Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Fans

DC Axial • DC Blowers • AC Axial

NMB™

Minebea

NMB Technologies Corporation

NMB Technologies Corporation is a subsidiary of NMB (USA) Inc., the North American headquarters and operating center of the Minebea Group of Companies. Minebea Co., Ltd., was established in 1951 as Japan's first specialized manufacturer of miniature ball bearings.

Today, the Company is the world's leading comprehensive manufacturer of miniature ball bearings and high precision components, supplying customers worldwide in the information and telecommunications equipment industry, as well as the aerospace, automotive and household electrical appliance industries.

The Minebea Group consists of 43 subsidiaries and affiliates in 16 countries, including Japan, Thailand, China and Singapore as well as several others in Europe and the Americas. The Group maintains 30 plants and 37 sales offices, and employs approximately 55,000 people worldwide.

NMB offers a comprehensive line of more than 100 axial fans ranging in size from 25mm to 173mm. DC and AC axial fans and blowers are designed to solve thermal management problems for our OEM customers. Producing over 100 million fans per year, NMB's focus is on total thermal management solutions.

NMB Technologies Corporation's domestic headquarters are located in Chatsworth, California. Highly trained application engineers, experienced product managers and customer service representatives work closely with customers to develop the most cost effective solutions for today's challenging applications. Pre-design and after-delivery follow-up assure complete customer satisfaction.

Contact NMB Technologies Corporation today. Visit our web site at www.nmbtc.com or call our Fan Product Group directly at 818-341-3355.

NMB™
Minebea

Common Specifications

Vibration Test:..... Conforms to JIS C 60068-2-6, Amplitude: 1.5mm, Frequency 10 to 55 Hz, 1 hour in each of the X, Y and Z directions.

Shock Test:..... Conforms to JIS C 60068-2-27, Acceleration rate: 981 m/s2*, Application time: 6ms once each in the X, Y and Z directions. Note: For the 1604KL, 1608KL, and 2406KL series, the conditions of the shock test are as follows: Acceleration rate: 500 m/s2, Application time: 11ms once each in the X, Y and Z directions.

Locked Rotor Protection : ..The motor is protected from burnout in the locked rotor condition for 72 hours at the rated voltage.

Polarity Protection : ..... The fans are Reverse Polarity protected at the rated voltage.

Insulation Class : ..... E class (UL: Class A)

Auto Restart:..... Most fan models provide current shut-down/auto restart function under locked rotor conditions.

Notes: Additional performance requirements can be determined between manufacturer and customer, based on customer's request.
Ball bearing fans may be installed in a horizontal, vertical or angled position

Part Numbering System

24	10	M	L	–	04	W	–	B	1	0	–	X	00
①	②	③	④		⑤	⑥		⑦	⑧	⑨		⑩	⑪

1. Frame Size
10:25mm
12:30mm
14:35mm
16:40mm
20:50mm
21:52mm
24:60mm
28:70mm
31:80mm
36:92mm
47:119mm
50:127mm
59:150mm
68:172mm

2. Overall Length (Thickness)
04:10mm
06:15mm
08:20mm
10:25mm
12:32mm
15:38mm
20:50mm

3. Series
P Series
M Series
N Series
K Series
H Series
S Series
F Series
R Series
V Series

4. Motor Function
Brushless Type DCM

5. Input Voltage
O: Standard Current
C: Special Current
D~Z: Special Current
(A.B.O. are not used)

1: 5V	5: 24V
2: 6V	6: 36V
3: 9v	7: 48V
4: 12V	9: Other

6. Termination
W: Lead Wires
T: Terminal
(Terminal option on 3610KL and 4715KL Series)

7. Bearing
B: Ball Bearing
S: Sleeve Bearing

8. Speed
1<2<3<4<5<6<7<8
low high

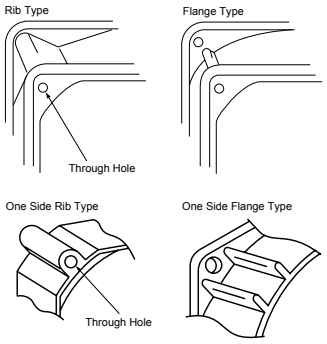
9. Special Control Function
0: Standard Type
9: Sensor Type
7: Temperature Detecting Variable Speed Type/PWM Control Type
6: Temperature Detecting Variable Speed Type/Sensor Type
5: 2-Speed Type/Sensor Type
8: 2-Speed Type

10. Product Number

Item	Classification	Mounting Style
L:	Standard Model	Rib Type
P:	Standard Model	Flange Type
B:	Standard Model	Rib Type
E:	Standard Model	Flange Type
G:	Standard Model	Rib Type
D:	Standard Model	Flange Type

11. Individual Specifications
Standard Type
00 Standard
01~99: Custom

Sensor Type
00: Locked Rotor Alarm Signal (Standard)
01~49: Locked Rotor Alarm Signal (Custom)
50: Tachometer Signal (Standard)
51~99: Tachometer Signal (Custom)



Common Specifications

1. Tach Signal

2. Specification

V_{ps}max: +15VDC
I_p max: 5mA [V_{LO} max = 1.2V]
Ta = 25˚C

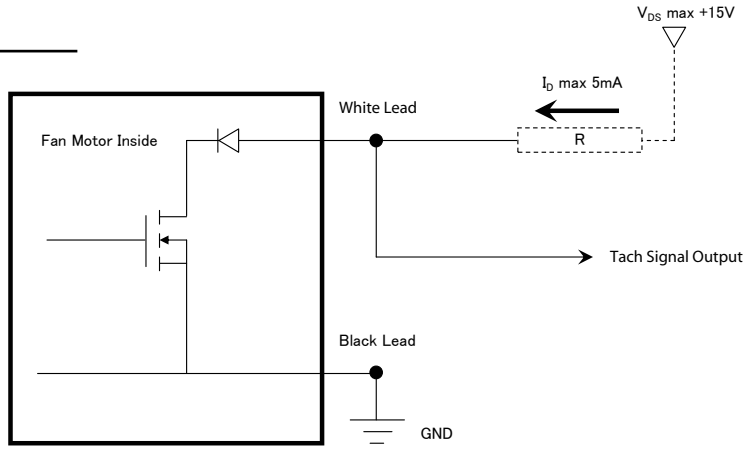
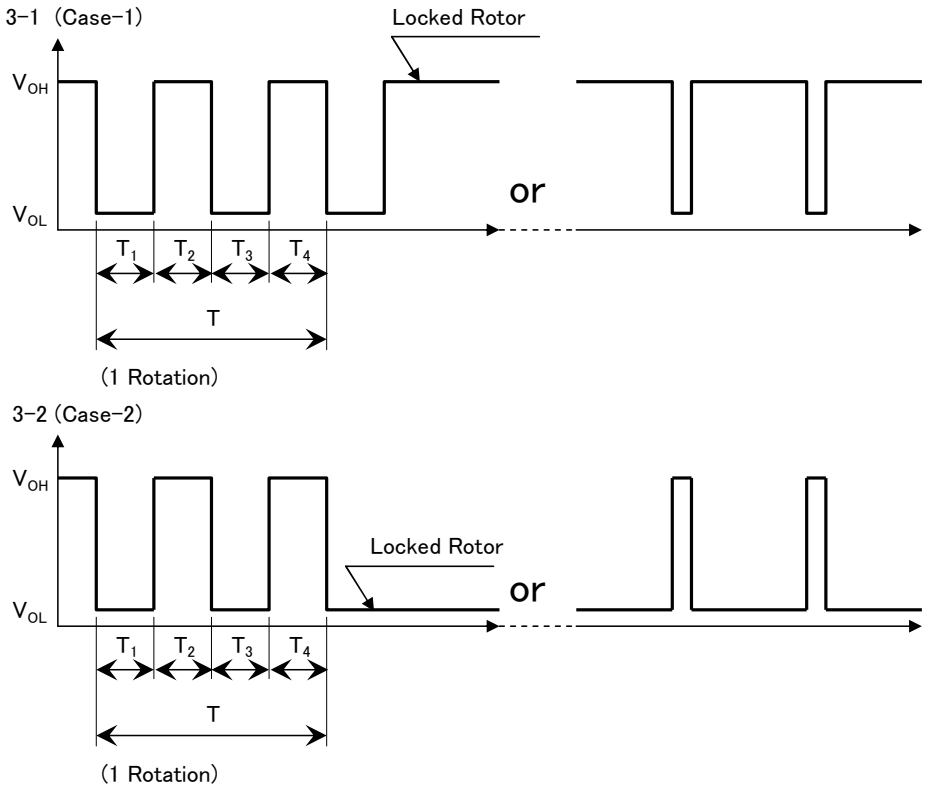


Fig. 1 Tach Signal Circuit

Warning: Improper connection of the sensor lead may cause damage to the motor drive IC. We shall be free from compensation, if trouble occurs due to insertion of opposite direction.



1.) When the rotor is locked at V_{OH} position of signal, signal keeps V_{OH} position or signal becomes to V_{OL} position for a few seconds at any time of the auto-restart motion.

2.) When the rotor is locked at V_{OL} position of signal, signal keeps V_{OL} position or signal becomes to V_{OH} position for a few seconds at any time of the auto-restart motion.

3.) $T=T_1+T_2+T_3+T_4=$ 1 Rotation
$T_1=T_2=T_3=T_4=$ 60/4m m:(min^{-1})

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

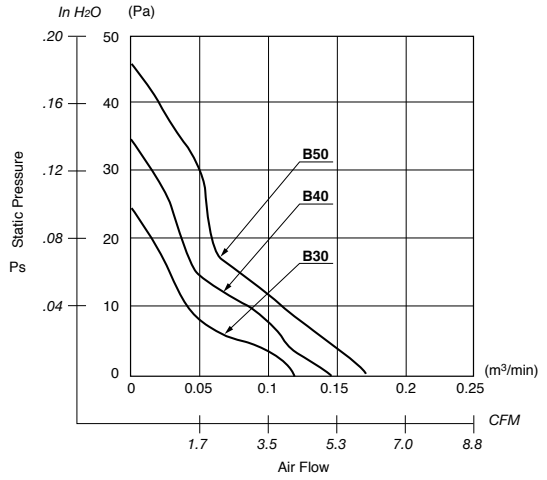
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 60,000 Hours (B00)

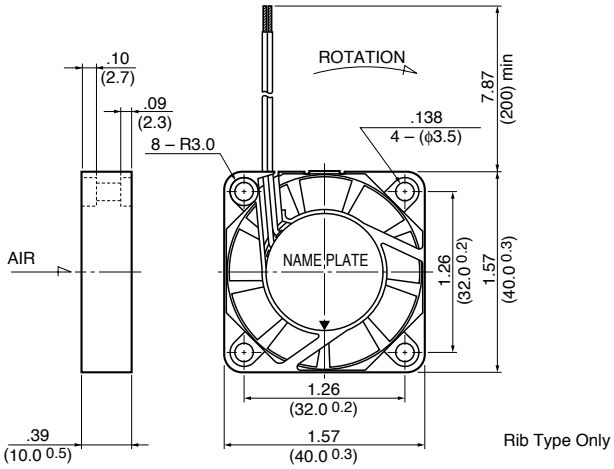
Characteristic Curves



Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1061, AWG26, +Red, -Black

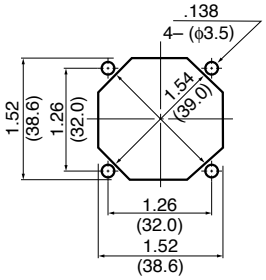
Outline



Rib Type Only

Panel Cut-Outs

Units: inch (mm)



INLET SIDE / OUTLET SIDE

Specifications

MODEL	Product No.	Rated Voltage (V)	Operating Voltage (V)	Current (A)*1	Input Power (W)*1	Speed (min-1)*1	Max. Air Flow CFM*1	Max. Air Flow (m3/min)*1	Max. Static Pressure in H2O	Max. Static Pressure (Pa)*1	Noise (dB)*1	Mass (g)
1604KL-01W-**B30**-	X00	5	4.5 ~ 5.5	0.075	0.375	4500	4.2	0.12	.096	24.0	22.0	15
1604KL-01W-**B40**-	X00	5	4.5 ~ 5.5	0.120	0.600	5500	5.3	0.15	.136	34.0	25.0	15
1604KL-01W-**B50**-	X00	5	4.5 ~ 5.5	0.155	0.775	6500	6.0	0.17	.184	46.0	29.0	15
1604KL-04W-**B30**-	X00	12	10.2 ~ 13.8	0.062	0.744	4500	4.2	0.12	.096	24.0	22.0	15
1604KL-04W-**B40**-	X00	12	10.2 ~ 13.8	0.073	0.876	5500	5.3	0.15	.136	34.0	25.0	15
1604KL-04W-**B50**-	X00	12	10.2 ~ 13.8	0.073	0.876	6500	6.0	0.17	.184	46.0	29.0	15

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

1608VL (40□ x 20L)

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

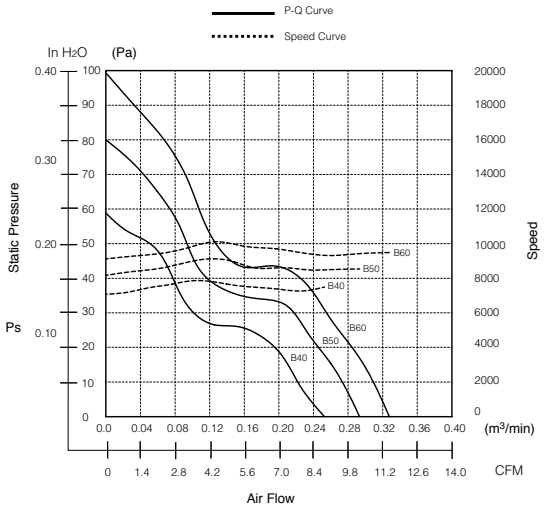
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 50,000 Hours (B00)

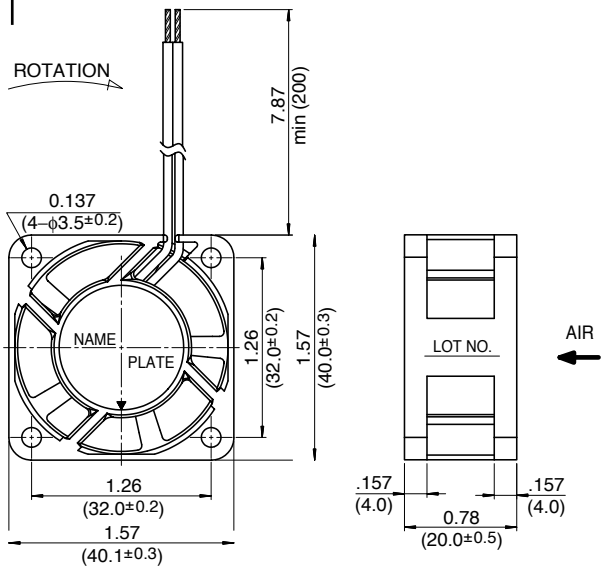
Characteristic Curves



Material

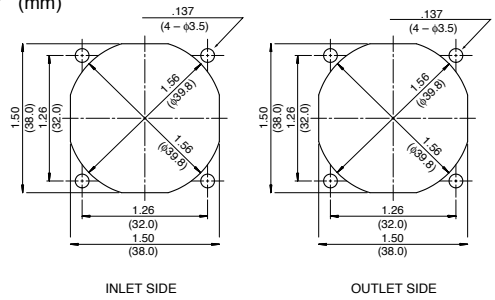
Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1007, AWG26, +Red, -Black

Outline



Panel Cut-Outs

Units: inch (mm)



Specifications

MODEL		Rated Voltage	Operating Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	Product No.	(V)	(V)	(A)*1	(W)*1	(min⁻¹)*1	CFM*1	(m³/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
1608VL-04W-**B40**-	BXX	12	7.0 ~ 13.2	0.08	1.02	7500	8.8	0.25	.24	58.8	29.0	40
1608VL-04W-**B50**-	BXX	12	7.0 ~ 13.2	0.11	1.32	8500	10.2	0.29	.31	76.6	31.4	40
1608VL-04W-**B60**-	BXX	12	7.0 ~ 13.2	0.13	1.56	9500	11.3	0.32	.40	99.3	34.6	40
1608VL-05W-**B40**-	BXX	24	14.0 ~ 26.4	0.05	1.20	7500	8.8	0.25	.24	58.8	29.0	40
1608VL-05W-**B50**-	BXX	24	14.0 ~ 26.4	0.07	1.68	8500	10.2	0.29	.31	76.6	31.4	40
1608VL-05W-**B60**-	BXX	24	14.0 ~ 26.4	0.10	2.40	9500	11.3	0.32	.40	99.3	34.6	40

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

NEW!

1619FT (40□ x 48L)

NMB TurboFan PATENT PENDING

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 ~ +60°C (Operating)
-40°C ~ +70°C (Storage)
(non-condensing environment)

Expected Life

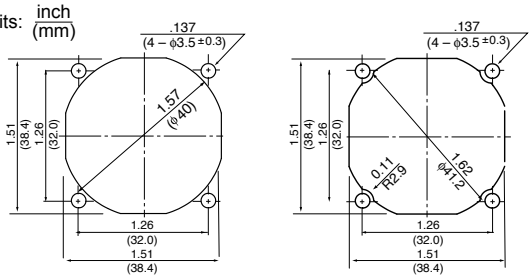
Failure Rate: 10%
40°C 70,000 Hours (B00)

Material

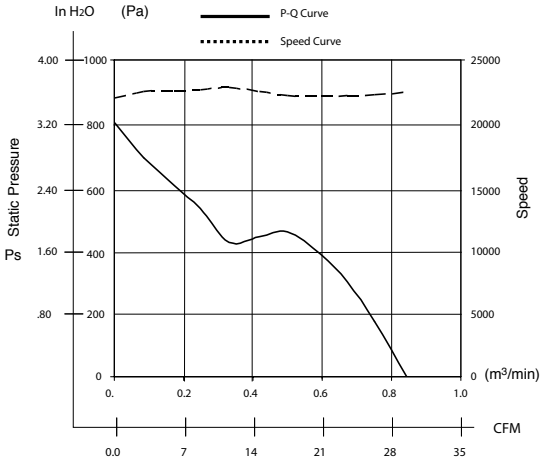
Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL10368, AWG24, +Red, -Black
Tach Sig. : White PWM Control : Brown

Panel Cut-Outs

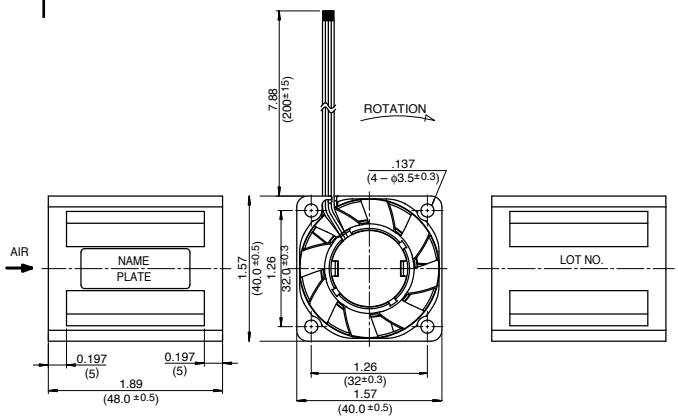
Units: inch (mm)



Characteristic Curves



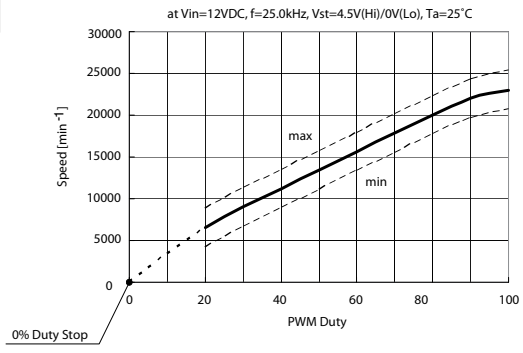
Outline



PWM Control Voltage

Vst = 0V ~ 0.5V Stop (On Duty 0%)
Vst = 3.3V ~ 5.0V Full Speed (On Duty 100%)
Vst = Open Full Speed
(At Ta = 25°C, rated voltage 12VDC)

Reference PWM Duty Vs. Speed Curve



Specifications

MODEL	Product No.	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)
1619FT-04W-B86-	BXX	12	10.8 ~ 13.2	1.05	12.60	23,000	28.9	0.82	3.29	820.0	62.0	71

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

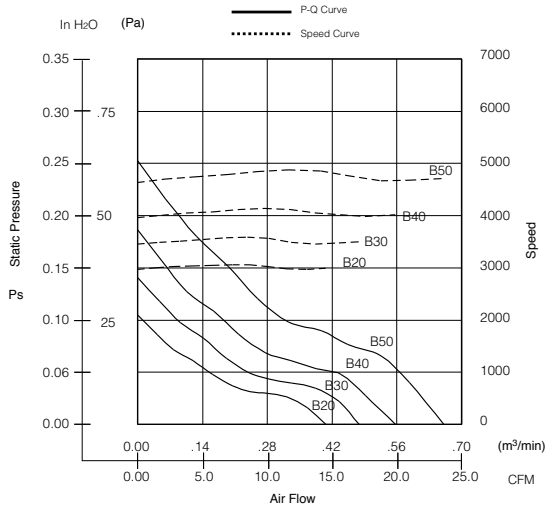
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (B00/E00)

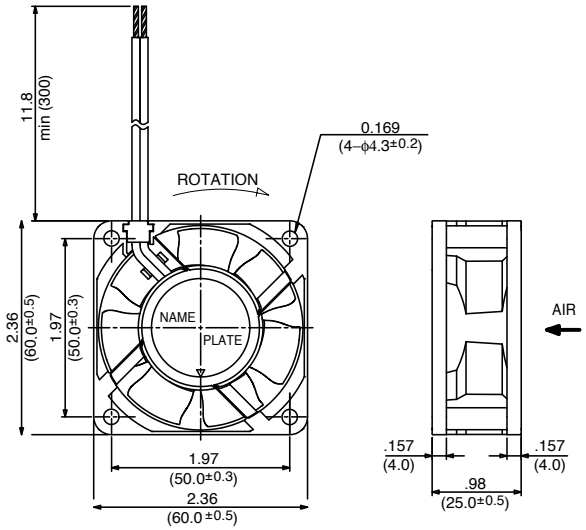
Characteristic Curves



Material

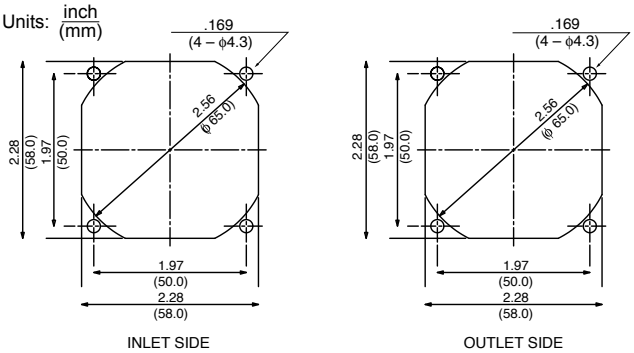
Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL3385, AWG26, +Red, -Black

Outline



Panel Cut-Outs

Units: inch (mm)



Specifications

MODEL		Rated Voltage	Operating Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	Product No.	(V)	(V)	(A)*1	(W)*1	(min-1)*1	CFM*1	(m3/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
2410SB-04W-**B20**	B/EXX	12	6 ~ 13.8	0.06	0.72	3000	14.5	0.41	0.10	26	17.0	56
2410SB-04W-**B30**	B/EXX	12	6 ~ 13.8	0.08	0.96	3500	16.9	0.48	0.14	35	22.5	56
2410SB-04W-**B40**	B/EXX	12	6 ~ 13.8	0.10	1.20	4000	19.8	0.56	0.18	46	26.5	56
2410SB-04W-**B50**	B/EXX	12	6 ~ 13.8	0.15	1.80	4700	23.3	0.66	0.25	63	32.0	56
2410SB-05W-**B20**	B/EXX	24	12.0 ~ 27.6	0.03	0.72	3000	14.5	0.41	0.10	26	17.0	56
2410SB-05W-**B30**	B/EXX	24	12.0 ~ 27.6	0.04	0.96	3500	16.9	0.48	0.14	35	22.5	56
2410SB-05W-**B40**	B/EXX	24	12.0 ~ 27.6	0.06	1.44	4000	19.8	0.56	0.18	46	26.5	56
2410SB-05W-**B50**	B/EXX	24	12.0 ~ 27.6	0.08	1.92	4700	23.3	0.66	0.25	63	32.0	56

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

3110SB (80□ x 25L)

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

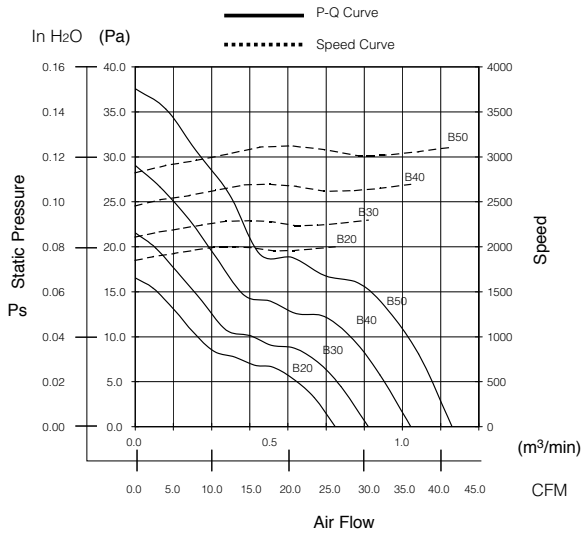
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (B00/E00)

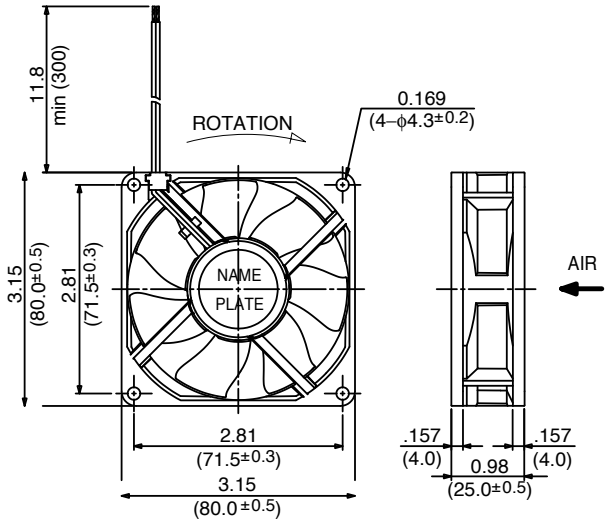
Characteristic Curves



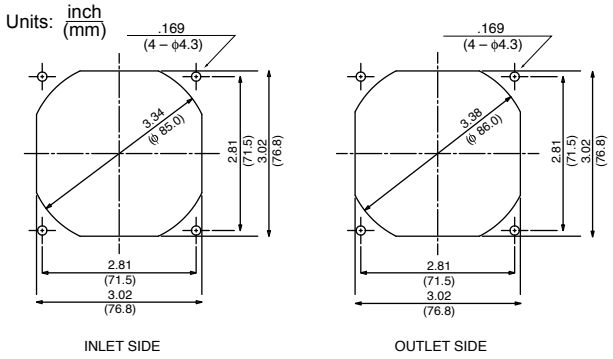
Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL3385, AWG26, +Red, -Black

Outline



Panel Cut-Outs



Specifications

MODEL		Rated Voltage	Operating Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	Product No.	(V)	(V)	(A)*1	(W)*1	(min-1)*1	CFM*1	(m3/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
3110SB-04W-**B20**	B/EXX	12	6 ~ 13.8	0.05	0.60	2000	26.1	0.74	0.07	16.5	19.0	80
3110SB-04W-**B30**	B/EXX	12	6 ~ 13.8	0.06	0.72	2300	30.4	0.86	0.09	21.5	22.0	80
3110SB-04W-**B40**	B/EXX	12	6 ~ 13.8	0.09	1.08	2700	36.0	1.02	0.12	29.0	26.0	80
3110SB-04W-**B50**	B/EXX	12	6 ~ 13.8	0.14	1.68	3100	41.3	1.17	0.15	37.5	30.0	80
3110SB-05W-**B20**	B/EXX	24	12.0 ~ 27.6	0.03	0.72	2000	26.1	0.74	0.07	16.5	19.0	80
3110SB-05W-**B30**	B/EXX	24	12.0 ~ 27.6	0.04	0.96	2300	30.4	0.86	0.09	21.5	22.0	80
3110SB-05W-**B40**	B/EXX	24	12.0 ~ 27.6	0.06	1.44	2700	36.0	1.02	0.12	29.0	26.0	80
3110SB-05W-**B50**	B/EXX	24	12.0 ~ 27.6	0.08	1.92	3100	41.3	1.17	0.15	37.5	30.0	80

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

3610SB (92□ x 25L)

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

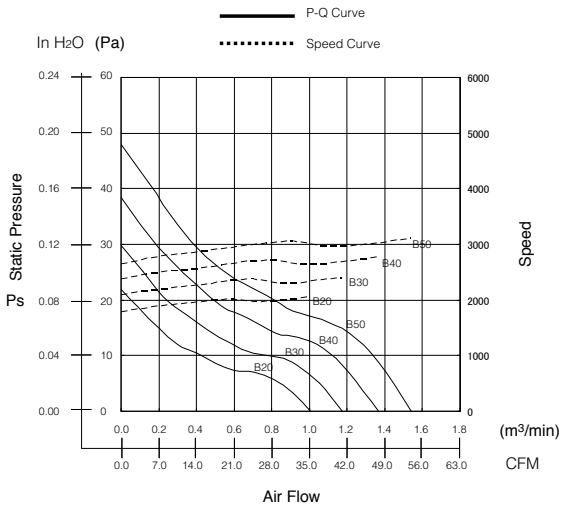
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (B00/E00)

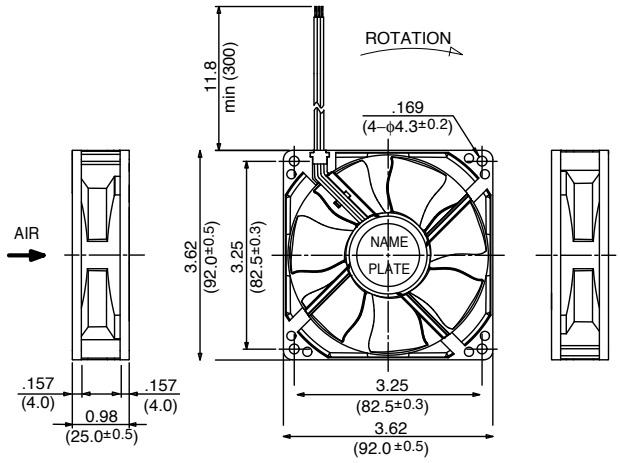
Characteristic Curves



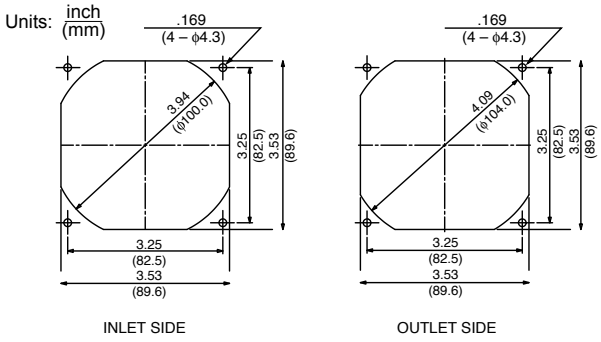
Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL3385, AWG26, +Red, -Black

Outline



Panel Cut-Outs



Specifications

MODEL		Rated Voltage	Operating Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	Product No.	(V)	(V)	(A)*1	(W)*1	(min-1)*1	CFM*1	(m3/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
3610SB-04W-**B20**-	B/EXX	12	6 ~ 13.8	0.07	0.84	2050	35.7	1.01	0.09	21.5	25.0	95
3610SB-04W-**B30**-	B/EXX	12	6 ~ 13.8	0.10	1.20	2400	41.3	1.17	0.12	29.5	28.0	95
3610SB-04W-**B40**-	B/EXX	12	6 ~ 13.8	0.13	1.56	2750	48.4	1.37	0.15	38.4	32.0	95
3610SB-04W-**B50**-	B/EXX	12	6 ~ 13.8	0.15	1.80	3100	54.4	1.54	0.19	47.9	35.0	95
3610SB-05W-**B20**-	B/EXX	24	12 ~ 27.6	0.04	0.84	2050	35.7	1.01	0.09	21.5	25.0	95
3610SB-05W-**B30**-	B/EXX	24	12 ~ 27.6	0.05	1.20	2400	41.3	1.17	0.12	29.5	28.0	95
3610SB-05W-**B40**-	B/EXX	24	12 ~ 27.6	0.07	1.56	2750	48.4	1.37	0.15	38.4	32.0	95
3610SB-05W-**B50**-	B/EXX	24	12 ~ 27.6	0.08	1.80	3100	54.4	1.54	0.19	47.9	35.0	95

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

3610VL (92□ x 25L)

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

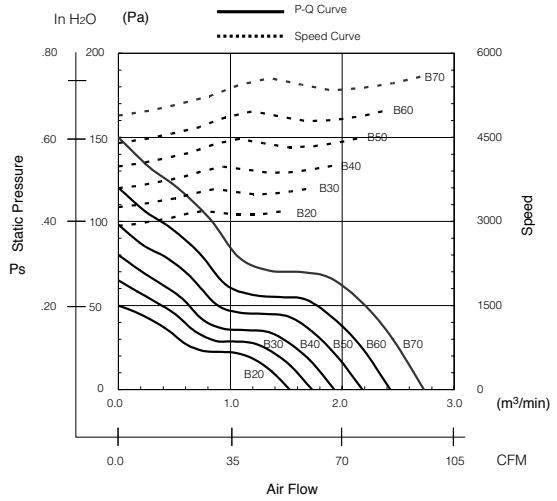
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (B00/E00)

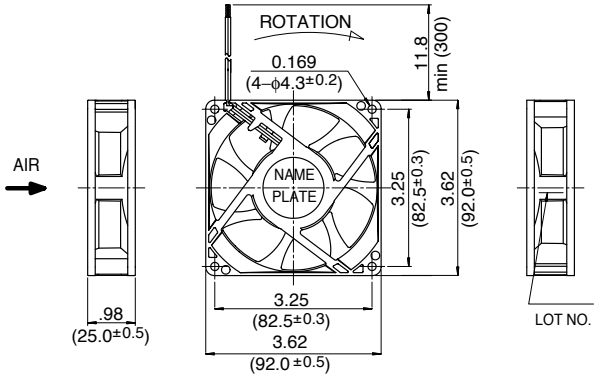
Characteristic Curves



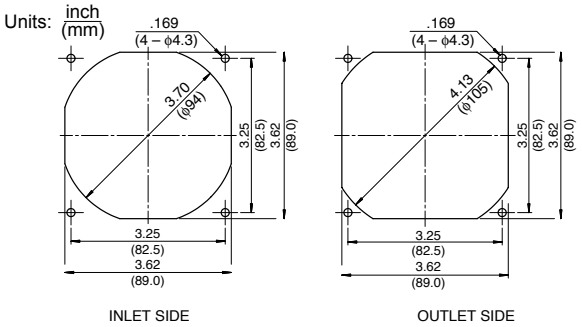
Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL3385, AWG26, +Red, -Black

Outline



Panel Cut-Outs



Specifications

MODEL		Rated Voltage	Operating Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	Product No.	(V)	(V)	(A)*1	(W)*1	(min-1)*1	CFM*1	(m3/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
3610VL-04W-**B20**-	B/EXX	12	7.0 ~ 13.8	0.18	2.16	3200	54.0	1.53	.20	50	35.5	135
3610VL-04W-**B30**-	B/EXX	12	7.0 ~ 13.8	0.24	2.88	3600	61.1	1.73	.26	65	38.5	135
3610VL-04W-**B40**-	B/EXX	12	7.0 ~ 13.8	0.30	3.60	4000	68.1	1.93	.32	80	42.0	135
3610VL-04W-**B50**-	B/EXX	12	7.0 ~ 13.8	0.40	4.80	4500	77.0	2.18	.39	98	45.0	135
3610VL-04W-**B60**-	B/EXX	12	7.0 ~ 13.8	0.52	6.24	5000	85.8	2.43	.48	120	48.0	135
3610VL-04W-**B70**-	B/EXX	12	7.0 ~ 13.8	0.72	8.64	5600	96.4	2.73	.60	150	51.0	135
3610VL-05W-**B20**-	B/EXX	24	14.0 ~ 27.6	0.11	2.64	3200	54.0	1.53	.20	50	35.5	135
3610VL-05W-**B30**-	B/EXX	24	14.0 ~ 27.6	0.14	3.36	3600	61.1	1.73	.26	65	38.5	135
3610VL-05W-**B40**-	B/EXX	24	14.0 ~ 27.6	0.17	4.08	4000	68.1	1.93	.32	80	42.0	135
3610VL-05W-**B50**-	B/EXX	24	14.0 ~ 27.6	0.22	5.28	4500	77.0	2.18	.39	98	45.0	135
3610VL-05W-**B60**-	B/EXX	24	14.0 ~ 27.6	0.28	6.72	5000	85.8	2.43	.48	120	48.0	135
3610VL-05W-**B70**-	B/EXX	24	14.0 ~ 27.6	0.38	9.12	5600	96.4	2.73	.60	150	51.0	135

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

4715KL (119□ x 38L)

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:

B50 Class:	-10°C ~ +40°C (Operating)
B10 ~ B40 Class:	-10°C ~ +70°C (Operating)
B10 ~ B40 Class:	-40°C ~ +70°C (Storage)
B50 Class:	-40°C ~ +60°C (Storage)

(non-condensing environment)

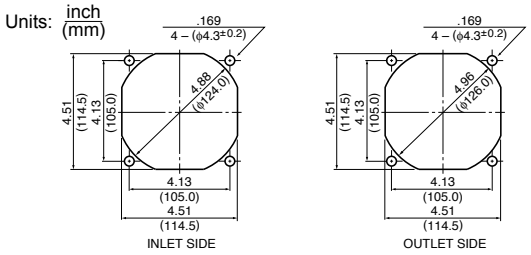
Expected Life

Failure Rate: 10%
25°C 50,000 Hours (P00)

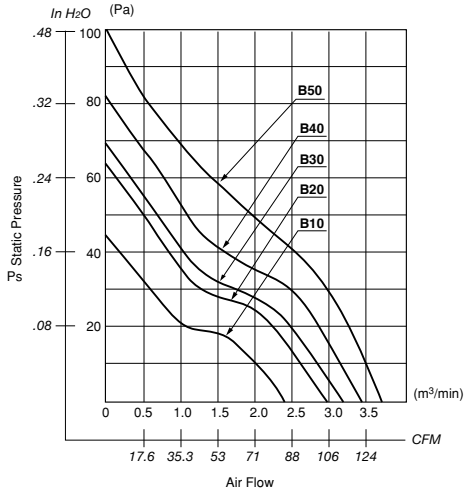
Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1007, AWG24, +Red, -Black

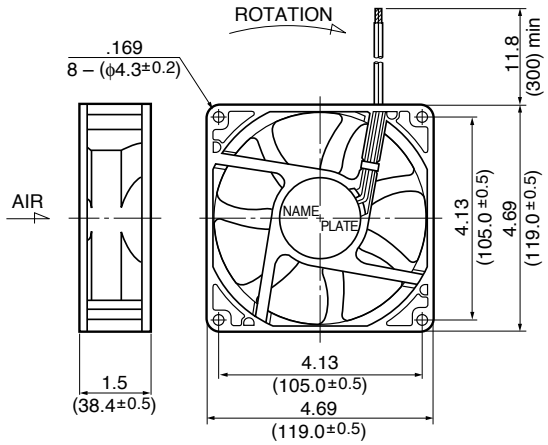
Panel Cut-Outs



Characteristic Curves



Outline



Specifications

MODEL	Product No.	Rated Voltage (V)	Operating Voltage (V)	Current (A)*1	Input Power (W)*1	Speed (min⁻¹)*1	Max. Air Flow CFM*1	Max. Air Flow (m³/min)*1	Max. Static Pressure in H2O	Max. Static Pressure (Pa)*1	Noise (dB)*1	Mass (g)
4715KL-04W-**B10**-	X00	12	6.0 ~ 13.8	0.27	3.24	2300	83.6	2.37	.17	44.1	37.0	260
4715KL-04W-**B20**-	X00	12	6.0 ~ 13.8	0.40	4.80	2650	97.0	2.75	.22	55.9	41.0	260
4715KL-04W-**B30**-	X00	12	6.0 ~ 13.8	0.55	6.60	2950	108.0	3.07	.27	68.2	42.5	260
4715KL-04W-**B40**-	X00	12	6.0 ~ 13.8	0.70	8.40	3200	118.0	3.34	.33	81.4	46.5	260
4715KL-04W-**B50**-	X00	12	9.5 ~ 12.6	1.00	12.00	3600	129.9	3.68	.44	110.0	50.0	260
4715KL-05W-**B10**-	X00	24	10.0 ~ 27.6	0.15	3.60	2300	83.6	2.37	.17	44.1	37.0	260
4715KL-05W-**B20**-	X00	24	10.0 ~ 27.6	0.21	5.04	2650	97.0	2.75	.22	55.9	41.0	260
4715KL-05W-**B30**-	X00	24	10.0 ~ 27.6	0.31	7.44	2950	108.0	3.07	.27	68.2	42.5	260
4715KL-05W-**B40**-	X00	24	10.0 ~ 27.6	0.35	8.40	3200	118.0	3.34	.33	81.4	46.5	260
4715KL-05W-**B50**-	X00	24	18.0 ~ 25.0	0.50	12.00	3600	130.0	3.68	.44	110.0	50.0	260
4715KL-07W-**B10**-	X00	48	25.0 ~ 55.2	0.08	3.84	2300	83.6	2.37	.17	44.1	37.0	260
4715KL-07W-**B20**-	X00	48	25.0 ~ 55.2	0.11	5.28	2650	97.0	2.75	.22	55.9	41.0	260
4715KL-07W-**B30**-	X00	48	25.0 ~ 55.2	0.16	7.68	2950	108.0	3.07	.27	68.2	42.5	260
** 4715KL-07W-**B40**-	X00	48	25.0 ~ 55.2	0.20	9.60	3200	118.0	3.34	.33	81.4	46.5	260
4715KL-07W-**B50**-	X00	48	30.0 ~ 60.0	0.16	7.68	3600	130.0	3.68	.44	110.0	50.0	260

Rotation: Clockwise
Airflow Outlet: Air Out Over Struts
*1: Average Values in Free Air
** Contact NMB for availability

4715KL (119□ x 38L)

3 BLADE

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

Dielectric Withstand Voltage: AC 700V 1s

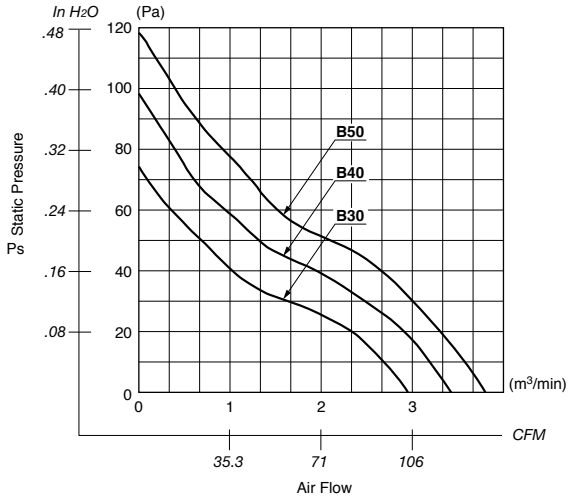
Allowable Ambient Temperature Range:

B50, B40 Class:	-10°C ~ +45°C (Operating)
B30 Class:	-10°C ~ +50°C (Operating)
All Class:	-40°C ~ +60°C (Storage)

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (R00)

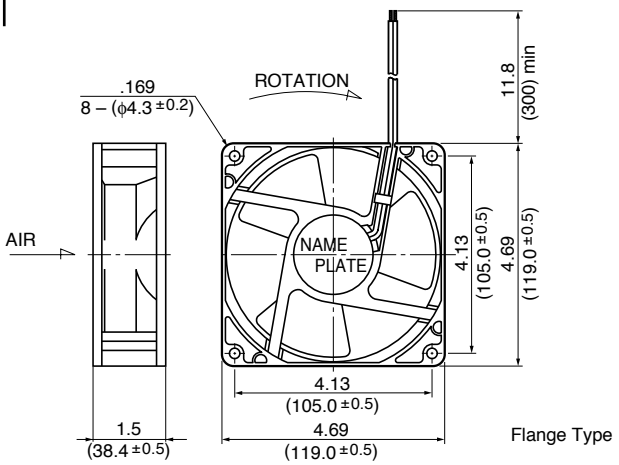
Characteristic Curves



Material

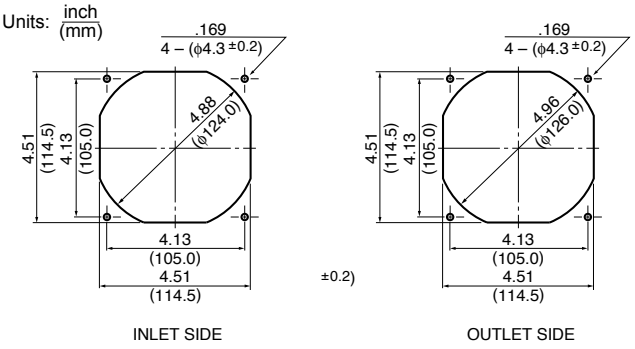
Casing	: Plastic (Black) 94V-0
Impeller	: Plastic (Black) 94V-0
Bearing	: Ball Bearing
Lead Wire	: UL1007, AWG26, +Red, -Black

Outline



Panel Cut-Outs

Units: inch (mm)



Specifications

	MODEL	Product No.	Rated Voltage (V)	Operating Voltage (V)	Current (A)*1	Input Power (W)*1	Speed (min-1)*1	Max. Air Flow CFM*1	Max. Air Flow (m3/min)*1	Max. Static Pressure in H2O	Max. Static Pressure (Pa)*1	Noise (dB)*1	Mass (g)
	4715KL-04W-**B50**-	R00	12	9.5 ~ 12.6	0.85	10.2	3900	132.0	3.73	.45	113.0	54.0	260
	4715KL-05W-**B50**-	R00	24	20.0 ~ 25.0	0.48	11.5	3900	132.0	3.73	.45	113.0	54.0	260
**	4715KL-07W-**B30**-	R00	48	25.0 ~ 55.2	0.13	6.24	3100	105.0	2.97	.30	74.0	47.0	260
**	4715KL-07W-**B40**-	R00	48	25.0 ~ 50.4	0.16	7.68	3500	121.0	3.44	.39	97.5	51.0	260
**	4715KL-07W-**B50**-	R00	48	36.0 ~ 50.0	0.20	9.60	3900	132.0	3.73	.45	113.0	54.0	260

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air
** Contact NMB for availability

4715VL (120□ x 38L)

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

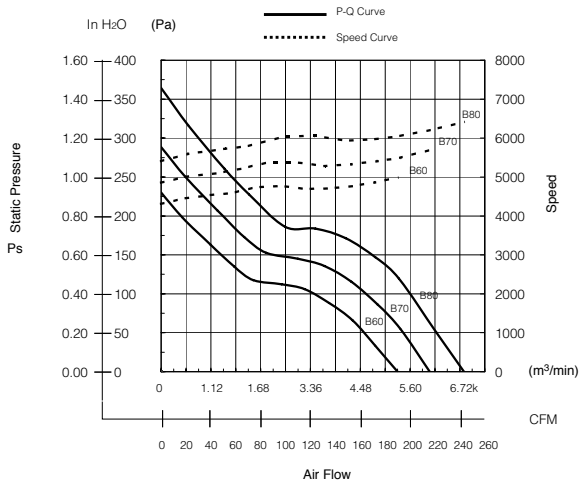
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (E00)

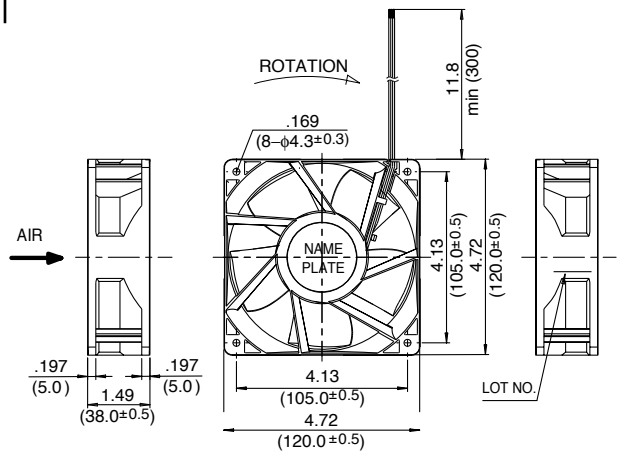
Characteristic Curves



Material

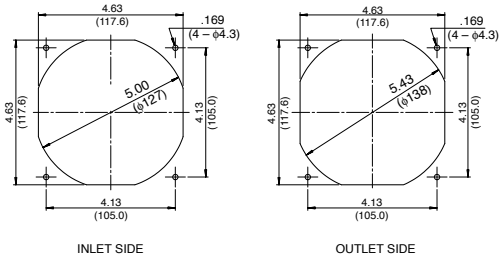
Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1061, AWG24, +Red, -Black

Outline



Panel Cut-Outs

Units: inch / (mm)



Specifications

MODEL		Rated Voltage	Operating Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	Product No.	(V)	(V)	(A)*1	(W)*1	(min-1)*1	CFM*1	(m3/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
4715VL-04W-**B60**-	EXX	12	10.0 ~ 13.8	1.50	18.00	5000	189.9	5.38	0.92	229	59.5	370
4715VL-04W-**B70**-	EXX	12	10.0 ~ 13.8	2.25	27.00	5700	215.7	6.11	1.15	287	63.0	370
4715VL-04W-**B80**-	EXX	12	10.0 ~ 12.6	3.00	36.00	6400	243.2	6.89	1.46	363	66.0	370
4715VL-05W-**B50**-	EXX	24	18.0 ~ 27.6	0.76	18.24	4700	182.5	5.17	0.83	207	55.5	370
4715VL-05W-**B60**-	EXX	24	18.0 ~ 27.6	0.74	17.76	5000	189.9	5.38	0.92	229	59.5	370
4715VL-05W-**B70**-	EXX	24	18.0 ~ 27.6	1.04	24.96	5700	215.7	6.11	1.15	287	63.0	370
4715VL-05W-**B80**-	EXX	24	18.0 ~ 27.6	1.48	35.52	6400	243.2	6.89	1.46	363	66.0	370
4715VL-07W-**B50**-	EXX	48	40.0 ~ 52.8	0.37	17.80	4700	182.5	5.17	0.83	207	55.5	370
4715VL-07W-**B60**-	EXX	48	40.0 ~ 55.2	0.45	21.60	5000	189.9	5.38	0.92	229	59.5	370
4715VL-07W-**B70**-	EXX	48	40.0 ~ 55.2	0.60	28.80	5700	215.7	6.11	1.15	287	63.0	370
4715VL-07W-**B80**-	EXX	48	40.0 ~ 52.0	0.80	38.40	6400	243.2	6.89	1.46	363	66.0	370

Rotation: Clockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

5920VL (150□ x ø172 x 50L)

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

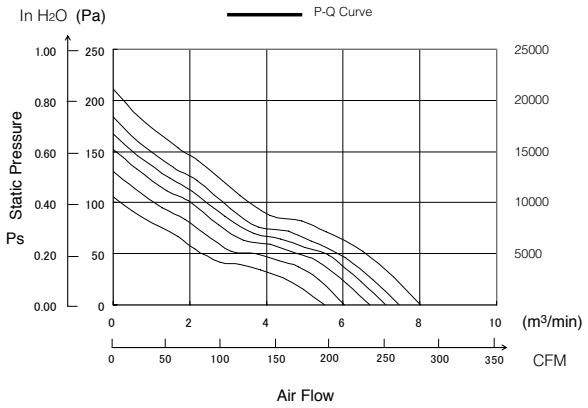
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (D00)

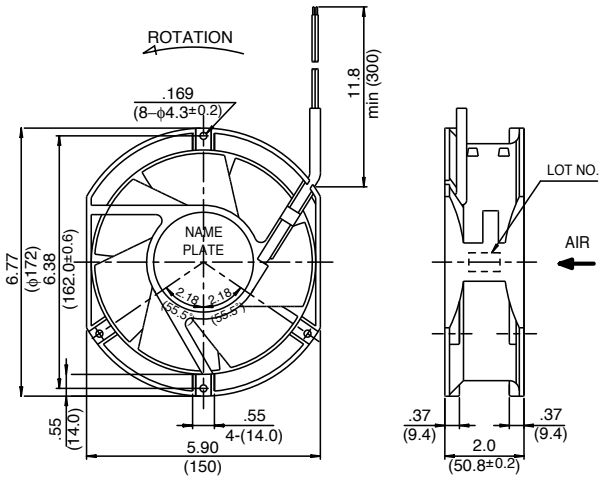
Characteristic Curves



Material

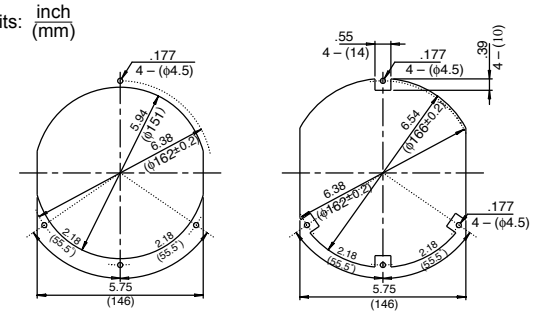
Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1007, AWG26, +Red, -Black

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
	Product No.	(V)	(V)	(A)*1	(W)*1	(min⁻¹)*1	CFM*1	(m³/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
5920VL-07W-**B10**-	DXX	48	36 ~ 56	0.28	13.44	2550	194.5	5.51	.43	106	51.0	830
5920VL-07W-**B20**-	DXX	48	36 ~ 56	0.33	15.84	2850	213.2	6.04	.53	131	54.0	830
5920VL-07W-**B30**-	DXX	48	36 ~ 56	0.37	17.76	3150	236.5	6.70	.61	152	57.0	830
5920VL-07W-**B40**-	DXX	48	36 ~ 56	0.41	19.68	3350	251.0	7.11	.67	167	59.0	830
5920VL-07W-**B50**-	DXX	48	36 ~ 56	0.44	21.10	3500	263.3	7.46	.74	184	61.0	830
5920VL-07W-**B60**-	DXX	48	36 ~ 56	0.52	25.00	3750	283.1	8.02	.85	211	63.0	830

Rotation: Counterclockwise Airflow Outlet: Air Out Over Struts *1: Average Values in Free Air

Common Specifications

Vibration Test: ..... Conforms to JIS C 60068-2-6, Amplitude: 1.5mm, Frequency 10 to 55 Hz, 1 hour in each of the X, Y and Z directions.

Shock Test: ..... Conforms to JIS C 60068-2-27, Acceleration rate: 981 m/s2*, Application time: 6ms once each in the X, Y and Z directions. Note: For the BM4515, BM5115, BM5125 and BM6015 series, the conditions of the shock test are as follows: Acceleration rate 500 m/s2, Application time: 11ms once each in the X, Y and Z directions.

Locked Rotor Protection : .. The motor is protected from burnout in the locked rotor condition for 72 hours, at the rated voltage.

Polarity Protection : ..... The fans are Reverse Polarity protected at the rated voltage.

Insulation Class : ..... E class (UL: Class A)

Auto Restart: ..... Most fan models provide current shut-down/auto restart function under locked rotor conditions.

Notes: Additional performance requirements can be determined between manufacturer and customer, based on customer's request.
Ball bearing fans and blowers may be installed in a horizontal, vertical or angled position

BM Part Numbering System

BM ① 51 ② 15 ③ – 04 ④ W ⑤ – B ⑥ 3 ⑦ 0 ⑧ – L ⑨ 00 ⑩

1. Series
BM Series

2. Size
45: 45mm
51: 51mm
60: 60mm

3. Thickness
15: 15mm
25: 25mm

4. Input Voltage
O: Standard Current
C: Special Current
D~Z: Special Current
(A.B.O. are not used)

1: 5V 5: 24V
2: 6V 6: 36V
3: 9V 7: 48V
4: 12V 9: Other

5. Termination
Lead Wire

6. Bearing
B: Ball Beaing
S: Sleeve Bearing

7. Speed
1<2<3<4<5
low high

8. Special Control Function
0: Standard Type
9: Sensor Type
8: 2-Speed Type
7: Temperature Detecting Variable Speed Type/PWM Control Type
6: Temperature Detecting Variable Speed Type/Sensor Type
5: 2-Speed Type/Sensor Type

9. Classification
L–Standard Model/Rib Type
T–Value Model/Rib Type

10. Individual Specifications
Standard Type
00: Standard
01~99: Custom
Sensor Type
00: Locked Rotor Alarm Signal (Standard Type)
01~49: Locked Rotor Alarm Signal (Custom Type)
50: Tachometer Signal (Standard Type)
51~99: Tachometer Signal (Custom Type)

BG Part Numbering System

BG ① 07 ② 03 ③ – B ④ 04 ⑤ – 4 ⑥ – 000 ⑦ – 00 ⑧

1. Series
BG Series

2. Size
07: 75mm
08: 80mm
09: 95mm
10: 100mm
12: 120mm

3. Thickness
01: 18mm
02: 25mm
03: 30~33mm

4. Bearing
B: Ball Bearing
S: Sleeve Bearing

5. Input Voltage
O: Standard Current
C: Special Current
D~Z: Special Current
(A.B.O. are not used)

1: 5V 5: 24V
2: 6V 6: 36V
3: 9V 7: 48V
4: 12V 9: Other

6. Speed
1<2<3<4<5
low high

7. Special Control Function
0 0 0
A B C

A: Special Control Function
O: Fix Speed Type
2: 2-Speed Type
V: Temperature Detecting Variable Speed Type
P: PWM Control Type

B: Thermistor Mounting Position
O: No Thermistor
T: Thermistor On PCB

C: Output Signal
O: No Signal
L: Locked Rotor Alarm Signal
S: Tachometer Signal

8. Product Number
00: Standard
01~ : Customized Standard
T0: Standard Value
T1~ : Customized Value

BM5020 (ø53 x 20L)

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

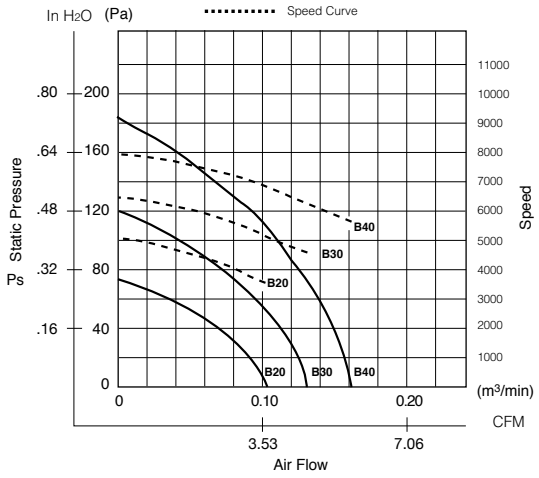
Dielectric Withstand Voltage: AC 700V 1s

Allowable Ambient Temperature Range:
-10°C ~ +60°C (Operating)
-40°C ~ +70°C (Storage)
(non-condensing environment)

Expected Life

Failure Rate: 10%
25°C 50,000 Hours (L00)

Characteristic Curves

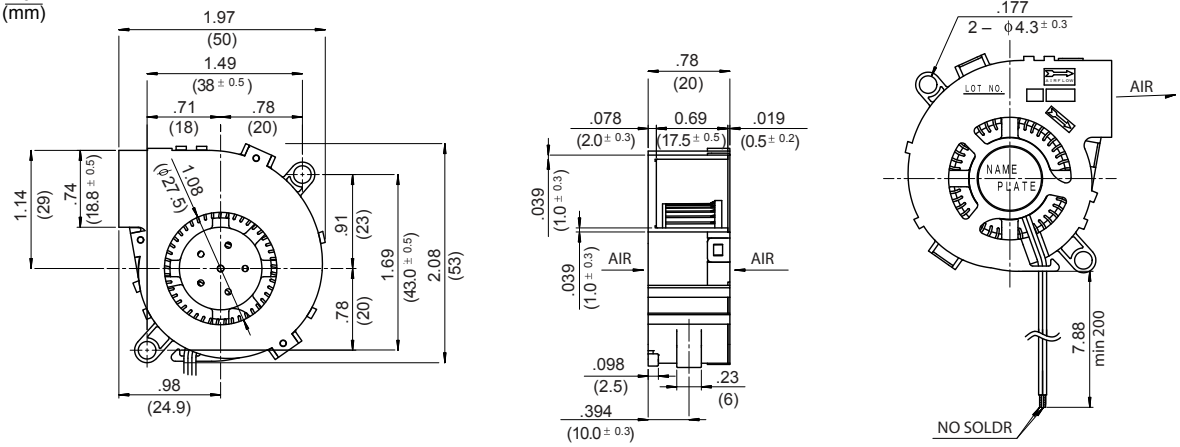


Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1061, AWG26, +Red, -Black

Outline

Units: inch (mm)



Specifications

MODEL	Product No.	Rated Voltage (V)	Operating Voltage (V)	Current (A)*1	Input Power (W)*1	Speed (min-1)*1	Max. Air Flow CFM*1	Max. Air Flow (m3/min)*1	Max. Static Pressure in H2O	Max. Static Pressure (Pa)*1	Noise (dB)*1	Mass (g)
BM5020-**01W**-B30-	L00	5	4.5 ~ 5.5	0.34	1.70	4600	4.6	0.13	.50	124	27.0	30
BM5020-**04W**-B20-	L00	12	4.5 ~ 13.8	0.07	0.84	3600	3.5	0.10	.30	75	20.0	30
BM5020-**04W**-B30-	L00	24	4.5 ~ 13.8	0.12	1.44	4600	4.6	0.13	.50	124	27.0	30
BM5020-**04W**-B40-	L00	24	4.5 ~ 13.8	0.18	2.16	5600	5.6	0.16	.74	184	32.0	30
BM5020-**05W**-B40-	L00	24	12.0 ~ 25.2	0.08	1.92	5600	5.6	0.16	.74	184	32.0	30

Rotation: Counterclockwise *1: Average Values in Free Air

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

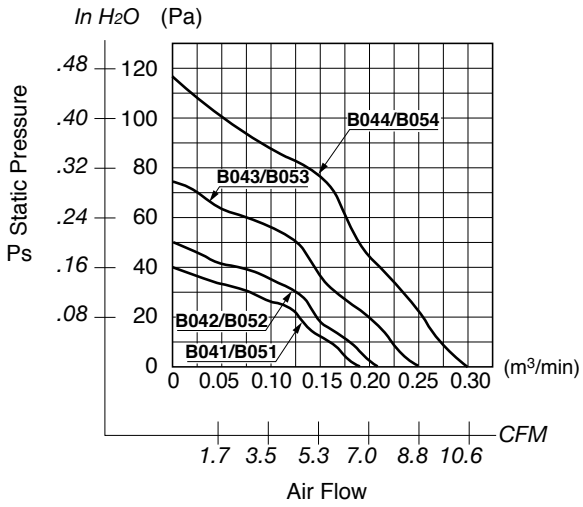
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 70,000 Hours (00)

Characteristic Curves

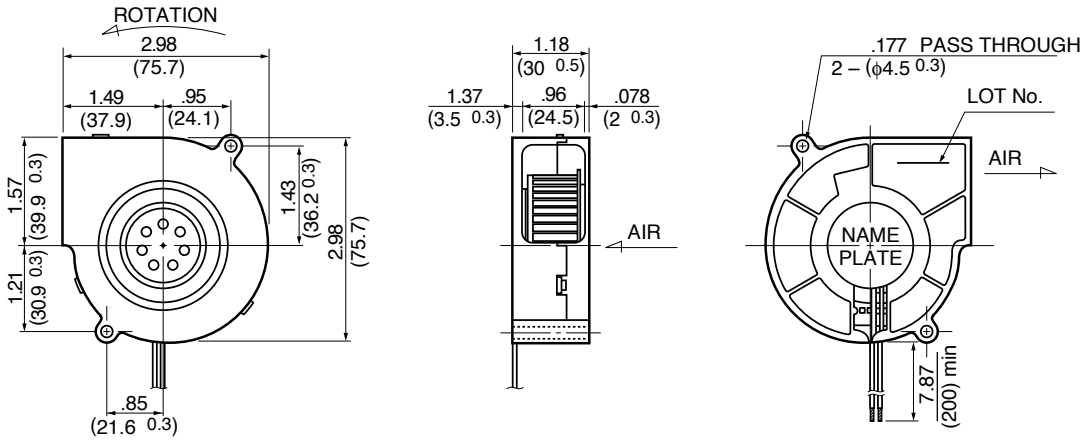


Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1007, AWG26, +Red, -Black

Outline

Units: inch (mm)



Specifications

MODEL		Rated Voltage	Operating Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	Product No.	(V)	(V)	(A)*1	(W)*1	(min-1)*1	CFM*1	(m3/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
BG0703-**B041**-000-	X0	12	6 ~ 13.8	0.10	1.20	2000	6.7	0.19	.16	40	28.0	90
BG0703-**B042**-000-	X0	12	6 ~ 13.8	0.12	1.44	2200	7.4	0.21	.20	50	29.5	90
BG0703-**B043**-000-	X0	12	6 ~ 13.8	0.18	2.16	2550	8.8	0.25	.30	75	34.5	90
BG0703-**B044**-000-	X0	12	6 ~ 13.0	0.29	3.48	3000	10.6	0.30	.44	110	38.5	90
BG0703-**B051**-000-	X0	24	10 ~ 27.6	0.06	1.44	2000	6.7	0.19	.16	40	28.0	90
BG0703-**B052**-000-	X0	24	10 ~ 27.6	0.07	1.68	2200	7.4	0.21	.20	50	29.5	90
BG0703-**B053**-000-	X0	24	10 ~ 27.6	0.09	2.16	2550	8.8	0.25	.30	75	34.5	90
BG0703-**B054**-000-	X0	24	10 ~ 26.0	0.15	3.60	3000	10.6	0.30	.44	110	38.5	90

Rotation: Counterclockwise *1: Average Values in Free Air

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

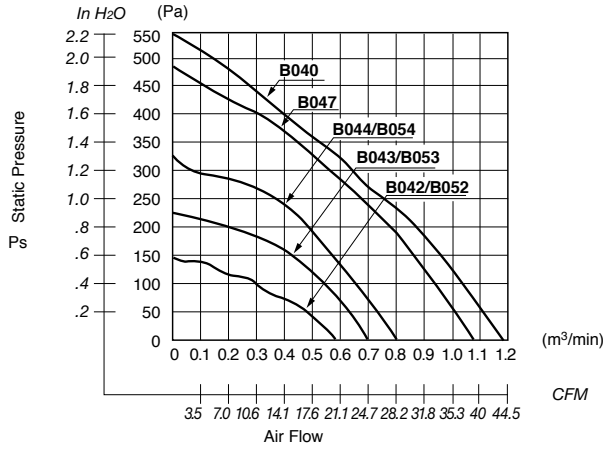
Dielectric Withstand Voltage: AC 700V 1s

Allowable Ambient Temperature Range:
-10°C ~ +60°C (Operating)
-40°C ~ +70°C (Storage)
(non-condensing environment)

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (00)

Characteristic Curves

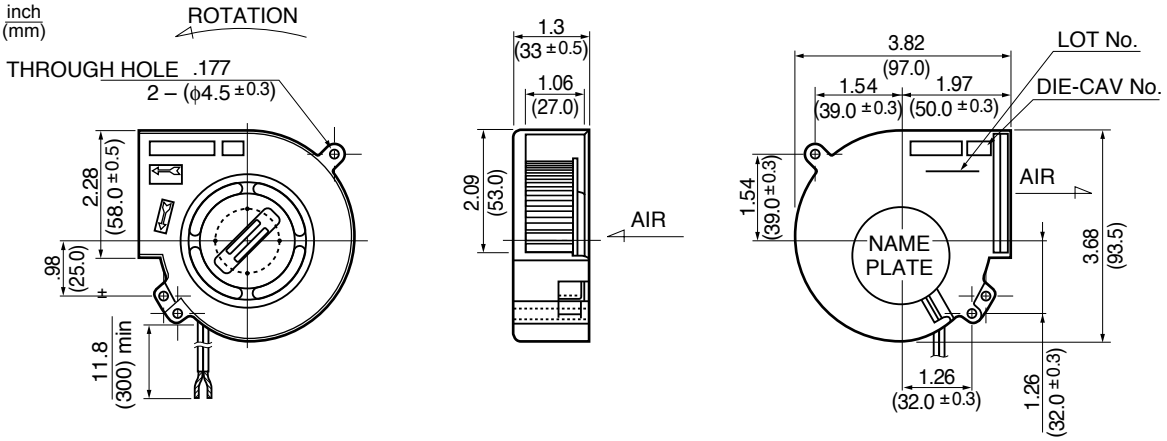


Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1007, AWG26, +Red, -Black

Outline

Units: inch (mm)



Specifications

	MODEL	Product No.	Rated Voltage (V)	Operating Voltage (V)	Current (A)*1	Input Power (W)*1	Speed (min-1)*1	Max. Air Flow CFM*1	Max. Air Flow (m3/min)*1	Max. Static Pressure in H2O	Max. Static Pressure (Pa)*1	Noise (dB)*1	Mass (g)
	BG0903-**B042**-000-	00	12	8 ~ 13.8	0.40	4.80	2700	20.5	0.58	.61	152	47.5	210
	BG0903-**B043**-000-	00	12	8 ~ 13.8	0.64	7.68	3200	24.7	0.70	.90	225	51.5	210
	BG0903-**B044**-000-	00	12	8 ~ 12.6	1.03	12.40	3700	28.6	0.81	1.4	342	54.5	210
	BG0903-**B052**-000-	00	24	10 ~ 27.6	0.21	5.04	2700	20.5	0.58	.61	152	47.5	210
	BG0903-**B053**-000-	00	24	10 ~ 27.6	0.33	7.92	3200	24.7	0.70	.90	225	51.5	210
	BG0903-**B054**-000-	00	24	10 ~ 25.0	0.49	11.80	3700	28.6	0.81	1.4	342	54.5	210
	HIGH SPEED												
**	BG0903-**B040**-000-	00	12	10.8 ~ 13.6	2.4	28.90	5700	42.0	1.19	2.2	549	65	210
**	BG0903-**B047**-000-	00	12	10.8 ~ 12.6	1.6	19.20	5200	38.1	1.08	1.9	482	–	210

Rotation: Counterclockwise *1: Average Values in Free Air ** Contact NMB for availability

General Specifications

Motor Protection:
Auto Restart/Polarity Protection

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

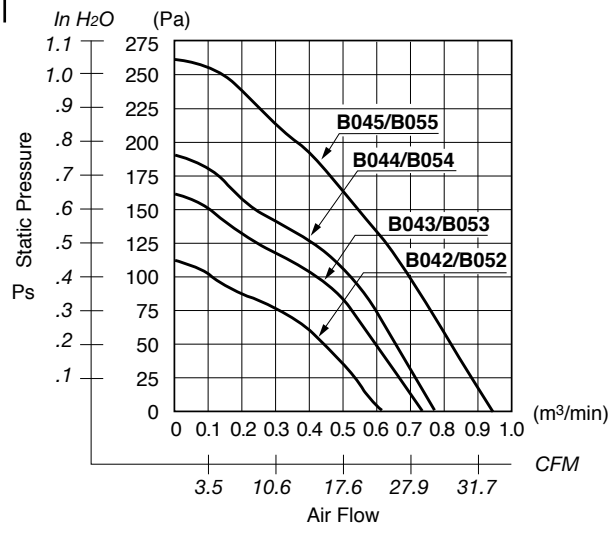
Dielectric Withstand Voltage: AC 700V 1s

Allowable Ambient Temperature Range:
-10°C ~ +60°C (Operating)
-40°C ~ +70°C (Storage)
(non-condensing environment)

Expected Life

Failure Rate: 10%
25°C 100,000 Hours (00)

Characteristic Curves

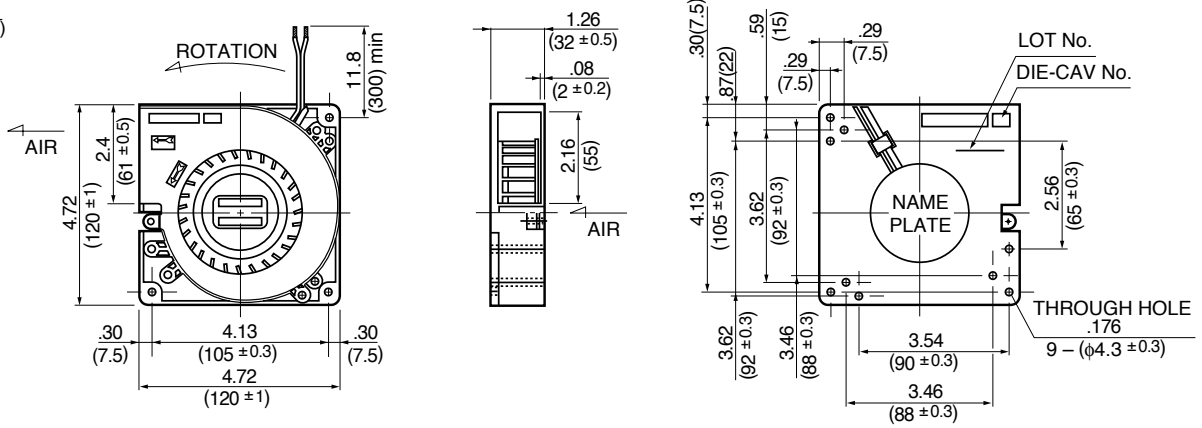


Material

Casing : Plastic (Black) 94V-0
Impeller : Plastic (Black) 94V-0
Bearing : Ball Bearing
Lead Wire : UL1007, AWG26, +Red, -Black

Outline

Units: inch (mm)



Specifications

MODEL	Product No.	Rated Voltage (V)	Operating Voltage (V)	Current (A)*1	Input Power (W)*1	Speed (min-1)*1	Max. Air Flow CFM*1	Max. Air Flow (m3/min)*1	Max. Static Pressure in H2O	Max. Static Pressure (Pa)*1	Noise (dB)*1	Mass (g)
BG1203-**B042**-000-	00	12	6 ~ 13.8	0.30	3.60	1800	22.2	0.63	.40	100	41.5	270
BG1203-**B043**-000-	00	12	6 ~ 13.8	0.48	5.78	2100	26.1	0.74	.58	145	46.5	270
BG1203-**B044**-000-	00	12	6 ~ 13.8	0.65	7.80	2250	28.2	0.80	.70	175	48.5	270
BG1203-**B045**-000-	00	12	6 ~ 13.8	0.93	11.16	2650	33.2	0.94	1.04	260	54.0	270
BG1203-**B052**-000-	00	24	12 ~ 27.6	0.17	4.08	1800	22.2	0.63	.40	100	41.5	270
BG1203-**B053**-000-	00	24	12 ~ 27.6	0.25	6.00	2100	26.1	0.74	.56	145	46.5	270
BG1203-**B054**-000-	00	24	12 ~ 27.6	0.30	7.20	2250	28.2	0.80	.70	175	48.5	270
BG1203-**B055**-000-	00	24	12 ~ 25.2	0.48	11.52	2650	33.2	0.94	1.04	260	54.0	270

Rotation: Counterclockwise *1: Average Values in Free Air

Common Specifications

Operating Voltage:.....Rated voltage +/- 10%
Noise: .....Measured at 1 meter from the side of the fan at the rated voltage
Vibration Test:..... JIS C 60068-2-6
Shock Test: .....JIS C 60068-2-27
Insulation Class: .....E class (UL: Class A)
Protection: .....Motor burnout is prevented by the impedence protection system or the thermal protection system.
Impedance Protection System:.....The motor coil impedance limits motor temperature within the insulation class specification.
Thermal Protection System: .....The coil includes a thermal cut-out to limit motor temperature within the insulation class specification.

Notes: Additional performance requirements can be determined between manufacturer and customer, based on customer's request.
Ball bearing fans may be installed in a horizontal, vertical or angled position.

Part Numbering System

47	15	P	S	–	12	T	–	B	2	0	–	A	00
①	②	③	④		⑤	⑥		⑦	⑧	⑨		⑩	⑪

1. Frame Size
24: 60mm
31: 80mm
36: 92mm
47: 119mm
59: 150mm

2. Frame Thickness
10: 25mm
12: 30mm
15: 38mm

3. Series
P Series
M Series
F Series

4. Motor Function
S: Shadded Pole
C: Capacitor Run

5. Input Voltage
100V Class
10: 100V
12: 115V

200V Class
20: 200V
22: 220V
23: 230V
24: 240V

6. Termination
W: Lead Wires
T: Terminal

7. Bearing
B: Ball Bearing

8. Speed
1<2<3<4<5
low high

9. Protection
0: Impedance Protected
A: Thermal Protected
(including 5915PC B30 only)

10. Product Number
A: Standard 115V, 230V & 240V
B: Standard 100V, 200V & 220V
D: Custom Casing 115V-230V
K: Frameless

11. Individual Specification
00: Standard
01~99: Custom

47	15	T	S	–	23	T	–	B	50	–	A	M	0
①	②	③	④		⑤	⑥		⑦	⑧		⑨	⑩	⑪

59	15	P	C	–	20	T	–	B	30	–	S	M	0
①	②	③	④		⑤	⑥		⑦	⑧		⑨	⑩	⑪

1. Frame Size
24: 60mm
31: 80mm
36: 92mm
47: 119mm
59: 150mm

2. Frame Thickness
10: 25mm
12: 30mm
15: 38mm
20: 51mm

3. Series
H: Plastic Blades
M: Plastic Blades
P: Plastic/Metal Blades
T: Metal Blades

4. Motor Function
S: Shaded Pole
C: Capacitor Run

5. Input Voltage
10: 100V
12: 115V
20: 200V
22: 220V
23: 230V
24: 240V

6. Input
T: Terminal
W: Lead Wires

7. Bearing
B: Ball Bearing

8. Speed
10<20<30<40<50
low high
X2 Dual Input

9. Input Voltage Class
A: 115V / 230V
B: 100V / 200V
S: Metal Blades

10. Potting Method
M: Potted
O: Non-Potted

11. Product Number
0: Standard
1~: Special

General Specifications

Motor Structure: Shaded Pole Induction Motor

Motor Protection: Impedance Protection

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

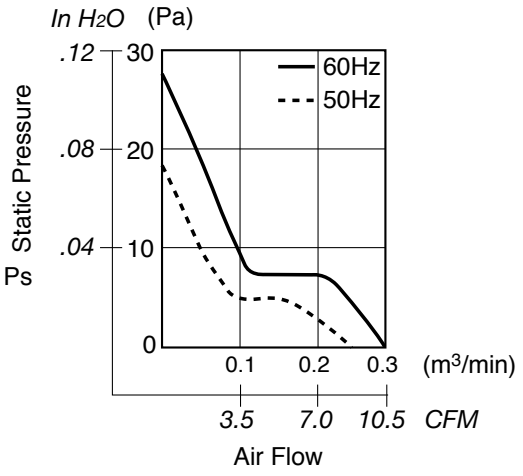
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 50,000 Hours

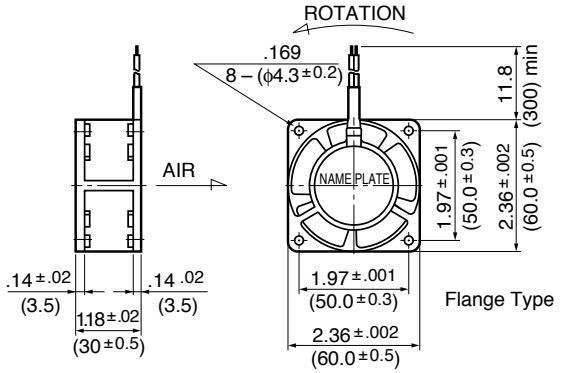
Characteristic Curves



Material

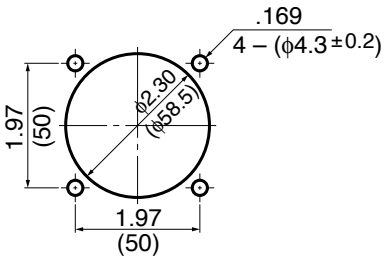
Casing : Aluminum
Impeller : Polycarbonate (Glass Fiber-Containing)
Bearing : Ball Bearing
Lead Wire : UL3266, CSA CL 1252, AWG22

Outline



Panel Cut-Outs

Units: inch (mm)



INLET SIDE / OUTLET SIDE

Specifications

MODEL	Rated Voltage (V)	Frequency (Hz)	Starting Voltage (V)	Current (A)*1	Input Power (W)+10% -20%	Speed (min-1)*2	Max. Air Flow CFM	Max. Air Flow (m3/min)*2	Max. Static Pressure in H2O	Max. Static Pressure (Pa)*2	Noise (dB)*2	Mass (g)
2412PS-10W-**B30**-A00	100	50	65	0.080	6.0	2000	7.0	0.20	.05	13.7	28	140
	100	60	65	0.070	5.0	2600	9.1	0.26	.09	22.6	29	140
2412PS-12W-**B30**-A00	115	50	65	0.070	4.5	2000	7.0	0.20	.05	13.7	28	140
	115	60	65	0.060	4.0	2600	9.1	0.26	.09	22.6	29	140

Rotation: Counterclockwise
Airflow Outlet: Air out over struts

*1: Maximum Values in Free Air
*2: Average Values in Free Air
*3: Minimum Values in Free Air

3110MS (80□ x 25L)

Plastic Blades

General Specifications

Motor Structure: Shaded Pole Induction Motor

Motor Protection: Impedance Protection

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

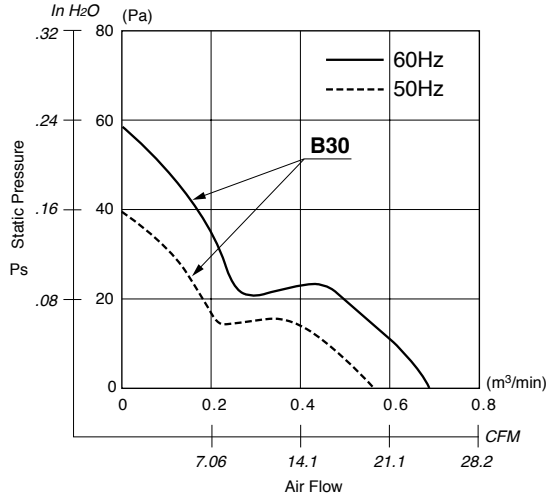
Dielectric Withstand Voltage: AC 700V 1s

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

Expected Life

Failure Rate: 10%
25°C 100,000 Hours

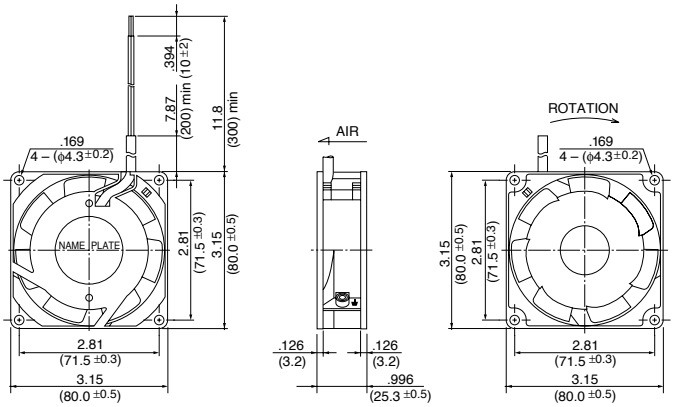
Characteristic Curves



Material

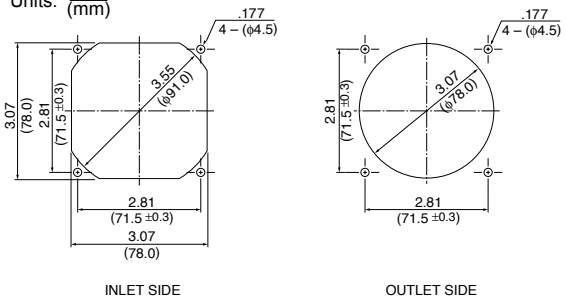
Casing : Aluminum
Impeller : Polycarbonate (Glass Fiber-Containing)
Bearing : Ball Bearing
Lead Wire : UL3266, CSA CL 1252, AWG22

Outline



Panel Cut-Outs

Units: inch (mm)



Specifications

	MODEL	Rated Voltage	Frequency	Starting Voltage	Current	Input Power	Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
		(V)	(Hz)	(V)	(A)*1	(W)*1	(min⁻¹)*1	CFM	(m³/min)*1	in H2O	(Pa)*1	(dB)*1	(g)
**	3110MS-20W-**B30**-B00	200	50	130	0.060	7.0	2500	20.1	0.57	0.15	39.0	24	240
**	3110MS-20W-**B30**-B00	200	60	130	0.050	6.0	3000	24.0	0.68	0.22	55.0	31	240
**	3110MS-22W-**B30**-B00	220	50	165	0.055	7.5	2500	20.1	0.57	0.15	39.0	24	240
**	3110MS-22W-**B30**-B00	220	60	165	0.045	6.5	3000	24.0	0.68	0.22	55.0	31	240
	3110MS-23W-**B30**-A00	230	50	180	0.050	7.5	2500	20.1	0.57	0.15	39.0	24	240
	3110MS-23W-**B30**-A00	230	60	180	0.045	6.5	3000	24.0	0.68	0.22	55.0	31	240
**	3110MS-24W-**B30**-A00	240	50	180	0.050	7.5	2500	20.1	0.57	0.15	39.0	24	240
**	3110MS-24W-**B30**-A00	240	60	180	0.045	6.5	3000	24.0	0.68	0.22	55.0	31	240

Rotation: Counterclockwise
** Contact NMB for Availability

Airflow Outlet: Air Out Over Struts

*1: Maximum Values in Free Air
*2: Average Values in Free Air
*3: Minimum Values in Free Air