

San Ace C221 9TP type Centrifugal Fan

Features

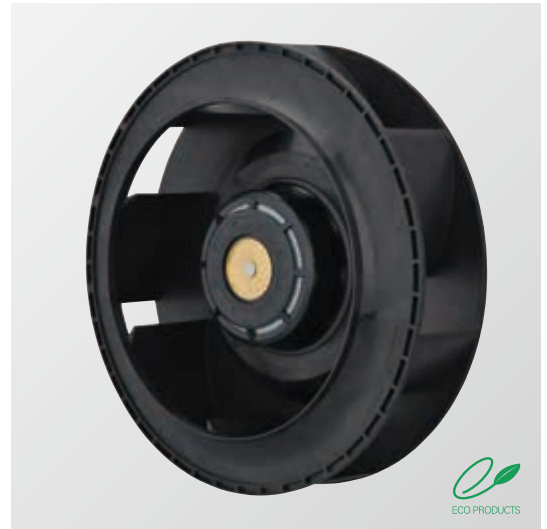
High Airflow and Static Pressure

- Maximum airflow: 21 m³/min*¹
- Maximum static pressure: 760 Pa*¹
- High cooling performance even in equipment with high system impedance

Low Noise and Energy Efficiency

- Sound pressure level: 71 dB(A)*²
- Power consumption: 76.8 W*²
- Maintains high airflow and static pressure while limiting noise and power consumption.

*1: Specification of Model No. 9TP48P0G001
*2: Specification of Model No. 9TP48P0H001



φ221 mm × 71 mm



Specifications

The following nos. have **PWM controls, pulse sensors.**

Model No.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle (Note 1, 2) [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating temperature [°C]	Expected life [h]
9TP24P0H001	24	16 to 36	100	3.2	76.8	3,050	17.6 622	530 2.13	71	-20 to +70	40,000
			15	0.4	9.6	1,000	5.75 203	57.4 0.23	53		
9TP48P0G001	48	36 to 72	100	2.75	132	3,650	21 742	760 3.05	74	-20 to +60	
			15	0.2	9.6	1,000	5.75 203	57.4 0.23	53	-20 to +70	
100			1.6	76.8	3,050	17.6 622	530 2.13	71	-20 to +70		
15			0.2	9.6	1,000	5.75 203	57.4 0.23	53	-20 to +70		

Note 1: PWM frequency: 25 kHz

Note 2: Fans do not rotate when PWM duty cycle is 0%.

Note 3: When inlet nozzle [Option (Model: 109-1135)] is mounted.

Note 4: Max input is 9TP48P0G001: 280 W, 9TP24P0H001 / 9TP48P0H001: 160 W at rated voltage.

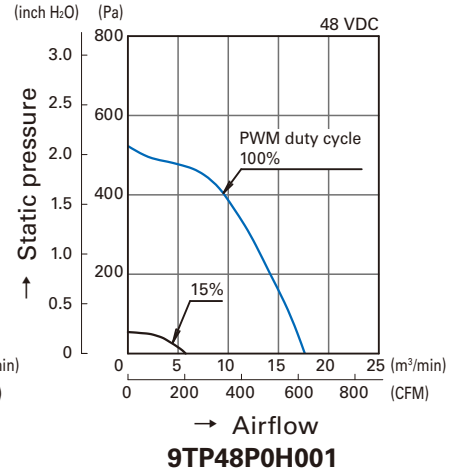
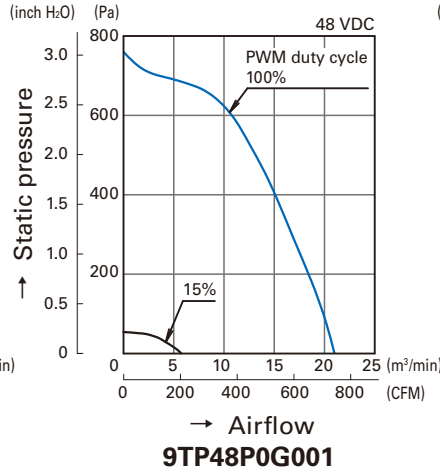
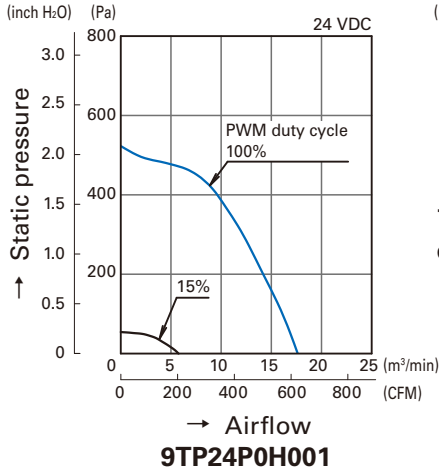
Available options: **Without Sensor**

Common Specifications

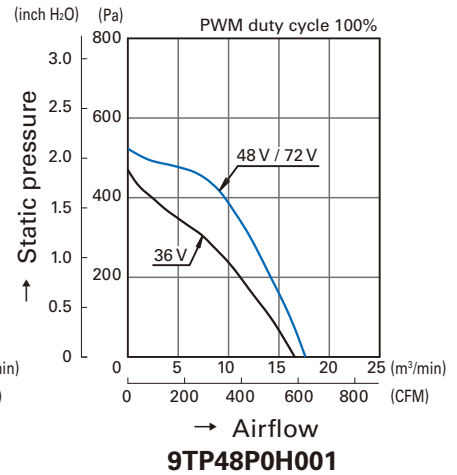
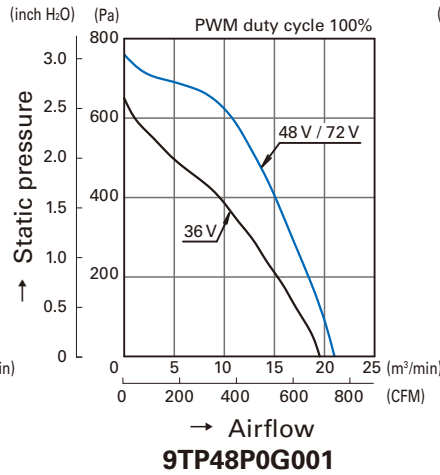
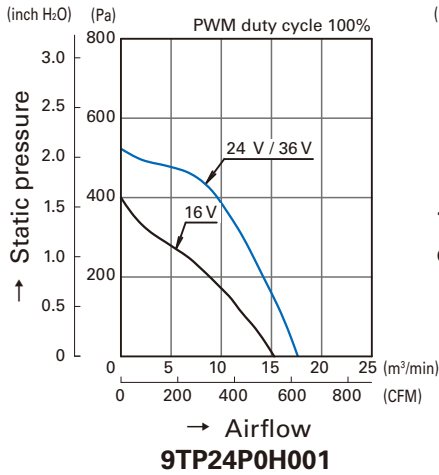
- Material Motor case: Aluminum, Impeller: Plastics (Flammability: UL94V-0)
- Expected life Refer to specifications
(L10: Survival rate: 90% at 60 °C, rated voltage, and continuously run in a free air state)
- Motor protection system Current blocking function and reverse polarity protection
- Dielectric strength 50 / 60 Hz, 500 VAC, 1 minute (between lead conductor and frame)
- Sound pressure level (SPL) Expressed as the value at 1 m from air inlet side
- Operating temperature Refer to specifications (Non-condensing)
- Storage temperature -30 °C to +70 °C (Non-condensing)
- Lead wire ⊕Red ⊖Black Sensor: Yellow Control: Brown
- Mass Approx. 1,050 g

Airflow - Static Pressure Characteristics

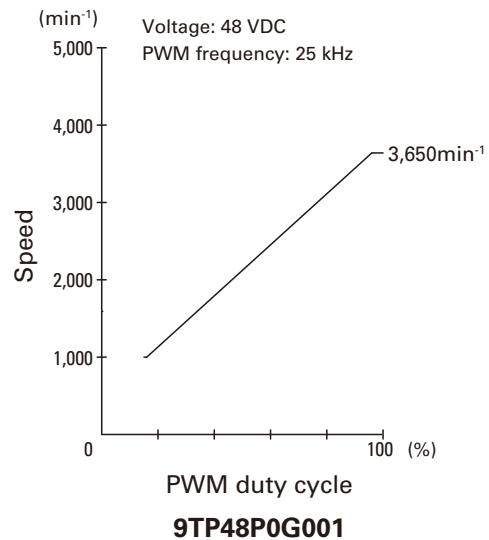
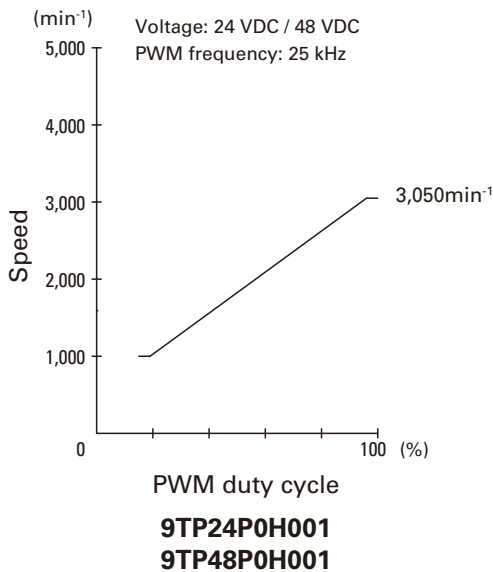
- PWM duty cycle



- Operating voltage range

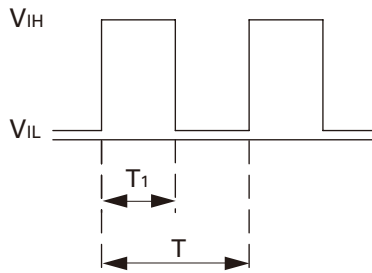


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

Input signal waveform



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

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

$$\text{PWM duty cycle (\%)} = \frac{T_1}{T} \times 100$$

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

Source current (I_{source}) : 1 mA max. at control voltage 0 V

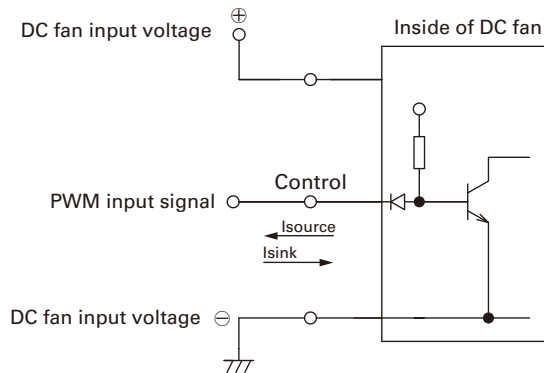
Sink current (I_{sink}) : 1 mA max. at control voltage 5.25 V

Control terminal voltage: 5.25 V max. (Open circuit)

When the control lead wire is open, the fan speed is the same as the one at a PWM duty cycle of 100%.

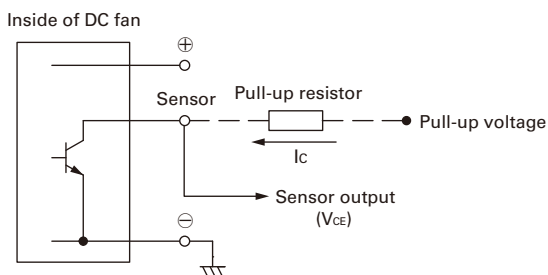
Either TTL input, open collector or open drain can be used for PWM control input signal.

Example of Connection Schematic



Specifications for Pulse Sensors

Output circuit: Open collector



Rated Voltage 24 V Fan

$V_{CE} = +36\text{ VDC max.}$

$I_c = 10\text{ mA max. [}V_{OL} = V_{CE}(\text{SAT}) = 1\text{ V max.]}$

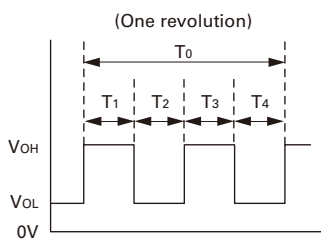
Rated Voltage 48 V Fan

$V_{CE} = +72\text{ VDC max.}$

$I_c = 10\text{ mA max. [}V_{OL} = V_{CE}(\text{SAT}) = 1\text{ V max.]}$

Output waveform (Need pull-up resistor)

In case of steady running



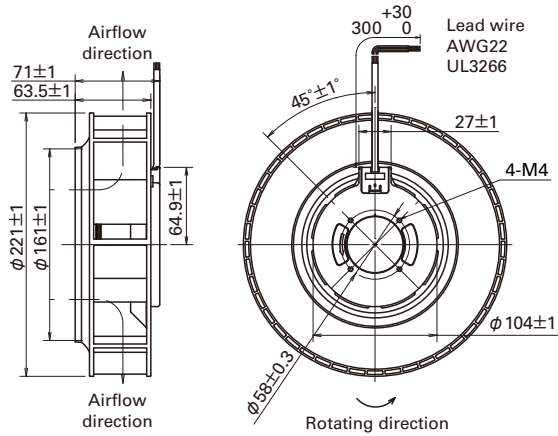
$T_{1\sim 4} \cong (1/4) T_0$

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

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

Dimensions (unit: mm)

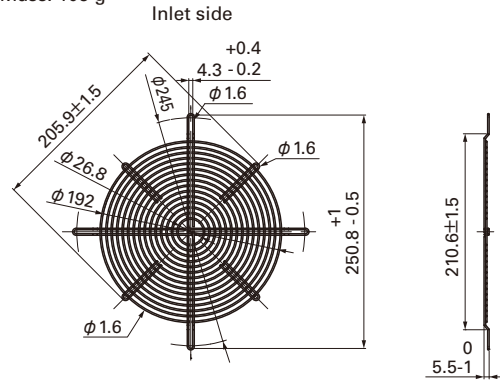
Fan



Finger guard (Model: 109-1138)

Surface treatment: Nickel-chrome plating (Color: silver)

Mass: 105 g



Inlet nozzle

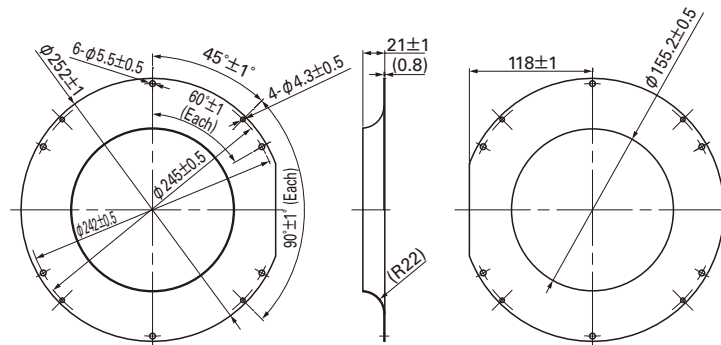
(Model: 109-1135)

Material: Steel sheet

Surface treatment:

Electro nickel plating (silver)

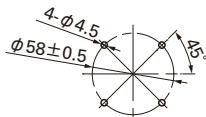
Mass: 230 g



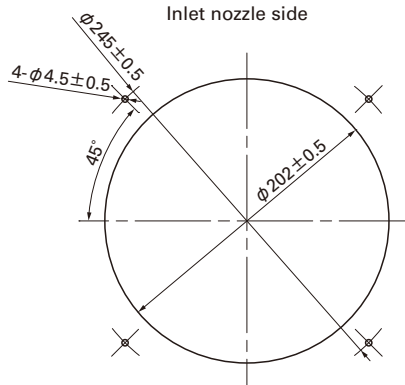
Inlet nozzle: Nozzle mounted in fan inlet side to adjust the flow of introduced air

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

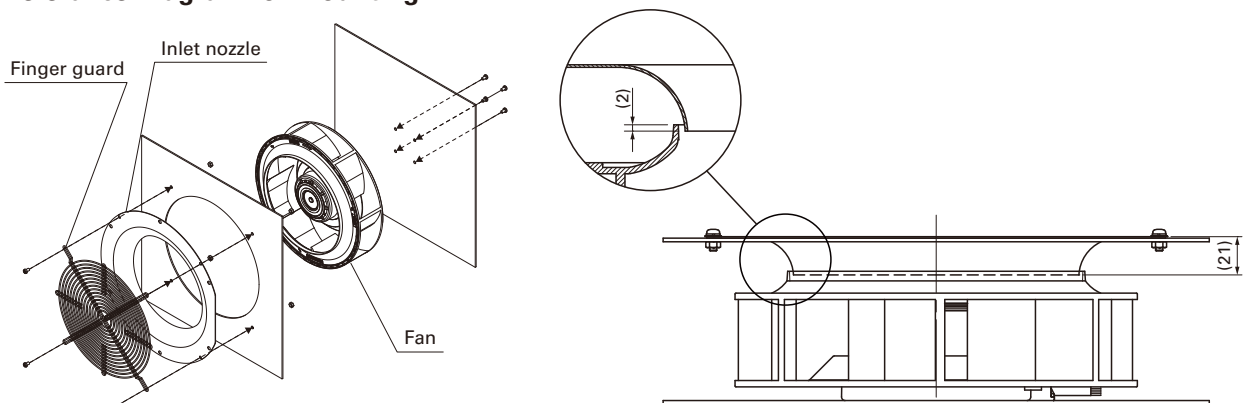
Fan side



Inlet nozzle side



Reference Diagram for Mounting



The screw length is 6 mm less or equal from fan edge side.

Notice

- Please read the "Safety Precautions" on our website before using the product.
- The products shown in this 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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