






# 140x140x38 mm

San Ace 140W 9WL type   

DC  
Splash Proof Fan 140 mm sq.

## 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)  
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. 580.
- 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 function, there is no speed control wiring.)
- Mass ..... 740 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 <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]		
9WL1412P1A001	12	10.2 to 13.8	100	3.72	44.64	6900	8.0 282	516 2.07	68	-20 to +70	100000/60°C (135000/40°C)		
			20	0.27	3.24	2300	2.66 93	80 0.32	39				
9WL1412P1H001			100	1.7	20.4	5200	6.0 212	300 1.2	62				
			20	0.27	3.24	2300	2.66 93	80 0.32	39				
9WL1412P1M001			100	0.6	7.2	3300	3.7 130	170 0.68	46				
			20	0.16	1.92	1300	1.45 51	26 0.1	29				
9WL1424P1A001			24	20.4 to 27.6	100	1.86	44.64	6900	8.0 282			516 2.07	68
					20	0.17	4.08	2300	2.66 93			80 0.32	39
9WL1424P1H001					100	0.85	20.4	5200	6.0 212			300 1.2	62
					20	0.16	3.84	2300	2.66 93			80 0.32	39
9WL1424P1M001					100	0.3	7.2	3300	3.7 130			170 0.68	46
					20	0.11	2.64	1300	1.45 51			26 0.1	29
9WL1448P1A001	48	40.8 to 55.2			100	0.92	44.16	6900	8.0 282	516 2.07	68		
					20	0.11	5.28	2300	2.66 93	80 0.32	39		
9WL1448P1H001					100	0.42	20.16	5200	6.0 212	300 1.2	62		
					20	0.11	5.28	2300	2.66 93	80 0.32	39		
9WL1448P1M001					100	0.15	7.2	3300	3.7 130	170 0.68	46		
					20	0.09	4.32	1300	1.45 51	26 0.1	29		

\* 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 pulse sensors.**

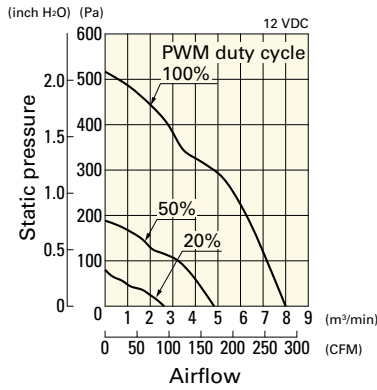
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min <sup>-1</sup> ]	Max. airflow [m <sup>3</sup> /min] [CFM]	Max. static pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WL1448L1001	48	40.8 to 55.2	0.11	5.3	2300	2.6 91.9	80 0.32	39	-20 to +70	100000/60°C (135000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 619.

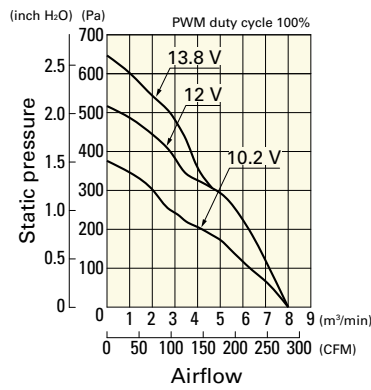
# Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9WL1412P1A001** With pulse sensor with PWM control function

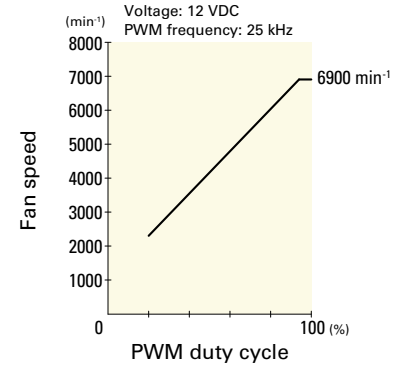
PWM duty cycle



Operating voltage range

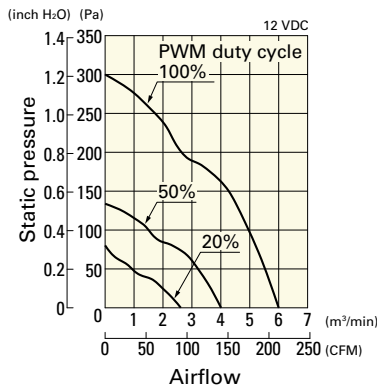


PWM duty - Speed characteristics example

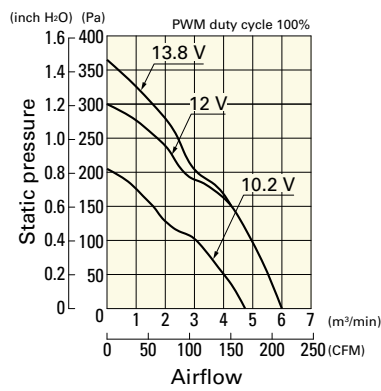


**9WL1412P1H001** With pulse sensor with PWM control function

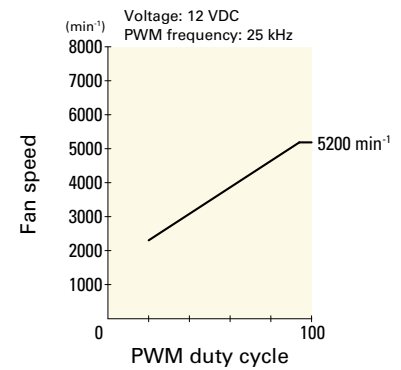
PWM duty cycle



Operating voltage range

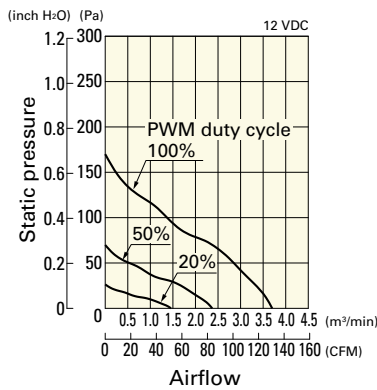


PWM duty - Speed characteristics example

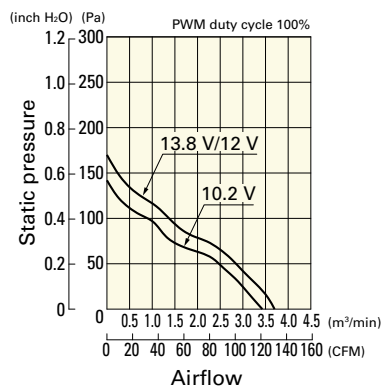


**9WL1412P1M001** With pulse sensor with PWM control function

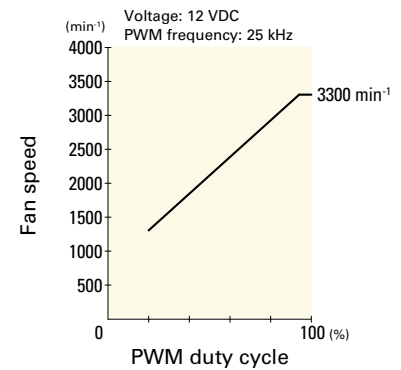
PWM duty cycle



Operating voltage range

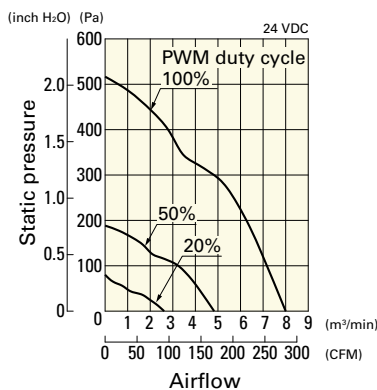


PWM duty - Speed characteristics example

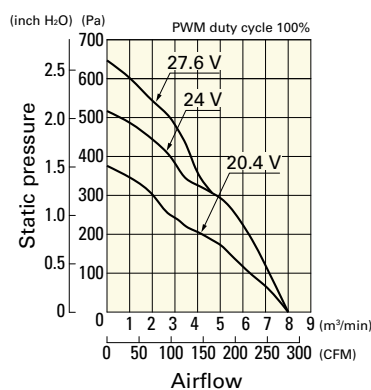


**9WL1424P1A001** With pulse sensor with PWM control function

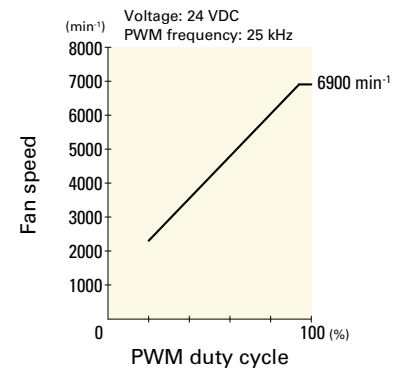
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

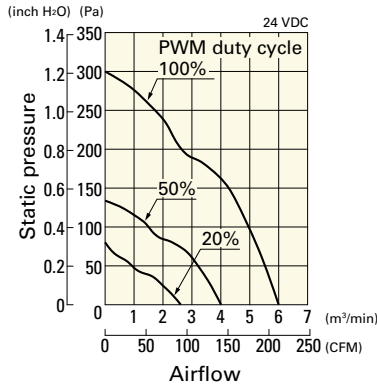


DC  
Splash Proof Fan 140 mm sq.

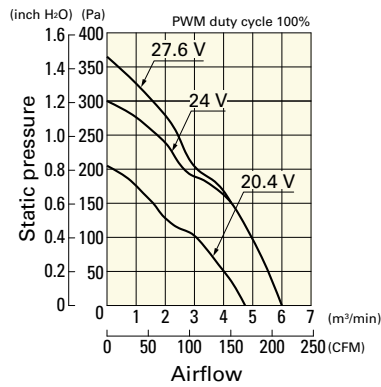
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9WL1424P1H001** With pulse sensor with PWM control function

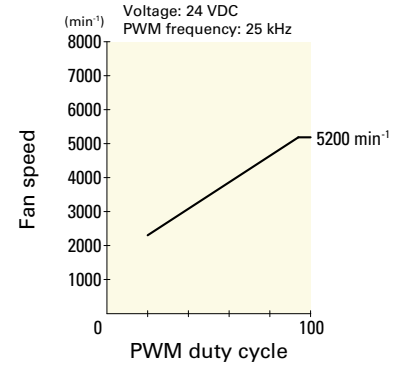
PWM duty cycle



Operating voltage range

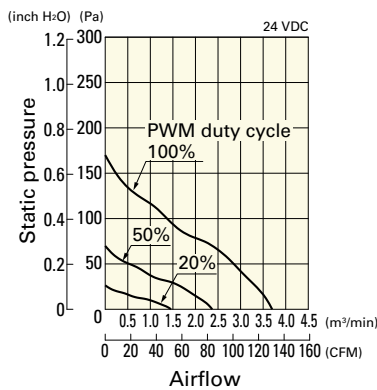


PWM duty - Speed characteristics example

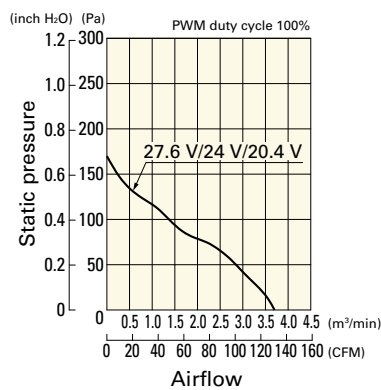


**9WL1424P1M001** With pulse sensor with PWM control function

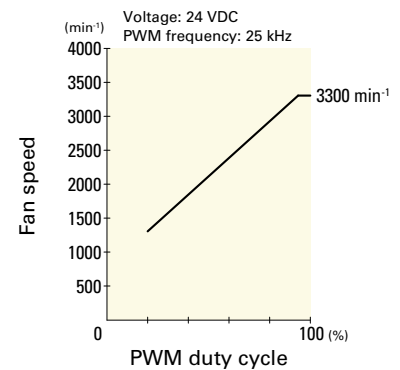
PWM duty cycle



Operating voltage range

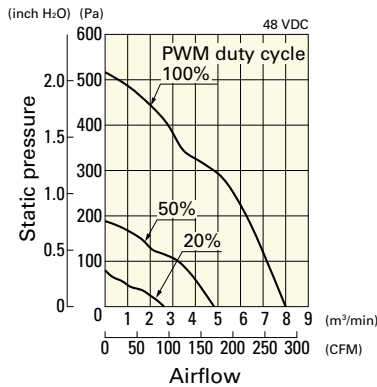


PWM duty - Speed characteristics example

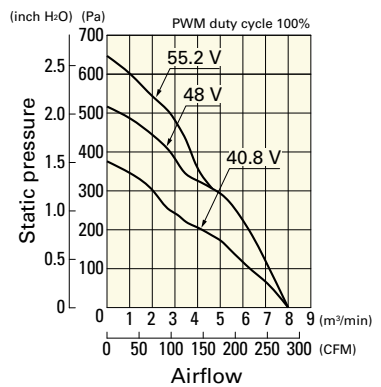


**9WL1448P1A001** With pulse sensor with PWM control function

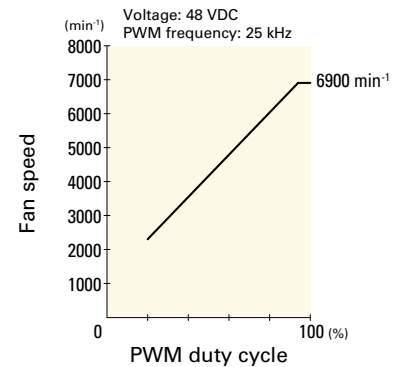
PWM duty cycle



Operating voltage range

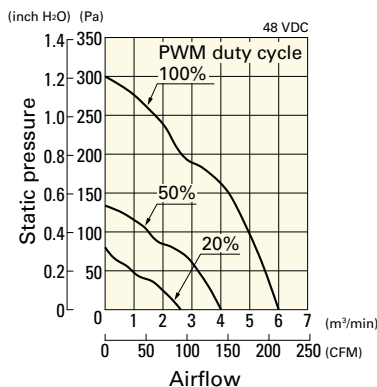


PWM duty - Speed characteristics example

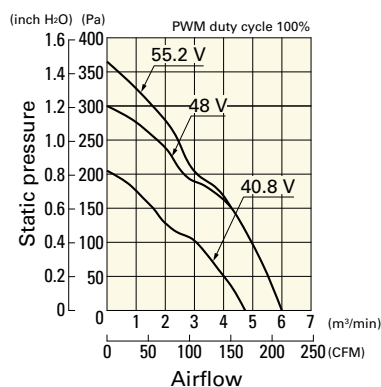


**9WL1448P1H001** With pulse sensor with PWM control function

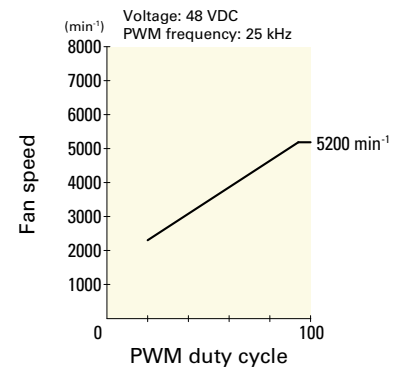
PWM duty cycle



Operating voltage range



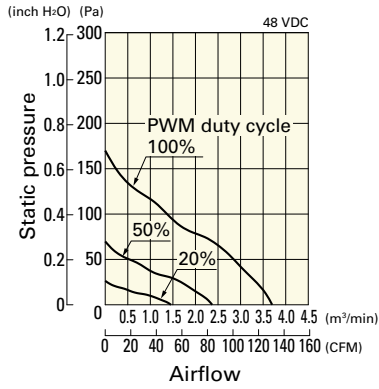
PWM duty - Speed characteristics example



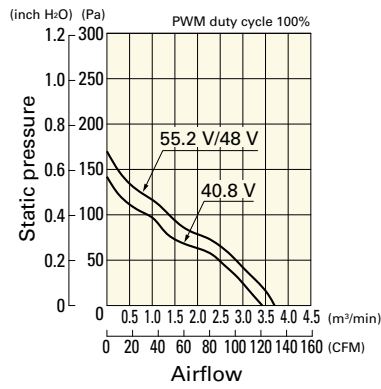
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9WL1448P1M001** With pulse sensor with PWM control function

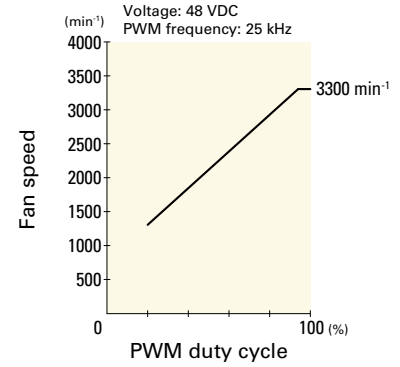
PWM duty cycle



Operating voltage range



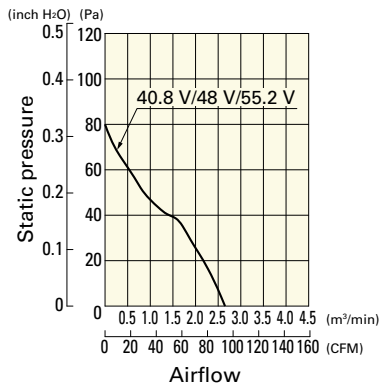
PWM duty - Speed characteristics example



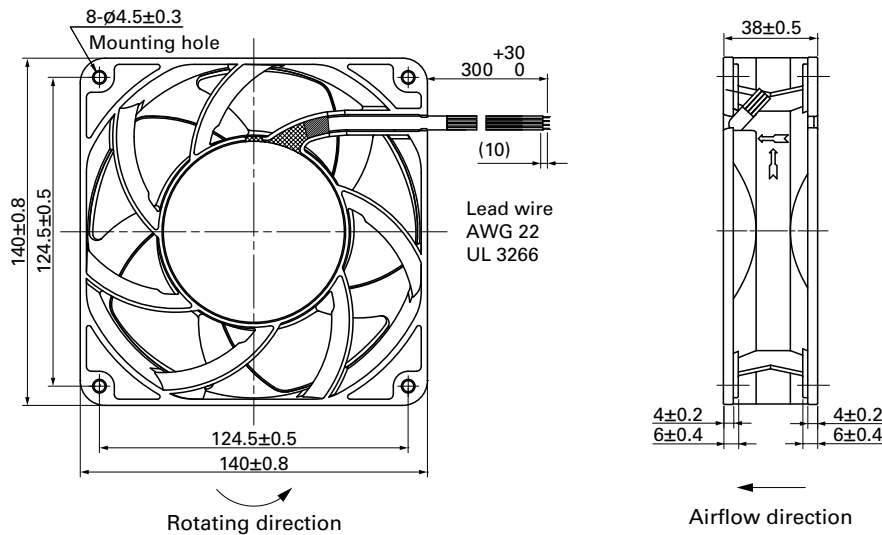
## Airflow - Static Pressure Characteristics

**9WL1448L1001** With pulse sensor

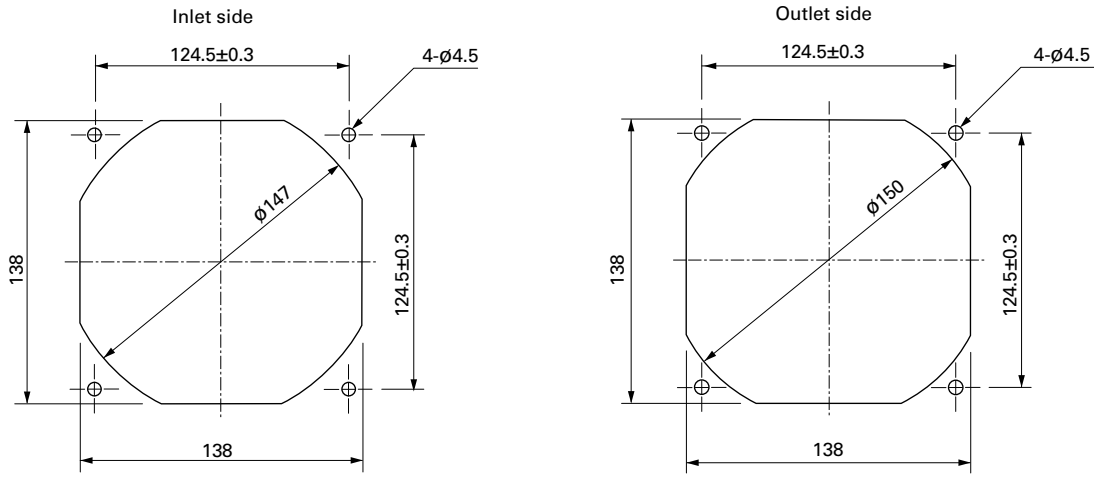
Operating voltage range



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



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



**Options**

Finger guards page: p. 565

Model no.: 109-719, 109-719H