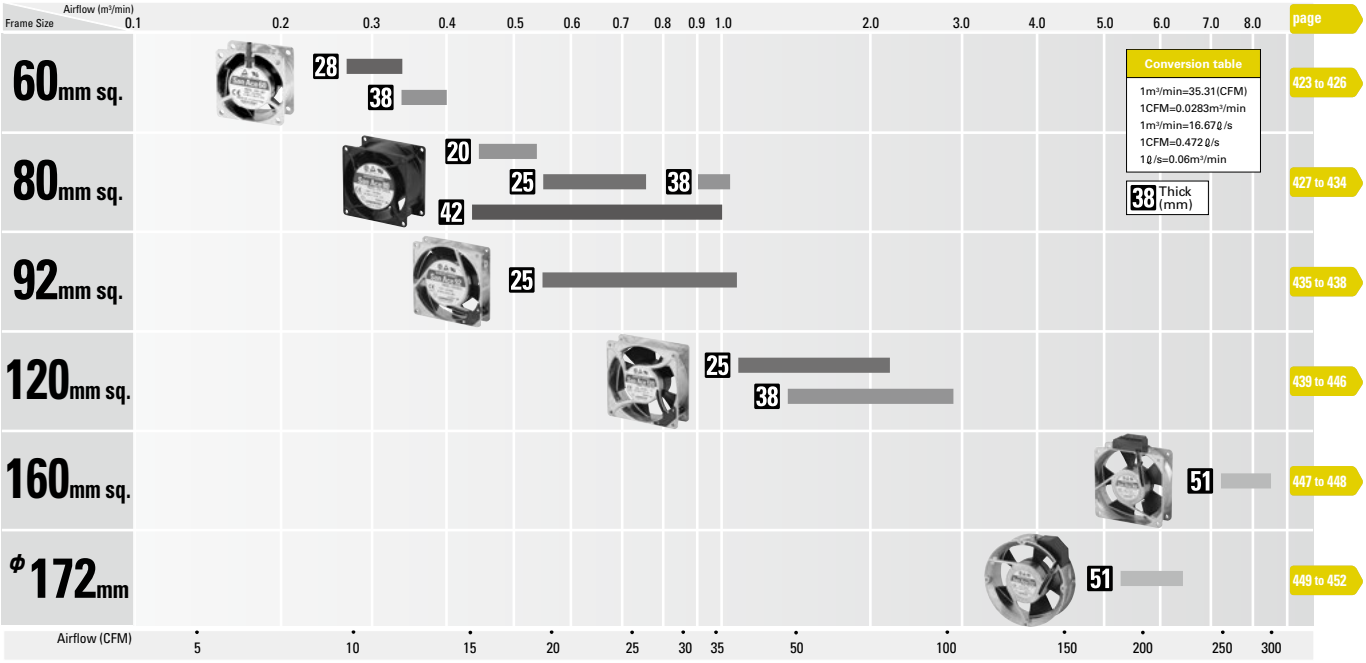
AC Fan

The cooling fan operates at 100V to 230V AC.

Domain Diagram



How to Read Specifications

AC Fan AC

Model No.	① Rated Voltage [V]	② Frequency [Hz]	③ Input [W]	④ Current [A]	⑤ Locked Rotor Current [A]	⑥ Rated Speed [min⁻¹]	⑦ Max. Airflow [m³/min]	⑦ Max. Airflow [CFM]	⑧ Max. Static Pressure [Pa]	⑧ Max. Static Pressure [inchH₂O]	⑨ SPL [dB(A)]	⑩ Operating Temperature [℃]	⑪ Expected Life [h]
109-180	100	50/60	5/4	0.06/0.05	0.07/0.06	2,250/2,700	0.27/0.33	9.5/11.7	11.8/18.6	0.047/0.075	24/26	−30 to +70	25,000
109-183	115				0.06/0.05								

①Rated Voltage ····· This is the necessary voltage to drive the fan.
Single-phase 100VAC, 115VAC, 200VAC and 230VAC are also available.

②Frequency ····· This is a frequency of alternating current(AC). The frequencies of 50Hz and 60Hz are existing in Japan.
Performance of AC fan varies depending on the frequency.
Example: Rated speed 2,250/2,700 = 50Hz → 2,250, 60Hz → 2,700

③Input ····· The input value during the fan's rated operation without load.

④Current ····· The current value during the fan's rated operation without load.

⑤Locked Rotor Current ····· This is a current when rotor of motor that applies rated voltage is locked.

⑥Rated Speed ····· The rotating speed during the fan's rated operation without load.

⑦Max. Airflow ····· The maximum air volume that the fan can output during rated operation
(according to the company's dual-chamber device).
The volume of air generated by the fan in a given time period.

⑧Max. Static Pressure ····· The maximum static pressure value that the fan can output during rated operation
(according to the company's dual-chamber device).
The static pressure is the fan's force to propel air by overcoming the resistance of the device that uses the fan when it propels air.

⑨SPL ····· "SPL" is Sound Pressure Level. The noise level during the fan's rated operation.
Please refer to the technical material section for the method used to measure the noise level.

⑩Operating Temperature ····· The temperature range over which fan operation is guaranteed (Non- condensing)

⑪Expected Life ····· The fan's expected operating life when the fan operates continuously at the rated voltage at a temperature of 60˚C and at relative humidity of 90%.
Please refer to the technical material section for the expected operating life.

AC Fan Common Specifications

Material ····· Frame:Aluminum,Impeller:Plastics

Expected Life ····· Varies for each model
(L10:Survival rate:90% at 60℃ ,rated voltage,and continuously run in a free air state)

Motor Construction ····· Shaded coil motor (60mm sq. 80mm sq. 92mm sq. 120mm sq.)
Capacitor motor (160mm sq. φ172mm)

Motor Protection System ·· Burnout protection at locked rotor condition

Dielectric Strength ····· 50/60Hz 1500VAC 1minute
(between input terminal and frame or between lead conductor and frame *For details, refer to the appropriate page.)

Insulation Resistance ····· 10MΩ or more at 500VDC megger

Sound Pressure Level(SPL) ·· Expressed as the value at 1m from air inlet side

Operating Voltage Range ·· Voltage of each model ± 10%

Lead Wire ····· For details, refer to the appropriate page.

Overheating protection function AC

Protection Functions

If the fan blades are restricted, an overcurrent occurs and leads to a rise in the fan coil temperature. This can result in reduced performance, damage, or a fire. To prevent this from occurring, SANYO DENKI's fans incorporate an overheating protection function.

Burnout protection function at locked rotor condition

- Impedance protection (60mm sq. 80mm sq. 92mm sq. 120mm sq.)
  This system is used for shading coil-type fans. When the blades are restricted, the current is reduced by the impedance of the coil itself to prevent a temperature rise in the coil. However, if the applied voltage exceeds the specification range, an overcurrent can occur and result in overheating, and so care needs to be taken.
- Thermal protection (160mm sq. φ172mm)
  This system is used for condenser phase-type fans. A temperature sensor is incorporated in the coil so that if the temperature exceeds the specification temperature, the current is cut off to prevent overheating of the coil.