

# 92×92×25 mm

**San Ace 92**  Only standard fans (without sensors) have acquired CSA certification.



## General Specifications

- Material ..... Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 529.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) ..... Between AC input and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute  
Between AC input and G: 50/60 Hz 1500 VAC 1 minute  
Between G and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Operating voltage range ..... Voltage of each model ±10%
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Sensor-Purpose lead wire ..... ⊕Brown ⊖Black (Sensor) Yellow
- Mass ..... 290 g/310 g (with Sensor)

## Specifications

### Standard

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	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]
<b>109S091</b>	100	50/60	8/7	0.1 /0.09	0.13/0.12	2700/3100	0.95/1.1 33.6/38.9	39.2/49.0 0.157/0.197	35/38	-30 to +60	25000/60°C
<b>109S093</b>	115			0.09/0.08	0.11/0.1						
<b>109S092</b>	200		11/10	0.07/0.06	0.08/0.08						
<b>109S094</b>	230		10/9	0.06/0.05	0.07/0.07						
<b>109S095</b>	100		8/7	0.1 /0.09	0.11/0.1	2400/2800	0.84/0.98 29.7/34.6	31.4/40.2 0.126/0.161	32/35		
<b>109S096*</b>	100		7/6	0.09/0.08	0.09/0.08	1500/1700	0.55/0.65 19.4/23	12.5/16.3 0.05 /0.065	24/27		
<b>109S193*</b>	115			0.08/0.07	0.08/0.07						
<b>109S192*</b>	200		8/7	0.06/0.05	0.06/0.05						
<b>109S194*</b>	230			0.05/0.04	0.05/0.04						

\*These are low-speed models.

### with Sensor

For sensor specifications, please refer to p. 531. Sensor specification differs depending on the fan's speed specification.

For a 5 V sensor power supply (ITEM-20), please append "-20" to the end of model number. E.g. 109S491-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109S491-30

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	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]
<b>109S491</b>	100	50/60	8/7	0.1 /0.09	0.13/0.12	2700/3100	0.95/1.1 33.6/38.9	39.2/49.0 0.157/0.197	35/38	-10 to +60	25000/60°C
<b>109S493</b>	115			0.09/0.08	0.11/0.1						
<b>109S492</b>	200		11/10	0.07/0.06	0.08/0.08						
<b>109S494</b>	230		10/9	0.06/0.05	0.07/0.07						
<b>109S495</b>	100		8/7	0.1 /0.09	0.11/0.1	2400/2800	0.84/0.98 29.7/34.6	31.4/40.2 0.126/0.161	32/35		
<b>109S496*</b>			7/6	0.09/0.08	0.09/0.08	1500/1700	0.55/0.65 19.4/23	12.5/16.3 0.05 /0.065	24/27		

\*These are low-speed models.

For the **San Ace 92AD** 9AD type **92×92×38** mm fan, please refer to p. 458.

This fan works while internally converting AC power into DC power, providing the superior performance of a DC fan with the flexibility of AC input.

## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

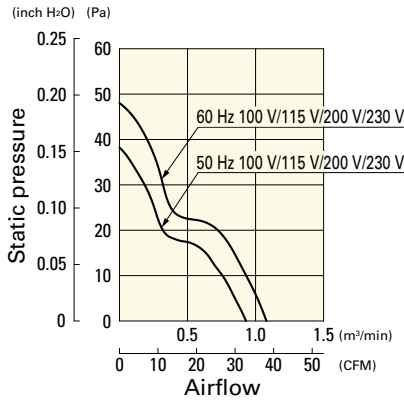
Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-109S091	109S091	100 V		489-016-L10	109-099E	M3×40 mm (4 screws)*
ST1-109S093	109S093	115 V		489-016-L10	109-099E	
ST1-109S092	109S092	200 V		489-016-L10	109-099E	
ST1-109S094	109S094	230 V		489-016-L10	109-099E	
ST1-109S095	109S095	100 V		489-016-L10	109-099E	
ST1-109S096	109S096	100 V		489-016-L10	109-099E	
ST1-109S193	109S193	115 V		489-016-L10	109-099E	
ST1-109S192	109S192	200 V		489-016-L10	109-099E	
ST1-109S194	109S194	230 V		489-016-L10	109-099E	
ST1-109S491-20	109S491-20	100 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S491-30	109S491-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S493-20	109S493-20	115 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S493-30	109S493-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S492-20	109S492-20	200 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S492-30	109S492-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S494-20	109S494-20	230 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S494-30	109S494-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S495-20	109S495-20	100 V	○ (5 V)	489-016-L10	109-099E	
ST1-109S495-30	109S495-30		○ (12 V)	489-016-L10	109-099E	
ST1-109S496-20	109S496-20		○ (5 V)	489-016-L10	109-099E	
ST1-109S496-30	109S496-30		○ (12 V)	489-016-L10	109-099E	

\*Though these are 2-hole or 3-hole frame mount types, 4 screws are included for extra.

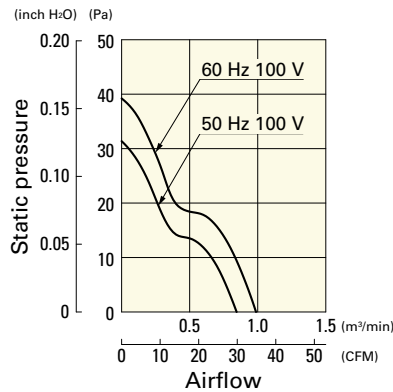
## Airflow - Static Pressure Characteristics

### Standard

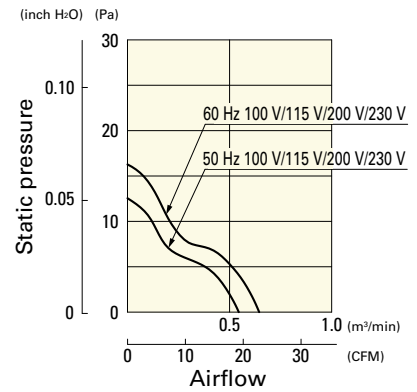
109S091, 109S093, 109S092, 109S094



109S095

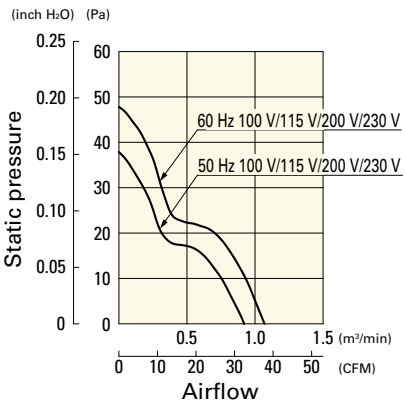


109S096, 109S193, 109S192, 109S194

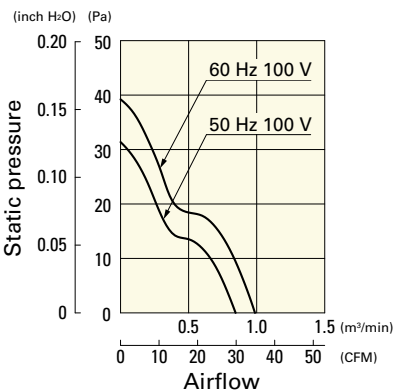


### with Sensor

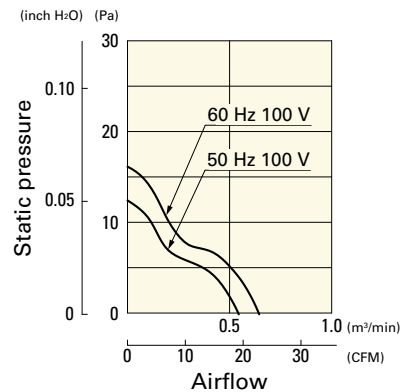
109S491, 109S493, 109S492, 109S494



109S495

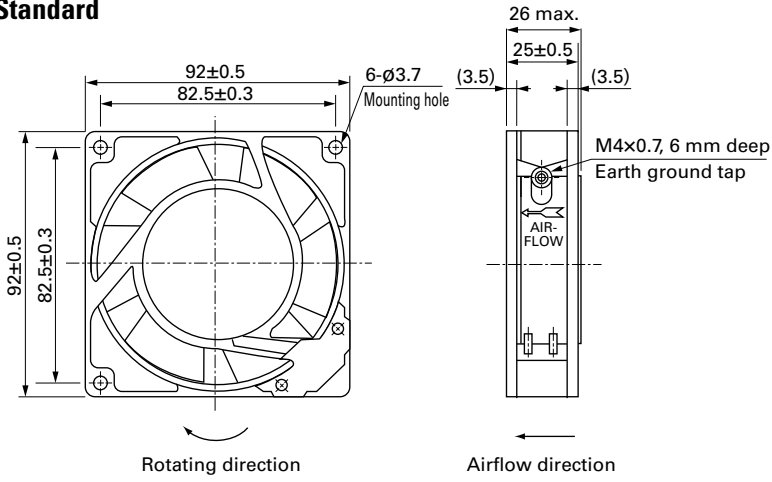


109S496

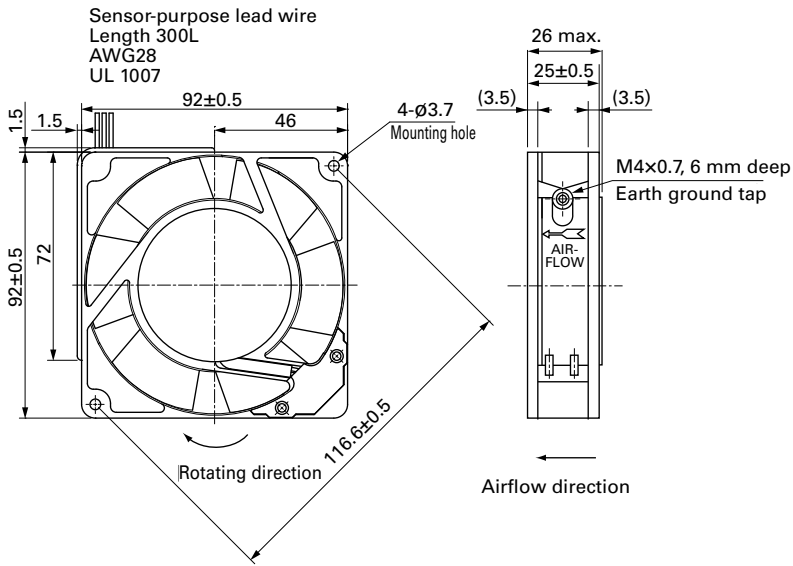


**Dimensions (unit: mm)**

**Standard**

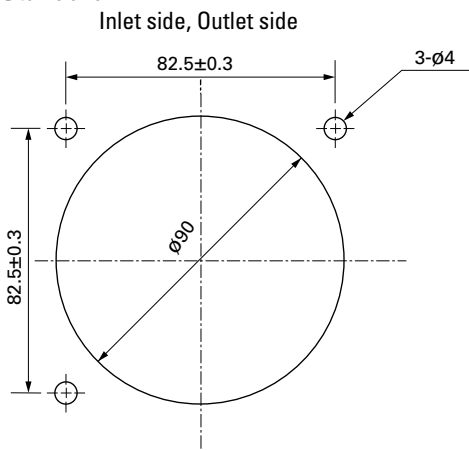


**with Sensor**

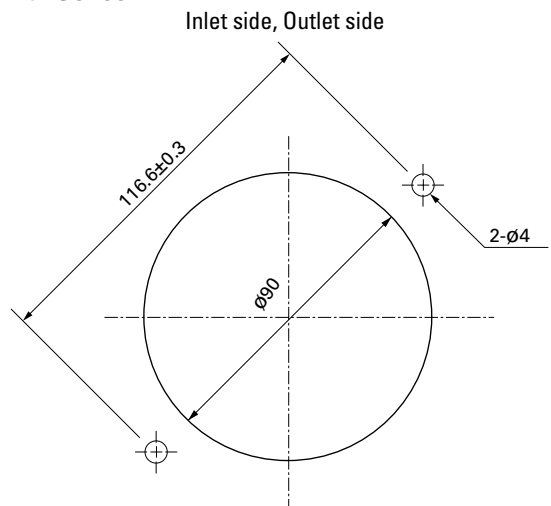


**Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)**

**Standard**



**with Sensor**



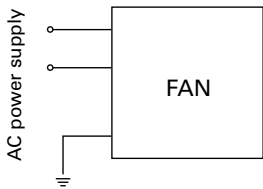
## Wiring Diagram

### Standard

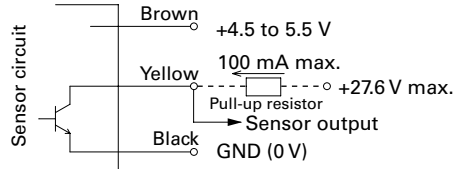


### with Sensor

For fan power supply



For sensor circuit  
5 V (ITEM-20)



12 V (ITEM-30)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

## Options

### Finger guards

page: p. 513

Model no.: 109-099C, 109-099E, 109-099H

### Resin finger guards

page: p. 520

Model no.: 109-1001G

### Resin filter kits

page: p. 521

Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI),  
109-1001F30 (30PPI), 109-1001F40 (40PPI)

### Plug cord

page: pp. 523 to 524

Model no.: 489-016-L10, 489-016-L21, 489-047-L10,  
489-047-L21

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