

Oil Proof Fan

Cooling fan capable of operating in an oil-mist environment.

Related product: Splash Proof Fan p. 361, Splash Proof Blower p. 421, Splash Proof Centrifugal Fan p. 425

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

9WF	12	24	H	1	01	
Type name	Frame size	Voltage	Speed code	Frame thickness	Sensor specifications	Frame form

Type name	9WF 9WFA					
Frame size (mm)	04 40×40	06 60×60	08 80×80	09 92×92	12 120×120	
Voltage (V)	24 24					
Speed code	H					
Frame thickness (mm)	1 38	2 32	4 25	6 20	7 15	
Sensor specifications	01, 001 With a pulse sensor			02, 002 Without a sensor		D01, D001 With a lock sensor
Frame form	Nil Ribbed frame					

How to Read Specifications (DC fan) The following is a sample. See respective product pages for detailed information.

Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	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]
9GA0412G7001	12	7 to 13.8	0.17	2.04	13100	0.36 12.7	192 0.77	42	-20 to +70	40000/60°C (70000/40°C)

Rated voltage	 This is the necessary voltage to drive the fan. E.g.) 12 VDC, 24 VDC, 48 VDC
Operating voltage range	 The voltage range over which fan operation is guaranteed.
Rated current	 The current when the fan is operating at rated voltage (at free air).
Rated input	 The power value when the fan is operating at rated voltage (at free air).
Rated speed	 The speed when the fan is operating at rated voltage (at free air).
Max. airflow	 The airflow at 0 Pa static pressure when the fan is operating at rated voltage. (Measured using the double chamber method)
Max. static pressure	 The static pressure at 0 m ³ /min airflow when the fan is operating at rated voltage. (Measured using the double chamber method)
SPL	 A-weighted sound pressure level (SPL) when the fan operates at the rated speed. For the measurement method, see the Technical Materials section in the catalog.
Operating temperature	 The temperature range over which fan operation is guaranteed (Non-condensing).
Expected life	 Service life hours that 90% of bearings will survive without failing when continuously operated at the rated voltage and 60°C temperature. Expected life at 40°C is for reference only. For more information, please refer to the technical material section.

40×40×15 mm

San Ace 40WF 9WF_{type}



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black Sensor Yellow
- Mass 35 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor**.

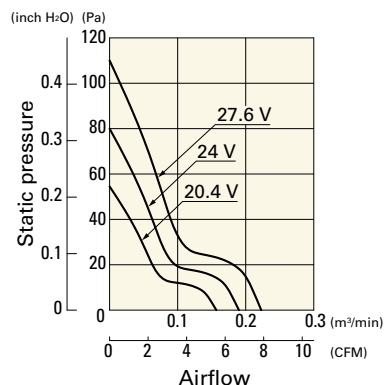
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WF0424H701	24	20.4 to 27.6	0.085	2.04	11300	0.195 6.9	80 0.32	38	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

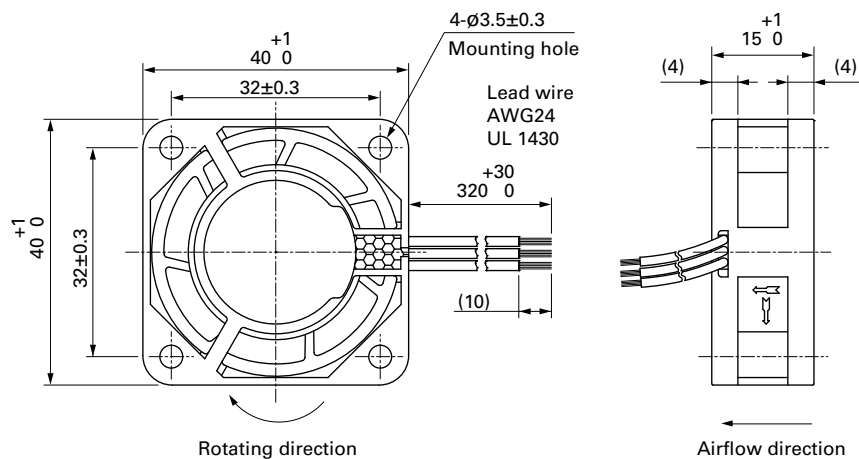
Airflow - Static Pressure Characteristics

9WF0424H701 With pulse sensor

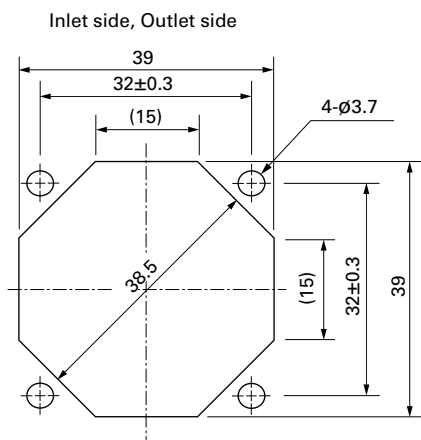
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 598

Model no.: 109-059, 109-059H



40×40×20 mm

San Ace 40WF 9WFA type

General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black Yellow
- Mass 45 g

This fan can be used in environments with oil mist.*
* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor.**

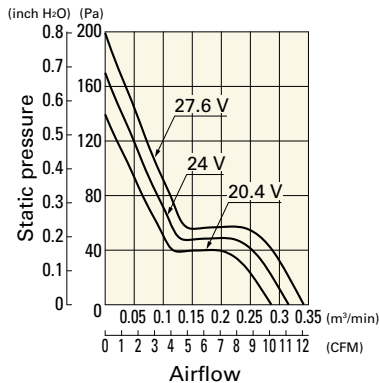
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WFA0424G6001	24	20.4 to 27.6	0.11	2.6	17000	0.31 10.9	170 0.68	48	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

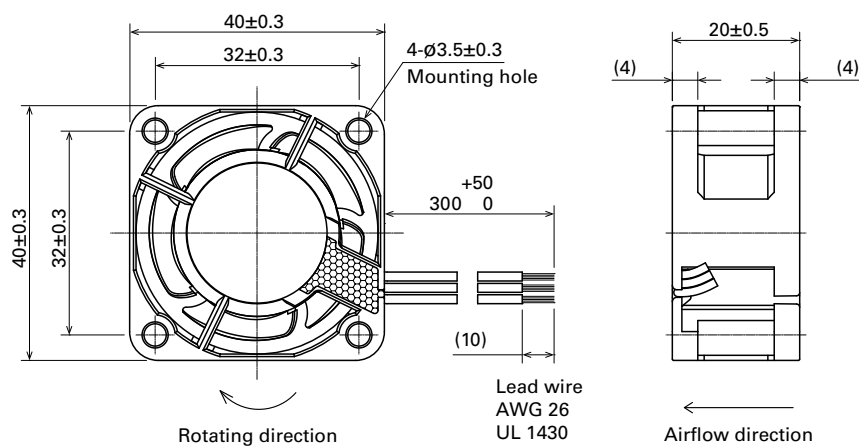
Airflow - Static Pressure Characteristics

9WFA0424G6001 With pulse sensor

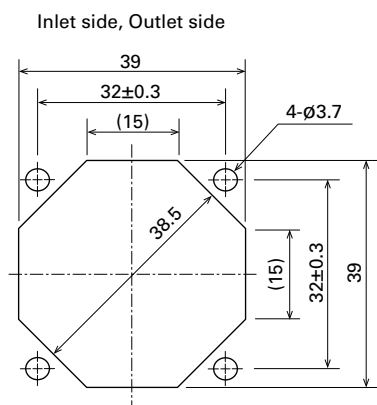
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 598

Model no.: 109-059, 109-059H

60×60×15 mm

San Ace 60WF 9WF_{type}



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black Sensor Yellow
- Mass 62 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor**.

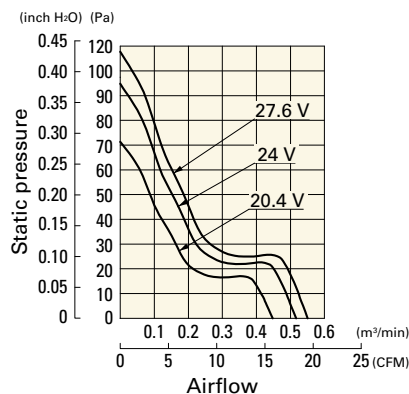
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WF0624H701	24	20.4 to 27.6	0.12	2.88	6800	0.52 18.3	95 0.38	44	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

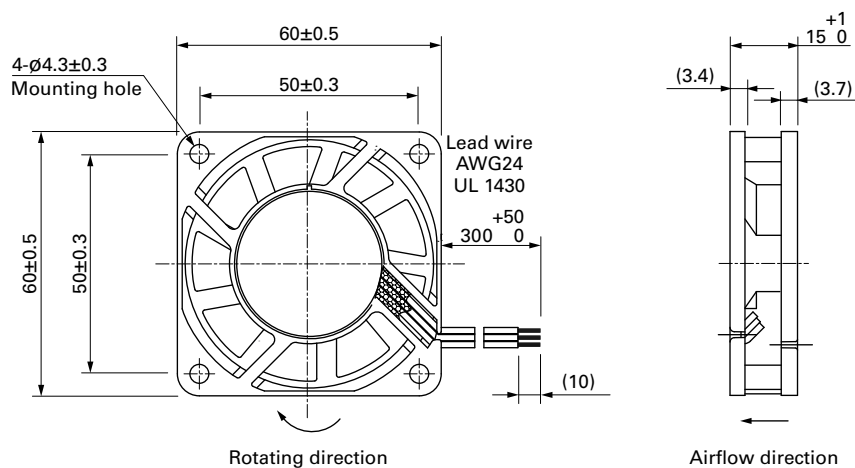
Airflow - Static Pressure Characteristics

9WF0624H701 With pulse sensor

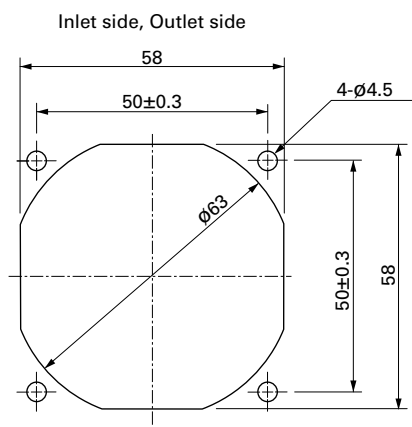
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 598

Model no.: 109-139E, 109-139H

60×60×20 mm

San Ace 60WF 9WFA type  



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black  Yellow
- Mass 85 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor.**

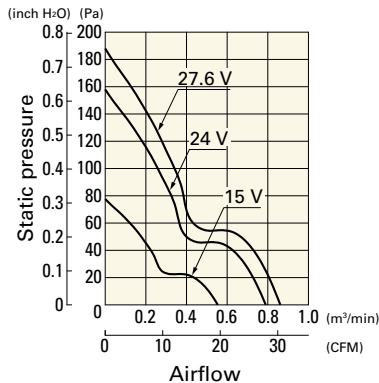
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WFA0624G6001	24	15 to 27.6	0.16	3.8	7700	0.79 27.9	158 0.63	48	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

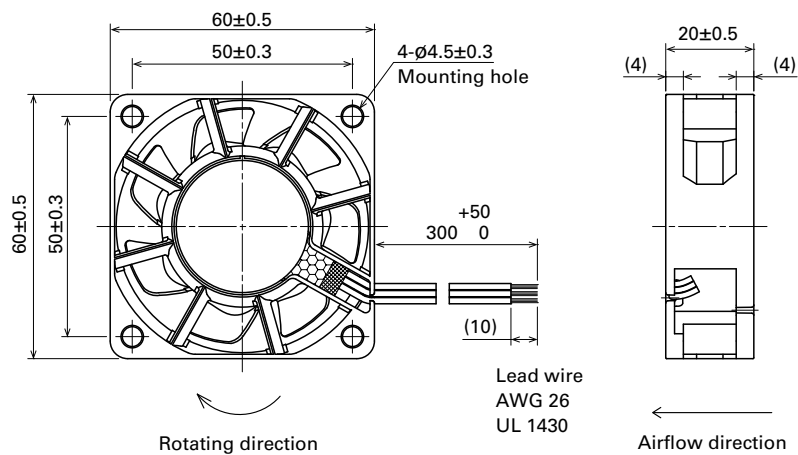
Airflow - Static Pressure Characteristics

9WFA0624G6001 With pulse sensor

Operating voltage range

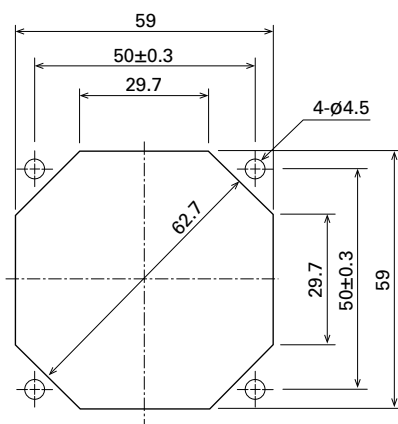


■ Dimensions (unit: mm)



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

Inlet side, Outlet side



■ Options

Finger guards

page: p. 598

Model no.: 109-139E, 109-139H

60×60×25 mm

San Ace 60WF 9WF_{type}



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black Sensor Yellow
- Mass 110 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor**.

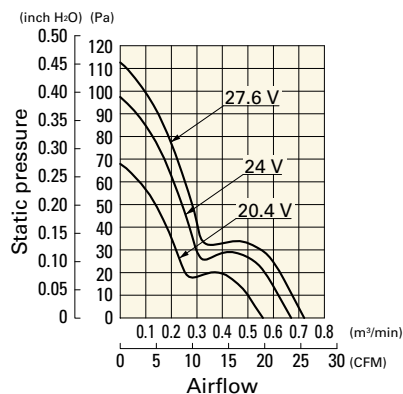
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WF0624H401	24	20.4 to 27.6	0.15	3.6	6500	0.67 23.6	97 0.38	41	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

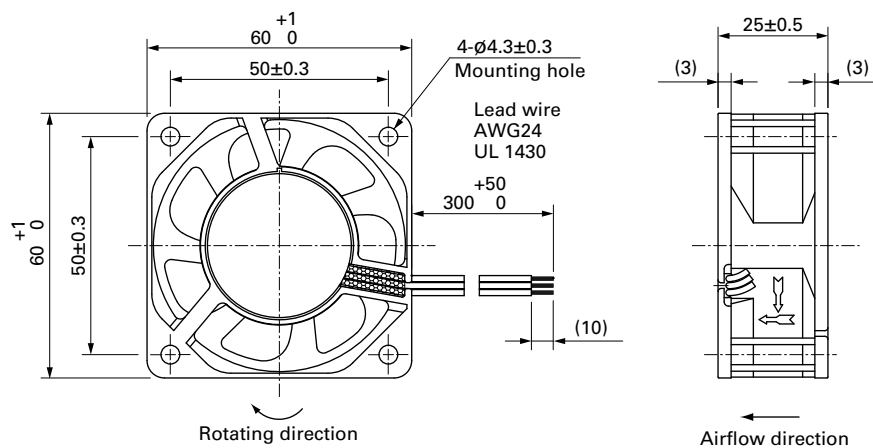
Airflow - Static Pressure Characteristics

9WF0624H401 With pulse sensor

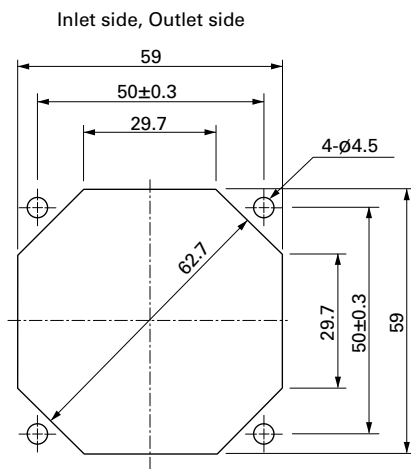
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 598

Model no.: 109-139E, 109-139H

80×80×20 mm

San Ace 80WF 9WFA type



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black  Yellow
- Mass 105 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor.**

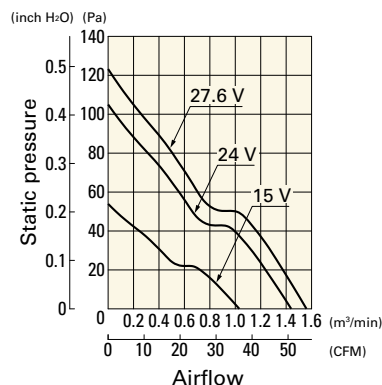
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WFA0824G6001	24	15 to 27.6	0.15	3.6	6000	1.44 50.8	105 0.42	48	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

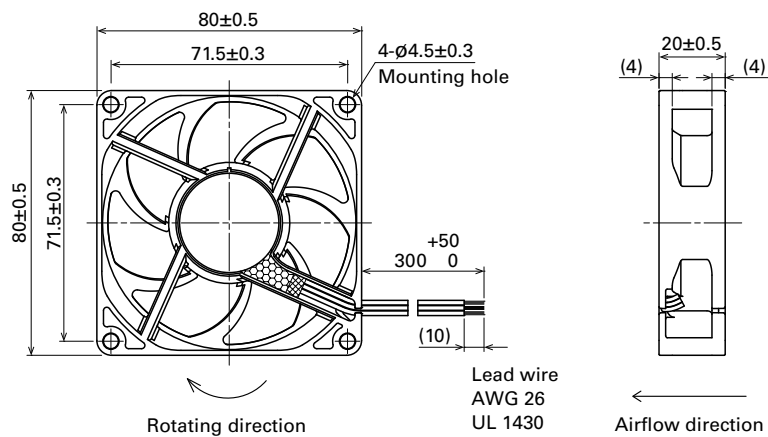
Airflow - Static Pressure Characteristics

9WFA0824G6001 With pulse sensor

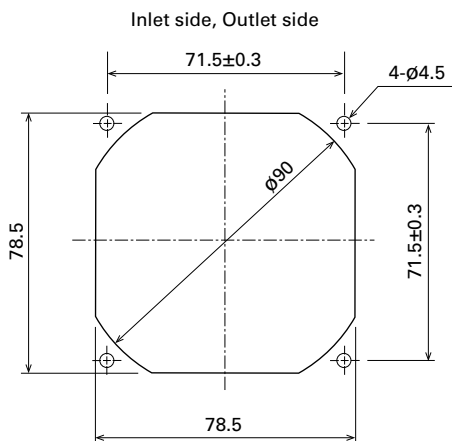
Operating voltage range



■ Dimensions (unit: mm)



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



■ Options

Finger guards

page: p. 598

Model no.: 109-049E, 109-049H

80×80×25 mm

San Ace 80WF 9WF_{type}



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black ☐Sensor ☐Yellow
- Mass 130 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor.**

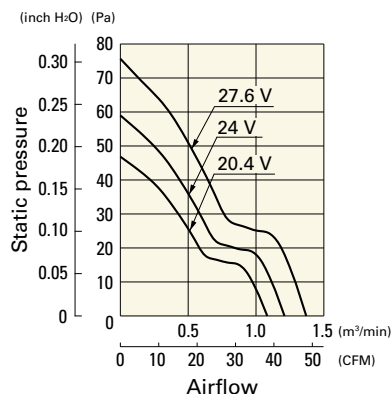
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WF0824S401	24	20.4 to 27.6	0.16	3.84	4000	1.2 42.4	58 0.23	38	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

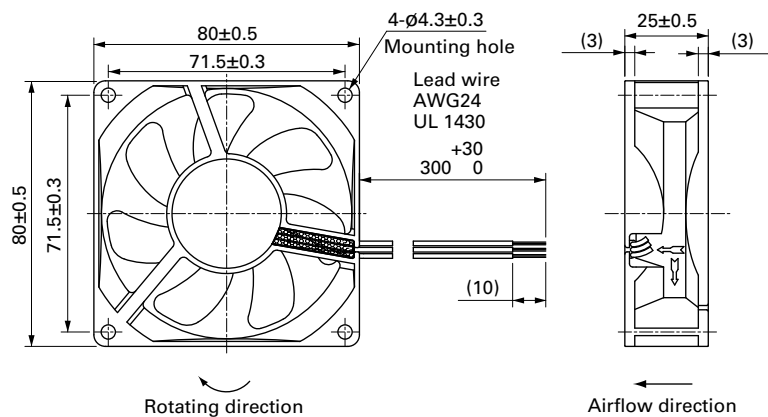
Airflow - Static Pressure Characteristics

9WF0824S401 With pulse sensor

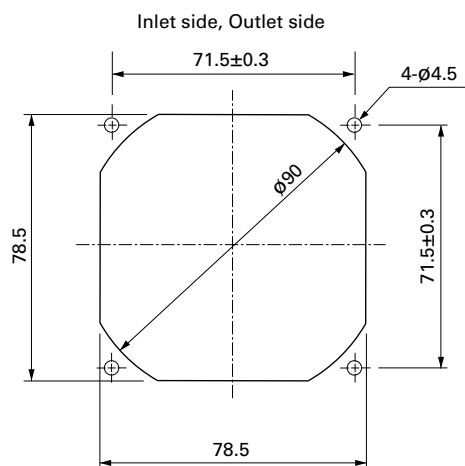
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 598

Model no.: 109-049E, 109-049H

92×92×25 mm

San Ace 92WF 9WFA type



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black  Yellow
- Mass 170 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor**. For models without ribs, append "1" to the end of model numbers.

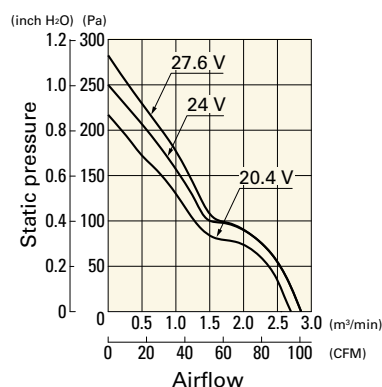
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WFA0924G4001	24	20.4 to 27.6	0.45	10.8	7350	2.85 100.6	250 1.0	56	-20 to +70	40000/60°C (70000/40°C)
9WFA0924H4001			0.28	6.72	6100	2.35 83.0	171 0.69	52		

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

Airflow - Static Pressure Characteristics

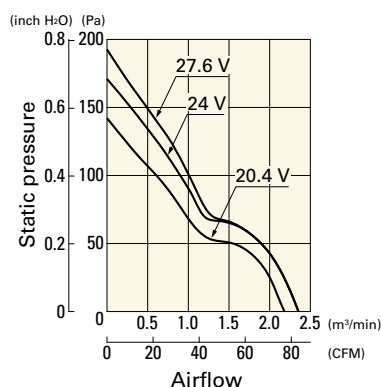
9WFA0924G4001 With pulse sensor

Operating voltage range

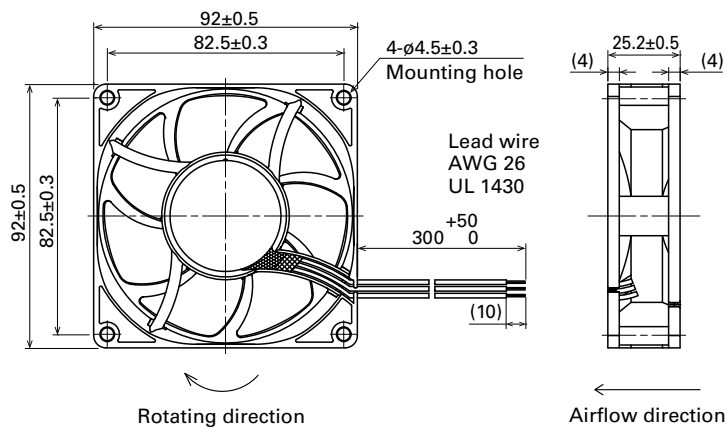


9WFA0924H4001 With pulse sensor

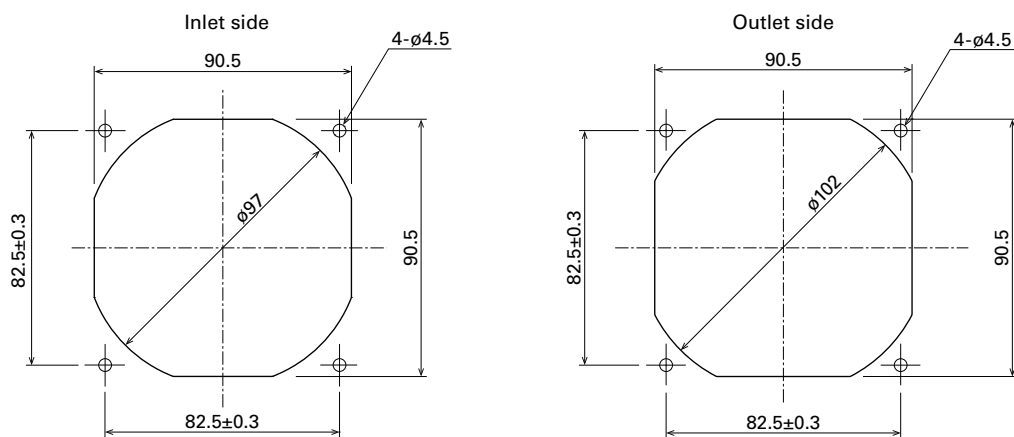
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 598

Model no.: 109-099E, 109-099H

92×92×32 mm

San Ace 92WF 9WFA type



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black  Yellow
- Mass 205 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor.**

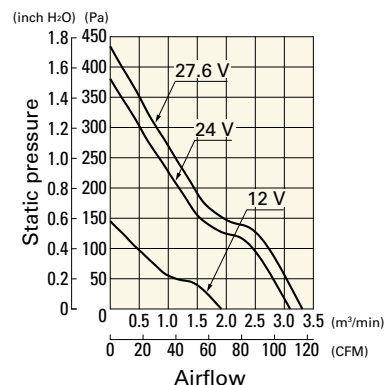
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WFA0924G2001	24	12 to 27.6	0.58	13.9	9600	3.1 109.5	380 1.53	63	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

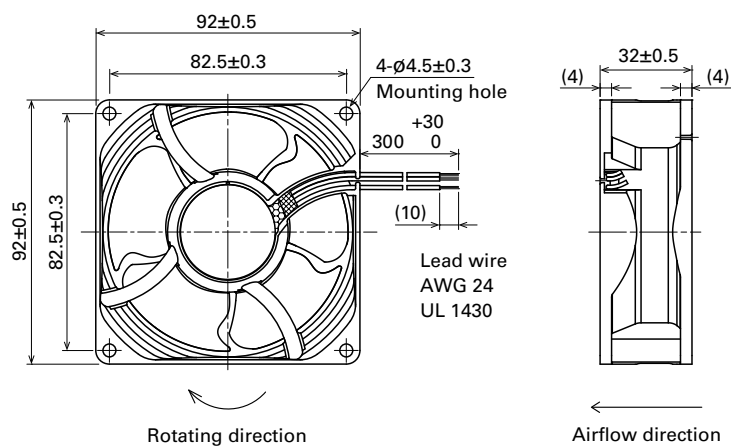
Airflow - Static Pressure Characteristics

9WFA0924G2001 With pulse sensor

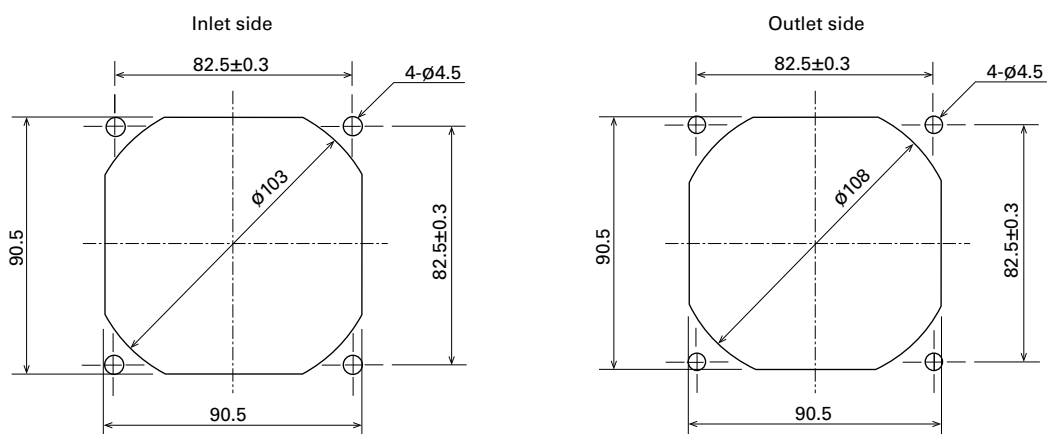
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 598

Model no.: 109-099E, 109-099H

120×120×38 mm

San Ace 120WF 9WF type   


General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- 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 protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black ☐Sensor ☐Yellow
- Mass 355 g

This fan can be used in environments with oil mist.*

* Environment where cutting oil creates oil mist. Conduct a product evaluation with the type of oil to be used.

Specifications

The models listed below **have ribs and a pulse sensor**.

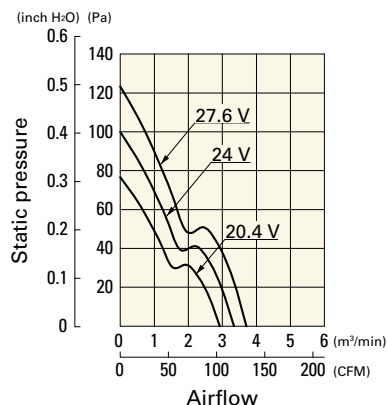
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WF1224H101	24	20.4 to 27.6	0.32	7.68	3100	3.34 118	100 0.4	46	-20 to +70	40000/60°C (70000/40°C)

Note: Sensor and control options are available for selection. Refer to the table on p. 660.

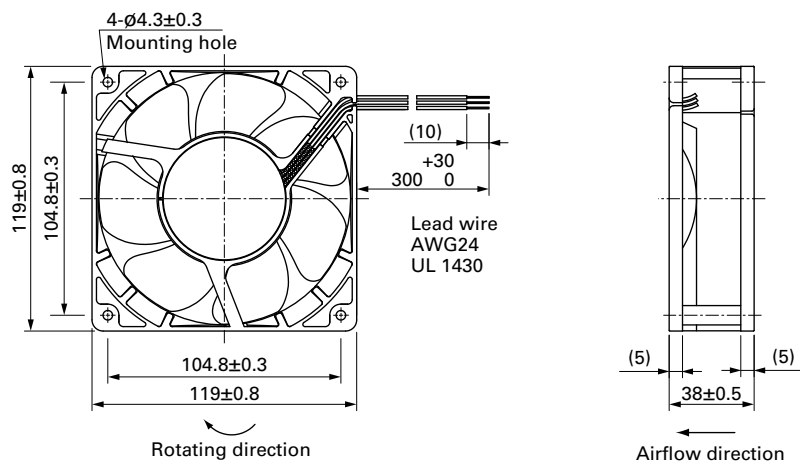
Airflow - Static Pressure Characteristics

9WF1224H101 With pulse sensor

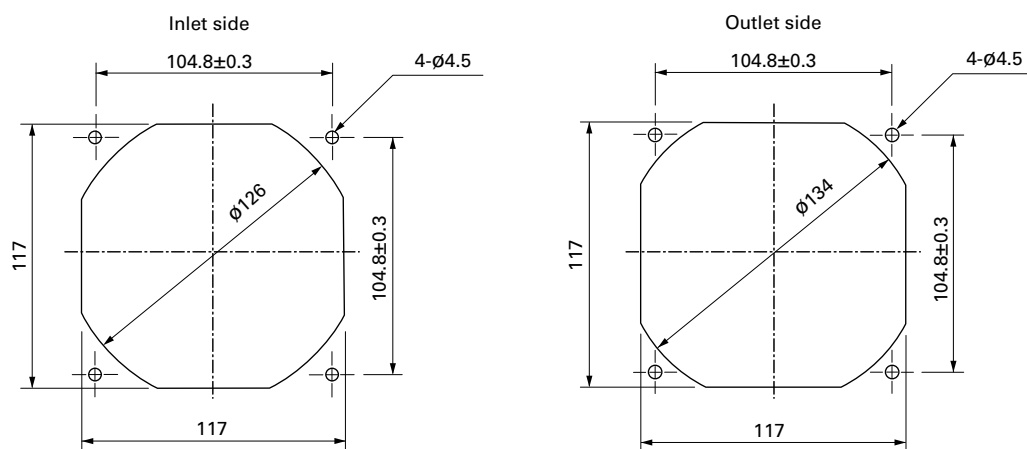
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 599

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