

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] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	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

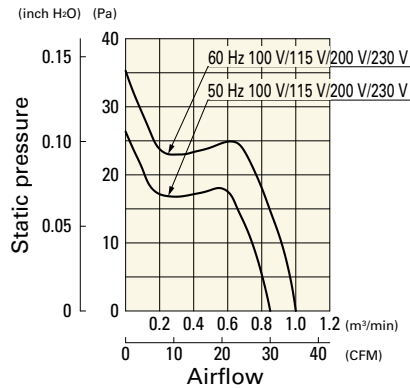
A set of a fan, finger guard, plug cord (PSE compatible), and screws. For details, please refer to p. 674.

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	

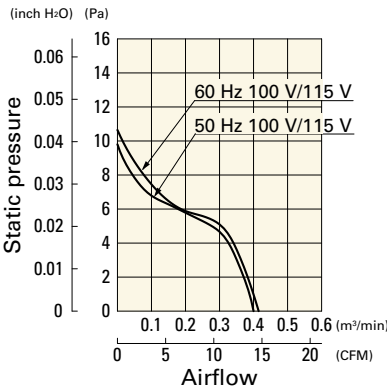
* PSE compatible, but not UL compatible.

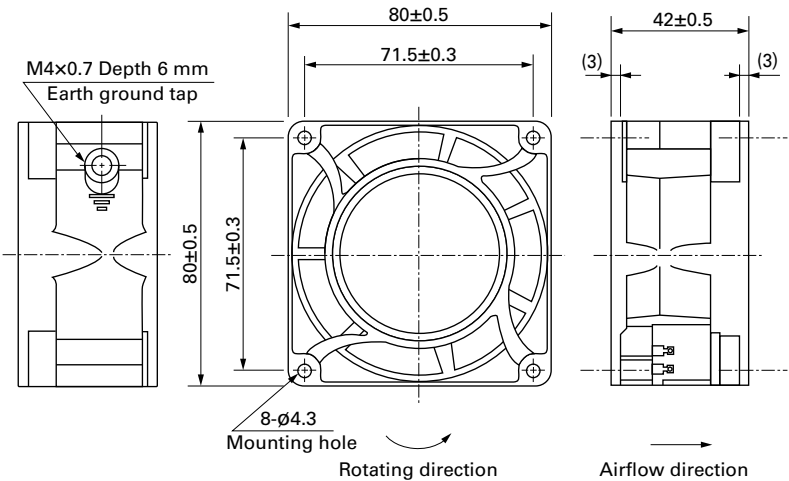
Airflow - Static Pressure Characteristics

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

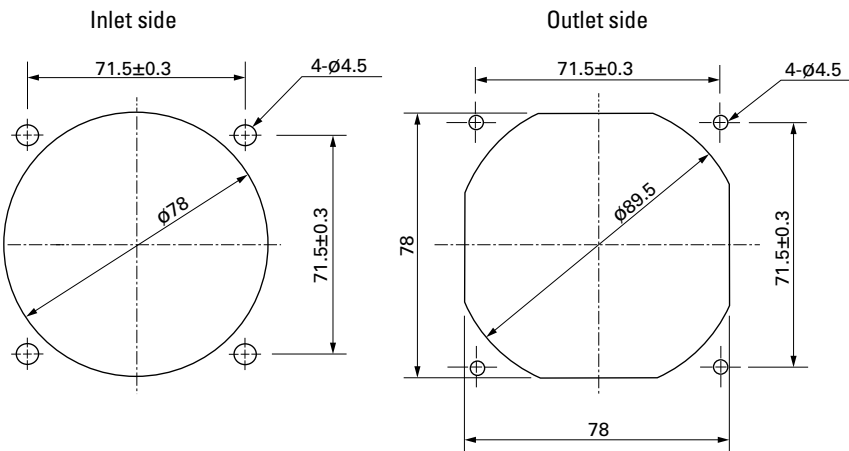


109-047UL, 109-033UL

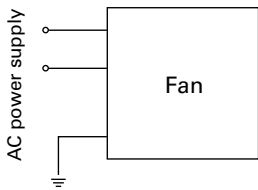




Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



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

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] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		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			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] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		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			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.

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

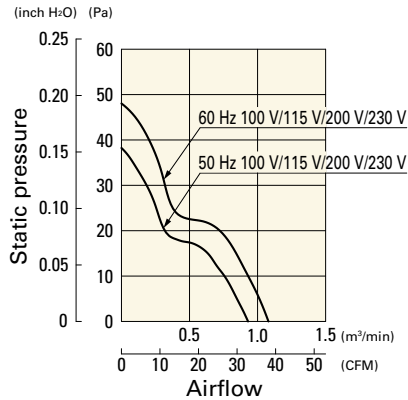
Order no.	Set items					
	Fan (1 pc)	Voltage	Low-speed sensor	Plug cord (1 pc)	Finger guard (1 pc)	Screws with hex nuts (4 pairs) ⁽²⁾
ST1-109S091	109S091	100 V		489-016-L10 ⁽¹⁾	109-099E	M3×40 mm
ST1-109S093	109S093	115 V		489-016-L10 ⁽¹⁾	109-099E	
ST1-109S092	109S092	200 V		489-016-L10 ⁽¹⁾	109-099E	
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.

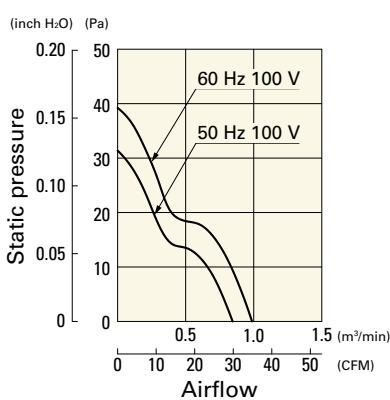
Airflow - Static Pressure Characteristics

Standard

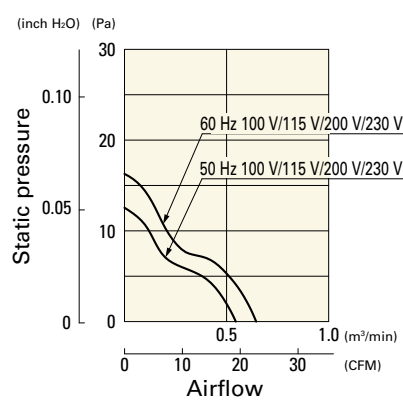
109S091, 109S093, 109S092, 109S094



109S095

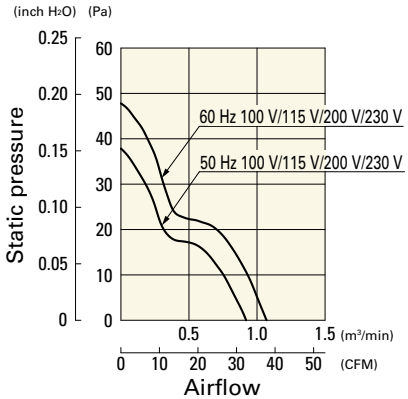


109S096, 109S193, 109S192, 109S194

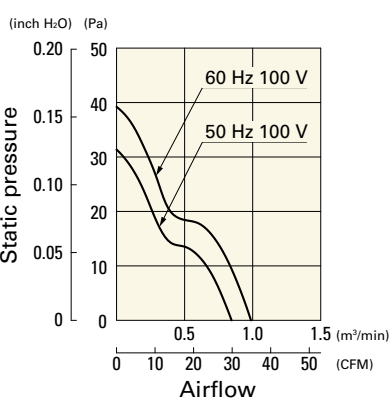


with Sensor

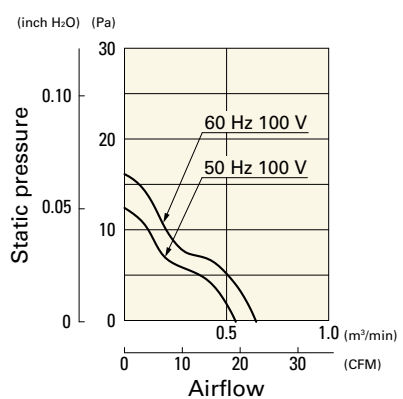
109S491, 109S493, 109S492, 109S494



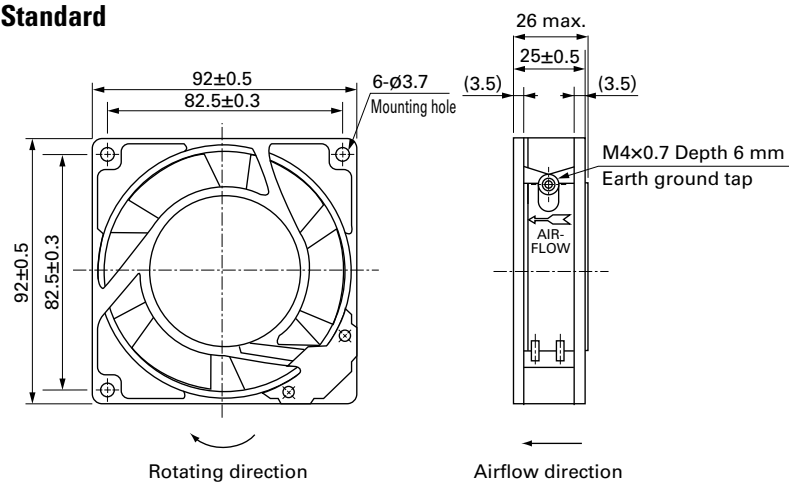
109S495



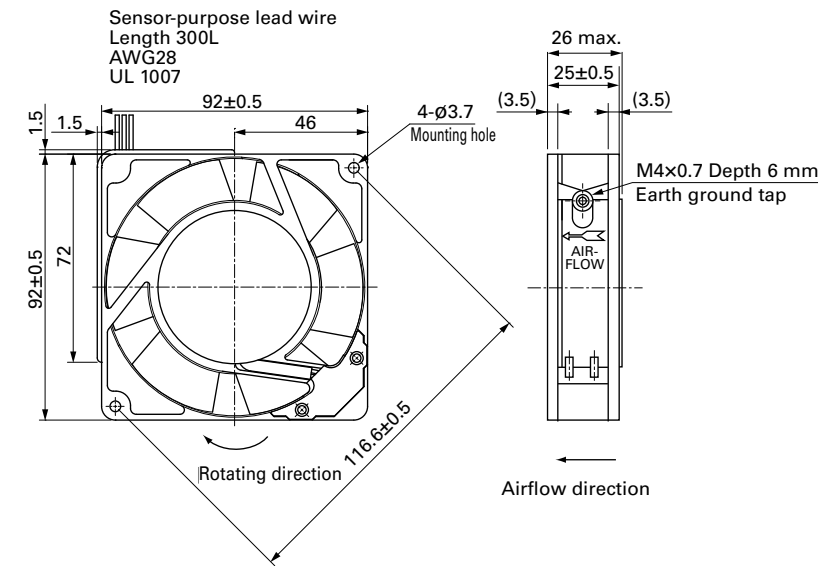
109S496



Standard

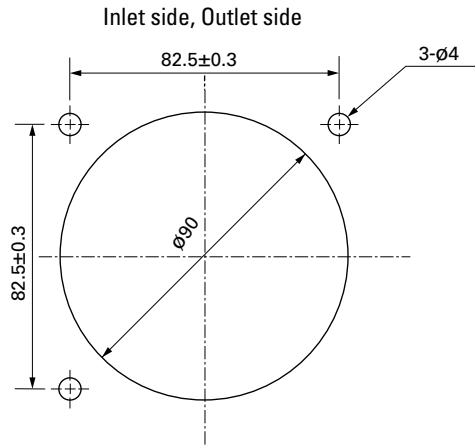


with Sensor



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

Standard



with Sensor

