

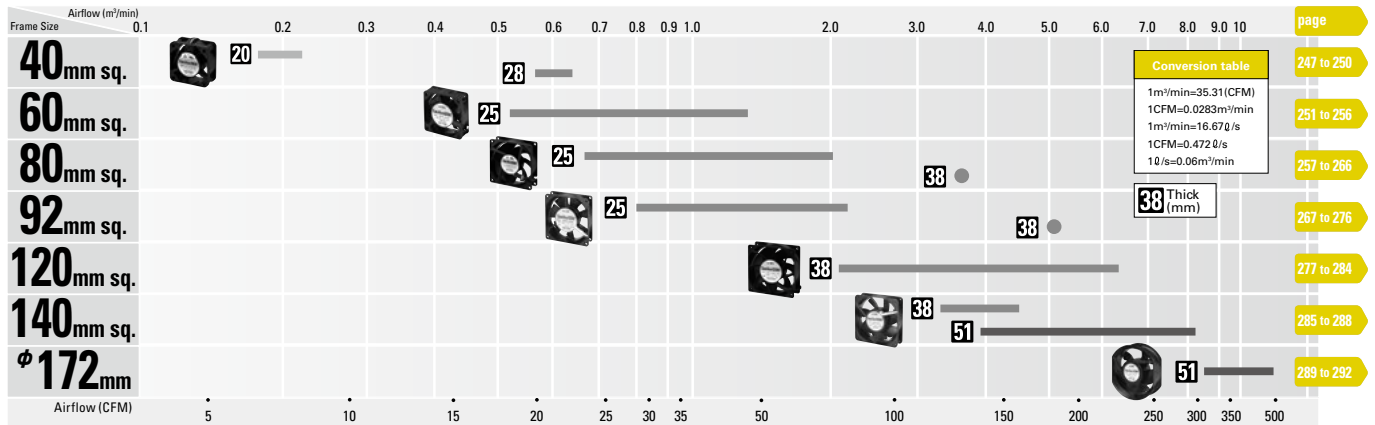
Splash Proof Fan

Cooling fan of IP54, IP55 and IP68 waterproof capability.

Related product

Splash Proof Centrifugal Fan ⇒ p. 293
Oil Proof Fan ⇒ p. 303

Domain Diagram



Model Numbering System

Not every combination of the following codes or characters is available. Contact us for an available combination.

9WS	12	12	H	1	01	
Type name / frame material 109W / Aluminum 9WS / Plastics 9WE / Aluminum 9WG / Aluminum 9WB / Aluminum 9WP / Plastics 9WV / Plastics Aluminum 9WL / Aluminum	Frame size 04 : 40×40mm 06 : 60×60mm 08 : 80×80mm 09 : 92×92mm 12 : 120×120mm 14 : 140×140mm 17 : φ172mm 57 : φ172mm×150mm (sidecut)	Voltage 12 : 12V 24 : 24V 48 : 48V etc	Speed code A, D, E, F, G, H, J, L, M, S etc	Frame thickness 1 : 38mm thick 4 : 25mm thick 5 : 51mm thick 6 : 20mm thick	Sensor specifications 01 : With a pulse sensor 02 : Without a sensor D01 : With a lock sensor	Frame form Nil : Plastics frame: Ribbed frame Aluminum frame: Ribless frame 1 : Plastics frame: Ribless frame

Fans with PWM control function

Example :

9WV	08	48	P	1	H	001	
Type name / frame material 9WV / Plastics Aluminum	Frame size 08 : 80×80mm	Voltage 48 : 48V	PWM control function	Frame thickness	Speed code	Individual customer's spec 2 or 3 digits	Frame form Nil : Plastics frame: Ribbed frame Aluminum frame: Ribless frame

Ingress protection ratings (IP code)

■ IP Codes used by SANYO DENKI express the level of protection that internal electrical components (for fans: electrical components and motor coils) have against solid objects, water, and access to hazardous parts.

San Ace Splash Proof fans feature high protection levels.

■ Definition of Ingress Protection (IP Code)

Ingress Protection (IP Code) is defined in IEC (International Electrotechnical Commission) 60529* DEGREES OF PROTECTION PROVIDED BY ENCLOSURES (IP Code). *IEC 60529:2001

I P X X

Second digit: Protection against water

First digit: Protection against solid objects and access to hazardous parts

*For details, please refer to p. 483.

How to Read Specifications

DC Fan											DC	
Model No.	① Rated Voltage [V]	② Operating Voltage Range [V]	③ Rated Current [A]	④ Rated Input [W]	⑤ Rated Speed [min ⁻¹]	⑥ Max. Airflow [m ³ /min] [CFM]		⑦ Max. Static Pressure [Pa] [inchH ₂ O]		⑧ SPL [dB(A)]	⑨ Operating Temperature [°C]	⑩ Expected Life [h]
9GA0412G7001	12	7 to 13.8	0.17	2.04	13,100	0.36	12.7	192	0.77	42	-20 to +70	40,000/60°C (70,000/40°C)

- ① Rated Voltage This is the necessary voltage to drive the fan. 12VDC, 24VDC and 48VDC are available.
- ② Operating Voltage Range... The voltage range over which fan operation is guaranteed
- ③ Rated Current The current value during the fan's rated operation without load
- ④ Rated Input The input value during the fan's rated operation without load
- ⑤ Rated Speed The rotating speed during the fan's rated operation without load
- ⑥ Max. 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
- ⑦ Max. 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.
- ⑧ SPL "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.
- ⑨ Operating Temperature The temperature range over which fan operation is guaranteed (Non- condensing)
- ⑩ Expected 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%. Expected life at 40°C ambient is just reference value.
Please refer to the technical material section for the expected operating life.

DC Fan Common Specifications

Material Frame,Impeller:Plastics / Frame:Aluminum,Impeller:Plastics

* For details, refer to the appropriate page.

Expected LifeVaries for each model (L10:Survival rate:90% at 60°C ,rated voltage, and continuously run in a free air state)

* Splash proof fan: Varies for each model (Indoor, L10:Survival rate:90% at 60°C ,rated voltage, and continuously run in a free air state)

Motor Protection Burnout protection at locked rotor condition and Reverse polarity protection

Dielectric StrengthAC50/60Hz 500VAC 1minute(between lead conductor and frame)

Insulation Resistance10M Ω or more at 500VDC megger (between lead conductor and frame)

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

Lead WireFor details, refer to the appropriate page.

Overheating protection function

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. Refer to the catalog for the types of protection functions.

Burnout protection function at locked rotor condition

- Current cutoff system

If the fan blades are restricted, the coil current is cut off at regular cycles to prevent overheating of the coil. When the hindrance is removed, the fan restarts automatically.

Reverse polarity protection function

No problem about fan even if positive & negative lead are connected in reverse.

However, when wiring fans with sensors or PWM speed control function, connecting positive and negative leads in reverse may damage the fans.