

**Counter Rotating Fan**

**40mm**

**San Ace 40**

48mm thick (CRA type)  
56mm thick (CRE type)  
56mm thick (CRA type)



**General Specifications** **With a pulse sensor** Specifications for pulse sensors ⇨ Refer to Page 239

**With PWM speed control function**

\*Please inquire about other specifications.

- Material ..... Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-0)
- Life Expectancy ..... Varies for each model (L10:Survival rate:90% at 60°C, rated voltage, and continuously run in a free air state)
- Lead Wire ..... Inlet ⊕red ⊖black (Sensor) yellow (Control) brown  
Outlet ⊕orange ⊖gray (Sensor) purple (Control) white
- Storage Temperature ... -30°C to +70°C (Non-condensing)

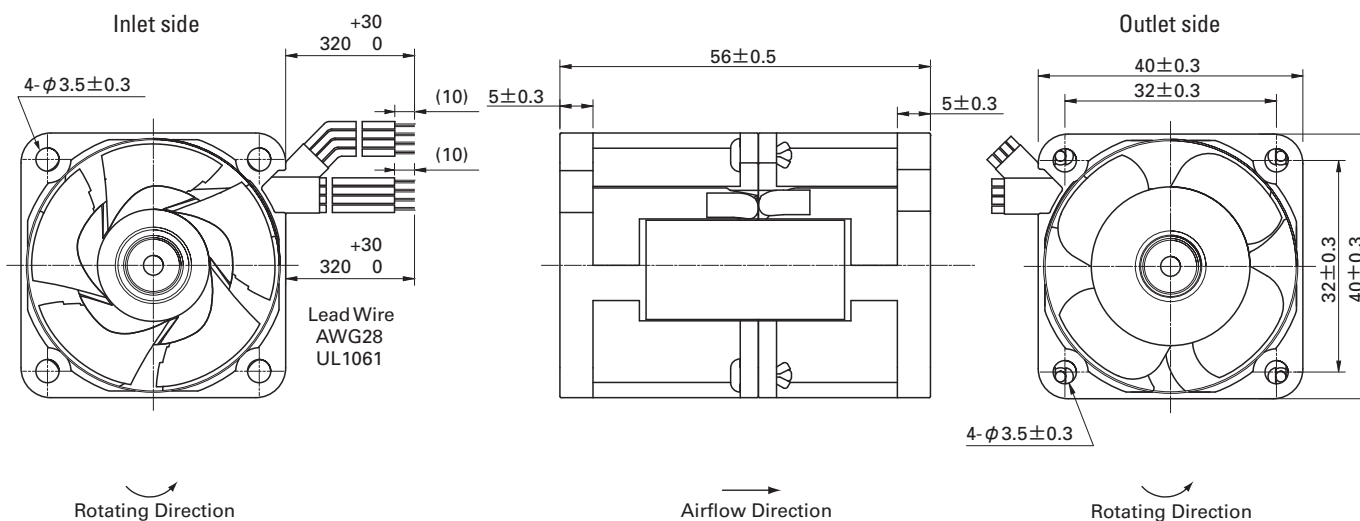
**40mm × 56mm thick** (Mass : 110g) **Low vibration** **CRE type**

**Specifications**

Model No.	Rated Voltage (V)	Operating Voltage Range (V)	PWM duty cycle※ (%)	Rated Current (A)	Rated Input (W)	Rated Speed (min <sup>-1</sup> )		Air Flow (m <sup>3</sup> /min) (CFM)		Static Pressure (Pa) (inchH <sub>2</sub> O)		SPL (dB(A))	Operating Temperature Range (°C)	Life Expectancy (h)
						Inlet	Outlet							
9CRE0412P5J03	12	10.8 ~ 13.2	100	1.4	16.8	15,800	12,200	0.90	31.8	570.0	2.290	62	-10 ~ +70	40,000
			0	0.1	1.2	2,850	2,250	0.12	4.2	13.7	0.055	21		

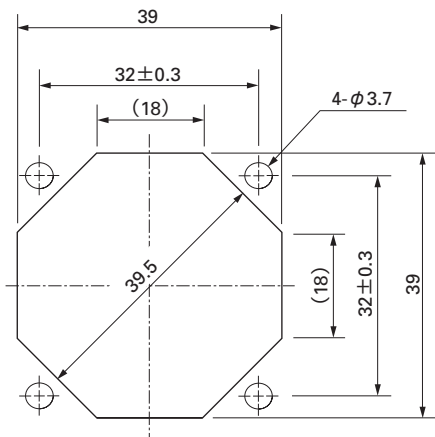
※PWM Frequency : 25kHz

**Dimensions (Unit : mm)**



**Reference dimension of mounting holes and vent opening (Unit : mm)**

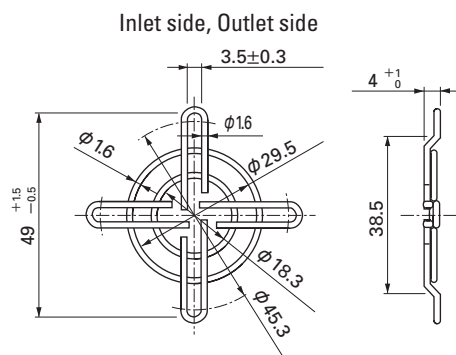
Inlet side, Outlet side



**Options (Unit : mm)**

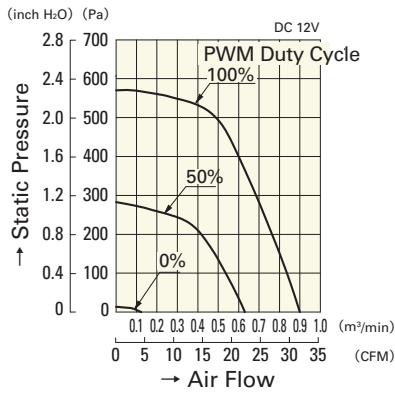
**Finger guards**

Model : 109-059 Surface treatment : Nickel-chrome plating (silver) Color



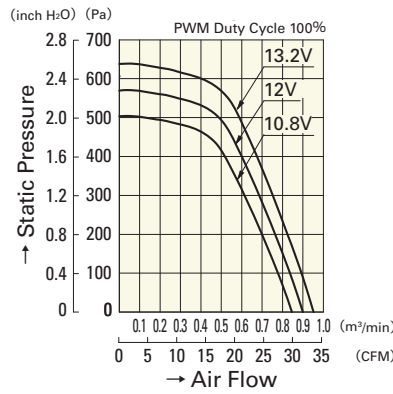
## Air Flow and Static Pressure Characteristics

### PWM Duty Cycle



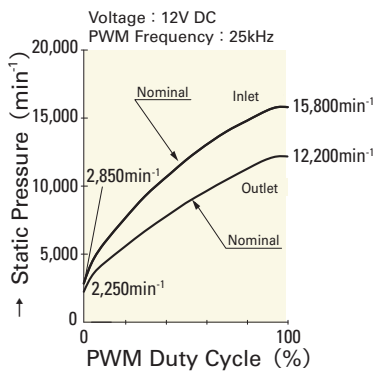
9CRE0412P5J03

### Operating Voltage Range



9CRE0412P5J03

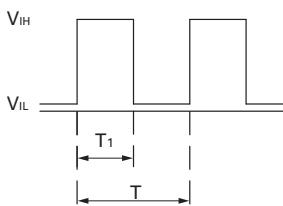
## PWM Duty - Speed Characteristics Example



9CRE0412P5J03

## PWM Input Signal Example

### Input Signal Wave Form



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

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

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

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

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 duty cycle.

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

## Connection Schematic

