IP68

40×40×28 mm

San Ace 40W 9WL type

General Specifications

- Material ····· Frame: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life ····· See the table below. (L10 life: 90% survival rate for continuous operation in indoor free air at 60˚C, rated voltage)
- Motor protection function ····· Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 529.
- 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 ····· 70 g
- Ingress protection ····· IP68

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]
9WL0412P3J001	12	10.8 to 13.2	100	0.52	6.24	17500	0.63	22.2	400	1.61	51	-20 to +70	150000/60˚C
			20	0.06	0.72	3600	0.13	4.6	16.9	0.07	20		
9WL0412P3G001			100	0.4	4.8	15500	0.56	19.7	310	1.24	47		
			20	0.06	0.72	3300	0.12	4.2	14.0	0.06	18		
9WL0424P3J001	24	21.6 to 26.4	100	0.26	6.24	17500	0.63	22.2	400	1.61	51		
			20	0.04	0.96	4000	0.14	5.1	20.9	0.08	22		
9WL0424P3G001			100	0.2	4.8	15500	0.56	19.7	310	1.24	47		
			20	0.04	0.96	3000	0.11	3.8	11.6	0.05	16		

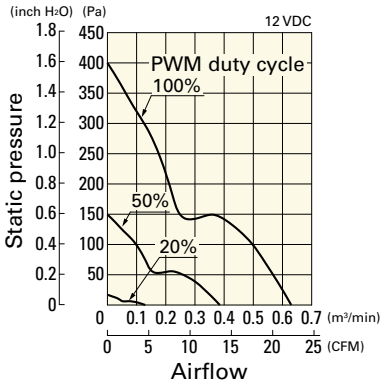
* PWM frequency: 25 kHz. Fan does not rotate when PWM duty cycle is 0%.

Other sensor specifications are available as options. Refer to the index (p. 559).

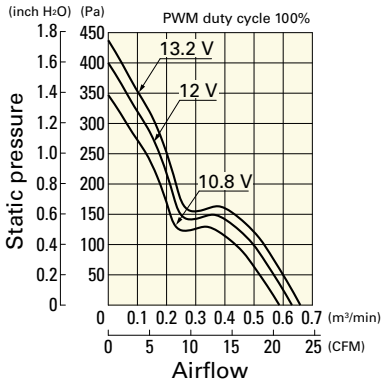
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9WL0412P3J001 With pulse sensor with PWM control function

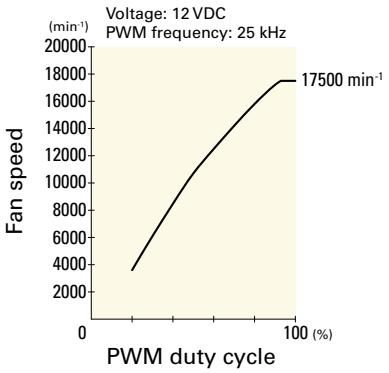
PWM duty cycle



Operating voltage range



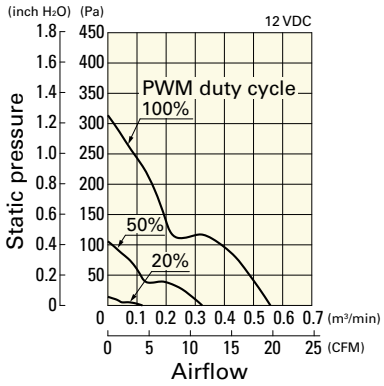
PWM duty - Speed characteristics example



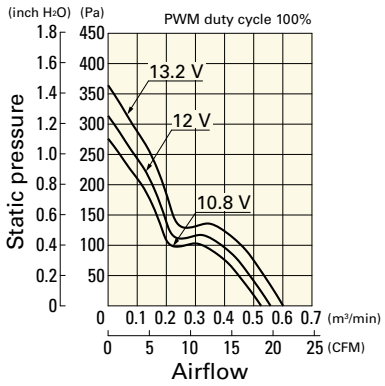
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9WL0412P3G001 With pulse sensor with PWM control function

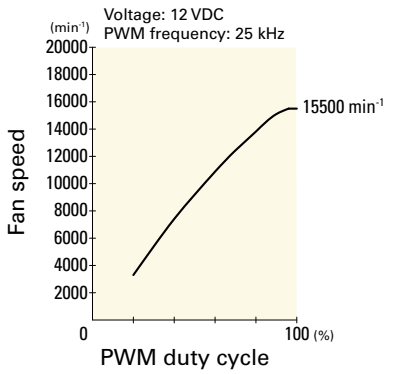
PWM duty cycle



Operating voltage range

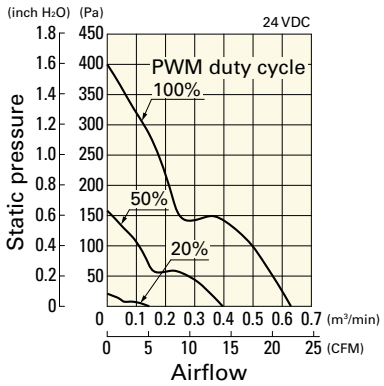


PWM duty - Speed characteristics example

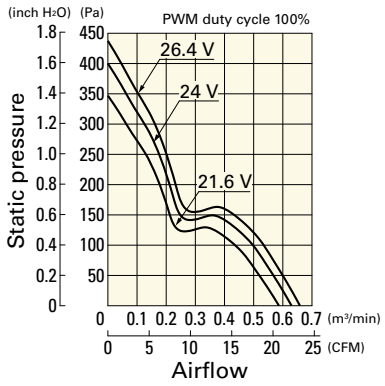


9WL0424P3J001 With pulse sensor with PWM control function

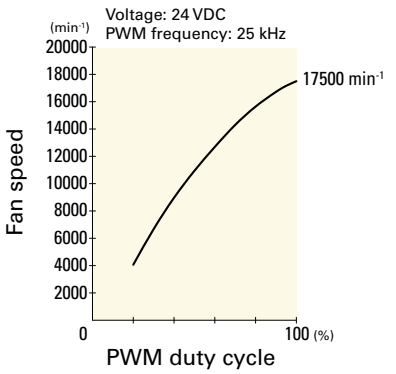
PWM duty cycle



Operating voltage range

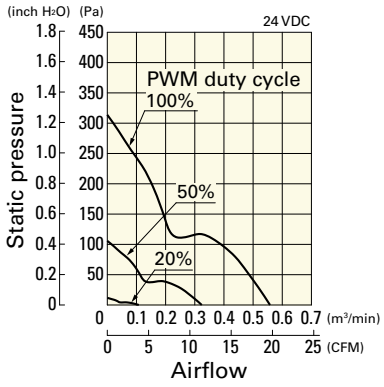


PWM duty - Speed characteristics example

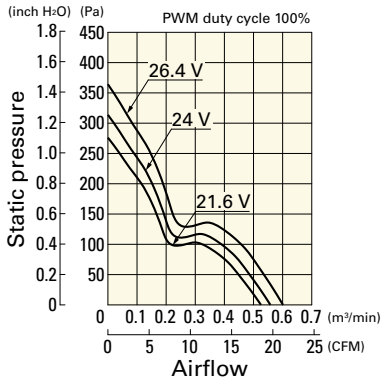


9WL0424P3G001 With pulse sensor with PWM control function

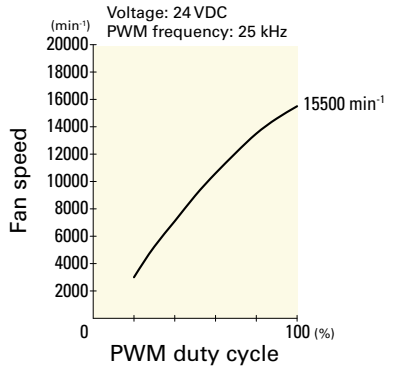
PWM duty cycle



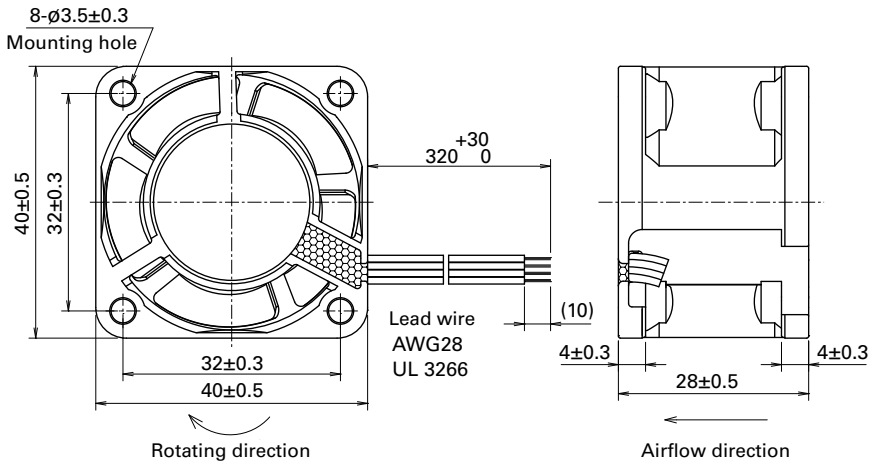
Operating voltage range



PWM duty - Speed characteristics example

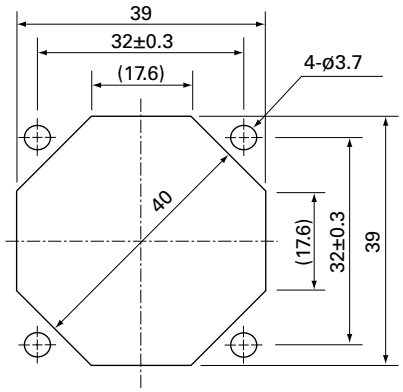


Dimensions (unit: mm)



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

Inlet side, Outlet side



Options

Finger guards page: p. 513

Model no.: 109-059, 109-059H

Splash Proof Fan

Cooling fan of IP54, IP55 and IP68 waterproof capability. For more information on IP rating, refer to p. 534.
Related product: Splash Proof Centrifugal Fan p. 321, Oil Proof Fan p. 335

Model Numbering System

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

9WS	12	12	H	1	01	
Type name	Frame size	Voltage	Speed code	Frame thickness	Sensor specifications	Frame form

Fans with PWM control function

9WV	08	48	P	1	H	001	
Type name	Frame size	Voltage	PWM control function	Frame thickness	Speed code	Individual customer's spec (2 to 3 digits)	Frame form

Type name	9W 9WB 9WE 9WG 9WL 9WP 9WS 9WV
Frame size (mm)	04 (40×40) 06 (60×60) 08 (80×80) 09 (92×92) 12 (120×120) 14 (140×140) 17 (ø172) 57 (ø172×150 (sidecut))
Voltage (V)	12 24 48 12 24 48 etc.
Speed code	A D E F G H J L M S etc.
Frame thickness (mm)	1 (38) 4 (25) 5 (51) 6 (20)
Sensor specifications	01 With a pulse sensor 02 Without a sensor D01 With a lock sensor
Frame form	Nil Plastic frame: Ribbed frame Aluminum frame: Ribless frame 1 Plastic frame: Ribless frame

How to Read Specifications (DC fan)

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]
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 maximum airflow that the fan can generate during rated operation (measured with our double chamber measuring device). Airflow is the volume of air generated by the fan per unit of time.
Max. static pressure ····· The maximum static pressure value that the fan can produce during rated operation (measured with our double chamber measuring device). Static pressure indicates a fan's ability to move air against resistance due to the internal structure of the device to which the fan is installed.
SPL ····· SPL stands for Sound Pressure Level. The noise level during the fan's rated operation. Please refer to the technical material section for the measurement method.
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.