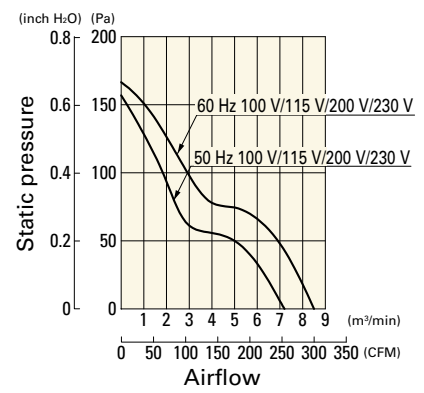


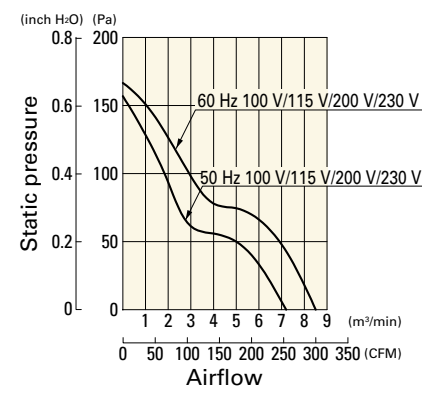
Standard

109-601, 109-604, 109-602, 109-603



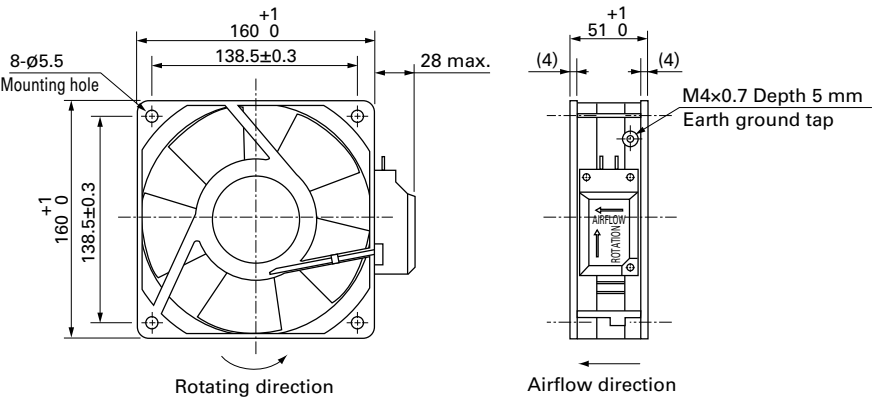
with Sensor

109-641, 109-644, 109-642, 109-643

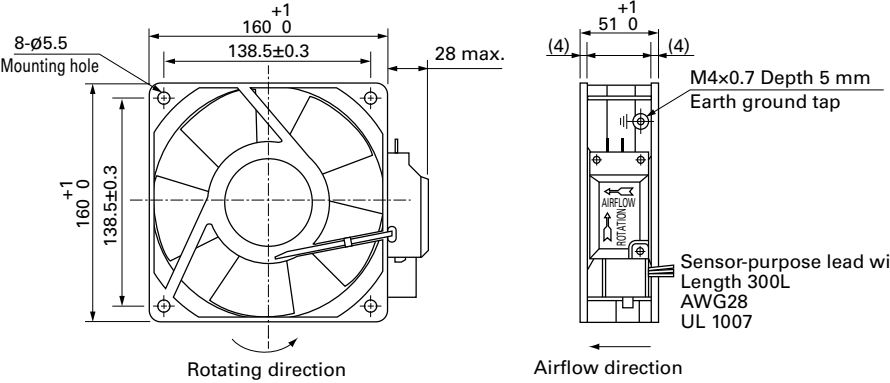


Dimensions (unit: mm)

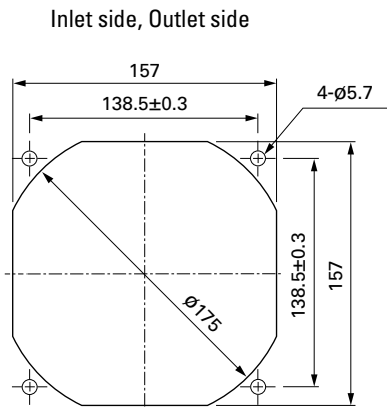
Standard



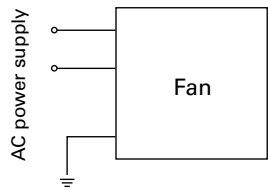
with Sensor



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

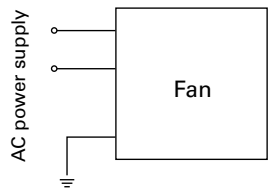


Standard

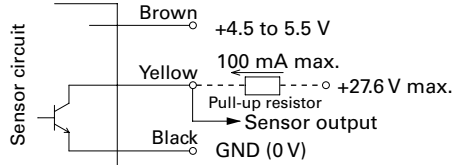


with Sensor

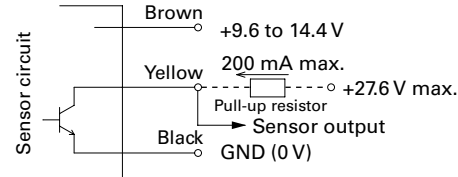
For fan power supply



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	Plug cord	page: p. 609 to 610
Model no.: 109-619E, 109-619H		PSE compatible models Model no.: 489-1619-L10, 489-1619-L21 UL/CSA certified models Model no.: 489-084-L10, 489-084-L21 PSE compatible, UL/CSA [c-UL] certified models Model no.: 489-1652-L10, 489-1652-L21	

Ø172×150×51 mm

San Ace 172



Sidecut type



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 Capacitor 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 1000 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]	Max. static pressure [Pa]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109S301	100	50/60	27/25	0.33/0.25	0.65/0.64	2900/3500	5.3/6.4 187.3/226.1	147/196 0.59/0.787	51/56	-30 to +60	25000/60°C (56000/40°C)
109S304	115			0.29/0.22	0.55/0.54						
109S302	200			0.16/0.13	0.33/0.32						
109S303	230			0.14/0.11	0.28/0.27						

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.

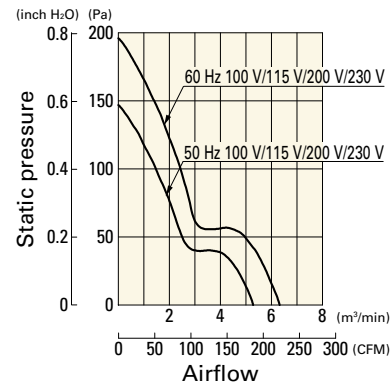
Order no.	Set items					
	Fan (1 pc)	Voltage	Low-speed sensor	Plug cord (1 pc)	Finger guard (1 pc)	Screws with hex nuts (4 pairs) ⁽²⁾
ST1-109S301	109S301	100 V		489-1619-L10 ⁽¹⁾	109-319E	M4×25 mm
ST1-109S304	109S304	115 V		489-1619-L10 ⁽¹⁾	109-319E	
ST1-109S302	109S302	200 V		489-1619-L10 ⁽¹⁾	109-319E	
ST1-109S303	109S303	230 V		489-1619-L10 ⁽¹⁾	109-319E	

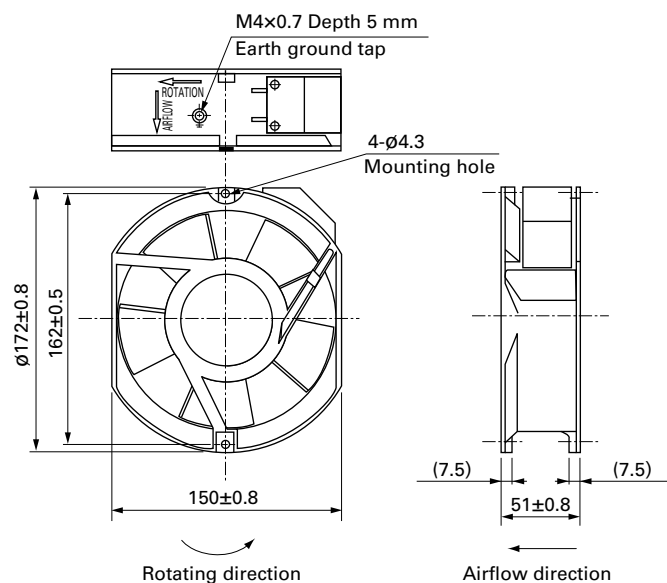
(1) PSE compatible, but not UL compatible.

(2) Though these are 2-hole or 3-hole frame mount types, 4 screws are included for extra.

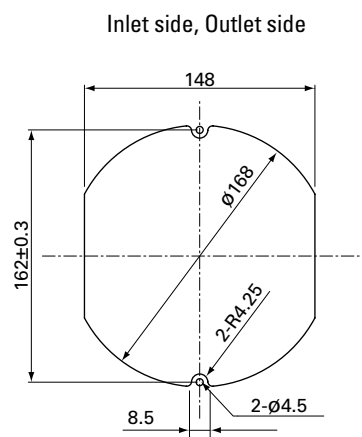
Airflow - Static Pressure Characteristics

109S301, 109S304, 109S302, 109S303

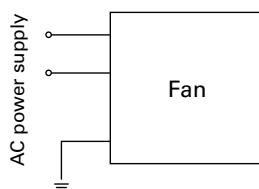




Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Connection Schematic



Options

Finger guards

page: p. 600

Model no.: 109-319J, 109-319E, 109-319H

Plug cord

page: p. 609 to 610

PSE compatible models
 Model no.: 489-1619-L10, 489-1619-L21
 UL/CSA certified models
 Model no.: 489-084-L10, 489-084-L21

Ø172×51 mm

San Ace 172  Only standard fans (without sensors) have acquired CSA certification. Round type



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 Capacitor 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 1000 g

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]
109-311	100	50/60	27/25	0.33/0.25	0.65/0.64	2900/3500	5.3/6.4 187.3/226.1	147/196 0.59/0.787	47/51	-30 to +60	25000/60°C (56000/40°C)
109-314	115			0.29/0.22	0.55/0.54						
109-312	200			0.16/0.13	0.33/0.32						
109-313	230			0.14/0.11	0.28/0.27						

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. 109-371-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109-371-30

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]
109-371	100	50/60	27/25	0.33/0.25	0.65/0.64	2900/3500	5.3/6.4 187.3/226.1	147/196 0.59/0.787	47/51	-10 to +60	25000/60°C (56000/40°C)
109-374	115			0.29/0.22	0.55/0.54						
109-372	200			0.16/0.13	0.33/0.32						
109-373	230			0.14/0.11	0.28/0.27						

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)
ST1-109-311	109-311	100 V		489-1619-L10*	109-319E	M4×25 mm
ST1-109-314	109-314	115 V		489-1619-L10*	109-319E	
ST1-109-312	109-312	200 V		489-1619-L10*	109-319E	
ST1-109-313	109-313	230 V		489-1619-L10*	109-319E	
ST1-109-371-20	109-371-20	100 V	○ (5 V)	489-1619-L10*	109-319E	
ST1-109-371-30	109-371-30		○ (12 V)	489-1619-L10*	109-319E	
ST1-109-374-20	109-374-20	115 V	○ (5 V)	489-1619-L10*	109-319E	
ST1-109-374-30	109-374-30		○ (12 V)	489-1619-L10*	109-319E	
ST1-109-372-20	109-372-20	200 V	○ (5 V)	489-1619-L10*	109-319E	
ST1-109-372-30	109-372-30		○ (12 V)	489-1619-L10*	109-319E	
ST1-109-373-20	109-373-20	230 V	○ (5 V)	489-1619-L10*	109-319E	
ST1-109-373-30	109-373-30		○ (12 V)	489-1619-L10*	109-319E	

* PSE compatible, but not UL compatible.