

Splash Proof Centrifugal Fan

Centrifugal fans of IP54, IP56 and IP68 waterproof capability. For more information on IP rating, refer to p. 625.
Related product: Centrifugal Fan p. 285, Splash Proof Fan p. 361, Splash Proof Blower p. 421,
Oil Proof Fan p. 451

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

9W1T	M	48	P	4	H	01
Type name	Impeller size	Voltage	PWM control	Thickness	Speed code	Individual customer's spec (2 to 3 digits)

Bracket-mounted Splash Proof Centrifugal Fan

9B1W2T	P	24	P	0	H	001
Type name	Impeller size	Voltage	PWM control	Thickness	Speed code	Individual customer's spec (3 digits)

Type name	9W1T 9W2T 9B1W2T					
Impeller size (mm)	G	J	M	N	P	S
	Ø175	Ø133	Ø100	Ø150	Ø221	Ø225
Voltage (V)	24	48				
	24	48				
Thickness (mm)	0	1	4			
	69 min.	35	25			
Speed code	H	G	S	etc.		

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 [m³/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 m³/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.

Ø100x25 mm

San Ace 100W 9W2TM type  



General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 Control Brown
- Mass 190 g
- Ingress protection IP68 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1080H) is mounted.

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	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]
9W2TM24P4G001	24	18 to 27.6	100	0.7	16.8	7400	2.03 71.7	708 2.84	65	-20 to +70	40000/60°C (70000/40°C)
			20	0.04	0.96	1500	0.39 14	30 0.12	31		
9W2TM24P4H001			100	0.44	10.56	6400	1.77 62.5	560 2.25	60		
			20	0.04	0.96	1500	0.39 14	30 0.12	31		
9W2TM48P4G001	48	36 to 60	100	0.35	16.8	7400	2.03 71.7	708 2.84	65		
			20	0.04	1.92	1500	0.39 14	30 0.12	31		
9W2TM48P4H001			100	0.22	10.56	6400	1.77 62.5	560 2.25	60		
			20	0.04	1.92	1500	0.39 14	30 0.12	31		

* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

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

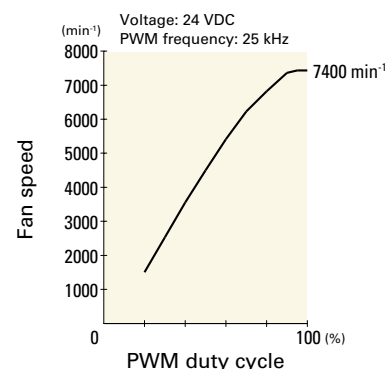
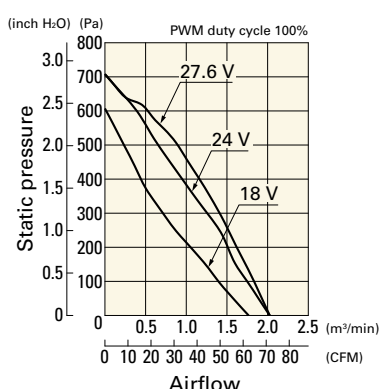
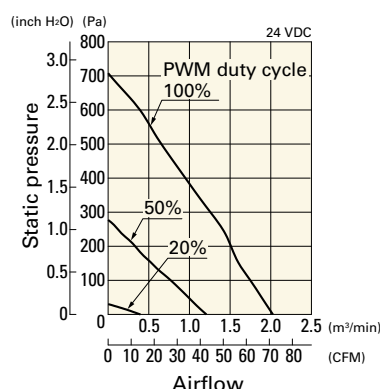
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TM24P4G001 With pulse sensor with PWM control

PWM duty cycle

Operating voltage range

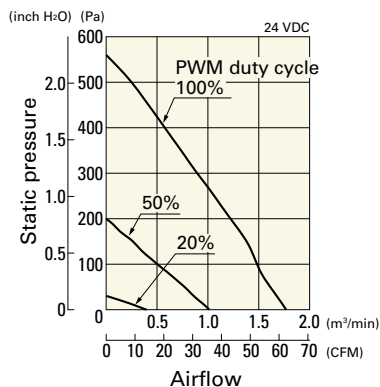
PWM duty - Speed characteristics example



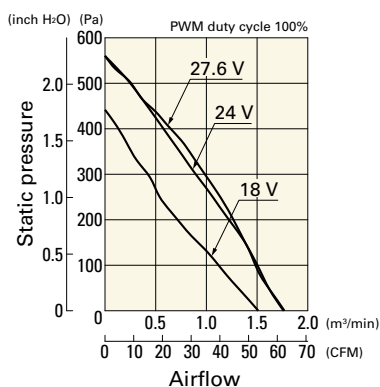
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TM24P4H001 With pulse sensor with PWM control

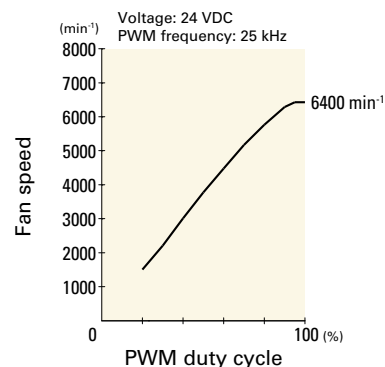
PWM duty cycle



Operating voltage range

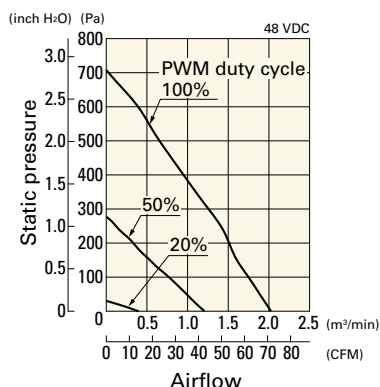


PWM duty - Speed characteristics example

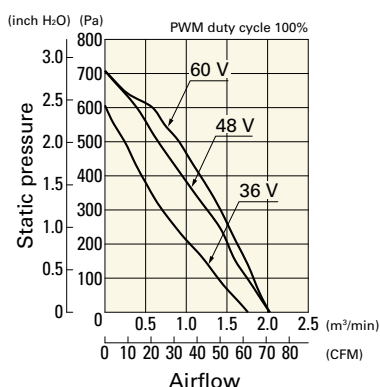


9W2TM48P4G001 With pulse sensor with PWM control

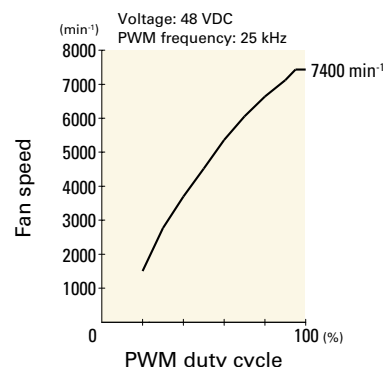
PWM duty cycle



Operating voltage range

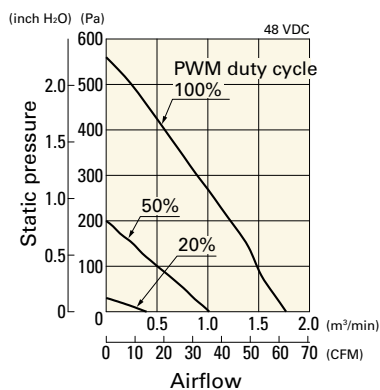


PWM duty - Speed characteristics example

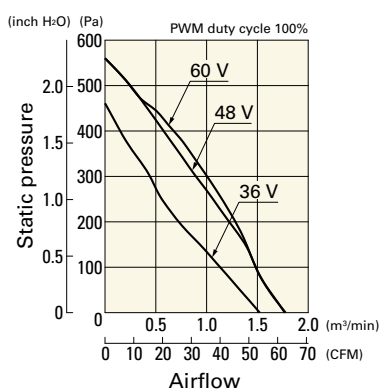


9W2TM48P4H001 With pulse sensor with PWM control

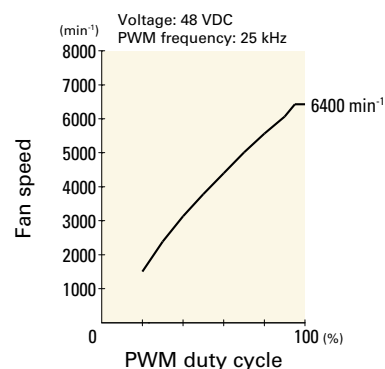
PWM duty cycle



Operating voltage range



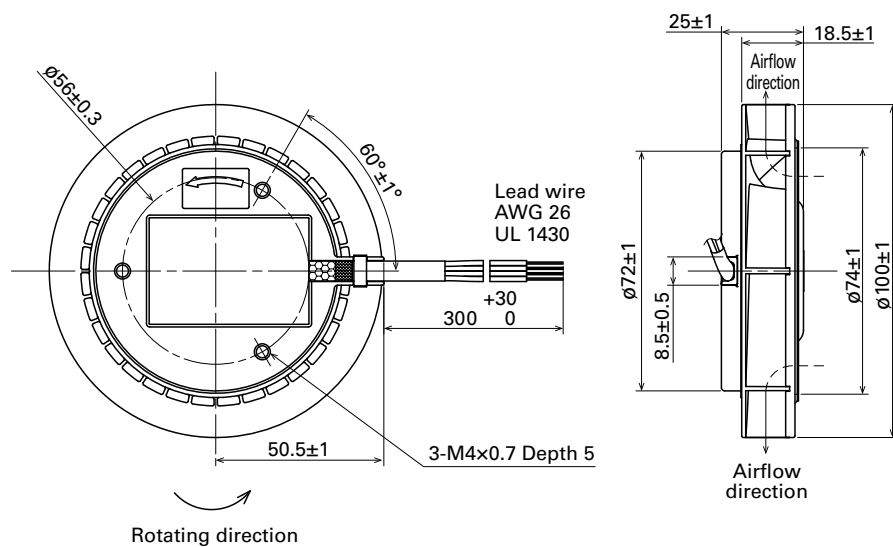
PWM duty - Speed characteristics example



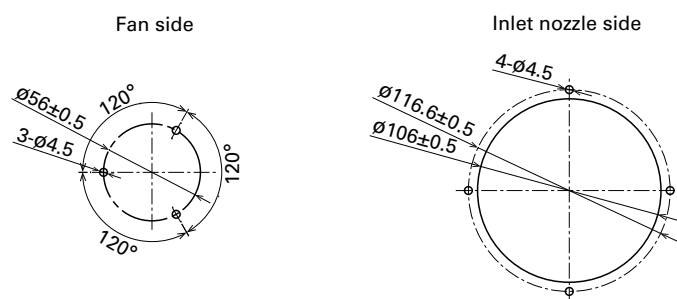
DC

Splash Proof Centrifugal Fan ø100 mm

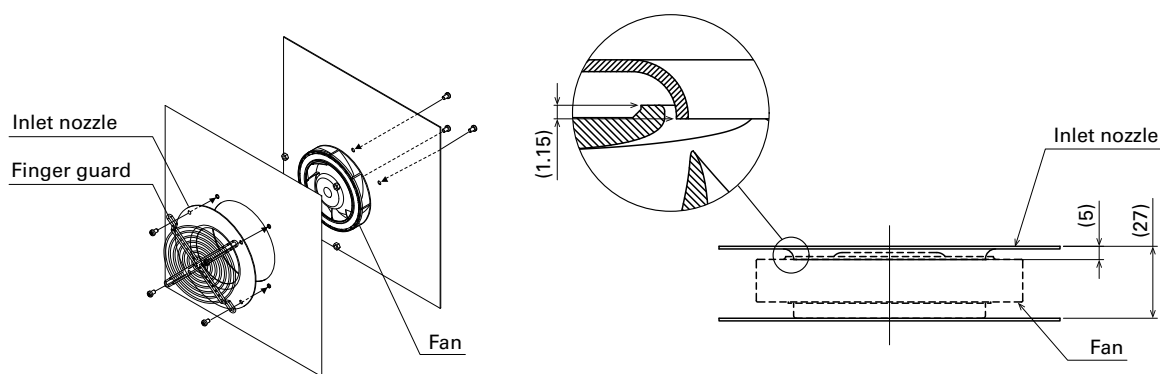
Dimensions (unit: mm)



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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 598

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

Inlet nozzle

page: p. 603

Model no.: 109-1080, 109-1080H



Ø133x91 mm

San Ace 133W 9W2TJ type  

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 Control Brown
- Mass 800 g
- Ingress protection IP68 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1069H) is mounted.

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	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]
9W2TJ24P0H001	24	20.4 to 27.6	100	1.2	28.8	4150	6.39 225	395 1.59	61	-20 to +70	40000/60°C (70000/40°C)
			20	0.09	2.16	1150	1.7 60	32 0.13	35		
9W2TJ48P0H001	48	36 to 60	100	0.55	26.4	4150	6.39 225	395 1.59	61		
			20	0.08	3.84	1150	1.7 60	32 0.13	35		

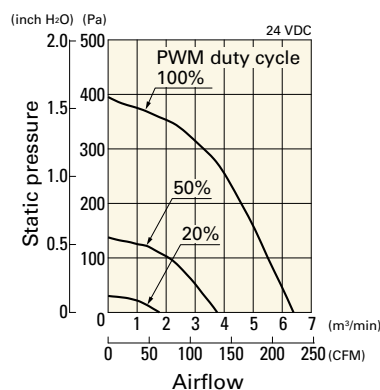
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Max input is 45 W at rated voltage.

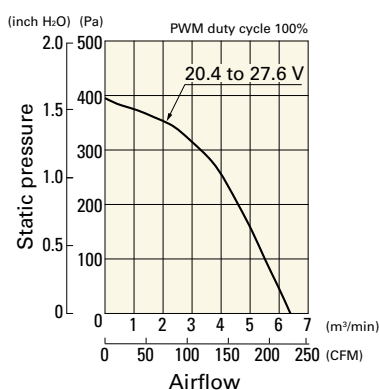
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TJ24P0H001 With pulse sensor with PWM control

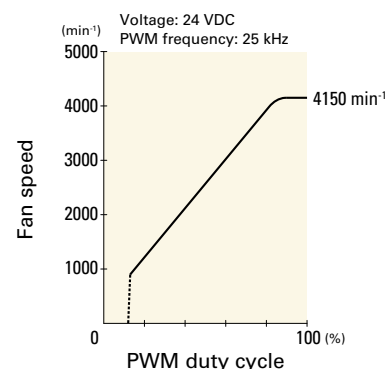
PWM duty cycle



Operating voltage range



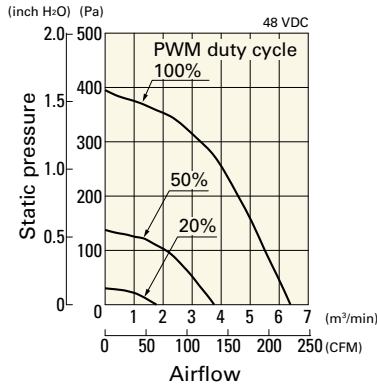
PWM duty - Speed characteristics example



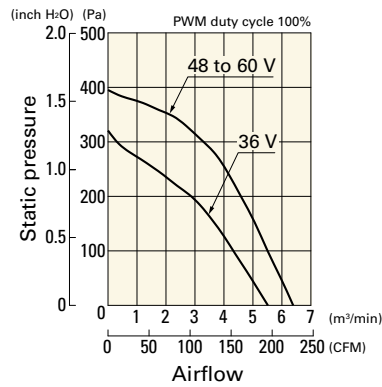
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TJ48P0H001 With pulse sensor with PWM control

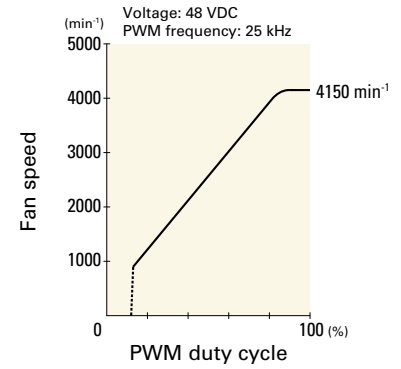
PWM duty cycle



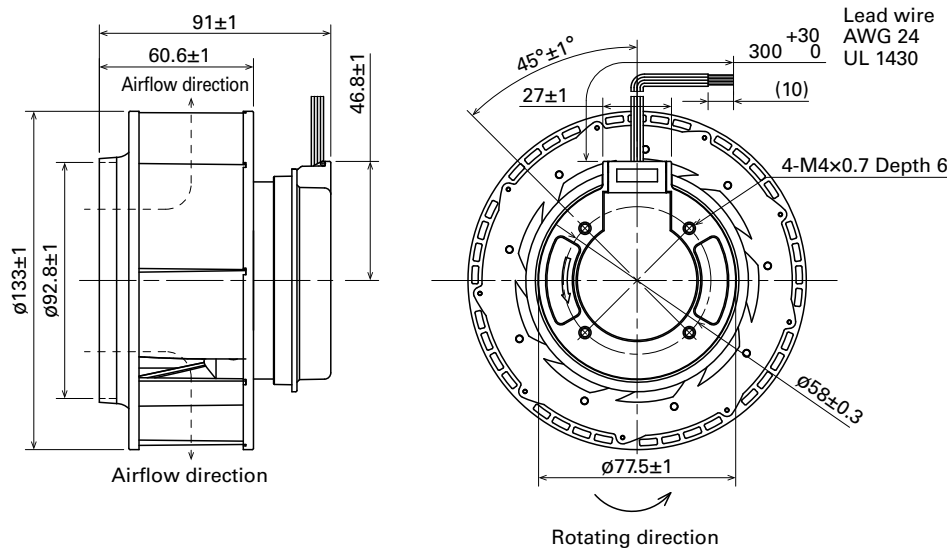
Operating voltage range



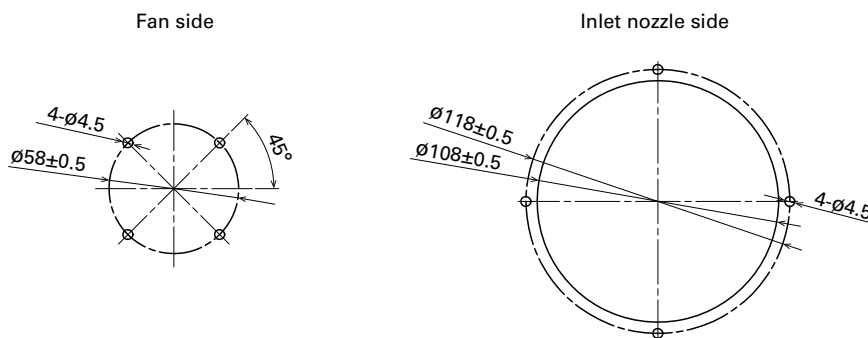
PWM duty - Speed characteristics example



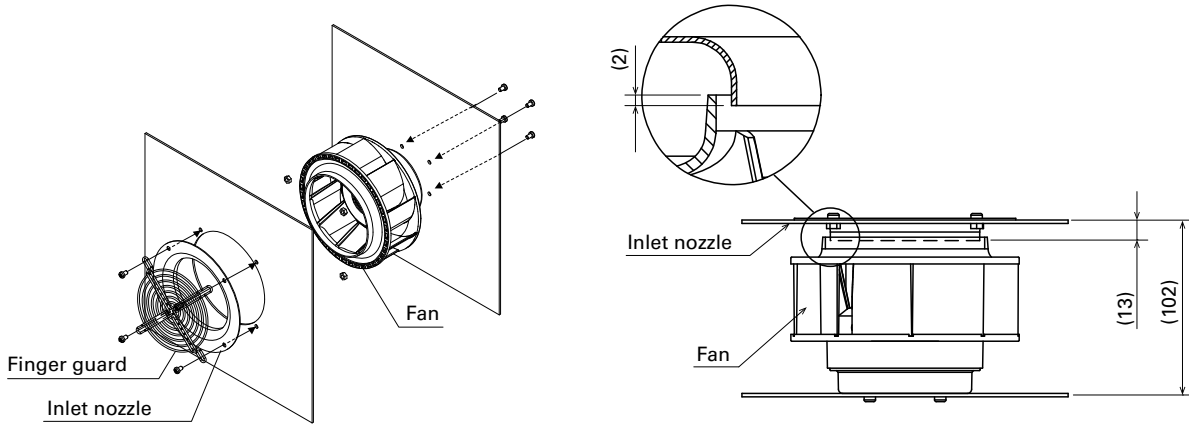
Dimensions (unit: mm)



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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 599

Model no.: 109-1112, 109-1112H

Inlet nozzle

page: p. 603

Model no.: 109-1069, 109-1069H



Ø150×35 mm

San Ace 150W 9W2TN type  

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 ☐ Control ☐ Brown
- Mass 360 g
- Ingress protection IP68 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1081H) is mounted.

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	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]
9W2TN24P1H001	24	20.4 to 27.6	100	0.64	15.4	3800	3.83 135	390 1.57	59	-20 to +70	40000/60°C (70000/40°C)
			20	0.16	3.84	1500	1.51 53	60.7 0.24	38		
9W2TN48P1H001	48	36 to 55.2	100	0.32	15.4	3800	3.83 135	390 1.57	59		
			20	0.08	3.84	1500	1.51 53	60.7 0.24	38		

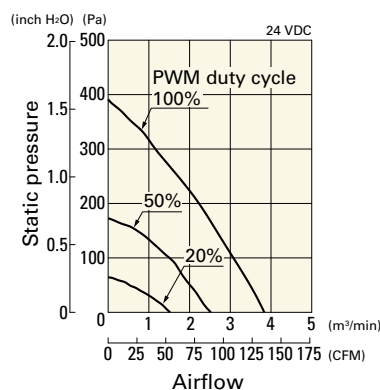
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Max input is 22 W at rated voltage.

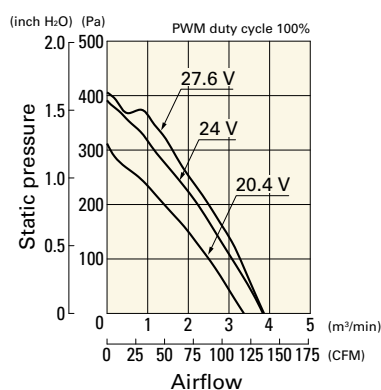
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TN24P1H001 With pulse sensor with PWM control

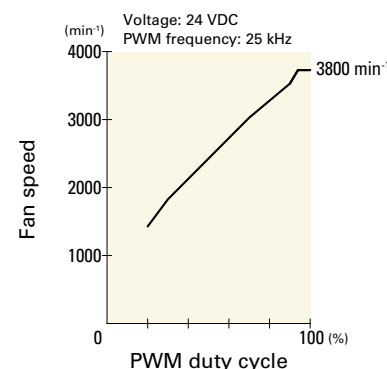
PWM duty cycle



Operating voltage range



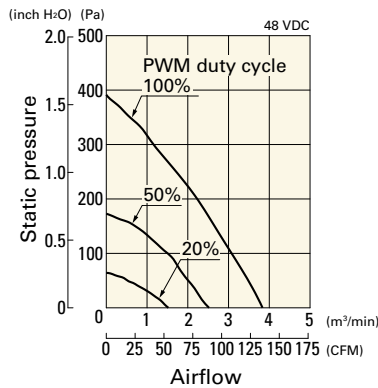
PWM duty - Speed characteristics example



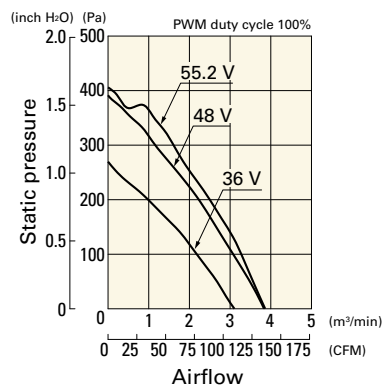
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TN48P1H001 With pulse sensor with PWM control

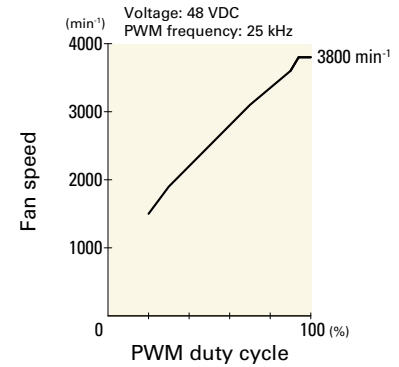
PWM duty cycle



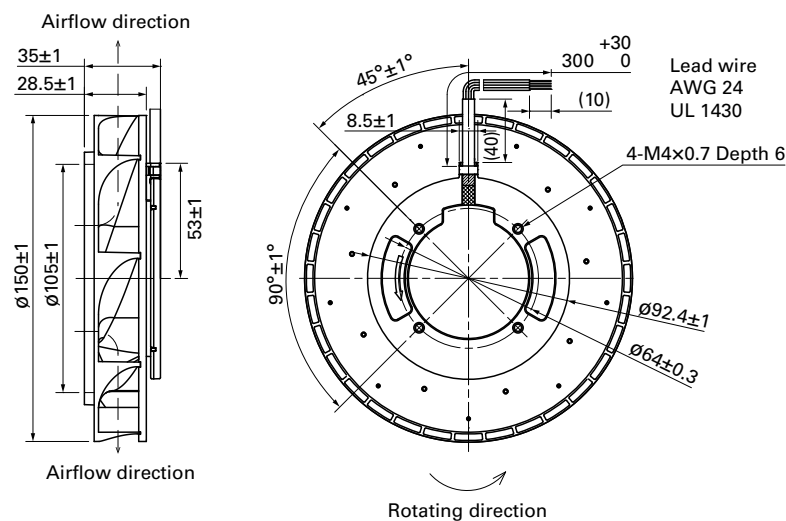
Operating voltage range



PWM duty - Speed characteristics example

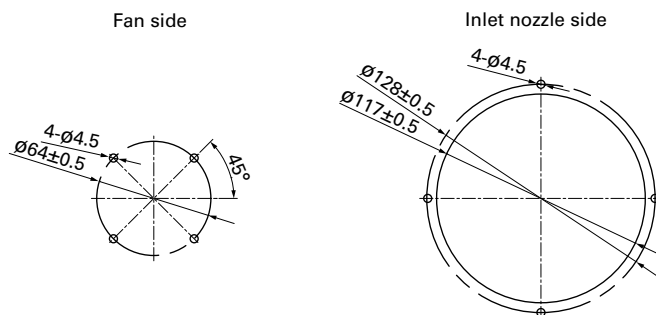


Dimensions (unit: mm)

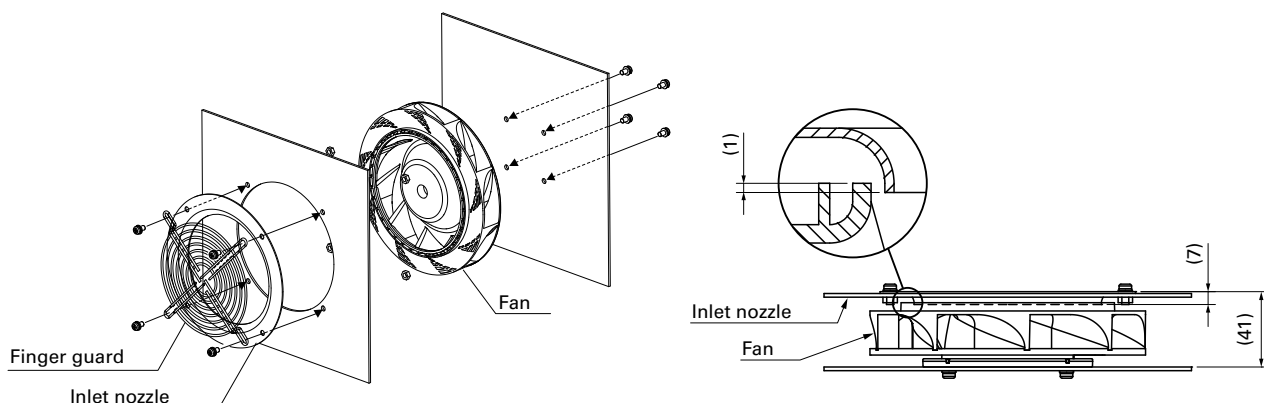


DC
Splash Proof Centrifugal Fan ϕ 150 mm

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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 599

Model no.: 109-1104, 109-1104H

Inlet nozzle

page: p. 603

Model no.: 109-1081, 109-1081H



Ø175×69 mm

San Ace 175W 9W2TGA type 

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 Control Brown
- Mass 980 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1073H) is mounted.

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	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]
9W2TGA48P0G001	48	36 to 72	100	3.85	184.8	5700	17.3 611	1100 4.42	80	-30 to +60	40000/60°C (70000/40°C)
			15	0.08	3.84	800	2.4 84.7	21.7 0.087	38		

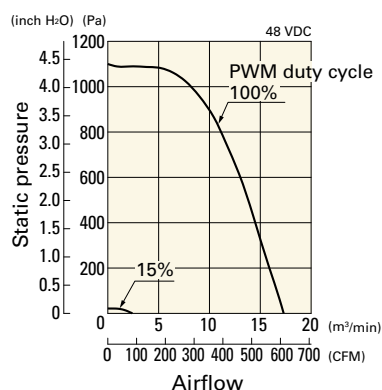
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Max input is 330 W at rated voltage.

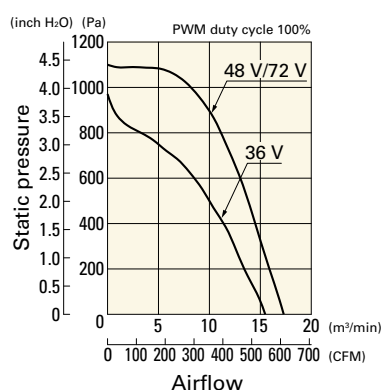
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TGA48P0G001 With pulse sensor with PWM control

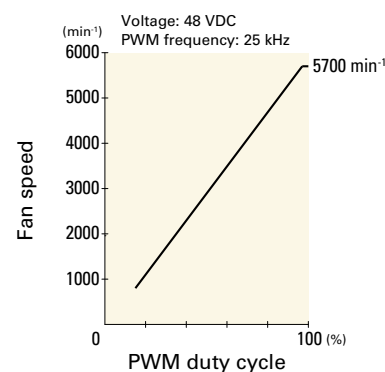
PWM duty cycle



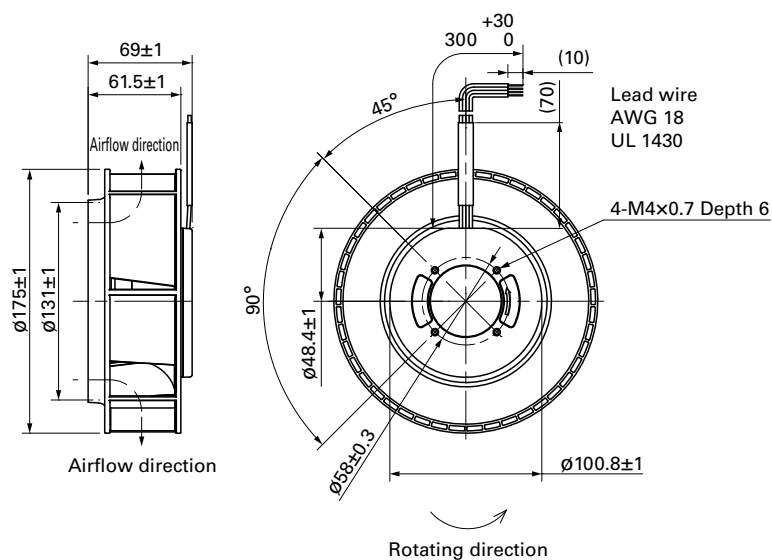
Operating voltage range



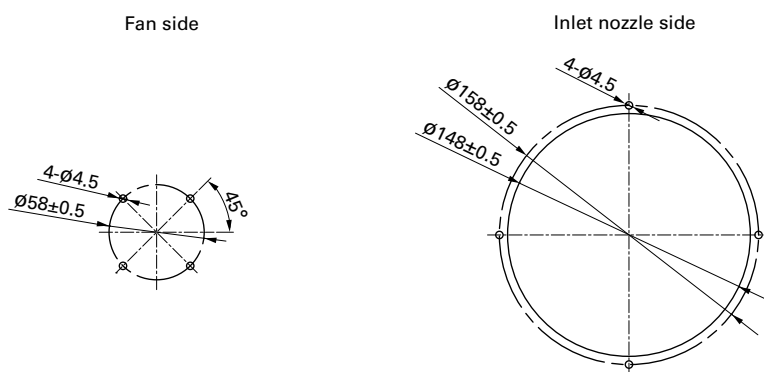
PWM duty - Speed characteristics example



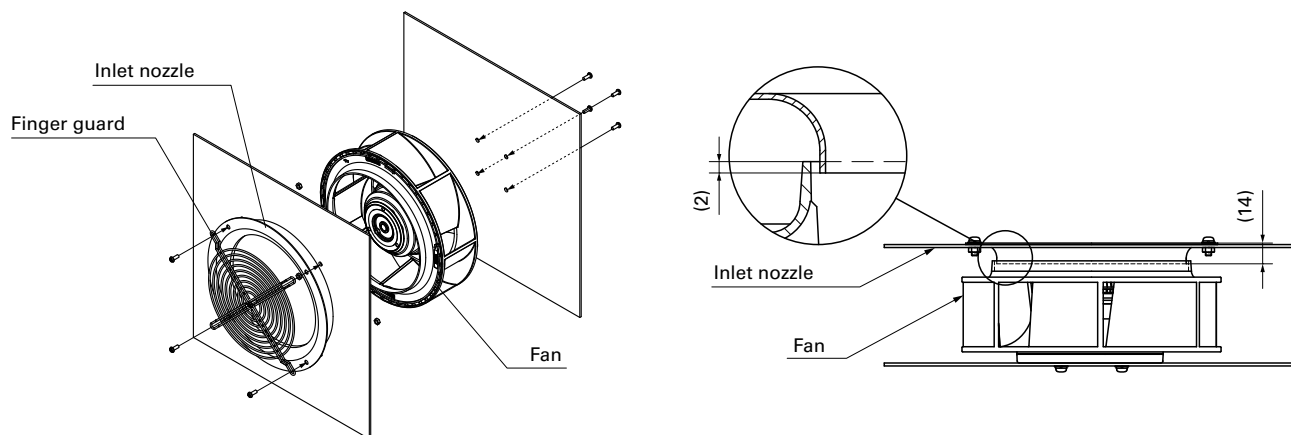
Dimensions (unit: mm)



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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 599

Model no.: 109-722, 109-722H

Inlet nozzle

page: p. 603

Model no.: 109-1073, 109-1073H

Ø175×69 mm

IP54



San Ace 175W 9W1TG type  

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 Control Brown
- Mass 760 g
- Ingress protection IP54 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1073) is mounted.

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	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]
9W1TG48P0S61	48	36 to 60	100	1.3	62.4	3900	11.3 399	587 2.3	69	-20 to +70	40000/60°C (70000/40°C)
			20	0.09	4.32	800	2.3 81	24 0.096	35		
9W1TG48P0H61			100	0.65	31.2	3100	9.0 318	360 1.44	64		

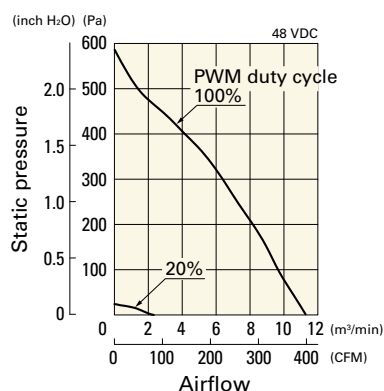
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Max input of 9W1TG48P0S61: 94 W, 9W1TG48P0H61: 60 W at rated voltage.

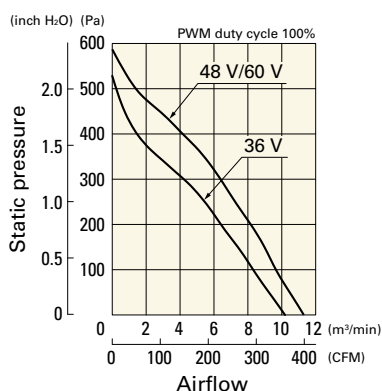
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W1TG48P0S61 With pulse sensor with PWM control

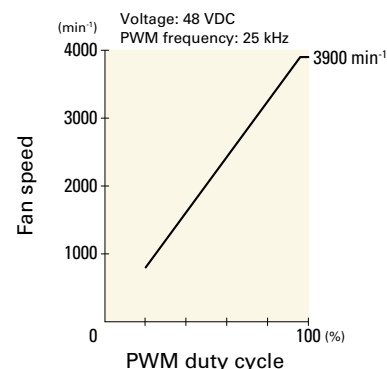
PWM duty cycle



Operating voltage range



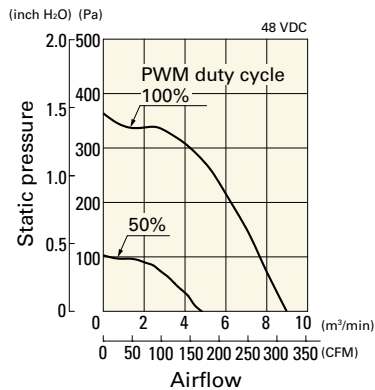
PWM duty - Speed characteristics example



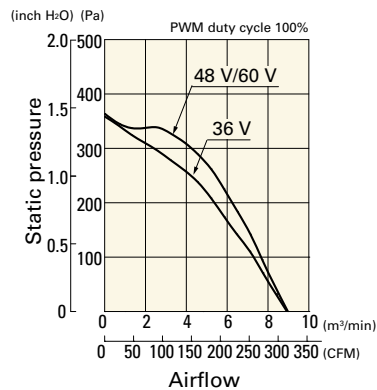
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W1TG48P0H61 With pulse sensor with PWM control

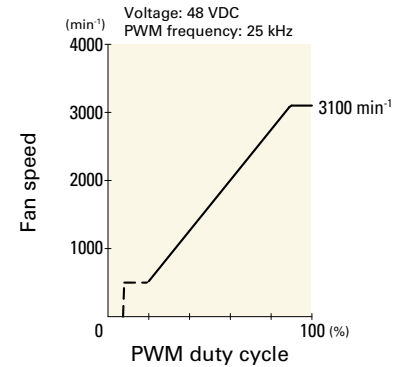
PWM duty cycle



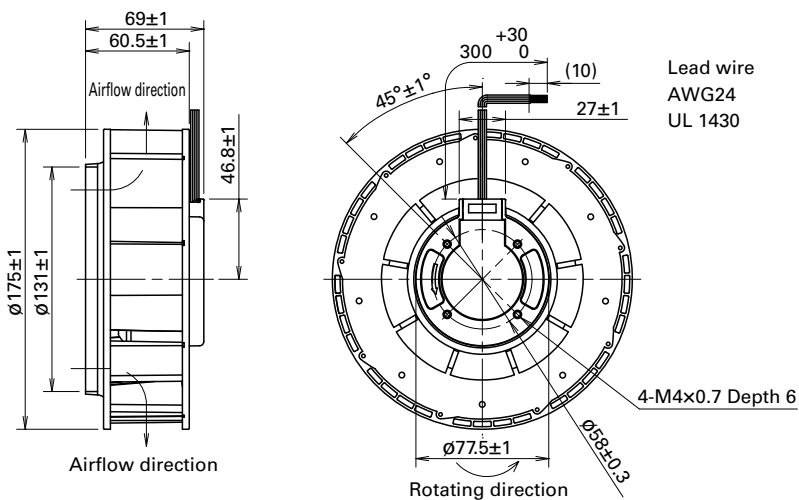
Operating voltage range



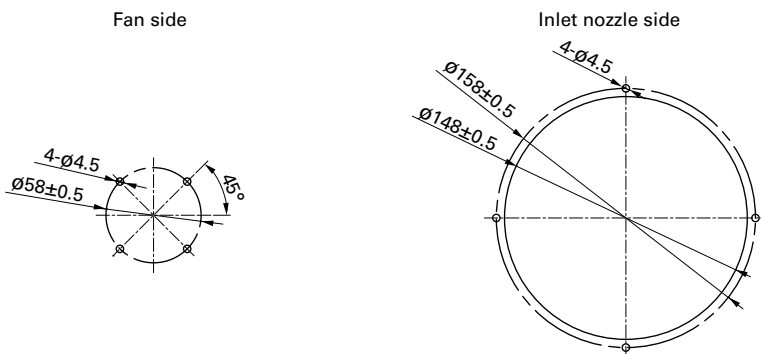
PWM duty - Speed characteristics example



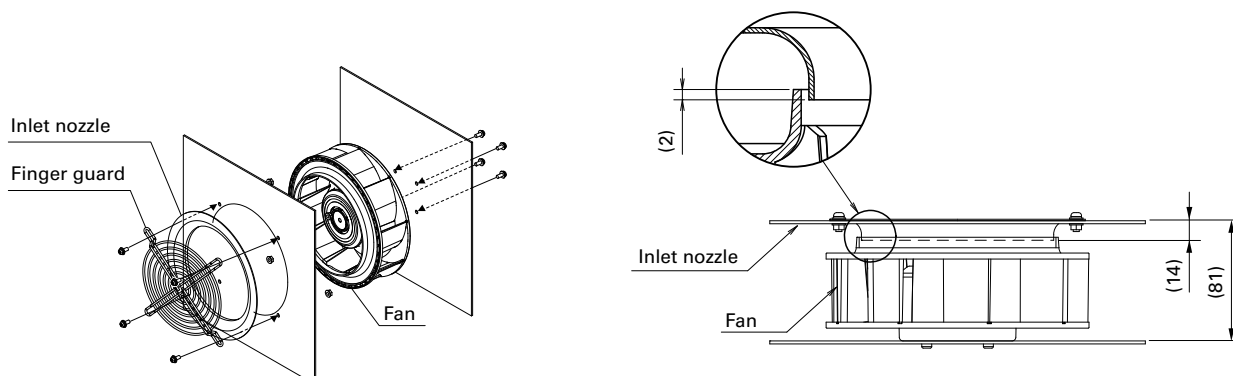
Dimensions (unit: mm)



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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 599

Model no.: 109-722, 109-722H

Inlet nozzle

page: p. 603

Model no.: 109-1073, 109-1073H

DC

Splash Proof Centrifugal Fan Ø175 mm



Ø221×71 mm

San Ace 221W 9W2TP type c

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 Control Brown
- Mass 1250 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications

When the optional inlet nozzle (109-1135H) is mounted.

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	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]
9W2TP24P0H001	24	16 to 36	100	3.35	80.4	3050	17.6 621	530 2.13	71.5	-25 to +70	40000/60°C (70000/40°C)
			15	0.4	9.6	1000	5.75 203	57.0 0.23	53.5		
9W2TP48P0S001	48	36 to 72	100	2.3	110.4	3400	19.6 692	659 2.65	73.5		
			15	0.2	9.6	1000	5.75 203	57.0 0.23	53.5		

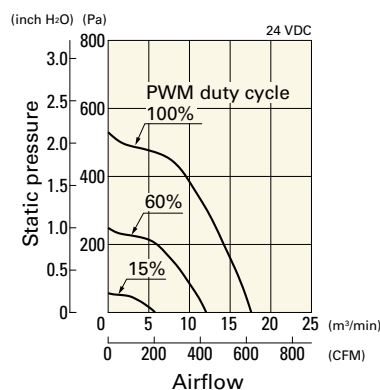
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Max input of 9W2TP24P0H001: 150 W, 9W2TP48P0S001: 210 W at rated voltage.

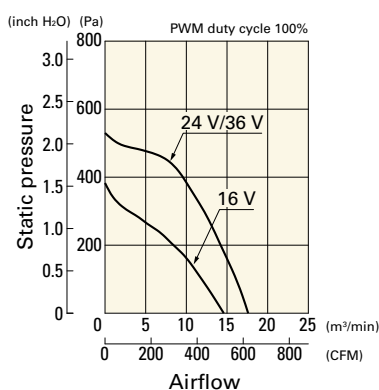
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TP24P0H001 With pulse sensor with PWM control

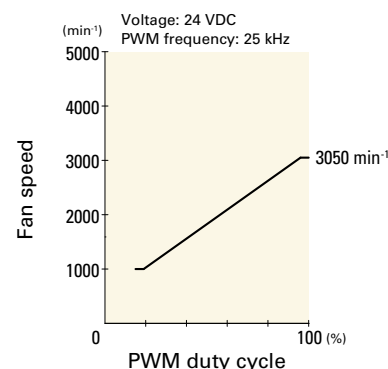
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example



Options

Finger guards

page: p. 601

Model no.: 109-1138, 109-1138H

Inlet nozzle

page: p. 603

Model no.: 109-1135, 109-1135H



Ø225×99 mm

San Ace 225W 9W2TS type c

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 Control Brown
- Mass 1500 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1134H) is mounted.

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	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]
9W2TS48P0S001	48	36 to 72	100	2.45	117.6	3000	23.5 830	635 2.55	72.0	-25 to +70	40000/60°C (70000/40°C)
			15	0.24	11.5	1000	7.83 276	70.6 0.28	52.5		

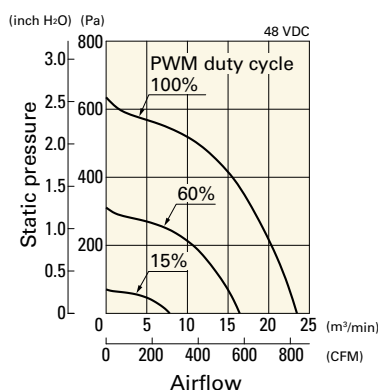
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Max input is 220 W at rated voltage.

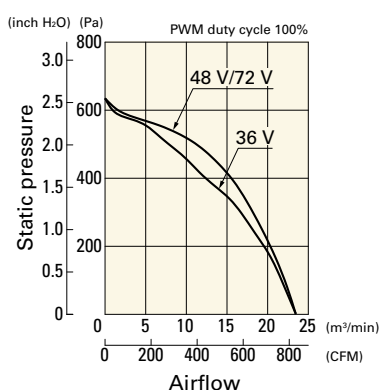
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9W2TS48P0S001 With pulse sensor with PWM control

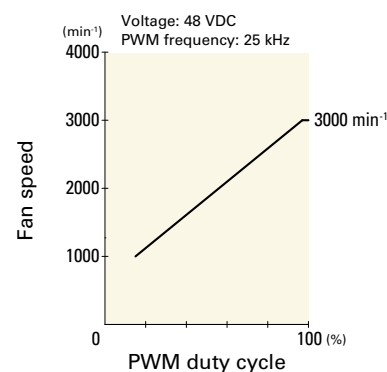
PWM duty cycle



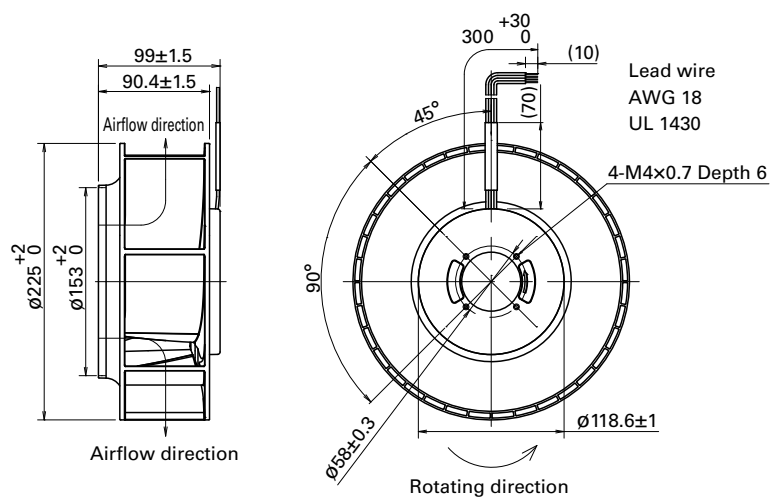
Operating voltage range



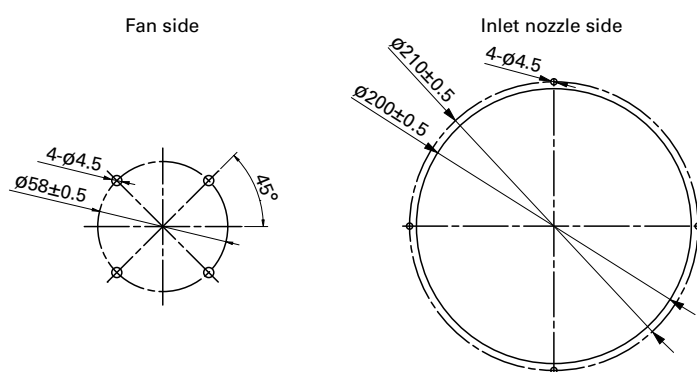
PWM duty - Speed characteristics example



Dimensions (unit: mm)

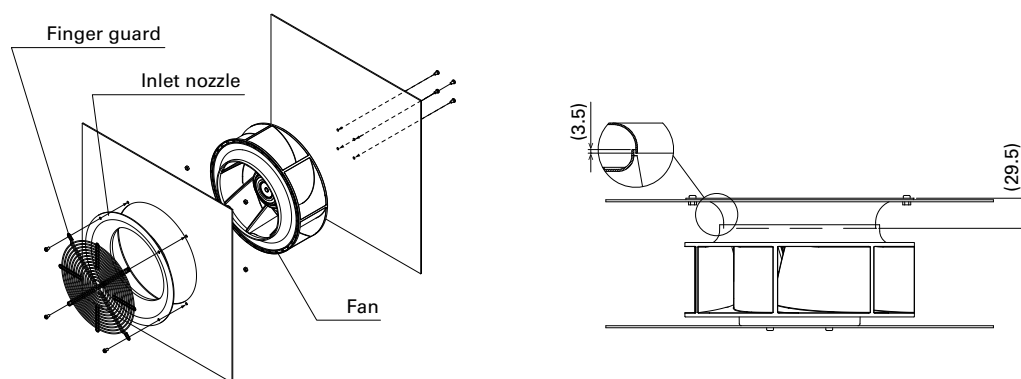


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Reference Diagram for Mounting (unit: mm)

Bracket-mounted model of this fan is available. For details, refer to p. 448 to 449.



Options

Finger guards

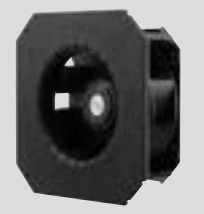
page: p. 601

Model no.: 109-1137, 109-1137H

Inlet nozzle

page: p. 603

Model no.: 109-1134, 109-1134H

270×270×99 mm**San Ace 221W 9B1W2TP** type 

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
Bracket: Aluminum (Black coating), Plastic (Flammability: UL94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 bracket)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and bracket)
- 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 Control Brown
- Mass 1900 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle [%]	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]
9B1W2TP24P0H001	24	16 to 36	100	3.35	80.4	3050	17.6 621	530 2.13	71.5	-25 to +70	40000/60°C (70000/40°C)
			15	0.4	9.6	1000	5.75 203	57.0 0.23	53.5		
9B1W2TP48P0S001	48	36 to 72	100	2.3	110.4	3400	19.6 692	659 2.65	73.5		
			15	0.2	9.6	1000	5.75 203	57.0 0.23	53.5		

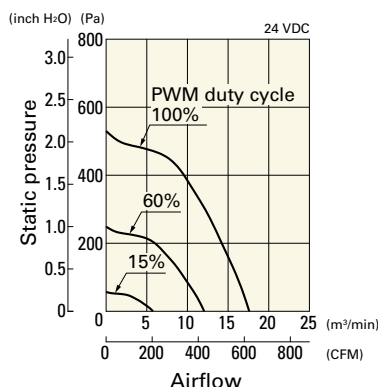
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Max input of 9B1W2TP24P0H001: 150 W, 9B1W2TP48P0S001: 210 W at rated voltage.

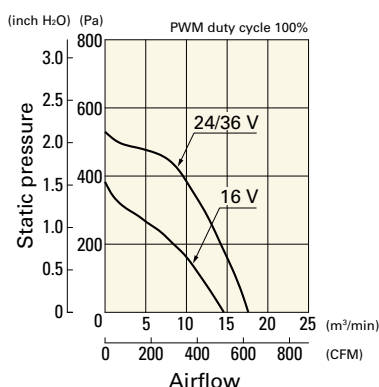
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9B1W2TP24P0H001 With pulse sensor with PWM control

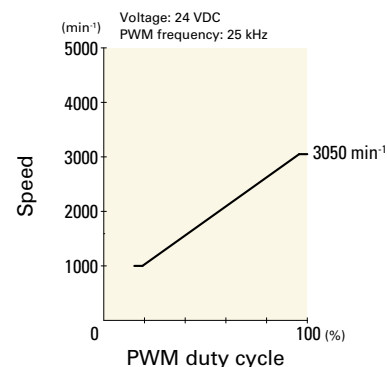
PWM duty cycle



Operating voltage range



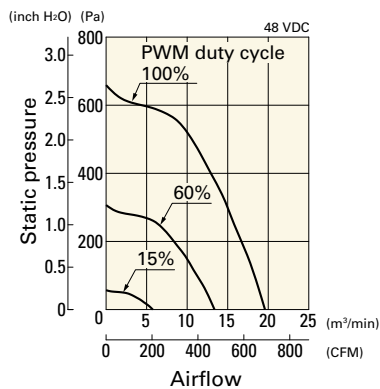
PWM duty - Speed characteristics example



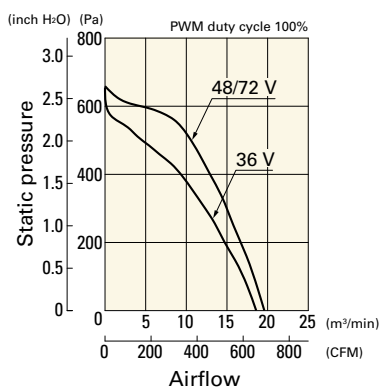
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9B1W2TP48P0S001 With pulse sensor with PWM control

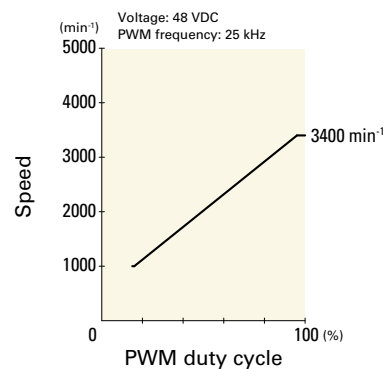
PWM duty cycle



Operating voltage range



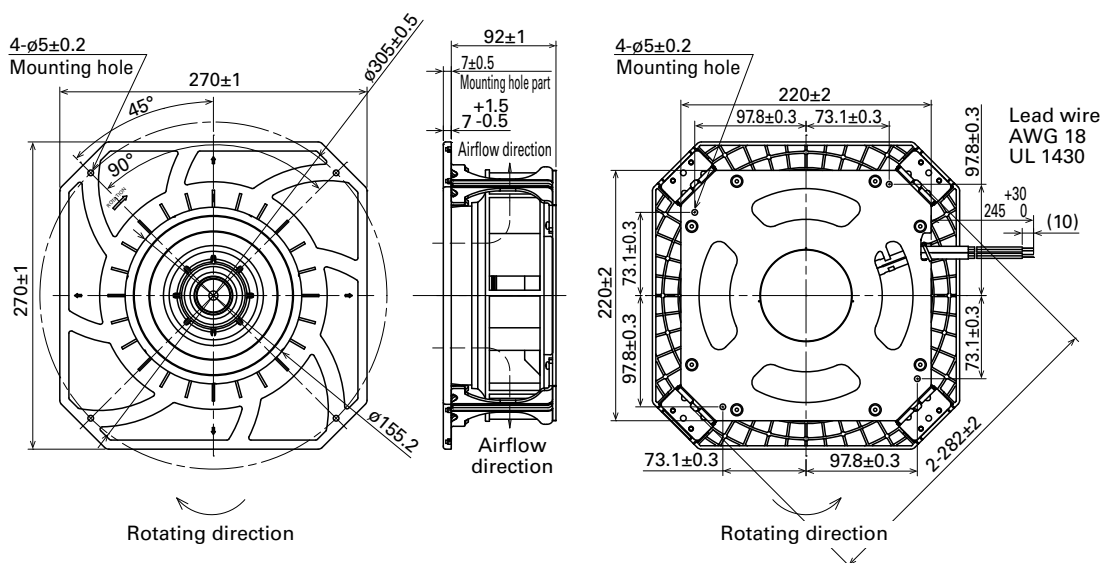
PWM duty - Speed characteristics example



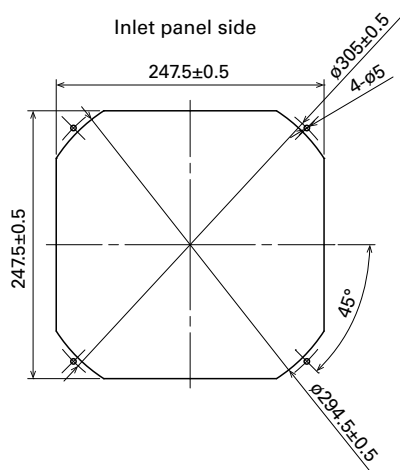
Dimensions (unit: mm)

DC

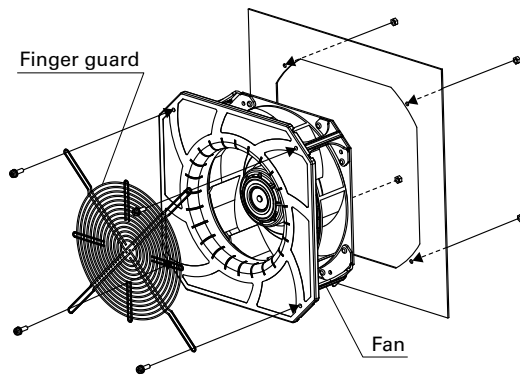
Splash Proof Centrifugal Fan 270 mm sq.



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



Reference Diagram for Mounting



Options

Finger guards

page: p. 602

Model no.: 109-1146, 109-1146H

DC

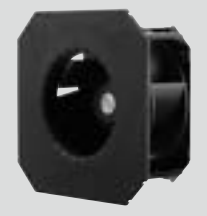
Splash Proof Centrifugal Fan 270 mm sq.

Bracket-mounted Splash Proof Centrifugal Fan

IP56

270×270×119 mm

San Ace 225W 9B1W2TS type  



General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
Bracket: Aluminum (Black coating), Plastic (Flammability: UL94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor 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 bracket)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and bracket)
- 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 Control Brown
- Mass 2200 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	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]
9B1W2TS48P0S001	48	36 to 72	100	2.45	117.6	3000	23.5 830	635 2.55	72.0	-25 to +70	40000/60°C (70000/40°C)
			15	0.24	11.5	1000	7.83 276	70.6 0.28	52.5		

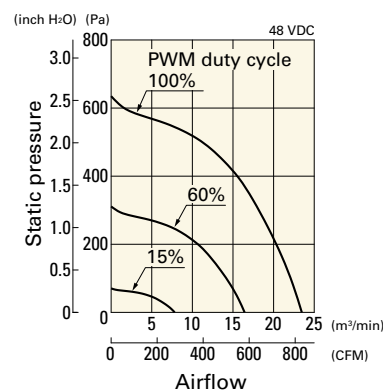
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Max input is 220 W at rated voltage.

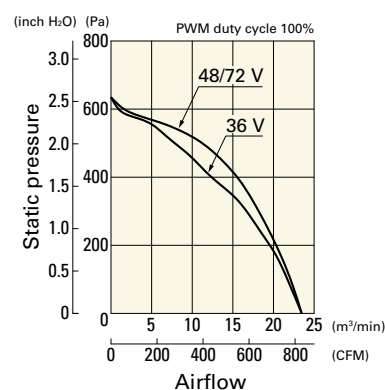
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9B1W2TS48P0S001 With pulse sensor with PWM control

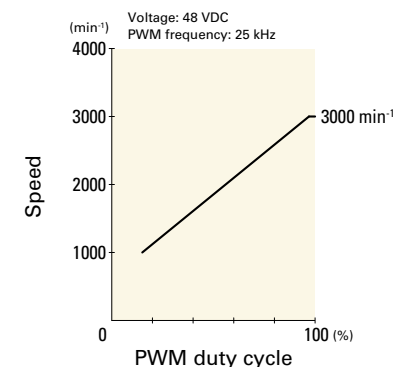
PWM duty cycle



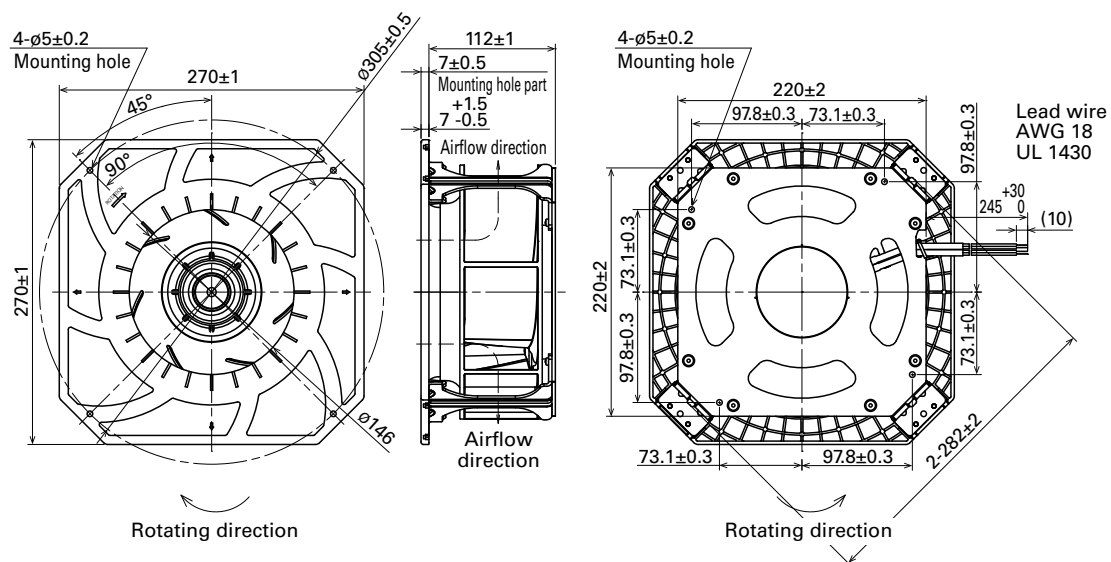
Operating voltage range



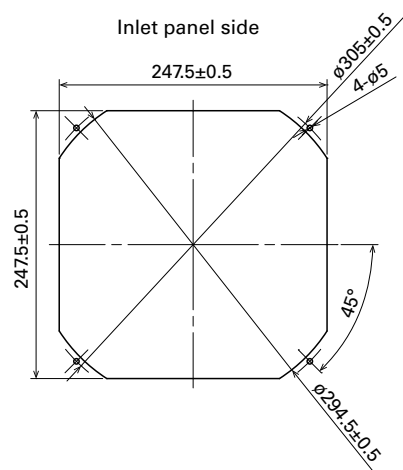
PWM duty - Speed characteristics example



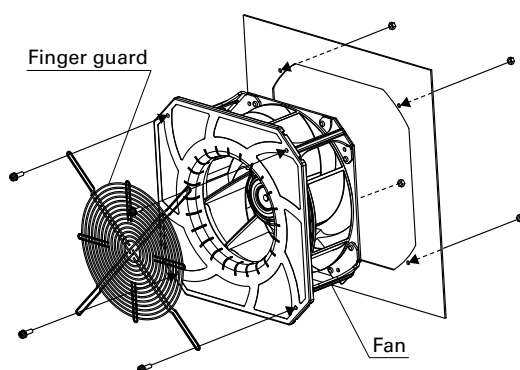
Dimensions (unit: mm)



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



Reference Diagram for Mounting



Options

Finger guards

page: p. 602

Model no.: 109-1146, 109-1146H

DC

Splash Proof Centrifugal Fan 270 mm sq.