



# 140×140×38 mm

San Ace 140W 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) 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. 614.
- 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 ..... 740 g
- Ingress protection ..... IP68 For more information on IP rating, refer to p. 621.

## 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 <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 a pulse sensor.**

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 pp. 655 to 656.

DC

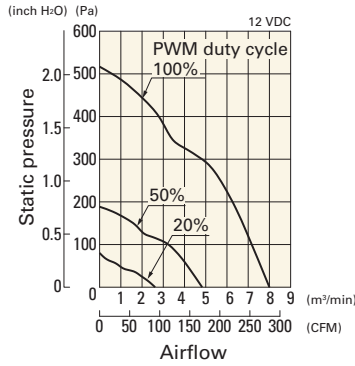
Splash Proof Fan 140 mm sq.

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

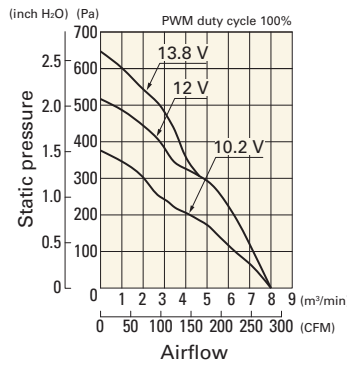
DC  
Splash Proof Fan 140 mm sq.

## 9WL1412P1A001 With pulse sensor with PWM control

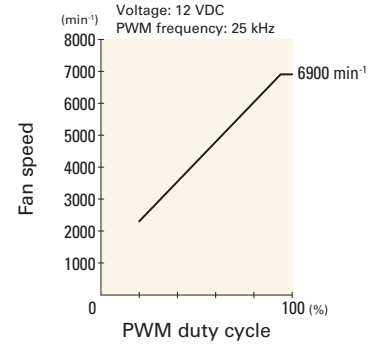
PWM duty cycle



Operating voltage range

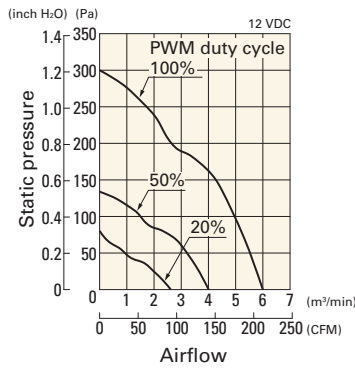


PWM duty - Speed characteristics example

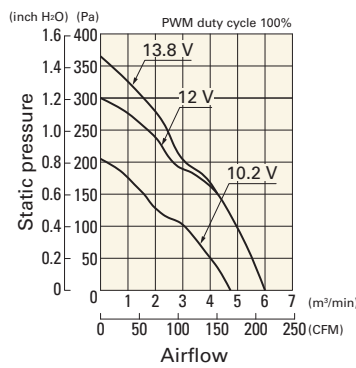


## 9WL1412P1H001 With pulse sensor with PWM control

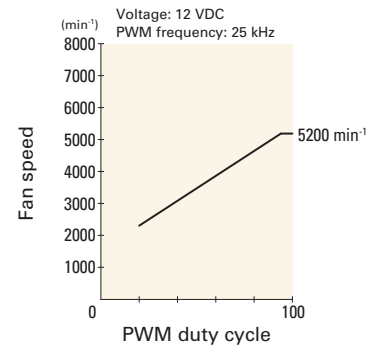
PWM duty cycle



Operating voltage range

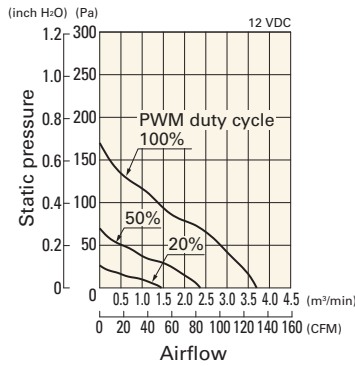


PWM duty - Speed characteristics example

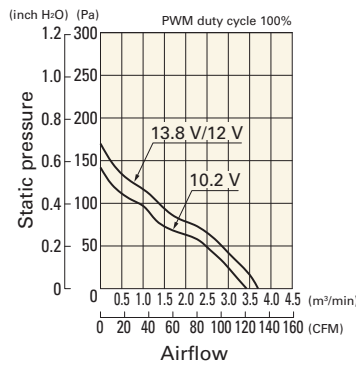


## 9WL1412P1M001 With pulse sensor with PWM control

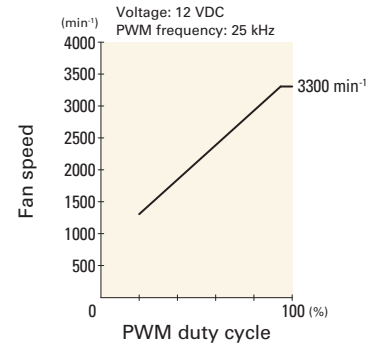
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

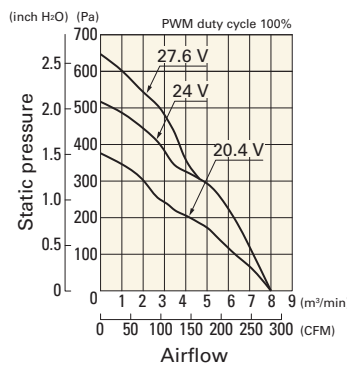


## 9WL1424P1A001 With pulse sensor with PWM control

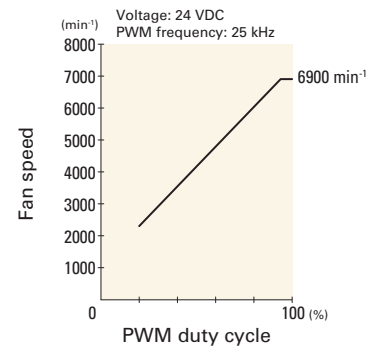
PWM duty cycle



Operating voltage range



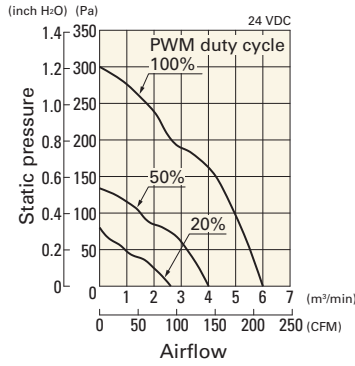
PWM duty - Speed characteristics example



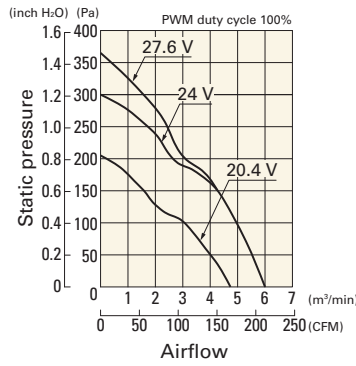
# Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

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

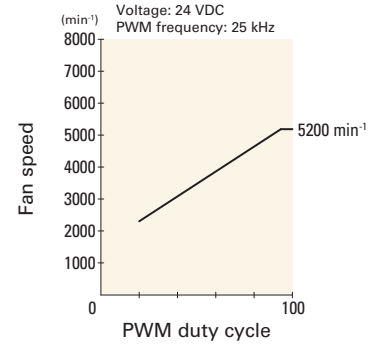
PWM duty cycle



Operating voltage range

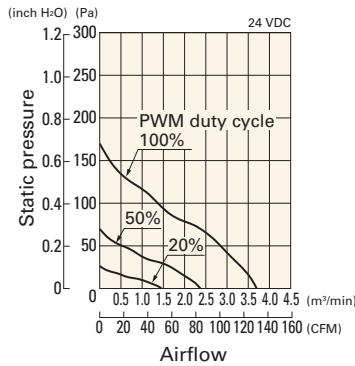


PWM duty - Speed characteristics example

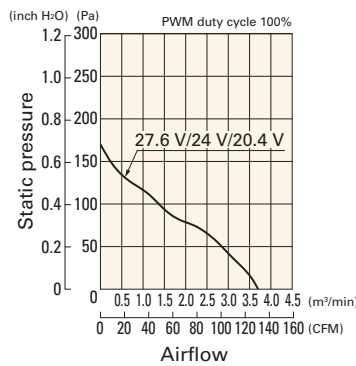


**9WL1424P1M001** With pulse sensor with PWM control

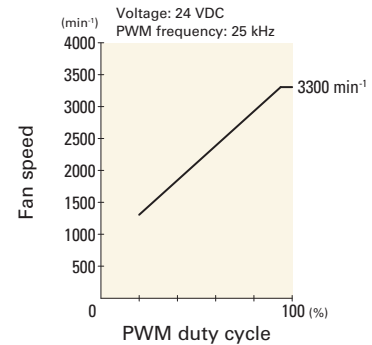
PWM duty cycle



Operating voltage range

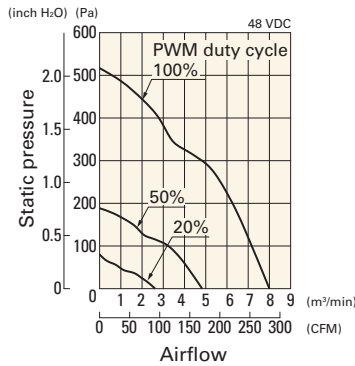


PWM duty - Speed characteristics example

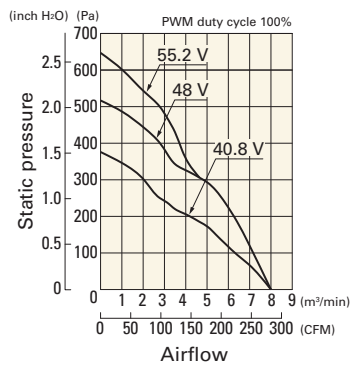


**9WL1448P1A001** With pulse sensor with PWM control

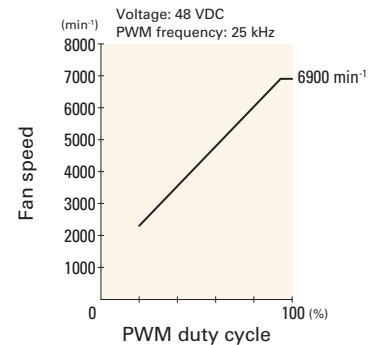
PWM duty cycle



Operating voltage range

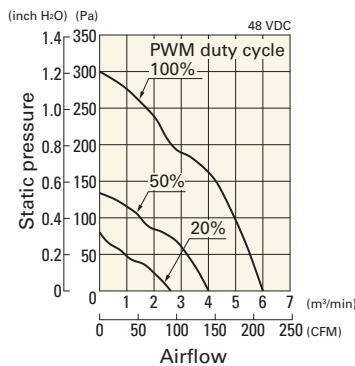


PWM duty - Speed characteristics example

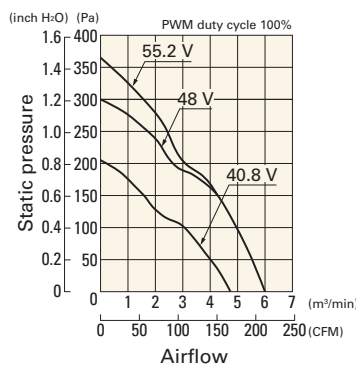


**9WL1448P1H001** With pulse sensor with PWM control

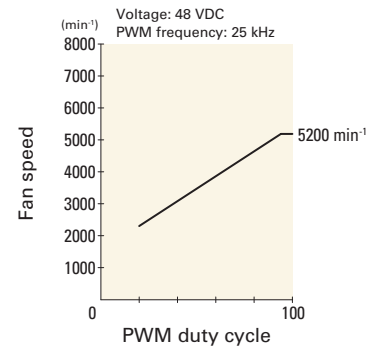
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example

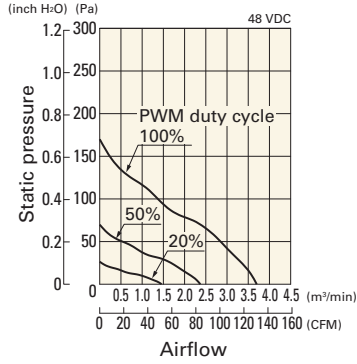


DC  
Splash Proof Fan 140 mm sq.

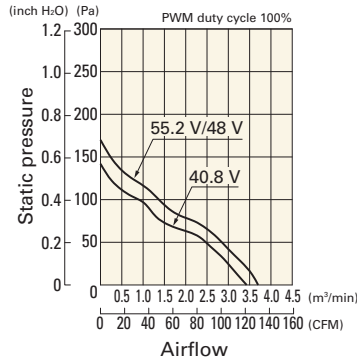
**Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example**

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

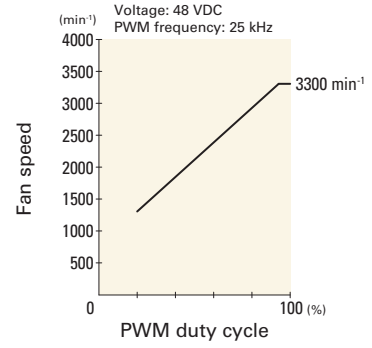
PWM duty cycle



Operating voltage range



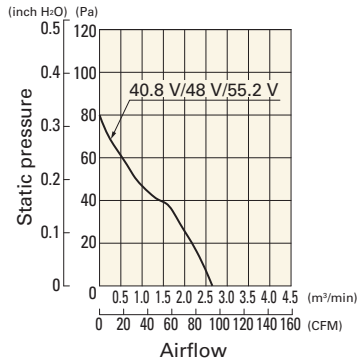
PWM duty - Speed characteristics example



**Airflow - Static Pressure Characteristics**

**9WL1448L1001** With pulse sensor

Operating voltage range



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

