



120×120×38 mm

San Ace 120


Certifications vary by model no. Please refer to pp. 614 to 615.

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. 573.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and G terminal)
- Dielectric strength (with sensor) 50/60 Hz 1500 VAC 1 minute (between AC input terminal and G terminal)
50/60 Hz 1000 VAC 1 minute (between lead wire conductors and frame)
- 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 550 g/580 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]
109S075UL	100	50/60	18/16	0.24/0.21	0.32/0.28	2700/3100	2.5 /2.9 88.3/102.5	57.9/68.7 0.233/0.276	42/45	-30 to +60	25000/60°C (56000/40°C)
109S074UL	115			0.21/0.18	0.27/0.24						
109S078UL	200			0.12/0.1	0.16/0.14						
109S072UL	230			0.11/0.09	0.14/0.13						
109S005	100		14/12	0.18/0.16	0.25/0.22	2700/3100	2.35/2.7 83 / 95.4	55.9/65.7 0.224/0.264	40/43		
109S005UL											
109S024											
109S024UL	115			0.16/0.14	0.21/0.18						
109S008	200			0.09/0.08	0.13/0.11						
109S008UL											
109S025	230			0.08/0.07	0.11/0.09						
109S025UL											
109S029UL	100		14/12	0.18/0.16	0.23/0.21	2450/2700	2.15/2.35 76 / 83	44.1/49.0 0.177/0.197	38/40		
109S013			13/11	0.16/0.14	0.16/0.15	1800/2000	1.55/1.75 54.8/ 60.8	23.5/26.4 0.094/0.106	30/32		
109S013UL			7/7	0.1 /0.09	0.1 /0.09	1650/1700	1.45/1.5 51.2/ 53	17.6/17.6 0.071/0.071	28/28		
109S006*			10/10	0.13/0.11	0.13/0.11	1800/1900	1.56/1.64 55 / 57.9	20 /20.6 0.08 /0.083	30/31		
109S006UL *											
109S010*	200		7/7	0.05/0.04	0.05/0.04	1650/1700	1.45/1.5 51.2/ 53	17.6/17.6 0.071/0.071	28/28		
109S010UL *	240		11/11	0.06/0.05	0.06/0.05	1800/1950	1.58/1.68 55.8/ 59.3	20.6/21.6 0.083/0.087	30/32		

*These are low-speed models.

with Sensor

For sensor specifications, please refer to p. 576. 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. 109S405UL-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109S405UL-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]
109S405UL	100	50/60	14/12	0.18/0.16	0.25/0.22	2700/3100	2.35/2.7 83 / 95.4	55.9/65.7 0.224/0.264	40/43	-10 to +60	25000/60°C (56000/40°C)
109S424UL	115			0.16/0.14	0.21/0.18						
109S408UL	200			0.09/0.08	0.13/0.11						
109S425UL	230			0.08/0.07	0.11/0.09						
109S429UL	100		7/6	0.18/0.16	0.23/0.21	2450/2700	2.15/2.35 76 / 83	44.1/49.0 0.177/0.197	38/40		
109S406UL *				0.09/0.08	0.1 / 0.09	1650/1700	1.45/1.5 51 / 53	17.7/17.7 0.071/0.071	28/28		
109S475UL	100		18/16	0.24/0.21	0.32/0.28	2700/3100	2.5 / 2.9 88.3/102.4	57.9/68.7 0.233/0.276	42/45		
109S474UL	115			0.21/0.18	0.27/0.24						
109S478UL	200			0.12/0.1	0.16/0.14						
109S472UL	230			0.11/0.09	0.14/0.13						

*These are low-speed models.

These are Short LeadTime Service applicable models. Contact your point of sale for stock availability. For more information on the service, see p. 626.

For the San Ace 120AD 9AD type 120×120×38 mm fan, please refer to p. 498.

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. 627.

Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord*	Finger guards	Mounting screws
ST1-109S075UL	109S075UL	100 V		489-037-L10	109-019E	M3×55 mm (4 screws)
ST1-109S074UL	109S074UL	115 V		489-037-L10	109-019E	
ST1-109S078UL	109S078UL	200 V		489-037-L10	109-019E	
ST1-109S072UL	109S072UL	230 V		489-037-L10	109-019E	
ST1-109S005	109S005	100 V		489-006-L10	109-019E	
ST1-109S005UL	109S005UL			489-037-L10	109-019E	
ST1-109S024	109S024	120 V		489-006-L10	109-019E	
ST1-109S024UL	109S024UL	115 V		489-037-L10	109-019E	
ST1-109S008	109S008	200 V		489-006-L10	109-019E	
ST1-109S008UL	109S008UL			489-037-L10	109-019E	
ST1-109S025	109S025	230 V		489-006-L10	109-019E	
ST1-109S025UL	109S025UL			489-037-L10	109-019E	
ST1-109S029UL	109S029UL	100 V		489-037-L10	109-019E	
ST1-109S013	109S013			489-006-L10	109-019E	
ST1-109S013UL	109S013UL			489-037-L10	109-019E	
ST1-109S006	109S006			489-006-L10	109-019E	
ST1-109S006UL	109S006UL	100 V 115 V		489-037-L10	109-019E	
ST1-109S010	109S010	200 V		489-006-L10	109-019E	
ST1-109S010UL	109S010UL	200 V 240 V		489-037-L10	109-019E	
ST1-109S405UL-20	109S405UL-20	100 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S405UL-30	109S405UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S424UL-20	109S424UL-20	115 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S424UL-30	109S424UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S408UL-20	109S408UL-20	200 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S408UL-30	109S408UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S425UL-20	109S425UL-20	230 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S425UL-30	109S425UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S429UL-20	109S429UL-20	100 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S429UL-30	109S429UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S406UL-20	109S406UL-20	100 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S406UL-30	109S406UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S475UL-20	109S475UL-20	100 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S475UL-30	109S475UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S474UL-20	109S474UL-20	115 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S474UL-30	109S474UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S478UL-20	109S478UL-20	200 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S478UL-30	109S478UL-30		○ (12 V)	489-037-L10	109-019E	
ST1-109S472UL-20	109S472UL-20	230 V	○ (5 V)	489-037-L10	109-019E	
ST1-109S472UL-30	109S472UL-30		○ (12 V)	489-037-L10	109-019E	

* PSE compatible.

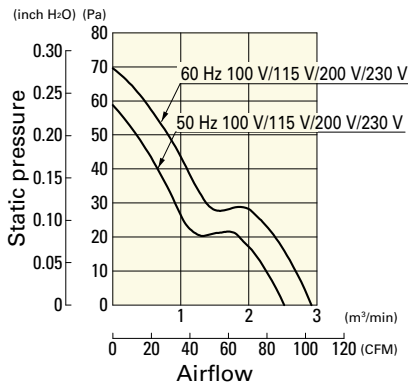
AC

AC Fan 120 mm sq.

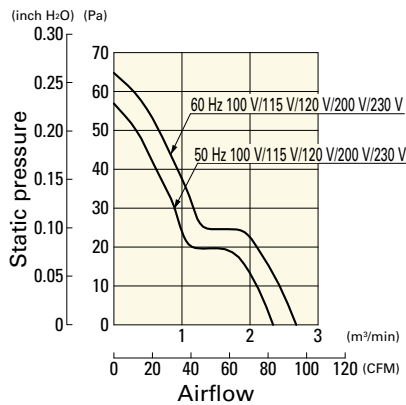
Airflow - Static Pressure Characteristics

Standard

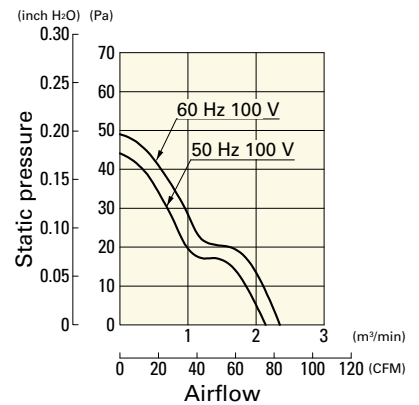
109S075UL, 109S074UL, 109S078UL, 109S072UL



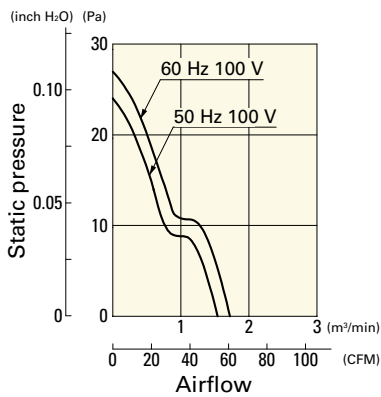
109S005, 109S005UL, 109S024, 109S024UL, 109S008, 109S008UL, 109S025, 109S025UL



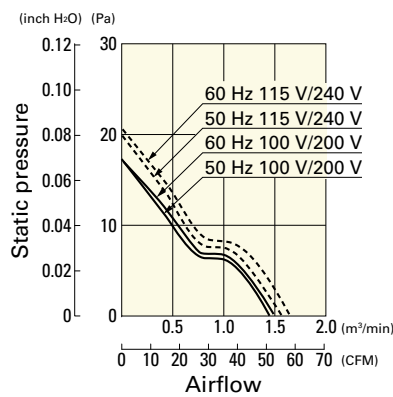
109S029UL



109S013, 109S013UL

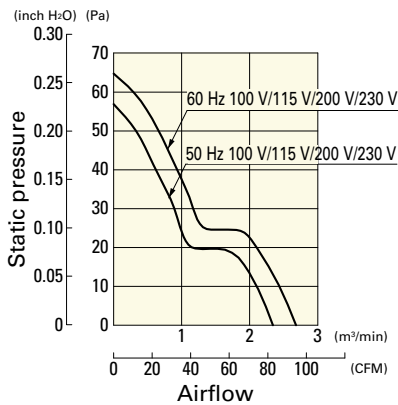


109S006, 109S006UL, 109S010, 109S010UL

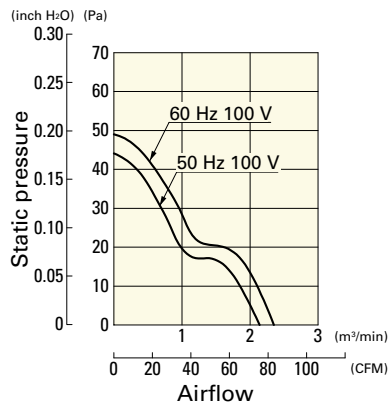


with Sensor

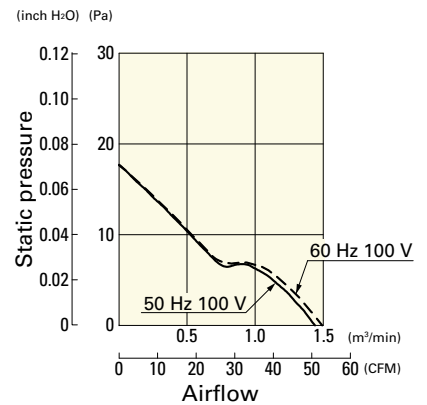
109S405UL, 109S424UL, 109S408UL, 109S425UL



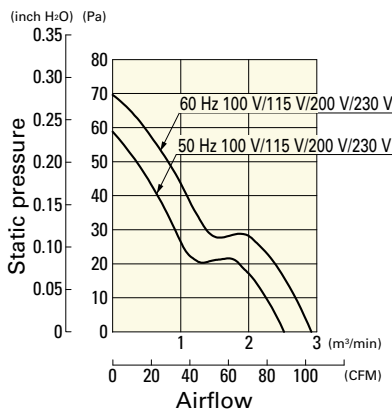
109S429UL



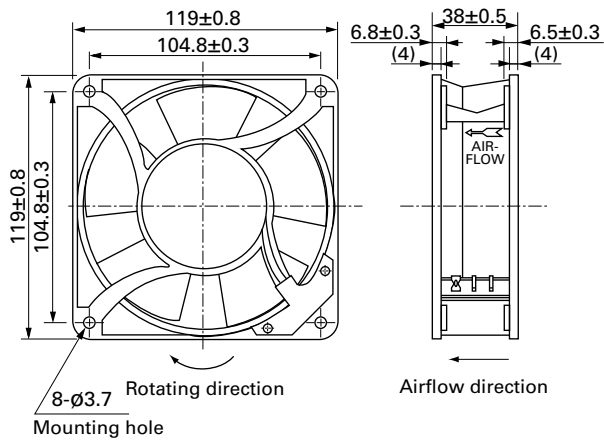
109S406UL



109S475UL, 109S474UL, 109S478UL, 109S472UL

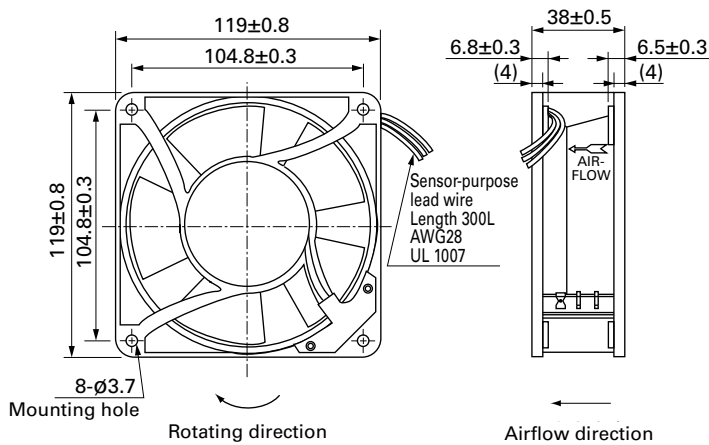


Standard

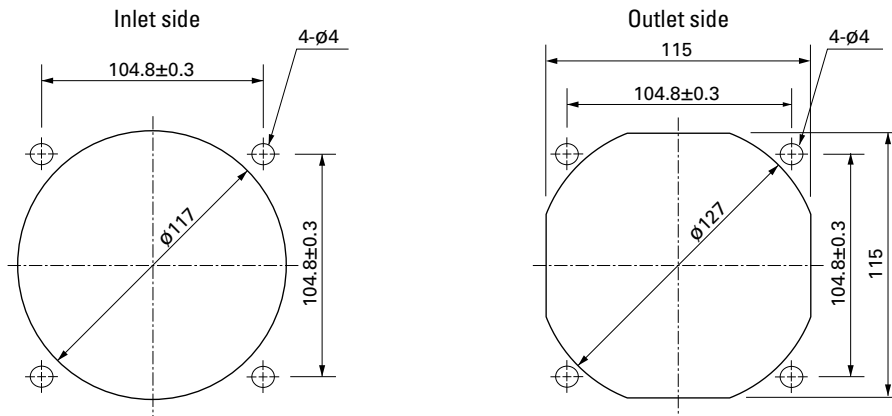


with Sensor

When mounting the model with a sensor, please screw-mount through both flanges as it has a sensor box.

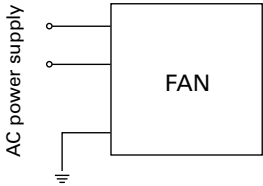


■ Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



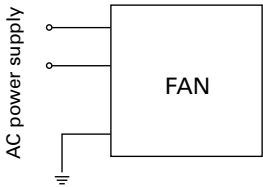
Wiring Diagram

Standard

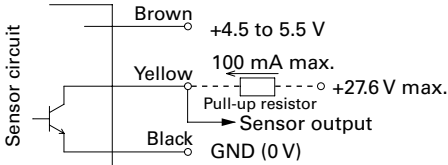


with Sensor

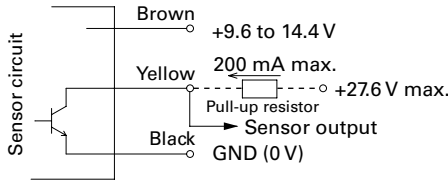
For fan power supply



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. 559

Model no.: 109-019E, 109-019K, 109-019C, 109-019H

Resin finger guards page: p. 565

Model no.: 109-1000G

Resin filter kits page: p. 566

Model no.: 109-1000F13 (13PPI), 109-1000F20 (20PPI),
109-1000F30 (30PPI), 109-1000F40 (40PPI)

Filter kits page: p. 567

Model no.: 109-018

Screen kits page: p. 567

Model no.: 109-020

Plug cord page: pp. 568 to 569

Exclusive for fans without UL at the end of the model number.
Model no.: 489-006-L10, 489-006-L21, 489-006-L35
Exclusive for fans with UL at the end of the model number.
Model no.: 489-037-L10, 489-037-L21, 489-037-L35,
489-007-L10, 489-007-L21