

San Ace 80 CRA type

Counter Rotating Fan

■ Features

High static pressure

Maximum static pressure is increased by approx. 2.2 times*² compared with our conventional product*¹.

Energy-saving

Power consumption is reduced to approx. 76%*^{2,3} compared with our conventional product *¹.

*1: Our conventional product is the 80sq.×80mm thick. San Ace 80, Model No. 9CR0812S801.

*2: Specification of Model No. 9CRA0812P8G001.

*3: When air flow and static pressure is almost identical.



Counter Rotating Fan 80mm

80×80×80mm

■ Specifications

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM Duty Cycle [%] <small>Note1</small>	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]		Max. Air Flow		MAX. Static Pressure		SPL [dB(A)]	Operating Temperature [°C]	Expected Life <small>Note2</small> [h]
						Inlet	Outlet	[m ³ /min]	[CFM]	[Pa]	[inchH ₂ O]			
9CRA0812P8G001	12	10.8 to 13.2	100	5.3	63.6	12,000	11,300	4.5	158.9	1,150	4.62	76	-10 to +70	40,000/60°C (70,000/40°C)
			0	0.2	2.4	2,000	1,900	0.74	26.1	31.9	0.13	30		
9CRA0848P8G001	48	40.8 to 55.2	100	1.32	63.4	12,000	11,300	4.5	158.9	1,150	4.62	76		
			0	0.29	13.9	5,000	4,700	1.88	66.2	200	0.80	52		

Note1 : PWM Frequency : 25kHz

Note2: Expected life at 40 degreeC ambient is just reference value.

■ Common Specifications

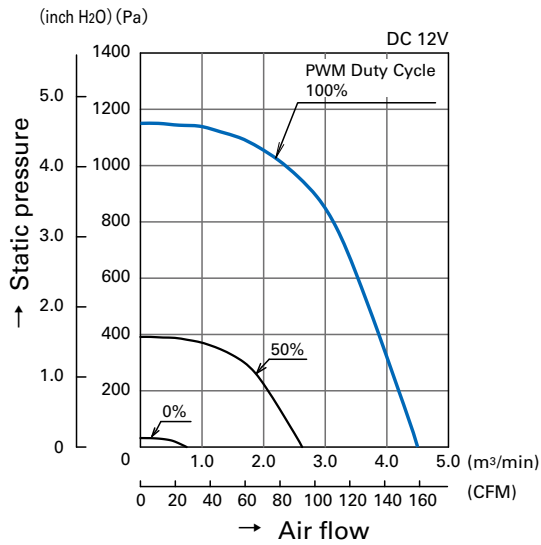
- Material Frame, Impeller : Plastics (Flammability: UL94V-0)
- Expected Life Varies for each model
(L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- Motor Protection System Current blocking function and Reverse polarity protection
- Dielectric Strength 50/60 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 Varies for each model (Non-condensing)
- Storage Temperature -30°C to +70°C (Non-Condensing)
- Lead Wire Inlet: ⊕Red ⊖Black Sensor: Yellow Control: Brown
Outlet: ⊕Orange ⊖Gray Sensor: Purple Control: White
- Mass Approx. 450g

80mm

SanAce80 CRA type

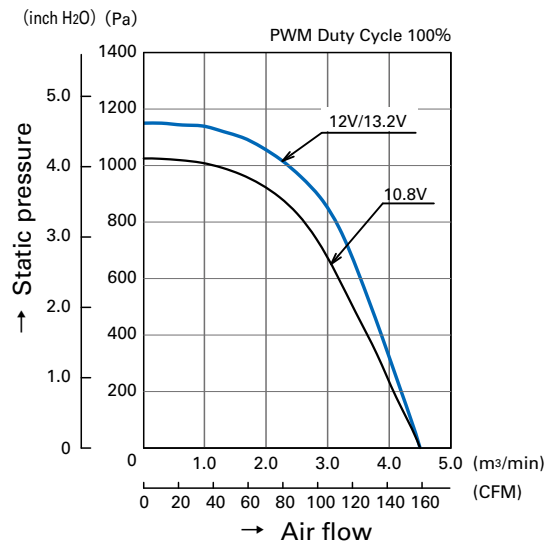
Air Flow - Static Pressure Characteristics

• PWM Duty Cycle

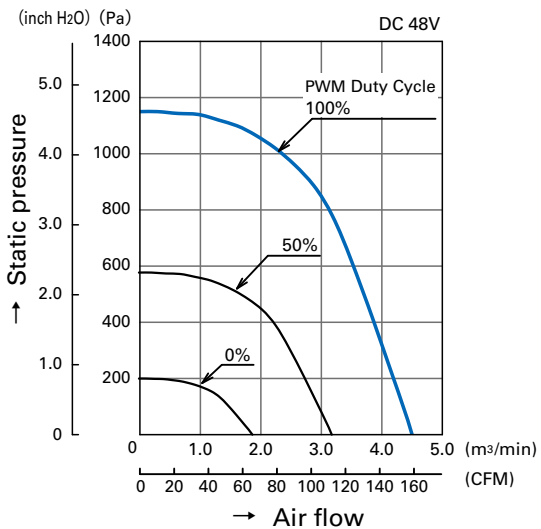


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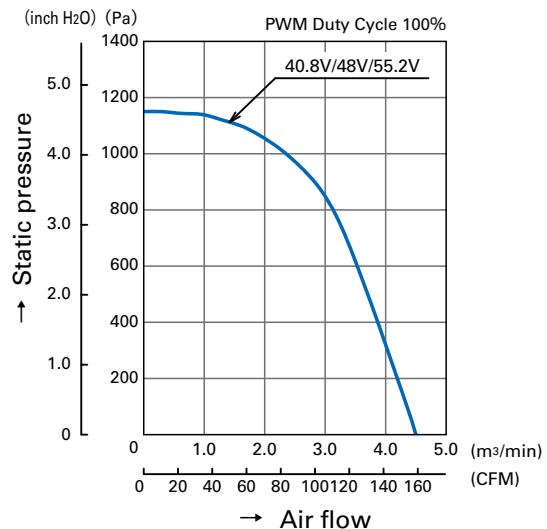
• Operating Voltage Range



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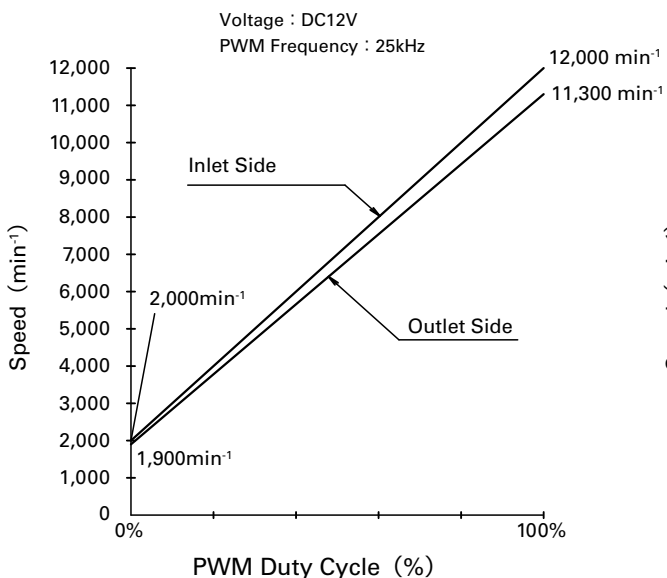


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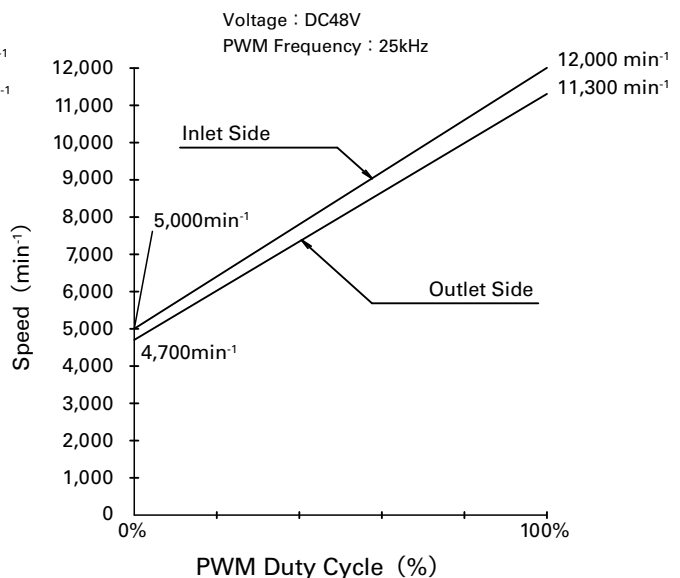


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PWM Duty - Speed Characteristics Example



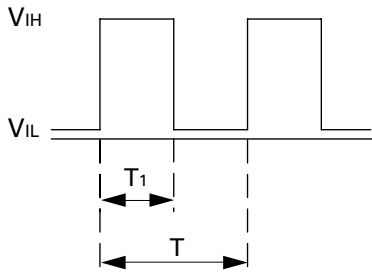
9CRA0812P8G001



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PWM Input Signal Example

Input Signal Wave Form



$V_{IH}=4.75V$ to $5.25V$

$V_{IL}=0V$ 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

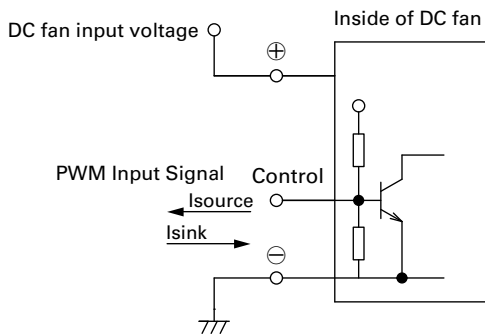
Sink Current (I_{sink}) : 2mA Max. at control voltage 5.25V

Control Terminal Voltage : 5.25V Max. (Open Circuit)

When the control lead wire is open, speed is same as one at 100% PWM duty 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

Rated Voltage 12V fan

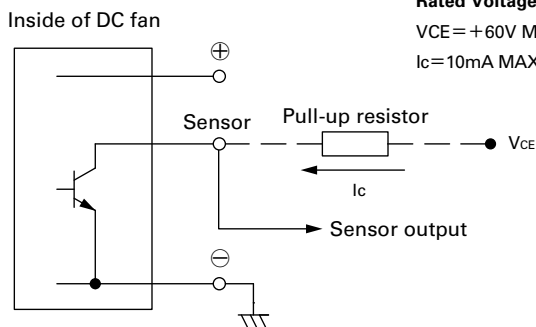
$V_{CE} = +13.8V$ MAX.

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

Rated Voltage 48V fan

$V_{CE} = +60V$ MAX.

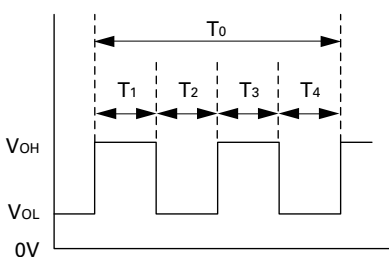
$I_c = 10mA$ MAX. [$V_{OL} = V_{CE} (SAT) = 0.8V$ MAX.]



Output waveform (Need pull-up resistor)

In case of steady running

(One revolution)

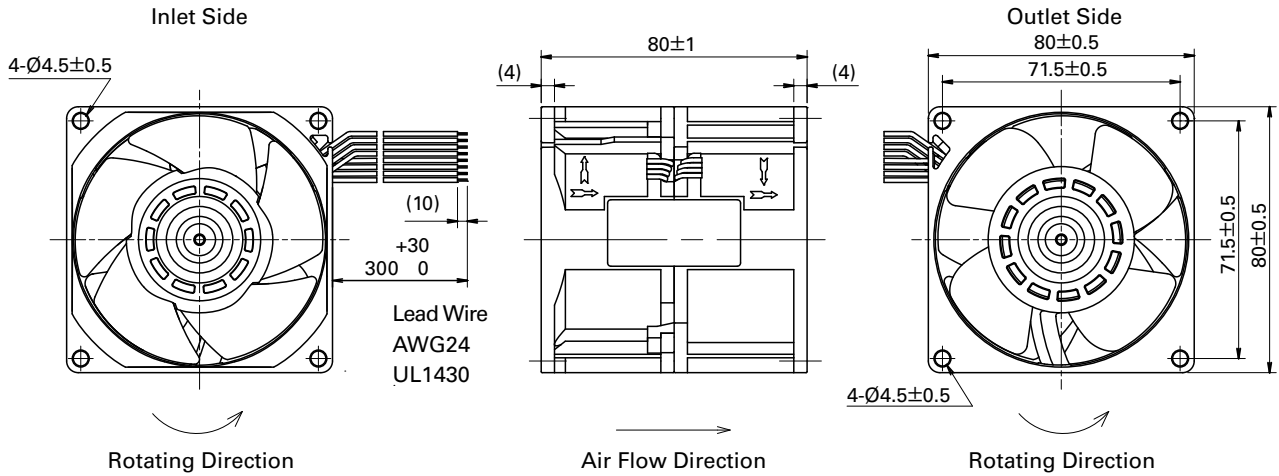


$T_{1\sim4} \doteq (1/4) T_0$

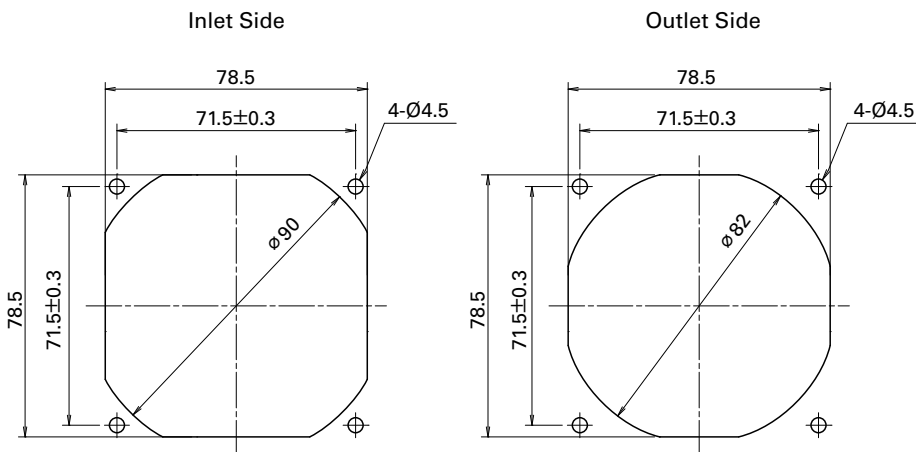
$T_{1\sim4} \doteq (1/4) T_0 = 60/4N$ (sec)

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

■ 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.

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