15050VA (5920VL)

DC Axial Fan

150X$^{\Phi}$172X50^{L}



General Specifications

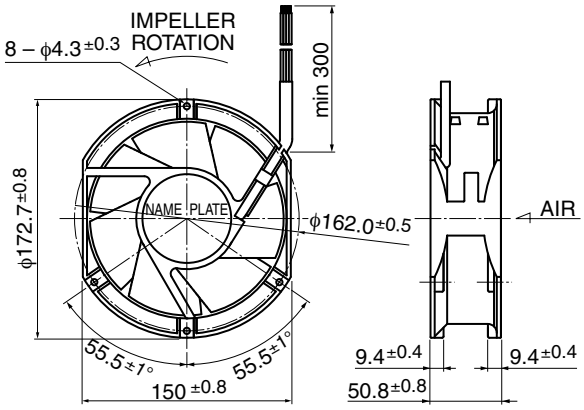
Motor Protection	Auto Restart / Polarity Protection
Insulation Resistance	10MΩ or over with a DC500V Megger
Dielectric Withstand Voltage	AC700V 1s
Allowable Ambient Temperature Range	− 10℃ ~ + 70℃ (Operating) − 40℃ ~ + 70℃ (Storage) non-condensing environment

Expected Life

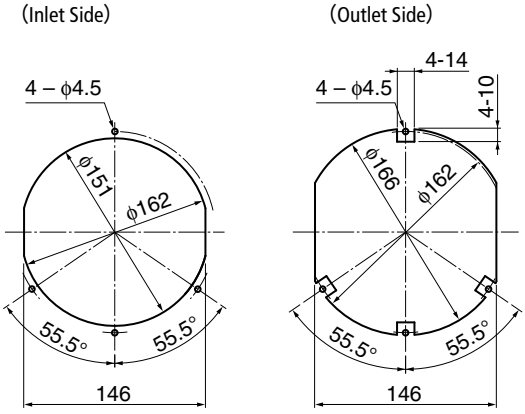
※Failure Rate: 10% (L10 Life)

25℃ 100,000 (Hours)

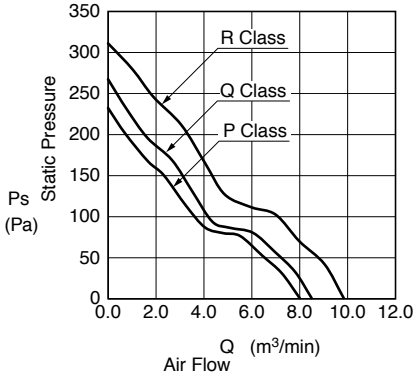
Outline



Panel Out-cuts



Characteristic Curves



Material

Casing	: Aluminum (Black Painting)
Impeller	: Plastic (Black) UL94V-0
Bearing	: Ball Bearing
Lead Wire	: UL10368 AWG22 +: Red, −: Black

Customize service for IP compatible type and Oil-proof type is available for this item.
Please contact to our sales representative for more detail.

Specifications

Model	Product Number	Rating Voltage	Operating Voltage	Current	Input Power	Speed	Max Air Flow		Max Static Pressure		Noise	Mass
		(V)	(V)	(A)*1	(W)*1	(min-1)*1	(m^3/min)*1	(CFM)*1	(Pa)	(In H2O)*1	(dB)*1	(g)
15050VA-24M-EA-	00	24	18.0 ~ 26.4	0.80	19.20	3350	7.1	251	165	0.66	58.0	750
15050VA-24N-EA-	00	24	18.0 ~ 26.4	0.90	21.60	3500	7.4	261.0	183	0.74	60.0	
15050VA-24P-EA-	00	24	18.0 ~ 26.4	1.10	26.4	3750	8.0	282	232	0.93	62.0	
15050VA-24Q-EA-	00	24	18.0 ~ 26.4	1.30	31.2	4000	8.5	300	267	1.07	64.0	
15050VA-24R-EA-	00	24	18.0 ~ 26.4	1.80	43.2	4600	9.8	346	312	1.25	68.0	
15050VA-48P-EA-	00	48	38.0 ~ 52.8	0.55	26.4	3750	8.0	282	232	0.93	62.0	
15050VA-48Q-EA-	00	48	38.0 ~ 52.8	0.65	31.2	4000	8.5	300	267	1.07	64.0	
15050VA-48R-EA-	00	48	38.0 ~ 52.8	0.90	43.2	4600	9.8	346	312	1.25	68.0	

Rotation: Counterclockwise as seen from the label side
Airflow Outlet: Label side

*1: Average Values in Free Air

PWM | 15050VA-48N (150 X 50)

Pulse Width Modulation Axial Cooling Fan

General Specifications

Motor Type: DC Brushless Motor

Motor Protection: Auto Restart/Polarity Protection

Motor withstands reverse connection for positive and negative leads.

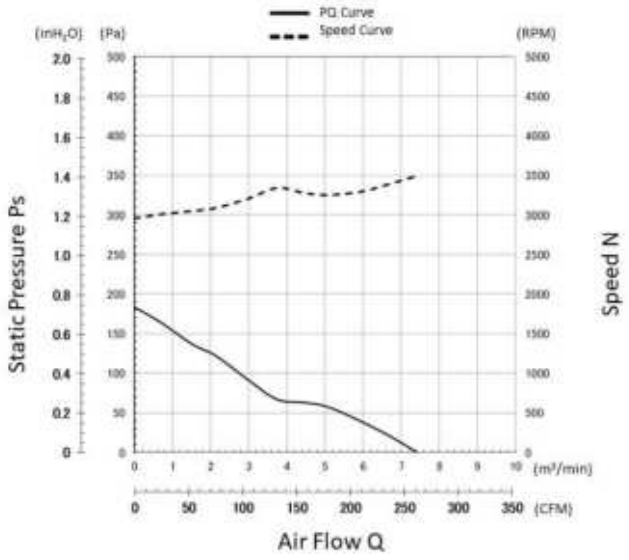
Insulation Resistance:
10M Ω or over with a DC500V Megger

Dielectric Withstand Voltage:
AC 700V 1s or 500V 1min

Allowable Ambient Temperature Range:

-10°C ~ +70°C (Operating)
-40°C ~ +70°C (Storage)
(non-condensing environment)

Characteristics Curves



PWM Benefits & Applications

PWM Benefits

- Increased Life Expectancy
- Energy Saving
- Lower Vibration
- Lower Noise
- Current Spike Prevention

PWM Applications

- Routers
- Switches
- Storage
- Data Centers
- Optical Repeaters
- Broadcast Equipment
- Inverters
- UPS
- Battery Chargers
- Fuel Cells
- Industrial Power Supplies
- Welders
- Plasma Cutters
- Instrumentation
- Test Equipment
- Enclosures and more

- Customized fan performances at multiple operating points.
- Peak efficiency resulting in lower total ownership costs.
- Cost effective and better reliability.

Life Expectancy L10

25°C 100,000 Hours

Specifications

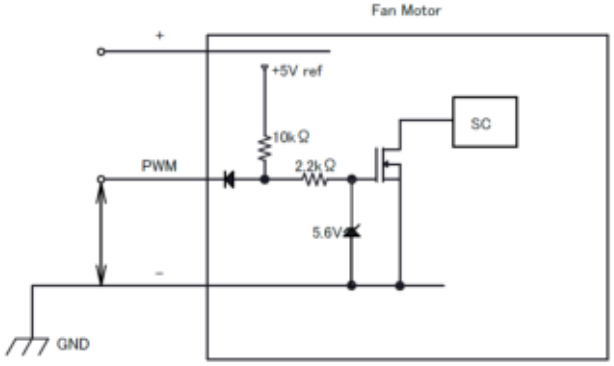
MODEL	Rated Voltage	Operating Voltage	Current		Input Power		Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
			Avg	Max	Avg	Max							
	(V)	(V)	(A)*1	(A)*1	(W)*1	(W)*1	(min^{-1})*1	(CFM)	(m^3/min)	(inH_2O)	(Pa)	(dB)*1	(g)
15050VA-48N-EU-01	48	38.0 ~ 52.8	0.45	0.51	21.60	24.48	3500	261.3	7.40	0.74	183	60.0	750

*1: Values in Free Air

MinebeaMitsumi
Passion to Create Value through Difference

PWM Specifications

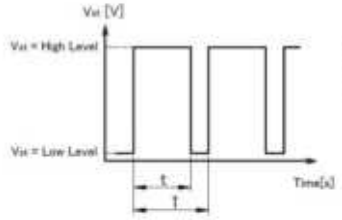
PWM CONTROL
●CONNECTION



1. PWM Control

Vst = Low Level (0V～0.4V) → Stop (On Duty 0%)
Vst = High Level (4.0V～5.0V) → Full Speed (On Duty 100%)
Vst = Open → Full Speed

2. PWM Duty & PWM Input Pulse



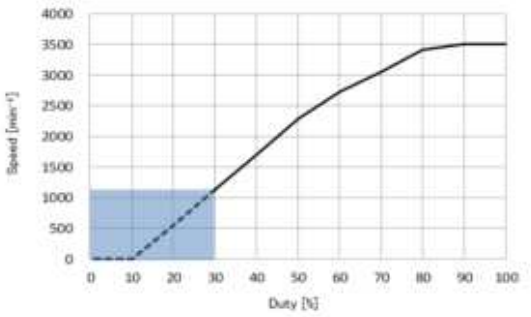
PWM Duty means that a ration of high level time (t)/PWM Input Pulse(T).

(t/T) × 100 : On Duty 0% ～ 100%

PWM Frequency f = 25[kHz]

PWM Characteristics Curve

Reference PWM Duty VS Speed
Conditions: at rating Voltage, Vst=5.0V, f=25kHz, Ta=25℃

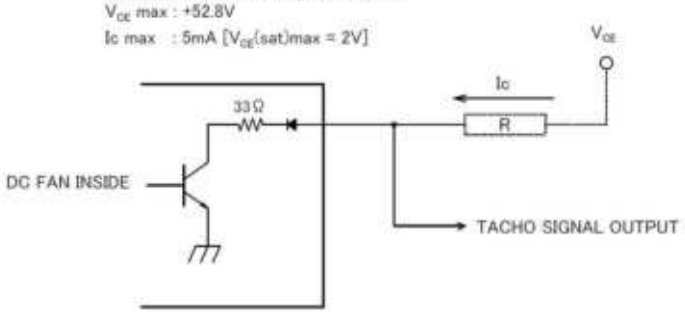


3. The condition for PWM control are as follows.

- When you use this under PWM control, always be sure the motor's operation under practical mounting state.
  Fan motor may not start up caused by PWM control at very low speed condition.
- To run at Rating Voltage.
- Please use the start with Duty 30% or more at 25kHz.
  [At rated voltage input, Ambient temperature 25℃]

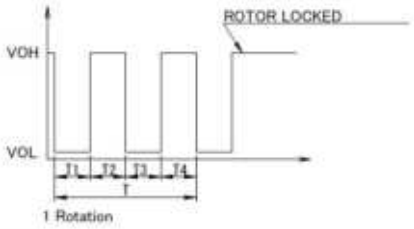
TACHO Specifications

TACHO SIGNAL
1. OUTPUT CIRCUIT : OPEN COLLECTOR
2. SPECIFICATION
   Ta=25℃
   Absolute Maximum Ratings at Ta=25℃
   V_{OE} max : +52.8V
   Ic max : 5mA [V_{OE}(sat)max = 2V]

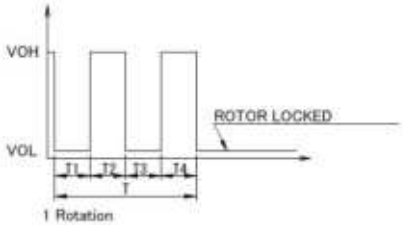


TACHO SIGNAL CIRCUIT

3. OUTPUT WAVEFORM : AT RATED VOLTAGE
OUTPUT SIGNAL VOLTAGE
3-1 Case-1



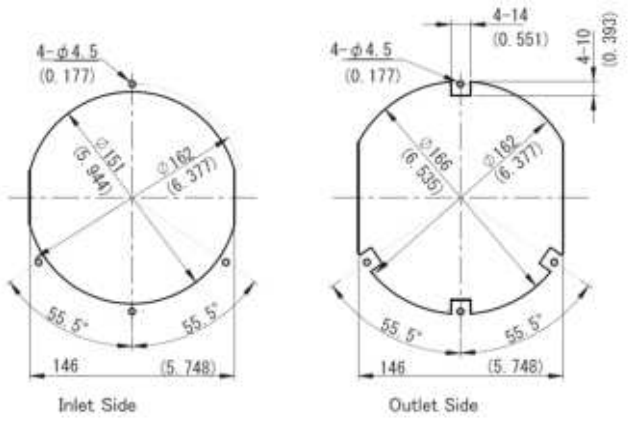
3-2 Case-2



1) When the rotor is locked at VOH position of signal, signal keeps VOH position.
2) When the rotor is locked at VOL position of signal, signal keeps VOL position.
3) T=T1+T2+T3+T4=60／m=1 rotation
   m : min^{-1}
   Tach Duty Cycle=50%±10%

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Passion to Create Value through Difference

Panel Cut-Outs



Unit: mm (inch)

Materials

Casing : Aluminum (Painted Black)

Impeller : Plastic (Black UL94V-0)

Bearing : Ball Bearing

Lead Wire : UL10368 AWG22 and AWG24

AWG22:

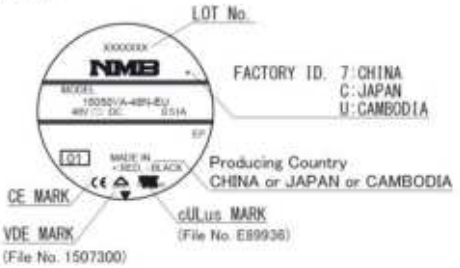
(+) : Red (-) : Black

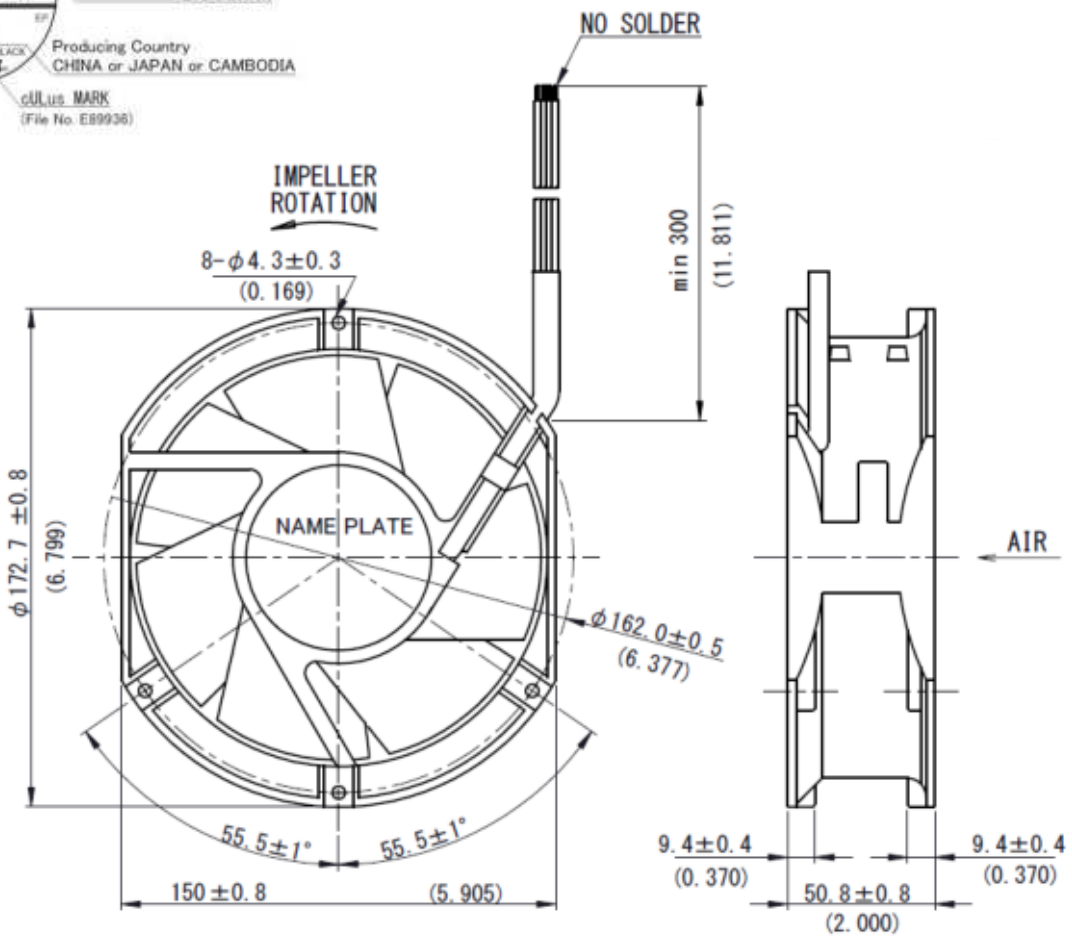
AWG24:

PWM : Brown Tach : White

Outline

Name Plate





Unit: mm (inch)

MinebeaMitsumi
Passion to Create Value through Difference

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

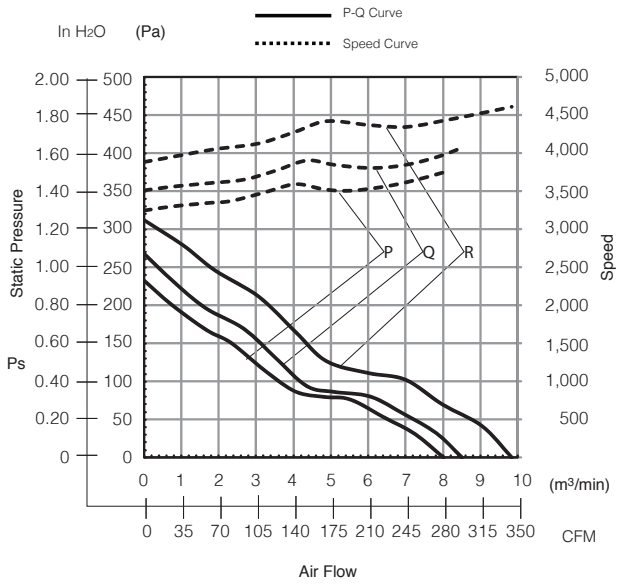
Insulation Resistance:
10M Ω or over with a DC500V Megger

Dielectric Withstand Voltage: AC 700V 1s

Allowable Ambient Temperature Range:
-10°C ~ +70°C (Operating)
-40°C ~ +70°C (Storage)

IP Code: IP69K

Characteristic Curves



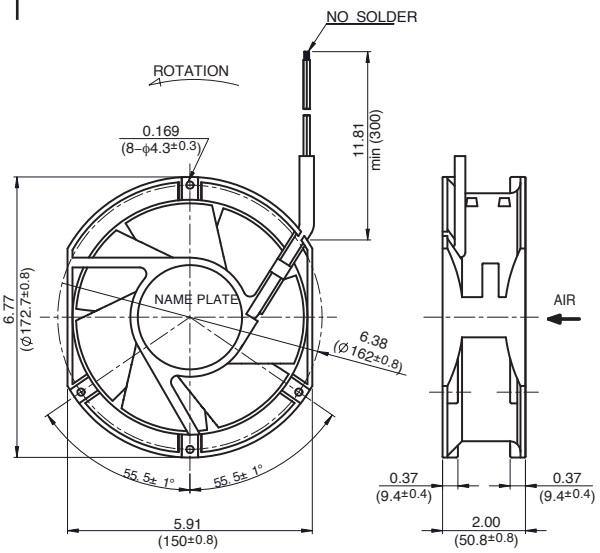
Expected Life

25°C 100,000 Hours (L10)

Material

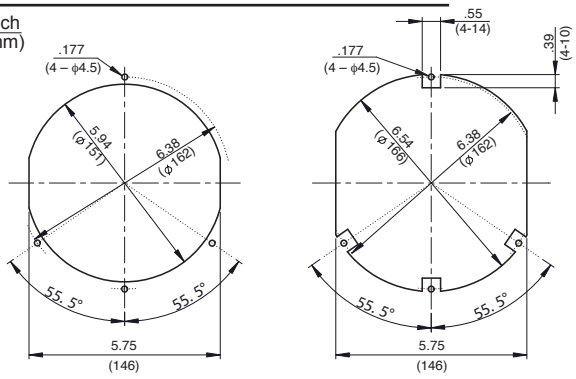
Casing : Aluminum (Black)
Impeller : Plastic (Black) UL94V-0
Bearing : Ball Bearing
Lead Wire : UL10368, AWG22, +Red, -Black

Outline



Panel Cut-Outs

Units: inch (mm)



INLET SIDE OUTLET SIDE

Specifications

MODEL	Rated Voltage	Operating Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	(V)	(V)	(A)*1	(W)*1	(min⁻¹)*1	CFM*1	(m³/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
15050VA-24P-GA-00	24	18.0 ~ 26.4	1.10	26.4	3750	282.52	8.0	0.93	232.0	62.0	870
15050VA-24Q-GA-00	24	18.0 ~ 26.4	1.30	31.2	4000	300.17	8.5	1.07	267.0	64.0	870
15050VA-24R-GA-00	24	18.0 ~ 26.4	1.80	43.2	4600	346.08	9.8	1.25	312.0	68.0	870
15050VA-48P-GA-00	48	38.0 ~ 52.8	0.55	26.4	3750	282.52	8.0	0.93	232.0	62.0	870
15050VA-48Q-GA-00	48	38.0 ~ 52.8	0.65	31.2	4000	300.17	8.5	1.07	267.0	64.0	870
15050VA-48R-GA-00	48	38.0 ~ 52.8	0.90	43.2	4600	346.08	9.8	1.25	312.0	68.0	870

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air Note: PWM/Locked Rotor/Tach Available