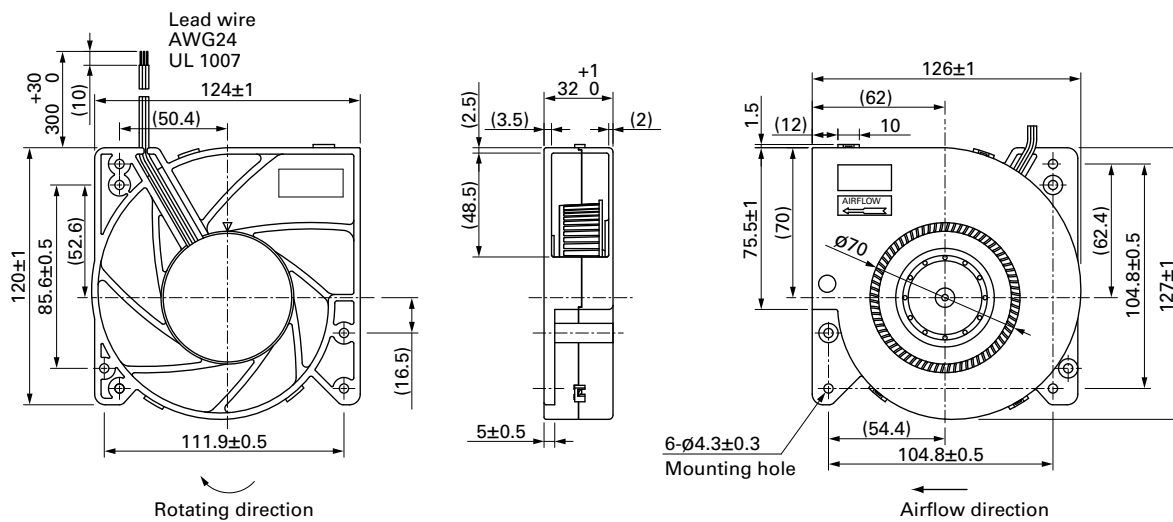
Airflow - Static Pressure Characteristics

109BJ24MC2 With pulse sensor

Operating voltage range



Dimensions (unit: mm)



Blower 127 mm DC

160x40 mm

San Ace B160 9BG type

 DC
Blower 160 mm

General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-1)
- 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. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black or Blue Sensor Yellow
- Mass 580 g

Specifications

 The models listed below **have a pulse sensor**.

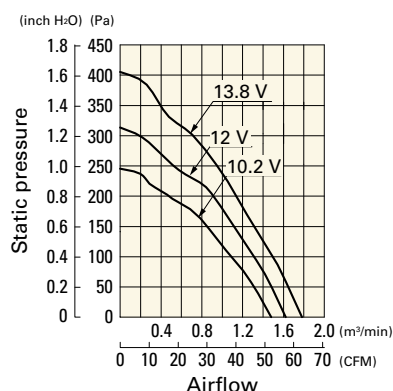
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109BG12HC1	12	10.2 to 13.8	1.3	15.6	2300	1.62 57.2	313.6 1.259	55	-20 to +60	40000/60°C (70000/40°C)
109BG12MC1			0.64	7.68	1800	1.26 44.5	156.8 0.629	50		
109BG24HC1	24	20.4 to 27.6	0.62	14.88	2300	1.62 57.2	313.6 1.259	55		
109BG24MC1			0.31	7.44	1800	1.26 44.5	156.8 0.629	50		

Note: Sensor and control options are available for selection. Refer to the table on p. 644.

Airflow - Static Pressure Characteristics

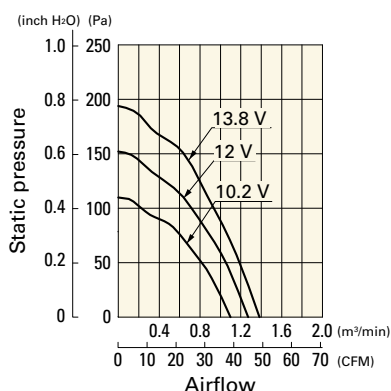
109BG12HC1 With pulse sensor

Operating voltage range



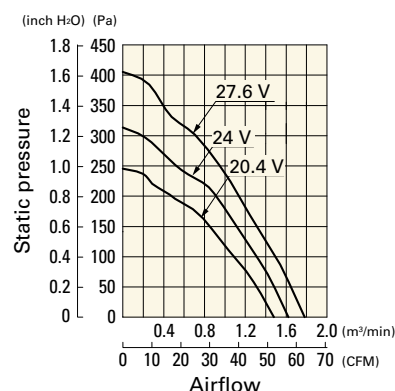
109BG12MC1 With pulse sensor

Operating voltage range



109BG24HC1 With pulse sensor

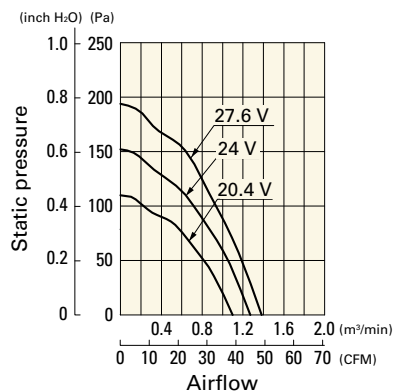
Operating voltage range



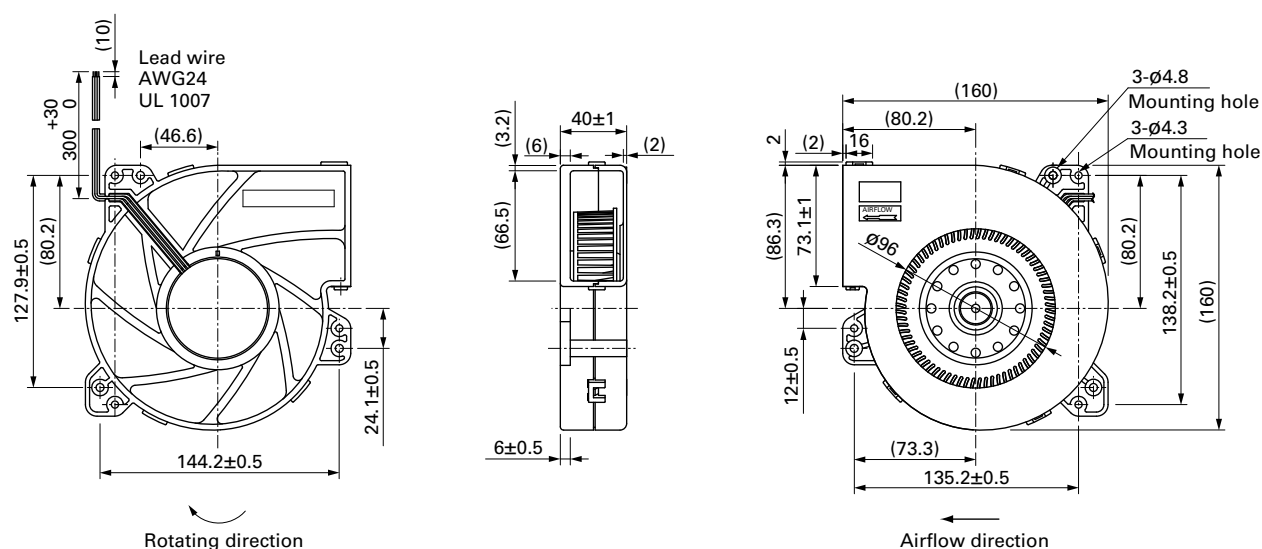
Airflow - Static Pressure Characteristics

109BG24MC1 With pulse sensor

Operating voltage range



Dimensions (unit: mm)



Blower 160 mm DC