



# 120×120×38 mm

**San Ace 120**


Certifications vary by model no. Please refer to pp. 582 to 583.

## 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. 547.
- 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 <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]	
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	
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	120								0.16/0.14			0.21/0.18
109S024UL	115											
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*		115	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*			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			
109S010*		200	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			
109S010UL*		240										

\*These are low-speed models.

## with Sensor

For sensor specifications, please refer to p. 550. 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 <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]					
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					
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	7/6	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.

For the **San Ace 120AD** 9AD type **120×120×38** mm fan, please refer to p. 479.

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. 594.

Order no.	Set items						Mounting screws
	Fan	Voltage	Low-speed sensor	Plug cord*	Finger guards		
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		489-037-L10		109-019E
			115 V				
ST1-109S010	109S010	200 V		489-006-L10	109-019E		
ST1-109S010UL	109S010UL	200 V		489-037-L10	109-019E		
		240 V					
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		

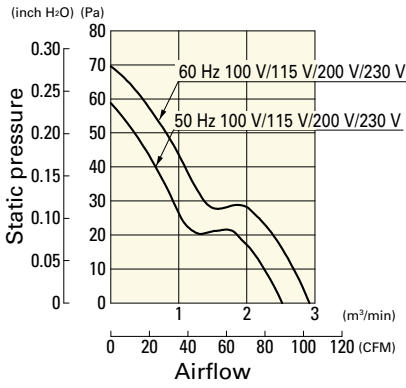
\* PSE compatible.

AC  
AC Fan 120 mm sq.

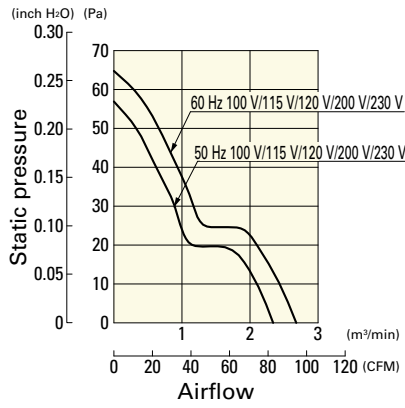
**Airflow - Static Pressure Characteristics**

**Standard**

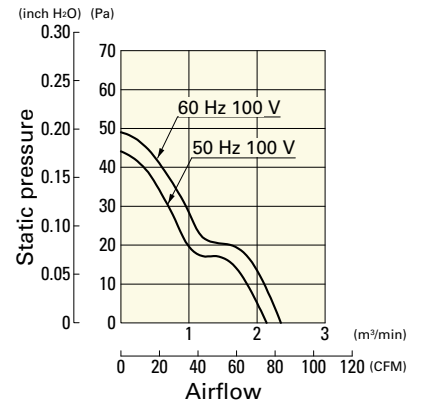
**109S075UL, 109S074UL, 109S078UL, 109S072UL**



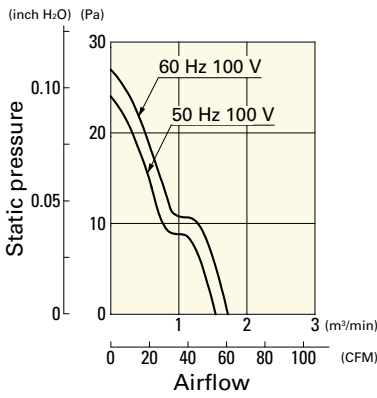
**109S005, 109S005UL, 109S024, 109S024UL, 109S008, 109S008UL, 109S025, 109S025UL**



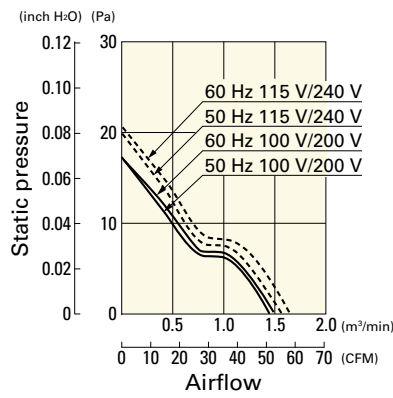
**109S029UL**



**109S013, 109S013UL**

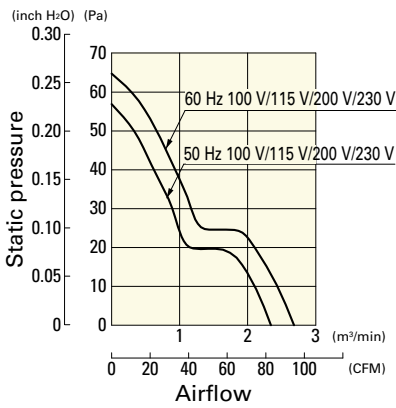


**109S006, 109S006UL, 109S010, 109S010UL**

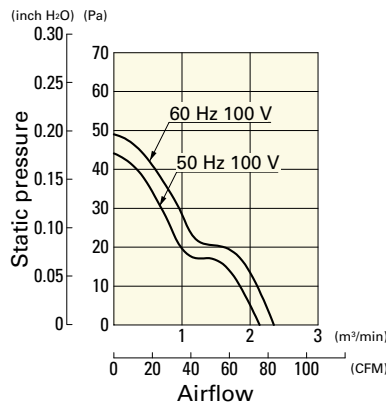


**with Sensor**

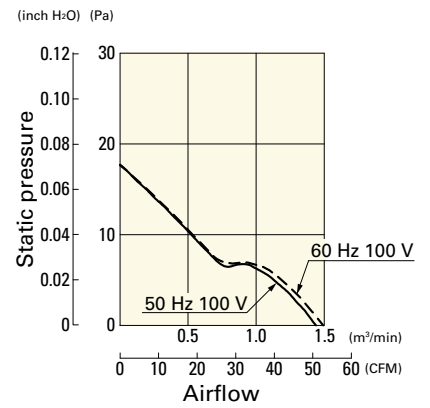
**109S405UL, 109S424UL, 109S408UL, 109S425UL**



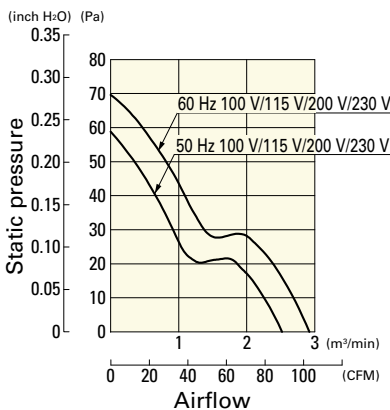
**109S429UL**



**109S406UL**

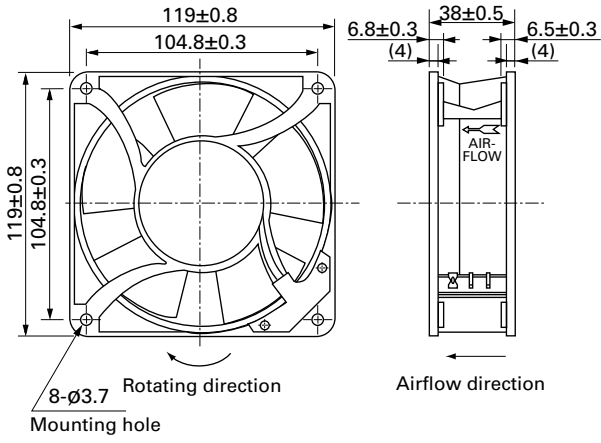


**109S475UL, 109S474UL, 109S478UL, 109S472UL**



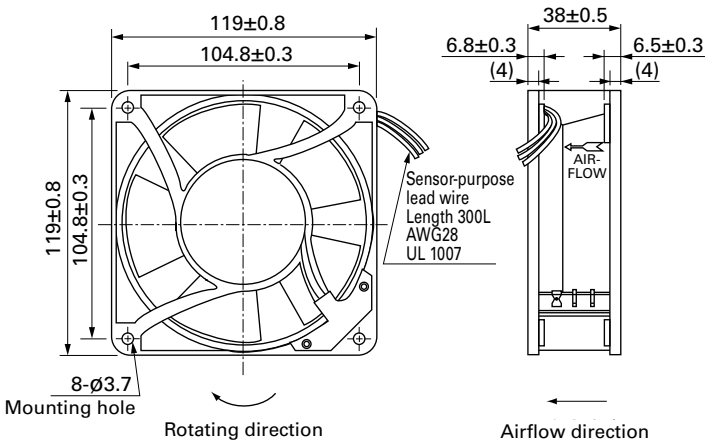
■ Dimensions (unit: mm)

Standard

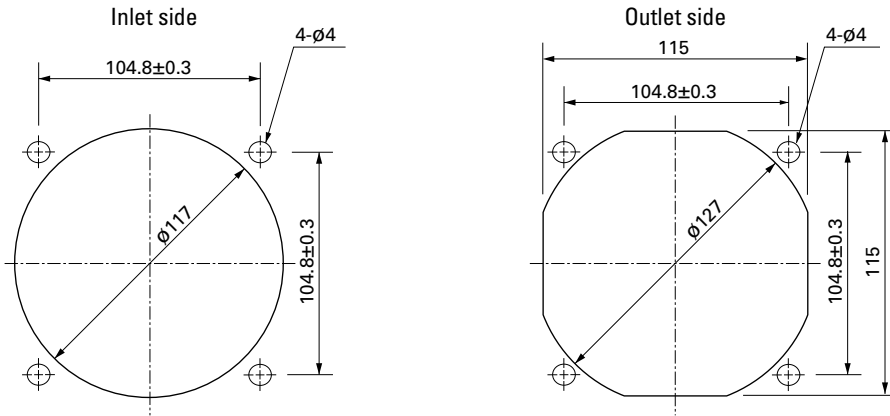


with Sensor

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

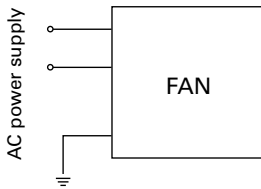


■ Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



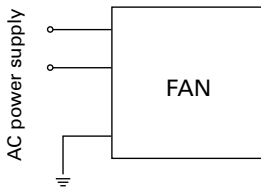
## Wiring Diagram

### Standard

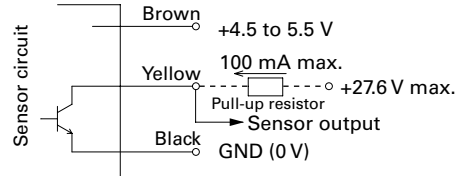


### with Sensor

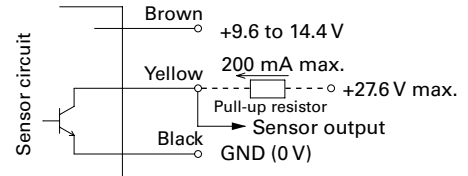
For fan power supply



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. 533

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

### Resin finger guards

page: p. 529

Model no.: 109-1000G

### Resin filter kits

page: p. 540

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

### Filter kits

page: p. 541

Model no.: 109-018

### Screen kits

page: p. 541

Model no.: 109-020

### Plug cord

page: pp. 542 to 543

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

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[25.320.5453.1](#) [25.330.1353.1](#) [25.330.4853.1](#) [25.330.5153.1](#) [25.330.5353.1](#) [25.340.1053.1](#) [25.350.5253.0](#) [25.600.4053.0](#) [272DL-2LP11-000](#)  
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[25.332.2453.1](#) [25.340.0453.1](#) [25.345.5353.0](#) [281DY-1LP14-000B](#) [298DM-2LP11-000](#) [298DS-2LP11-000A](#) [344DY-1LP11-000](#)  
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