



120×120×38 mm

San Ace 120      Certifications vary by model no. Please refer to pp. 562 to 563.

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. 529.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) Between AC input and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute
Between AC input and G: 50/60 Hz 1500 VAC 1 minute
Between G and DC input (Sensor output): 50/60 Hz 1000 VAC 1 minute
- 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 [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 | | | | | | |
| 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 | | | | | | | | | 100 | | | | | | | | |
| 109S024 | 120 | | | | | | | | 0.16/0.14 | | | 0.21/0.18 | | | | | |
| 109S024UL | 115 | | | | | | | | 0.09/0.08 | | | 0.13/0.11 | | | | | |
| 109S008 | 200 | 10/10 | 0.08/0.07 | 0.11/0.09 | 2450/2700 | 2.15/2.35 76 / 83 | 44.1/49.0 0.177/0.197 | 38/40 | | | | | | | | | |
| 109S008UL | | | | | | | | | 200 | | | | | | | | |
| 109S025 | 230 | | | | | | | | 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 |
| 109S025UL | | | | | | | | | | | | | | | | | |
| 109S029UL | 100 | 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 | | | | | | | | | |
| 109S013 | | | | | | | | | | | | | | | | | |
| 109S013UL | 100 | | | | | | | | | | | | | | | | |
| 109S006* | 100 | | | | | | | | | | | | | | | | |
| 109S006UL* | 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 | | | | | | | | | |
| 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* | | 200 | | | | | | | | | | | | | | | |
| 109S010UL* | 240 | 11/11 | | | | | | | | | | | | | | 0.06/0.05 | 0.06/0.05 |

*These are low-speed models.

with Sensor

For sensor specifications, please refer to p. 531. 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 | | | | | |
| 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. 461.

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

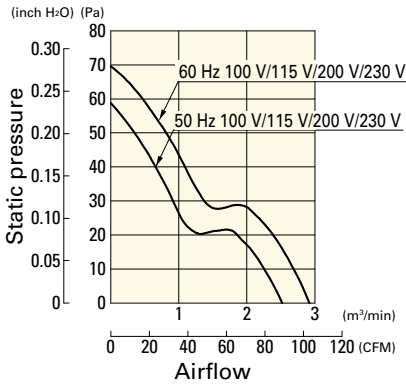
Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

| 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 | | 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 | | |

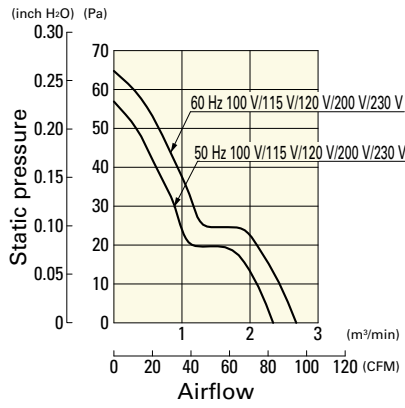
Airflow - Static Pressure Characteristics

Standard

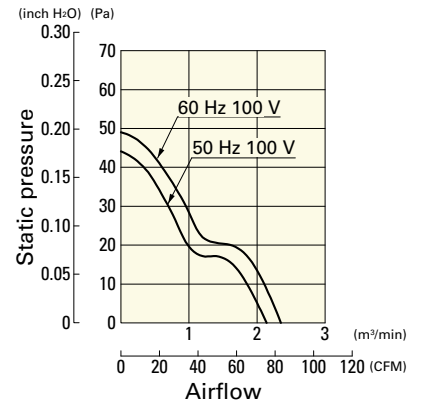
109S075UL, 109S074UL, 109S078UL, 109S072UL



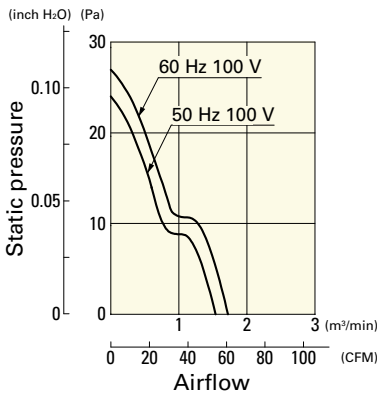
109S005, 109S005UL, 109S024, 109S024UL, 109S008, 109S008UL, 109S025, 109S025UL



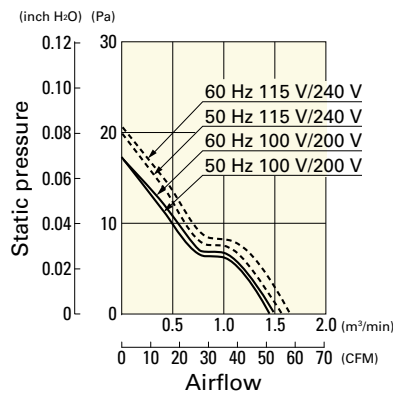
109S029UL



109S013, 109S013UL

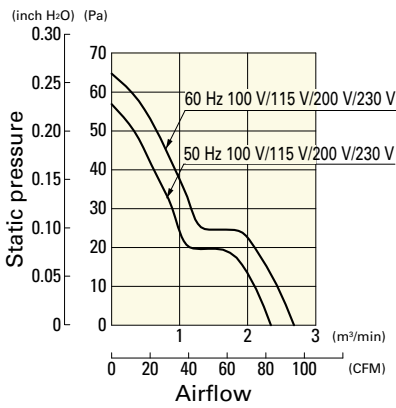


109S006, 109S006UL, 109S010, 109S010UL

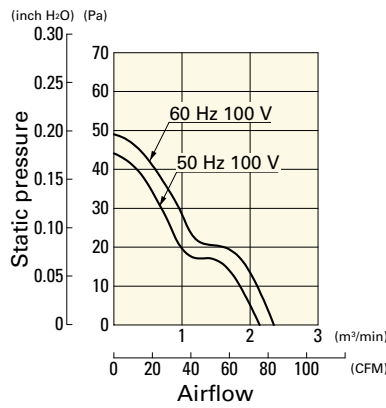


with Sensor

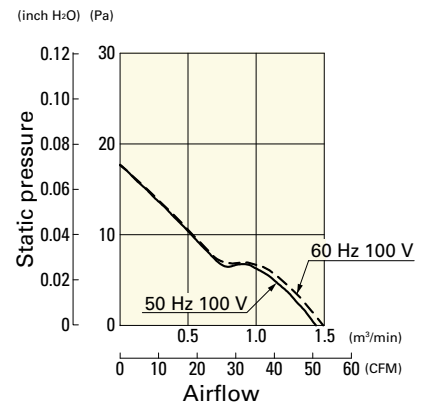
109S405UL, 109S424UL, 109S408UL, 109S425UL



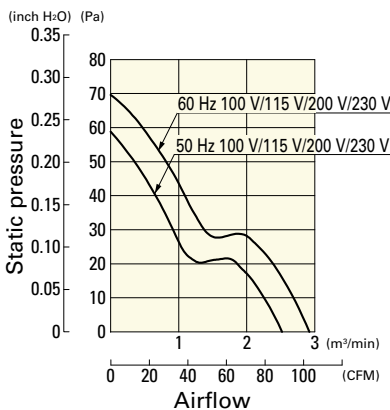
109S429UL



109S406UL

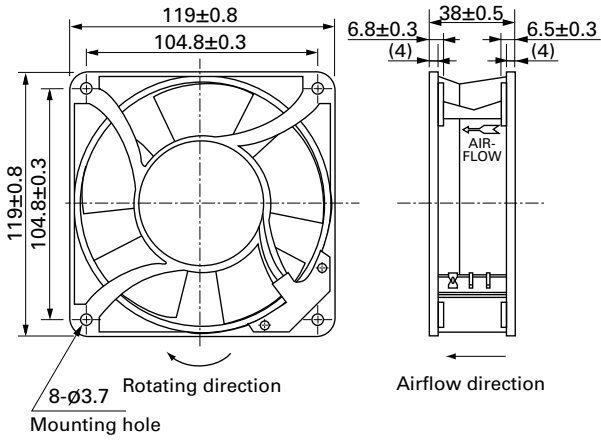


109S475UL, 109S474UL, 109S478UL, 109S472UL

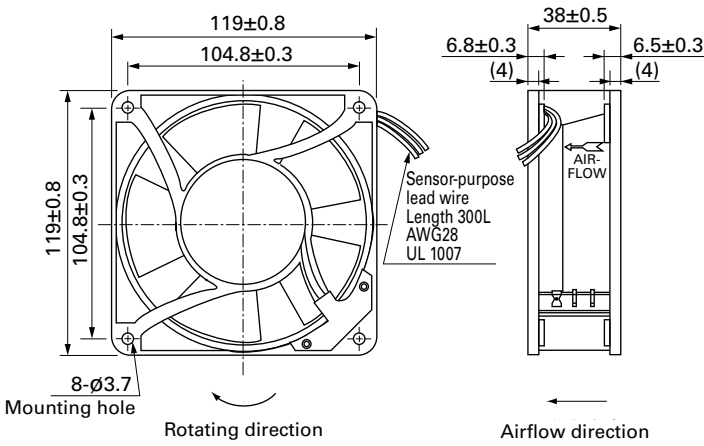


Dimensions (unit: mm)

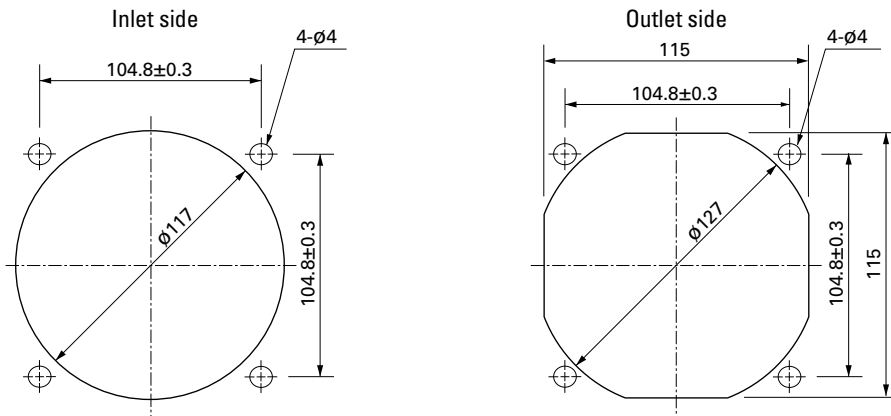
Standard



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



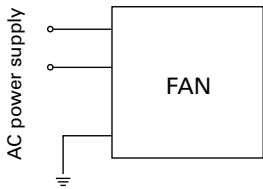
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



AC
AC Fan 120 mm sq.

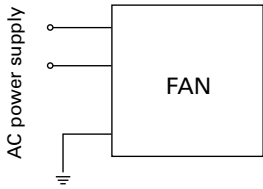
Wiring Diagram

Standard

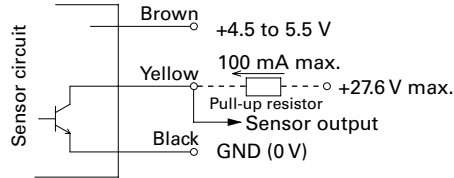


with Sensor

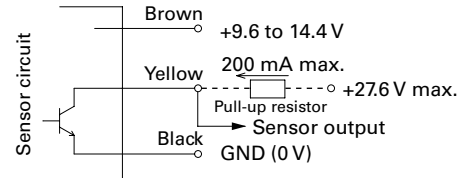
For fan power supply



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. 514

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

Resin finger guards

page: p. 520

Model no.: 109-1000G

Resin filter kits

page: p. 521

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

Filter kits

page: p. 522

Model no.: 109-018

Screen kits

page: p. 522

Model no.: 109-020

Plug cord

page: pp. 523 to 524

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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