

120×120×38 mm

San Ace 120  Certifications vary by model no. See the Specifications below.



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. 614.
- 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 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 550 g/580 g (with Sensor)

Specifications

Standard

Standard conformity: UL, CSA, TÜV, CE, UKCA, and PSE

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	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]
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						
109S005UL	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		
109S024UL	115			0.16/0.14	0.21/0.18						
109S008UL	200			0.09/0.08	0.13/0.11						
109S025UL	230			0.08/0.07	0.11/0.09						
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		
109S013UL			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		
109S006UL*	115		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		
				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		
109S010UL*	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		
				240	11/11	0.06/0.05	0.06/0.05	1800/1950	1.58/1.68 55.8/ 59.3		

*These are low-speed models.

Standard conformity: PSE

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	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]
109S005	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	-30 to +60	25000/60°C (56000/40°C)
109S024	120			0.16/0.14	0.21/0.18						
109S008	200			0.09/0.08	0.13/0.11						
109S025	230			0.08/0.07	0.11/0.09						
109S013	100		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		
109S006*				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		
109S010*	200	0.05/0.04	0.05/0.04								

*These are low-speed models.

AC Fan 120 mm sq. AC

with Sensor

For sensor specifications, please refer to p. 618. 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 [m ³ /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.

Note:These are Short Lead Time Service applicable models. Contact your point of sale for stock availability. For more information on the service, see p. 668.

For the San Ace 120AD 9AD type 120×120×38 mm fan, please refer to p. 505.

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 PSE (Japanese safety standard) compatible

A set of a fan, finger guard, plug cord (PSE compatible), and screws. For details, please refer to p. 669.

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	

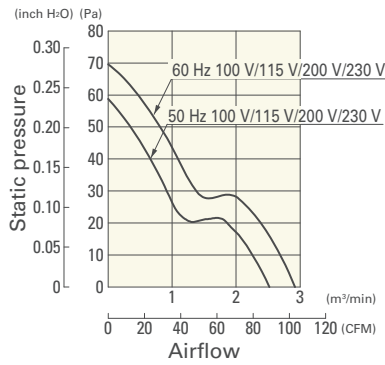
* PSE compatible, but not UL compatible.

AC
AC Fan 120 mm sq.

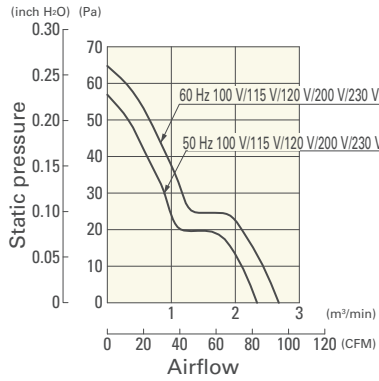
Airflow - Static Pressure Characteristics

Standard

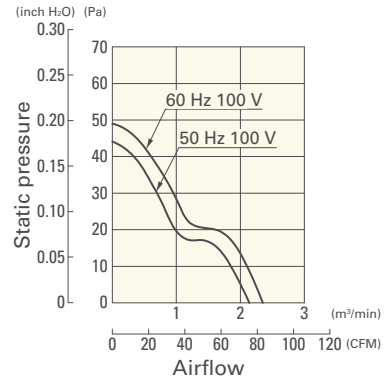
109S075UL, 109S074UL, 109S078UL, 109S072UL



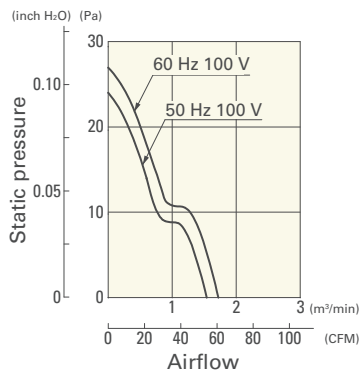
109S005, 109S005UL, 109S024, 109S024UL, 109S008, 109S008UL, 109S025, 109S025UL



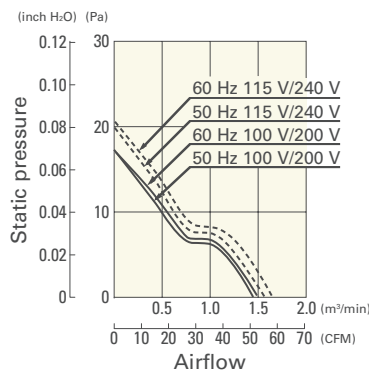
109S029UL



109S013, 109S013UL



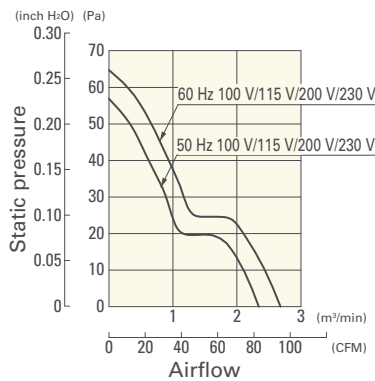
109S006, 109S006UL, 109S010, 109S010UL



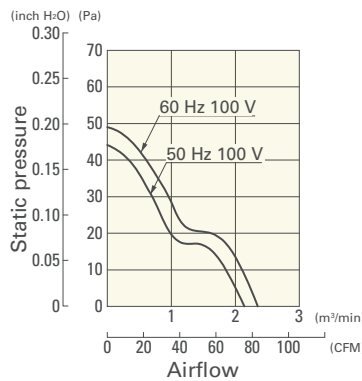
AC Fan 120 mm sq. AC

with Sensor

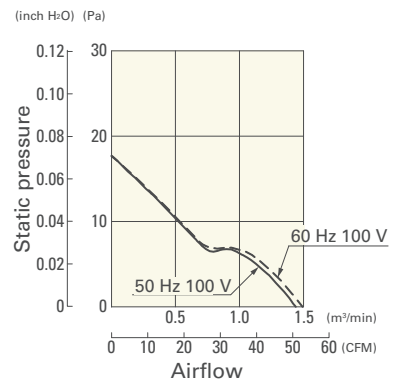
109S405UL, 109S424UL, 109S408UL, 109S425UL



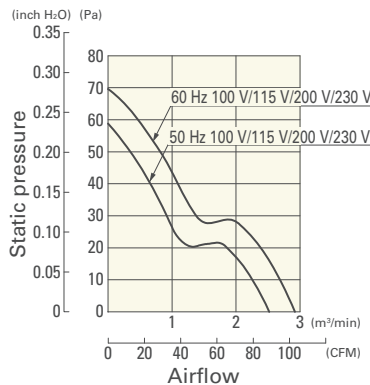
109S429UL



109S406UL

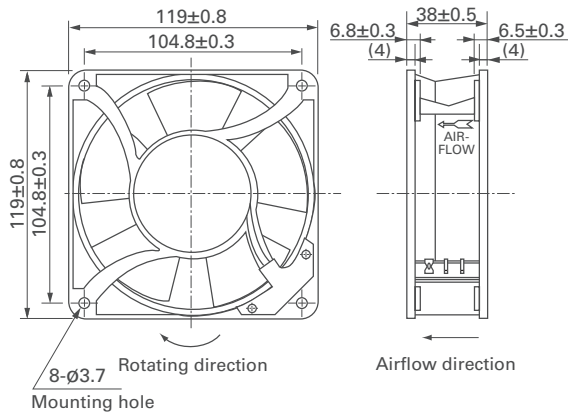


109S475UL, 109S474UL, 109S478UL, 109S472UL

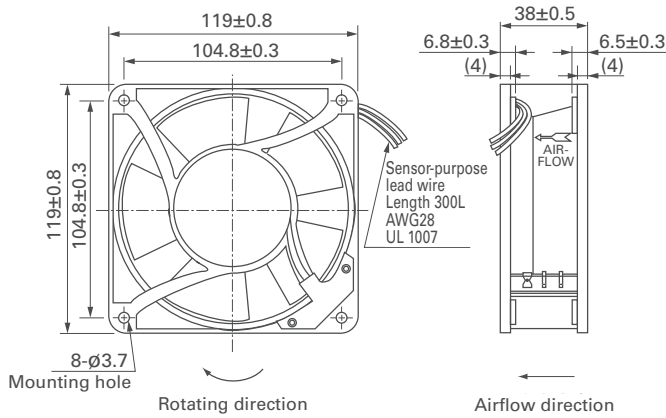


■ Dimensions (unit: mm)

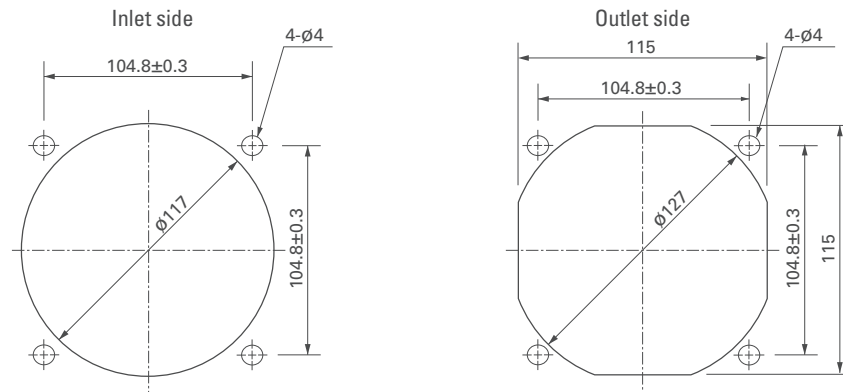
Standard



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



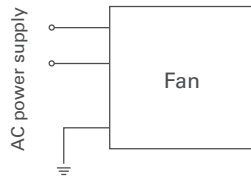
■ Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



AC
AC Fan 120 mm sq.

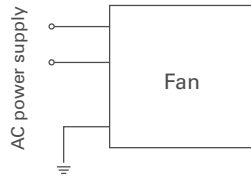
Connection Schematic

Standard

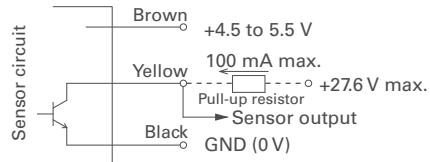


with Sensor

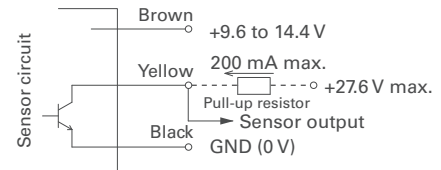
For fan power supply



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. 599

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

Resin finger guards

page: p. 605

Model no.: 109-1000G

Resin filter kits

page: p. 606

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

Filter kits

page: p. 607

Model no.: 109-018

Screen kits

page: p. 607

Model no.: 109-020

Plug cord

page: pp. 608 to 609

PSE compatible models

- Dedicated models for fans whose model numbers not ending with "UL"
Model no.: 489-006-L10, 489-006-L21, 489-006-L35
- Dedicated models for fans whose model numbers ending with "UL"
Model no.: 489-037-L10, 489-037-L21, 489-037-L35

UL/CSA certified models

Model no.: 489-007-L10, 489-007-L21

AC

AC Fan 120 mm sq.