

DC Fan

The lineup offers a number of products with different features including the 9GA type Low Power Consumption Fans, the 9S type Silent Fans, and the 9HV type High Static Pressure Fans.

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

9GV	12	12	J	1	01	1
Type name	Frame size	Voltage	Speed code	Frame thickness	Sensor specifications	Frame form

Fans with PWM control

9GV	12	12	P	4	G	01	
Type name	Frame size	Voltage	PWM control	Frame thickness	Speed code	Individual customer's spec (2 to 4 digits)	Frame form

Type name	9GA 9GV 9HV etc.														
Frame size (mm)	03	04	05	06	08	09	12	13	14	15	17	36	47	57	20
	38×38	40×40	52×52	60×60	80×80	92×92	120×120	127×127	140×140	150×150	∅172	36×36	∅172×147 (sidecut)	∅172×150 (sidecut)	∅200
Voltage (V)	05	12	24	48											
	5	12	24	48	etc.										
Speed code	A	B	C	D	E	F	G	H	J	K	L	M	S	W	etc.
Frame thickness (mm)	0	1	2	3	4	5	6	7	9						
	70	38	32	28	25	50, 51	20	15	10						
Sensor specifications	01 or 001				02 or 002				D01 or D001						
	With a pulse sensor				Without a sensor				With a lock sensor						
Frame form	Nil					1					3				
	Plastic frame: Ribbed frame					Plastic frame: Ribless frame					40 × 40 × 28 mm for 1U applications				
	Aluminum frame: Ribless frame										Plastic frame: Ribbed frame				

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 [m³/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.

36×36×28 mm

San Ace 36 9HV type  



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 Sensor Yellow Control Brown
- Mass 53 g

Specifications

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

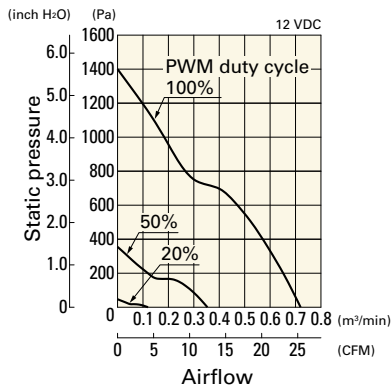
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9HV3612P3K001	12	10.8 to 13.2	100	1.75	21.0	32500	0.72 25.4	1400 5.62	67	-20 to +60	30000/60°C (53000/40°C)
			20	0.05	0.6	6000	0.12 4.2	47.2 0.19	26		

* 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.

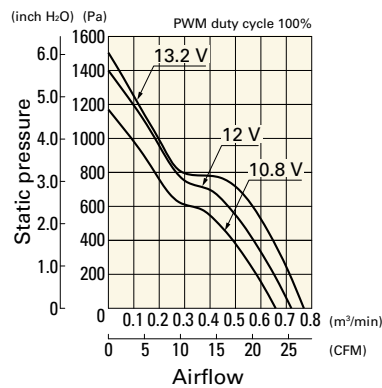
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV3612P3K001 With pulse sensor with PWM control

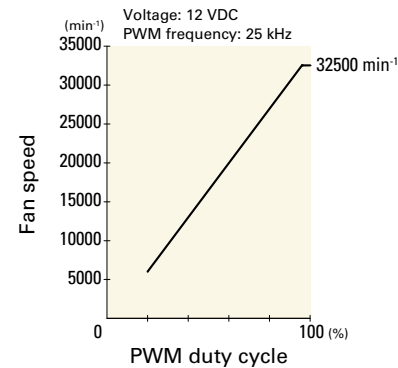
PWM duty cycle



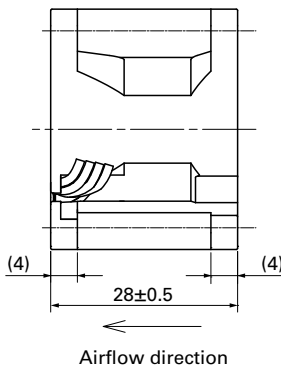
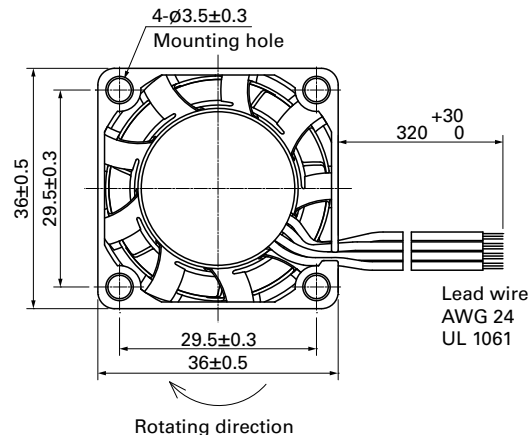
Operating voltage range

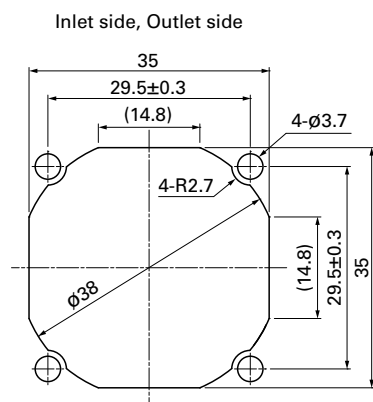


PWM duty - Speed characteristics example



Dimensions (unit: mm)





Options

Finger guards

page: p. 598

Model no.: 109-1050

36×36×28 mm

San Ace 36 9GX type  



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 ☐Sensor ☐Yellow ☐Control ☐Brown
- Mass 46 g

Specifications

The models listed below **have ribs and 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]
9GX3612P3K001	12	10.8 to 13.2	100	1.3	15.6	24000	0.69 24.4	838 3.367	66	-10 to +60	40000/60°C (70000/40°C)
			0	0.07	0.84	3200	0.09 3.2	14.0 0.056	16		

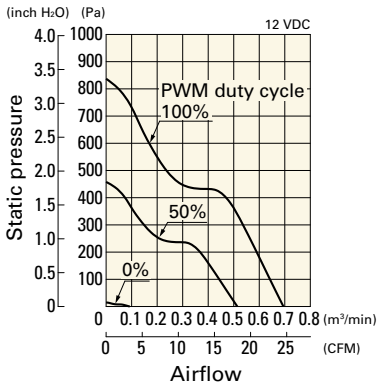
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Sensor and control options are available for selection. Refer to the table on p. 652.

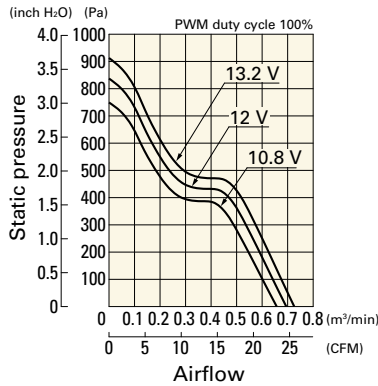
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9GX3612P3K001 With pulse sensor with PWM control

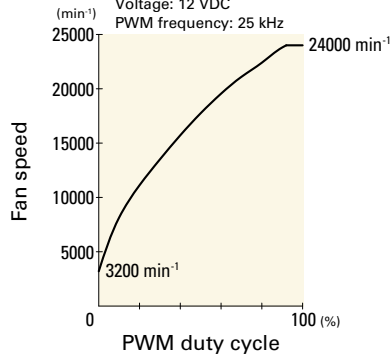
PWM duty cycle

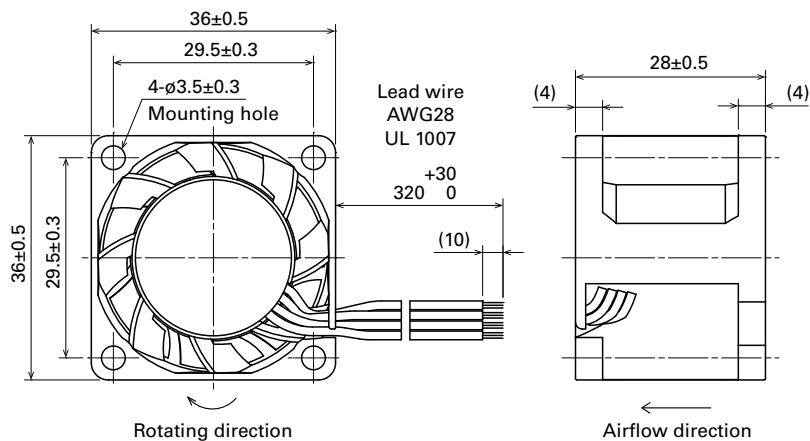


Operating voltage range

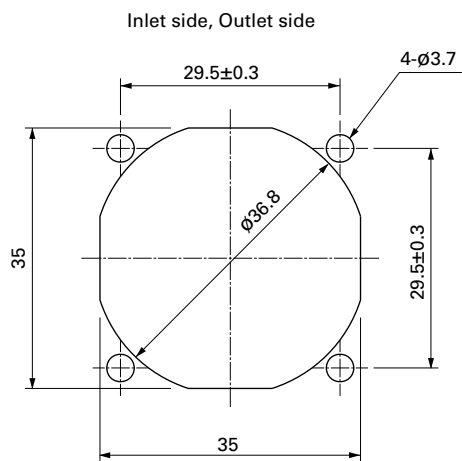


PWM duty - Speed characteristics example





Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Options

Finger guards	page: p. 598
Model no.: 109-1050	