

San Ace 38 CRA type

DC Fan 38mm

Features

Large air flow and high static pressure

- Maximum airflow : 0.77m³/min
- Maximum static pressure : 700Pa
- Reduced mass by approx. 10% and increased maximum static pressure by approx. 25% with our conventional product*.

* Our conventional product is the DC cooling fan :
40 mm square x 48 mm thick fan "San Ace 40" CRA type (9CRA0412P4J03)



38mm square × **48mm thick**

Specifications

Model No.	Rated Voltage (V)	Operating Voltage Range (V)	PWM duty cycle* (%)	Rated Current (A)	Rated Input (W)	Rated Speed (min ⁻¹)		Air Flow		Static Pressure		SPL (dB[A])	Operating Temperature Range (°C)	Life Expectancy (h)
						Inlet	Outlet	(m ³ /min)	(CFM)	(Pa)	(inchH ₂ O)			
9CRA0312P4K03	12	10.8 to 13.2	100	1.5	18.0	17,600	14,520	0.77	27.2	700.0	2.81	64	-10 to +70	30,000
			0	0.2	2.4	5,280	4,200	0.22	7.8	54.9	0.22	33		
9CRA0312P4J03			100	1.1	13.2	16,000	13,200	0.7	24.7	560.0	2.25	62		40,000
			0	0.18	2.2	4,800	3,960	0.21	7.4	50.4	0.20	31		

※PWM Frequency : 25kHz

Common Specifications

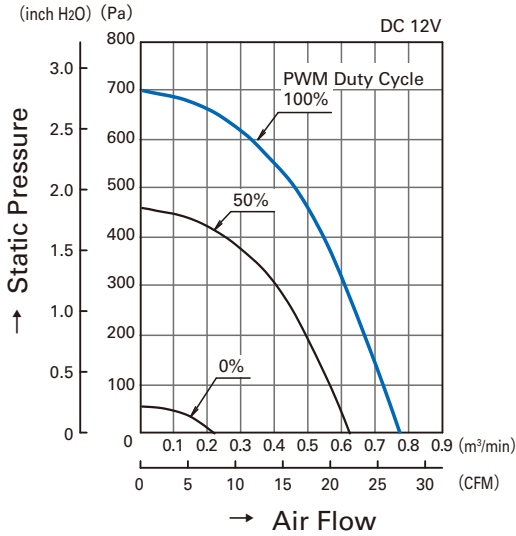
- Material Frame: Plastics (Flammability: UL94V-0) , Impeller: Plastics (Flammability: UL94V-1)
- Life Expectancy Varies for each model
(L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- Motor Protection System Current blocking function and Reverse polarity protection
- Dielectric Strength 50/60 Hz, 500VAC, 1 minute (between lead conductor and frame)
- Sound Pressure Level (SPL) Expressed as the value at 1m from air inlet side
- Operating Temperature Range Varies for each model (Non-condensing)
- Lead Wire Inlet ⊕red ⊖black Sensor: yellow Control: brown
Outlet ⊕orange ⊖gray Sensor: purple Control: white
- Mass 80g

38mm

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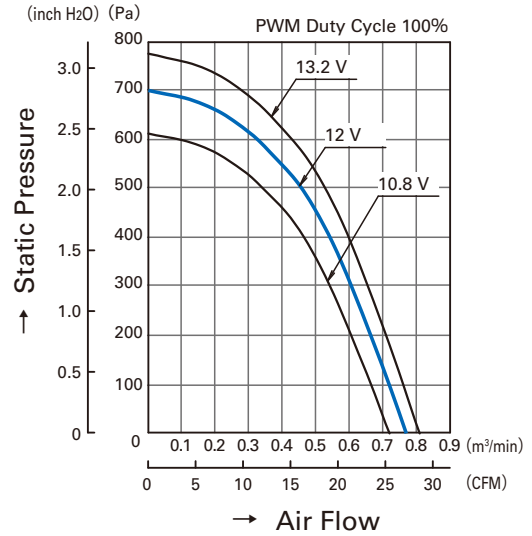
Air Flow and Static Pressure Characteristics

• PWM Duty Cycle

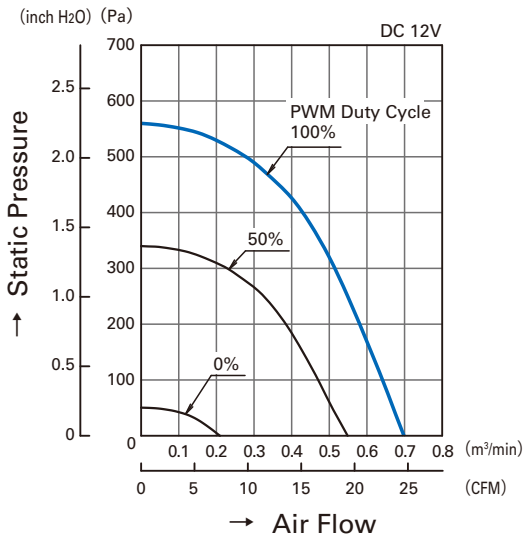


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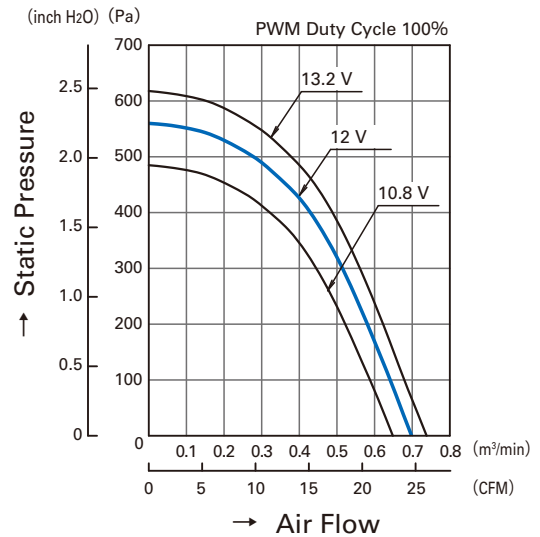
• Operating Voltage Range



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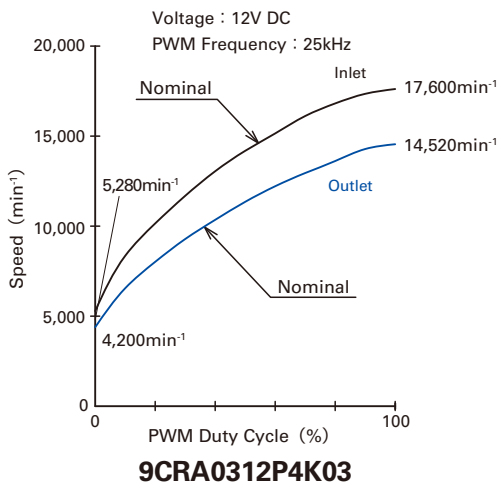


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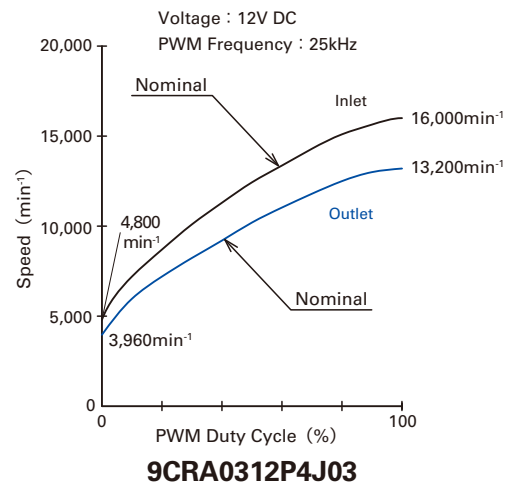


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PWM Duty - Speed Characteristics Example



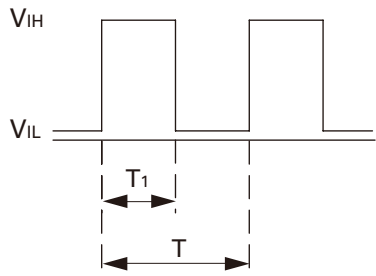
9CRA0312P4K03



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PWM Input Signal Example

Input Signal Wave Form



$V_{IH}=2.8V$ to $3.8V$

$V_{IL}=0V$ to $0.4V$

PWM Duty Cycle (%) = $\frac{T_1}{T} \times 100$

PWM Frequency 25 (kHz) = $\frac{1}{T}$

Source Current (I_{source}) : 2mA Max. at control voltage 0V

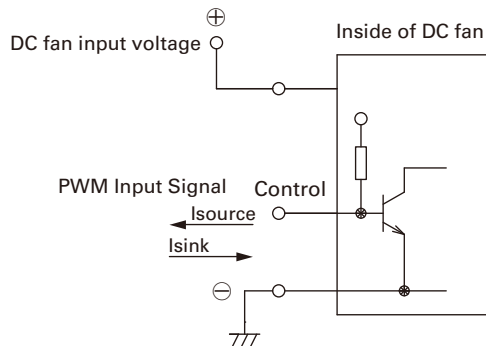
Sink Current (I_{sink}) : 2mA Max. at control voltage 3.8V

Control Terminal Voltage : 3.8V Max. (Open Circuit)

When the control lead wire is no connecting, the speed is the same speed as at 100% of PWM cycle.

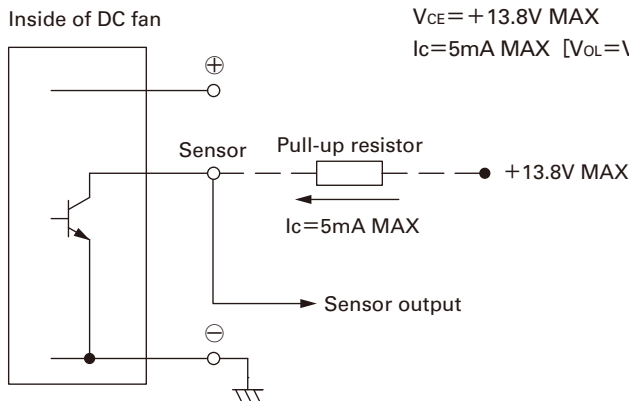
This fan speed should be controlled by PWM input signal of either TTL input or open collector, drain input.

Connection Schematic



Specifications for Pulse Sensors

Output circuit : Open collector



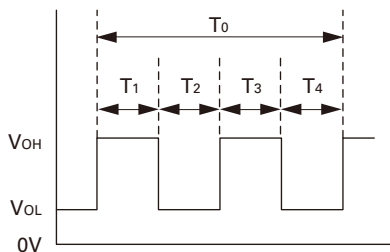
$V_{CE}=+13.8V$ MAX

$I_c=5mA$ MAX [$V_{OL}=V_{CE(SAT)}=0.6V$ MAX]

Output waveform (Need pull-up resistor)

In case of steady running

(One revolution)

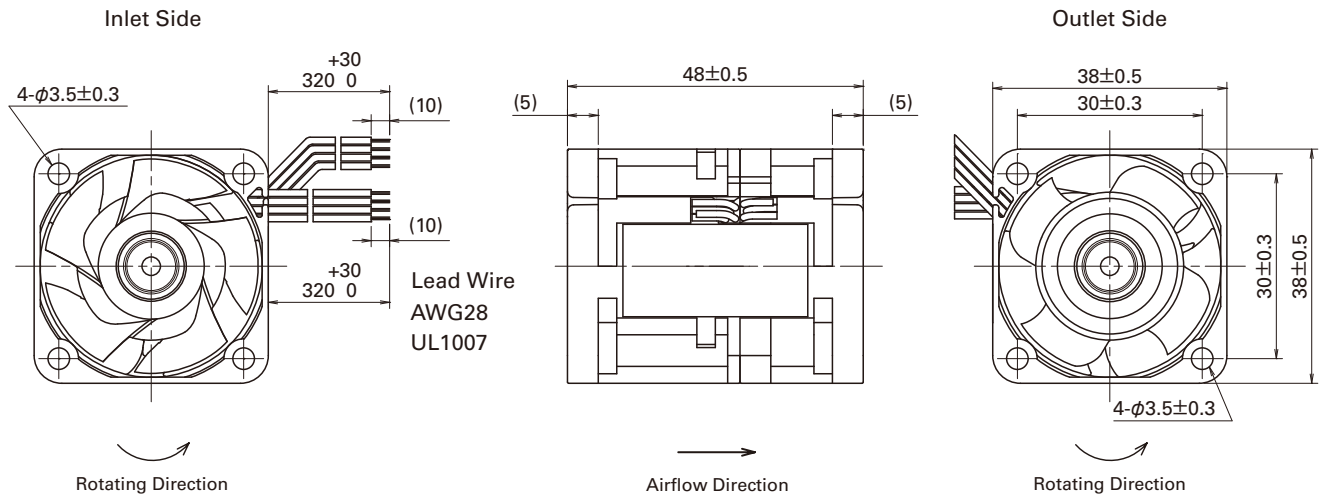


$T_{1\sim 4} \doteq (1/4) T_0$

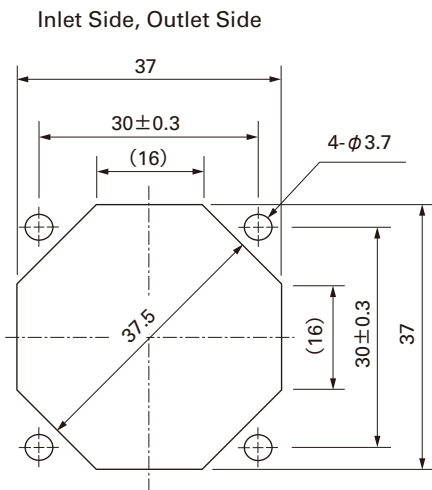
$T_{1\sim 4} \doteq (1/4) T_0=60/4N$ (sec)

N =Fan speed (min^{-1})

■ Dimensions (unit : mm)



■ Reference dimension of mounting holes and vent opening (unit : mm)



Notice

- The products shown in the catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.
- To protect against electrolytic corrosion that may occur in locations with strong electromagnetic noise, we provide fans that are unaffected by electrolytic corrosion.