80×80×42 mm

San Ace 80



General Specifications

- Material ..... Frame: Aluminum (Black coating), 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) Expected life at 40°C is for reference only.
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection For details, please refer to p. 616.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Insulation resistance ..... 10 MΩ min. at 500 VDC
- Sound pressure level (SPL) ..... A-weighted 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)
- Mass ..... 410 g

Specifications

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109-040UL	100	50/60	10/9	0.13/0.11	0.16/0.14	2650/3100	0.85/1.0	30.0/35.3	24.5/35.3	0.098/0.142	40/44	-30 to +60	25000/60˚C (56000/40˚C)
109-043UL	115			0.11/0.1	0.14/0.12								
109-041UL	200			0.07/0.06	0.08/0.07								
109-044UL	230			0.06/0.05	0.07/0.06								
109-047UL*	100		4/3.5	0.05/0.05	0.05/0.05	1500/1500	0.43/0.43	15.2/15.2	8.8/ 8.8	0.035/0.035	24/24		
109-033UL*	115			0.04/0.04	0.04/0.04								

*These are low-speed models.

Set Models PSE (Japanese safety standard) compatible

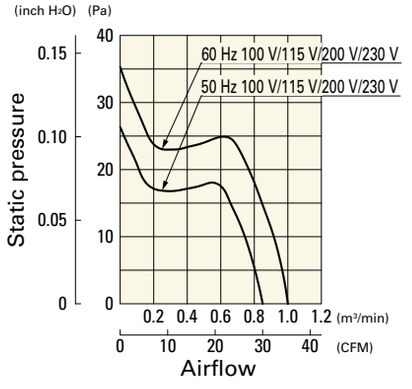
A set of a fan, finger guard, plug cord (PSE compatible), and screws. For details, please refer to p. 674.

Order no.	Set items					
	Fan (1 pc)	Voltage	Low-speed sensor	Plug cord (1 pc)	Finger guard (1 pc)	Screws with hex nuts (4 pairs)
ST1-109-040UL	109-040UL	100 V		489-008-L10*	109-049E	M4×55 mm
ST1-109-043UL	109-043UL	115 V		489-008-L10*	109-049E	
ST1-109-041UL	109-041UL	200 V		489-008-L10*	109-049E	
ST1-109-044UL	109-044UL	230 V		489-008-L10*	109-049E	
ST1-109-047UL	109-047UL	100 V		489-008-L10*	109-049E	
ST1-109-033UL	109-033UL	115 V		489-008-L10*	109-049E	

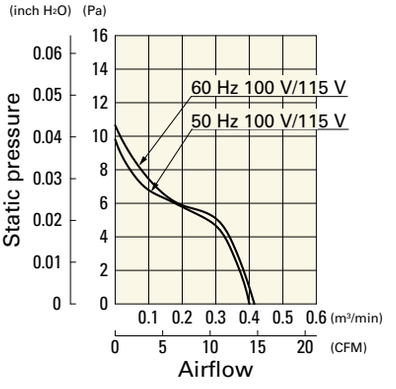
* PSE compatible, but not UL compatible.

Airflow - Static Pressure Characteristics

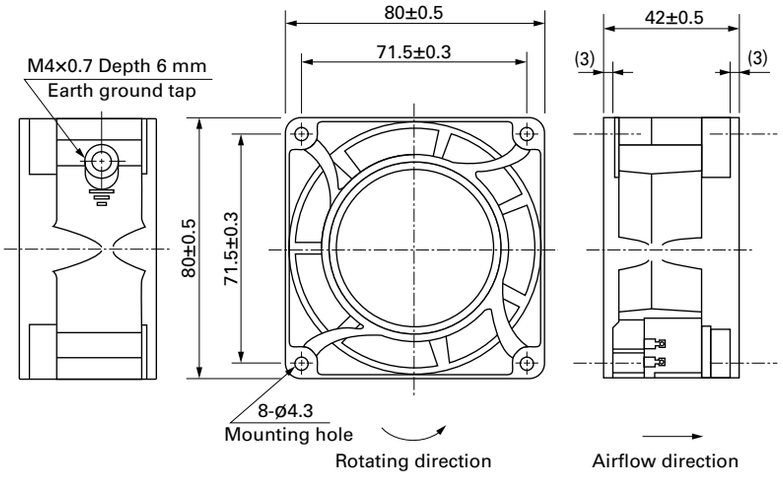
109-040UL, 109-043UL, 109-041UL, 109-044UL



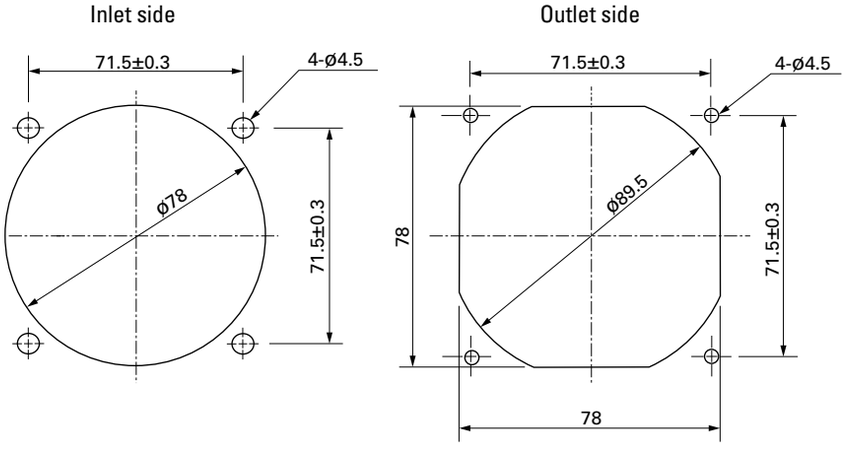
109-047UL, 109-033UL



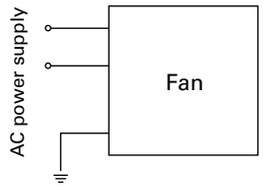
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Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Connection Schematic



Options

Finger guards page: p. 598

Model no.: 109-049E, 109-049H

Resin finger guards page: p. 605

Model no.: 109-1002G

Resin filter kits page: p. 606

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI), 109-1002F30 (30PPI), 109-1002F40 (40PPI)

Plug cord page: p. 609

PSE compatible models
Model no.: 489-008-L10, 489-008-L21, 489-008-L35

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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)
  Expected life at 40°C is for reference only.
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection
  For details, please refer to p. 616.
- Dielectric strength ..... 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) ..... 50/60 Hz 1500 VAC 1 minute (between AC input terminal and frame)
  50/60 Hz 1000 VAC 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ min. at 500 VDC
- Sound pressure level (SPL) ..... A-weighted 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109S091	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 (56000/40˚C)
109S093	115			0.09/0.08	0.11/0.1								
109S092	200		11/10	0.07/0.06	0.08/0.08								
109S094	230		10/9	0.06/0.05	0.07/0.07								
109S095	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		
109S096*	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		
109S193*	115			0.08/0.07	0.08/0.07								
109S192*	200		8/7	0.06/0.05	0.06/0.05								
109S194*	230			0.05/0.04	0.05/0.04								

*These are low-speed models.

with Sensor

For sensor specifications, please refer to p. 622. 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⁻¹]	Max. airflow [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	SPL [dB (A)]	Operating temperature [˚C]	Expected life [h]
109S491	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 (56000/40˚C)
109S493	115			0.09/0.08	0.11/0.1								
109S492	200		11/10	0.07/0.06	0.08/0.08								
109S494	230		10/9	0.06/0.05	0.07/0.07								
109S495	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		
109S496*			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.

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A set of a fan, finger guard, plug cord (PSE compatible), and screws. For details, please refer to p. 674.

Order no.	Set items					
	Fan (1 pc)	Voltage	Low-speed sensor	Plug cord (1 pc)	Finger guard (1 pc)	Screws with hex nuts (4 pairs)(2)
ST1-109S091	109S091	100 V		489-016-L10(1)	109-099E	M3×40 mm
ST1-109S093	109S093	115 V		489-016-L10(1)	109-099E	
ST1-109S092	109S092	200 V		489-016-L10(1)	109-099E	
ST1-109S094	109S094	230 V		489-016-L10(1)	109-099E	
ST1-109S095	109S095	100 V		489-016-L10(1)	109-099E	
ST1-109S096	109S096	100 V		489-016-L10(1)	109-099E	
ST1-109S193	109S193	115 V		489-016-L10(1)	109-099E	
ST1-109S192	109S192	200 V		489-016-L10(1)	109-099E	
ST1-109S194	109S194	230 V		489-016-L10(1)	109-099E	
ST1-109S491-20	109S491-20	100 V	◯ (5 V)	489-016-L10(1)	109-099E	
ST1-109S491-30	109S491-30		◯ (12 V)	489-016-L10(1)	109-099E	
ST1-109S493-20	109S493-20	115 V	◯ (5 V)	489-016-L10(1)	109-099E	
ST1-109S493-30	109S493-30		◯ (12 V)	489-016-L10(1)	109-099E	
ST1-109S492-20	109S492-20	200 V	◯ (5 V)	489-016-L10(1)	109-099E	
ST1-109S492-30	109S492-30		◯ (12 V)	489-016-L10(1)	109-099E	
ST1-109S494-20	109S494-20	230 V	◯ (5 V)	489-016-L10(1)	109-099E	
ST1-109S494-30	109S494-30		◯ (12 V)	489-016-L10(1)	109-099E	
ST1-109S495-20	109S495-20	100 V	◯ (5 V)	489-016-L10(1)	109-099E	
ST1-109S495-30	109S495-30		◯ (12 V)	489-016-L10(1)	109-099E	
ST1-109S496-20	109S496-20		◯ (5 V)	489-016-L10(1)	109-099E	
ST1-109S496-30	109S496-30		◯ (12 V)	489-016-L10(1)	109-099E	

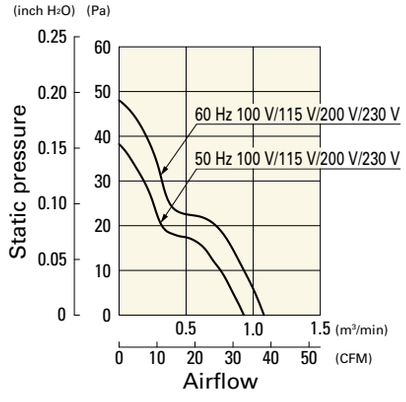
(1) PSE compatible, but not UL compatible.

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

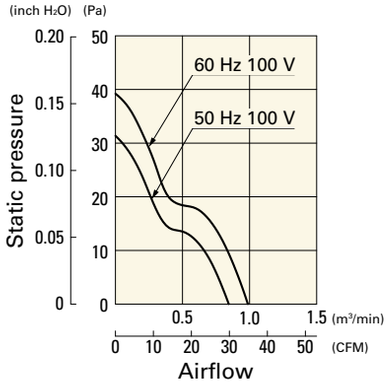
Airflow - Static Pressure Characteristics

Standard

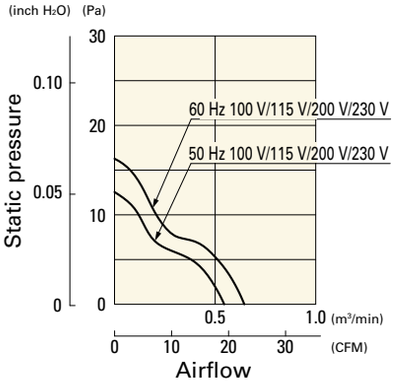
109S091, 109S093, 109S092, 109S094



109S095

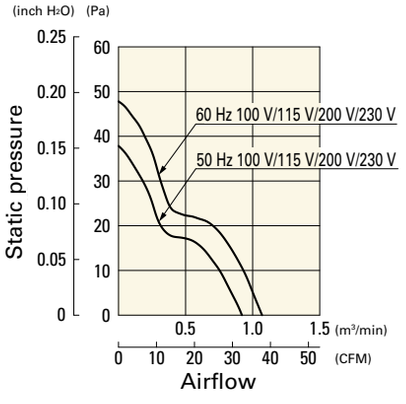


109S096, 109S193, 109S192, 109S194

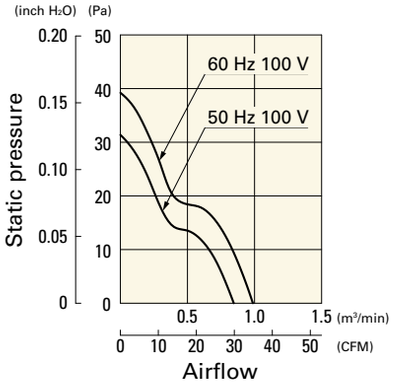


with Sensor

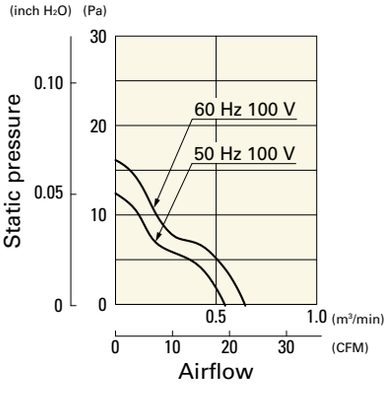
109S491, 109S493, 109S492, 109S494



109S495

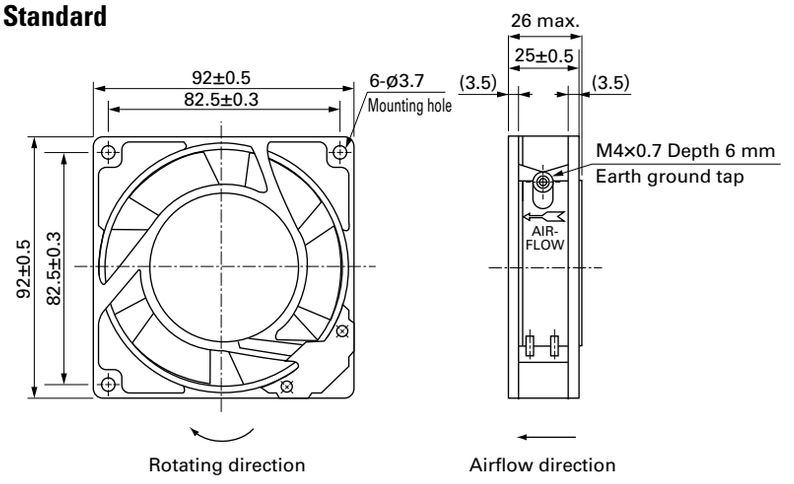


109S496

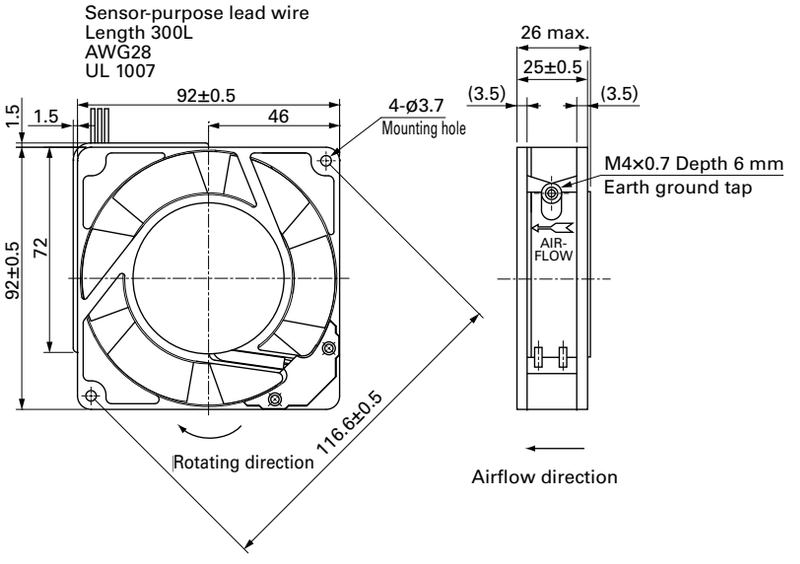


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Standard



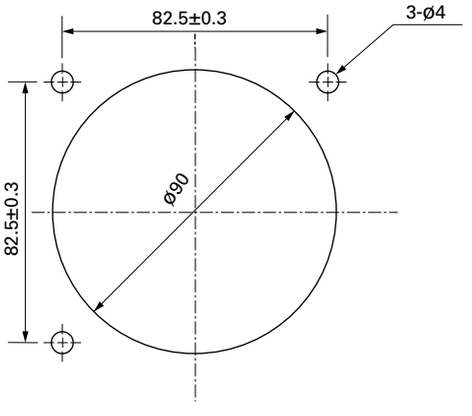
with Sensor



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

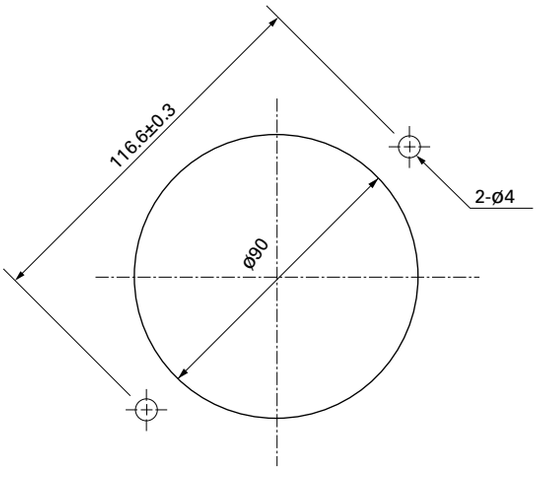
Standard

Inlet side, Outlet side



with Sensor

Inlet side, Outlet side



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