

EXAQUA SERIES

IP68 DC FANS

CATALOG



Wakefield Thermal offers a selection of high-quality air movers to maintain a consistent flow of cool air for thermal applications and promote efficient operating temperatures. This series is also IP68 rated against dust and water intrusion.

General Specifications



Operating Temperature Range	-10°C to +70°C (+14°F to +158°F)
Storage Temperature	-40°C to +75°C (-40°F to +158°F)
Bearing System Life	2 Ball Bearing: L10 - 70,000 hrs @ 40°C
Materials	Black PBT(UL94V0), Glass Filled
Lead Wires	<ul style="list-style-type: none"> • Rating: UL1007 or UL1571, 80°C • AWG: 24 or 26 or 28 • Wire Length: 300mm ± 10mm • 2-Wire Standard: Red(+), Black(-) • 4-Wire Optional: Red (+), Black (-), Yellow (Tach/FG), Blue (PWM)
Insulation Resistance	Standard: 10MΩ at 500VDC Minimum (frame to leads)
Dielectric Strength	Standard: 500VAC(50/60Hz) for 60 seconds with 1mA trip current allowable between frame and leads
Noise Data	All noise readings are taken in dBA at 1meter from air intake side with fan suspended in a semi-anechoic chamber (<16 dBA max)
Protection	Locked Rotor (Meets UL standard 72 hr test; Reversed Polarity)
Shock and Vibration	<ul style="list-style-type: none"> • Shock: Meets 100G at 2ms, half sine, X, Y & Z axes • Vibration: Meets the 0.38mm amplitude of vibration • Frequency: 5 HZ - 55 Hz • Duration: 60min / axis • Direction: X/Y/Z axis
Safety	UL Recognized

Applications

IP68 fans are ideal for cooling across various high-performance applications including:

- Industrial
- Outdoor / Harsh Environment
- Marine
- Medical Equipment
- Renewable Energy

PWM Control - Signal Description

1. Control Signal: PWM Control
2. Input Level Voltage:
High - Min. >2.6V , Max. <5V
Low - Max. <0.5V
3. PWM Frequency Range: 1,000 HZ - 100,000 HZ
4. Max. Sink Current: 8mA

Fan Speed Control

1. Input Voltage: 12 VDC
2. PWM Frequency : 25,000 HZ
3. The fan should run at full speed given a 100% PWM duty cycle input.
4. The fan should run at zero speed given a 0% PWM duty cycle input.
5. The fan will go to full speed if the control signal is disconnected.

Part Numbering Guide

Following the guide below, choose your options and build your part number to use for placing your order. All available options are listed on the catalog pages to follow.

Series	Frame Size (mm)	Thickness (mm)	Voltage (V)	Speed Code	Bearing Type		# of Wires	Terminal Type		IP Rating	Complete WV Part Number
DC	120	38	24	H	2B	—	B	T0	—	IP68	DC1203824H2B-BT0-IP68
Key											
Series	Direct Current (DC) or Alternating Current (AC).										
Frame Size	The outer dimension (Height x Width) of the fan housings, which are square.										
Thickness	The overall thickness of the fan housing.										
Voltage	The amount of voltage the fan uses.										
Speed Code	How fast the fan can spin, listed in order from slowest to fastest.										
Bearing Type	The type of bearing the fan uses.										
# of Wires	These fans can have 2, 3 or 4 wires providing different levels of control.										
Terminal Type	These fans can have many different connectors or none.										
IP Rating	Ingress Protection: How well a device is protected from dust and water.										
Available Options											
DC only											
60mm (2.4"), 80mm (3.1"), 92mm (3.6") or 120mm (4.7")											
25mm (1.0") or 38mm (1.5")											
12V, 24V or 48V											
I, J, L, M, H, U, V, W											
Dual ball bearings only											
2-wire or 4-wire											
No connector											
IP68 only											

60X60X25MM

For Questions
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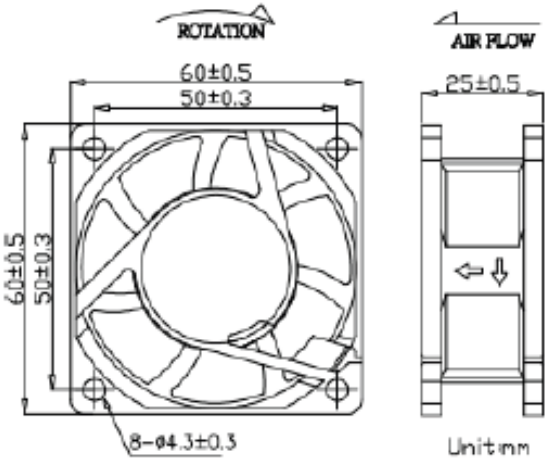
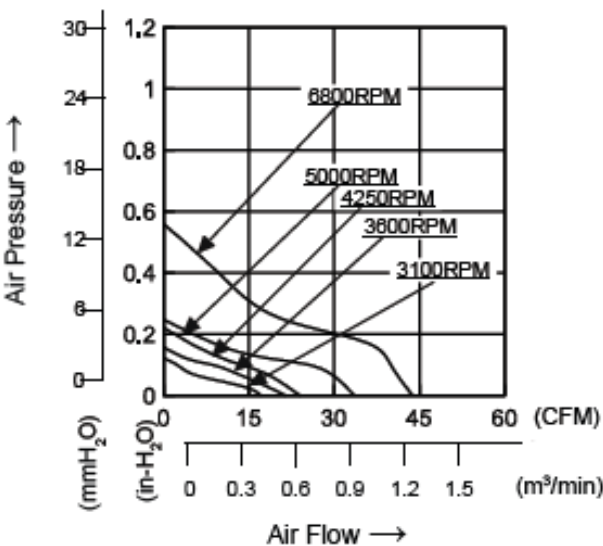


Overview

- Motor: DC single phase brushless motor
- Weight: 60g
- Dual Ball Bearing
- Lead Length: 300mm±10mm
- IP68 rated (dustproof & waterproof)
- 2-wire standard (part numbers shown)
- 4-wire optional (replace -2T0 with -BT0)



	Description	Size (mm)	Thickness (mm)	Rated Voltage (VDC)	Rated Current (A)	Rated Power (W)	Rated Speed (RPM)	Speed Code	Max Airflow (CFM)	Max Pressure (In H ₂ O)	Noise Level (dB/A)
12 Volt	DC0602512U2B-2T0-68	60	25	12	0.38	4.56	6800	U	43.80	0.56	56
	DC0602512H2B-2T0-68	60	25	12	0.22	2.64	5000	H	33.60	0.25	40
	DC0602512M2B-2T0-68	60	25	12	0.13	1.56	4250	M	24.00	0.22	34
	DC0602512L2B-2T0-68	60	25	12	0.07	0.84	3600	L	21.50	0.16	31
	DC0602512J2B-2T0-68	60	25	12	0.06	0.72	3100	J	17.10	0.12	26
24 Volt	DC0602524U2B-2T0-68	60	25	24	0.23	5.52	6800	U	43.80	0.56	56
	DC0602524H2B-2T0-68	60	25	24	0.13	3.12	5000	H	33.60	0.25	40
	DC0602524M2B-2T0-68	60	25	24	0.07	1.68	4250	M	24.00	0.22	34
	DC0602524L2B-2T0-68	60	25	24	0.05	1.20	3600	L	21.50	0.16	31
	DC0602524J2B-2T0-68	60	25	24	0.04	0.96	3100	J	17.10	0.12	26



80X80X25MM



Overview

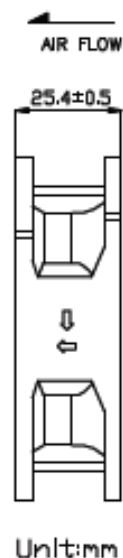
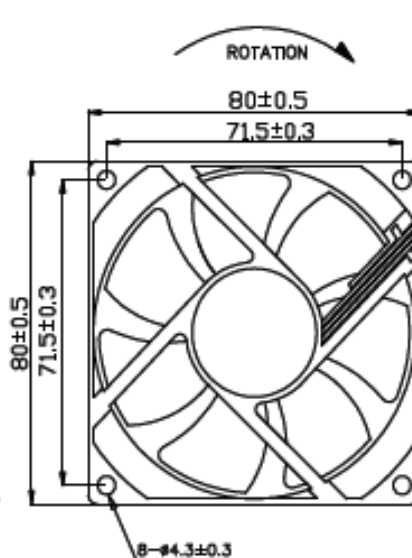
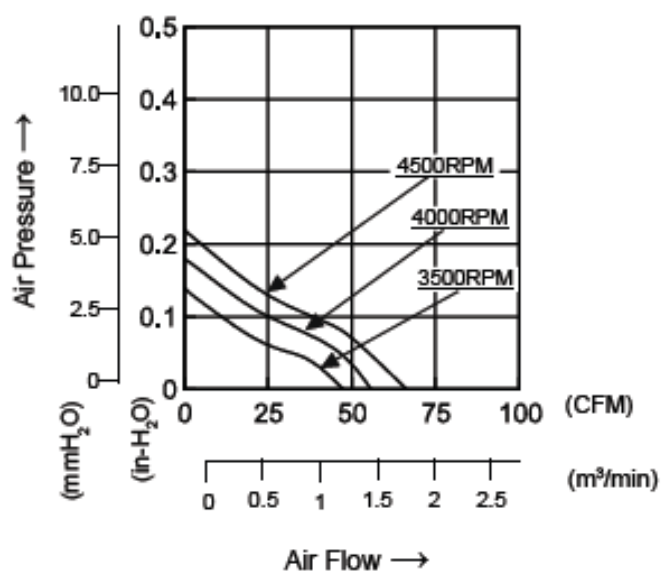
- Motor: DC single phase brushless motor
- Weight: 80g
- Dual Ball Bearing
- Lead Length: 300mm±10mm
- IP68 rated (dustproof & waterproof)
- 2-wire standard (part numbers shown)
- 4-wire optional (replace -2T0 with -BT0)

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	Description	Size (mm)	Thickness (mm)	Rated Voltage (VDC)	Rated Current (A)	Rated Power (W)	Rated Speed (RPM)	Speed Code	Max Airflow (CFM)	Max Pressure (In H ₂ O)	Noise Level (dB/A)
12 Volt	DC0802512L2B-2T0-68	80	25	12	0.35	4.20	4500	L	66.40	0.22	42
	DC0802512I2B-2T0-68	80	25	12	0.26	3.12	4000	I	55.80	0.18	37
	DC0802512J2B-2T0-68	80	25	12	0.15	1.80	3500	J	47.50	0.14	32
24 Volt	DC0802524L2B-2T0-68	80	25	24	0.18	4.32	4500	L	66.40	0.22	42
	DC0802524I2B-2T0-68	80	25	24	0.18	4.32	4000	I	55.80	0.18	37
	DC0802524J2B-2T0-68	80	25	24	0.13	3.12	3500	J	47.50	0.14	35



80X80X38MM



Overview

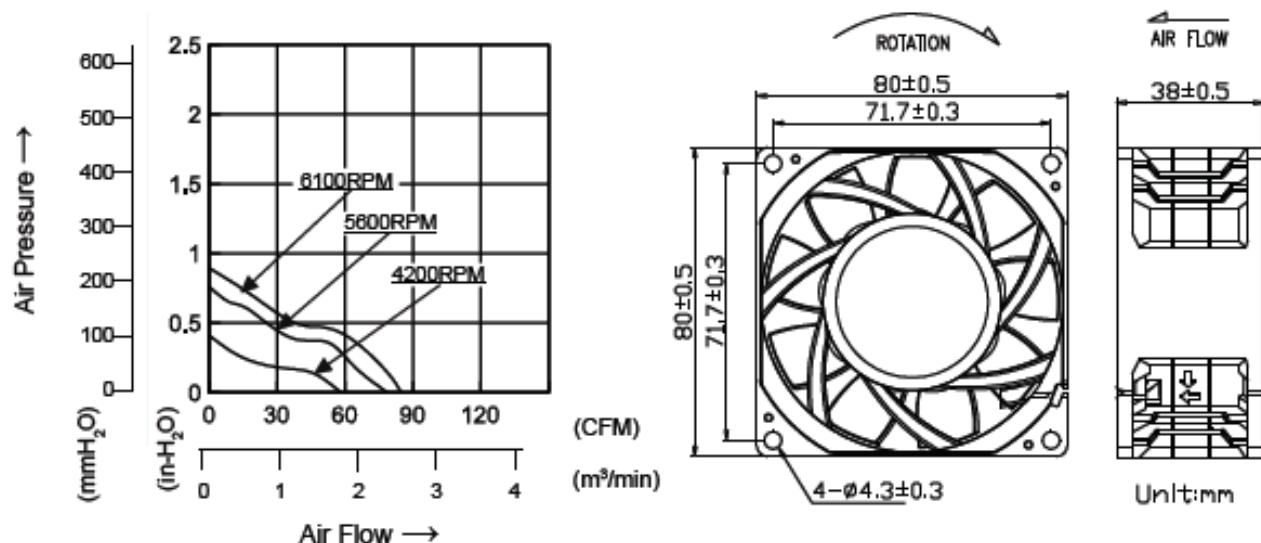
- Motor: DC single phase brushless motor
- Weight: 210g
- Dual Ball Bearing
- Lead Length: 300mm±10mm
- IP68 rated (dustproof & waterproof)
- 2-wire standard (part numbers shown)
- 4-wire optional (replace -2T0 with -BT0)

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	Description	Size (mm)	Thickness (mm)	Rated Voltage (VDC)	Rated Current (A)	Rated Power (W)	Rated Speed (RPM)	Speed Code	Max Airflow (CFM)	Max Pressure (In H ₂ O)	Noise Level (dB/A)
12 Volt	DC0803812H2B-2T0-68	80	38	12	0.91	10.92	6100	H	84.80	0.89	56
	DC0803812M2B-2T0-68	80	38	12	0.73	8.76	5600	M	78.80	0.76	53
	DC0803812L2B-2T0-68	80	38	12	0.38	4.60	4200	L	58.20	0.41	45
24 Volt	DC0803824H2B-2T0-68	80	38	24	0.47	11.28	6100	H	84.80	0.89	56
	DC0803824M2B-2T0-68	80	38	24	0.38	9.12	5600	M	78.80	0.76	53
	DC0803824L2B-2T0-68	80	38	24	0.18	4.32	4200	L	58.20	0.41	45
48 Volt	DC0803848H2B-2T0-68	80	38	48	0.20	9.60	6100	H	84.80	0.89	56
	DC0803848M2B-2T0-68	80	38	48	0.19	9.12	5600	M	78.80	0.76	53
	DC0803848L2B-2T0-68	80	38	48	0.11	5.28	4200	L	58.20	0.41	45



92X92X38MM

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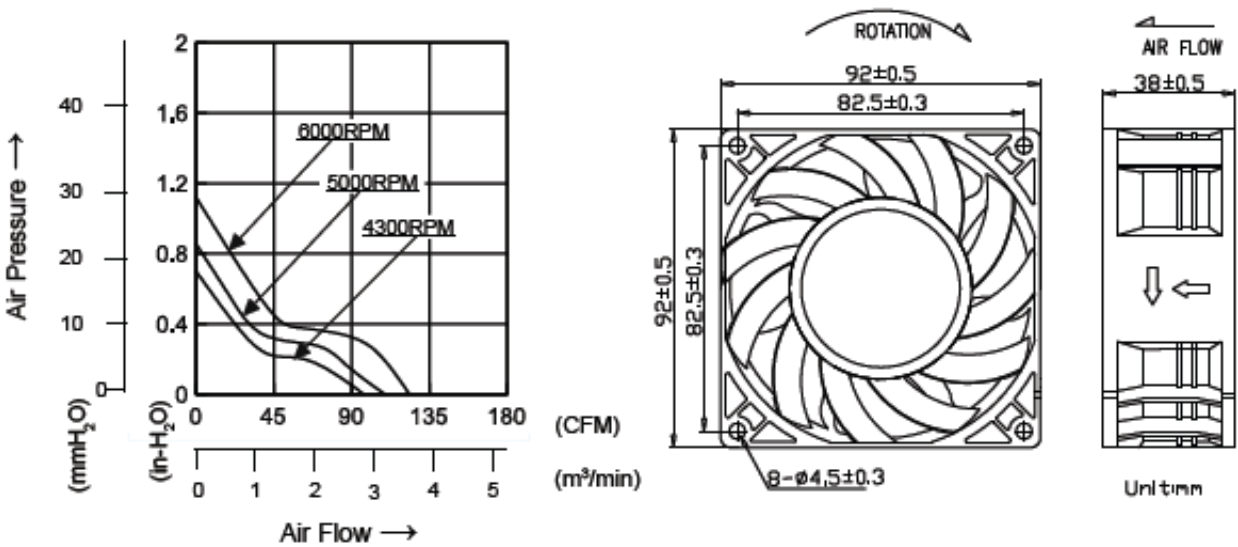


Overview

- Motor: DC single phase brushless motor
- Weight: 230g
- Dual Ball Bearing
- Lead Length: 300mm±10mm
- IP68 rated (dustproof & waterproof)
- 2-wire standard (part numbers shown)
- 4-wire optional (replace -2T0 with -BT0)



	Description	Size (mm)	Thickness (mm)	Rated Voltage (VDC)	Rated Current (A)	Rated Power (W)	Rated Speed (RPM)	Speed Code	Max Airflow (CFM)	Max Pressure (In H ₂ O)	Noise Level (dB/A)
12 Volt	DC0923812H2B-2T0-68	92	38	12	1.75	21.00	6000	H	123.40	1.12	64
	DC0923812M2B-2T0-68	92	38	12	0.94	11.28	5000	M	109.20	0.86	58
	DC0923812L2B-2T0-68	92	38	12	0.67	8.04	4300	L	97.10	0.70	52
24 Volt	DC0923824H2B-2T0-68	92	38	24	0.63	15.12	6000	H	123.40	1.12	64
	DC0923824M2B-2T0-68	92	38	24	0.32	7.68	5000	M	109.20	0.86	58
	DC0923824L2B-2T0-68	92	38	24	0.30	7.20	4300	L	97.10	0.70	52
48 Volt	DC0923848H2B-2T0-68	92	38	48	0.37	17.76	6000	H	123.40	1.12	64
	DC0923848M2B-2T0-68	92	38	48	0.21	10.08	5000	M	109.20	0.86	58
	DC0923848L2B-2T0-68	92	38	48	0.15	7.20	4300	L	97.10	0.70	52



120X120X38MM



Overview

- Motor: DC single phase brushless motor
- Weight: 260g
- Dual Ball Bearing
- Lead Length: 300mm±10mm
- IP68 rated (dustproof & waterproof)
- 2-wire standard (part numbers shown)
- 4-wire optional (replace -2T0 with -BT0)

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	Description	Size (mm)	Thickness (mm)	Rated Voltage (VDC)	Rated Current (A)	Rated Power (W)	Rated Speed (RPM)	Speed Code	Max Airflow (CFM)	Max Pressure (In H ₂ O)	Noise Level (dB/A)
12 Volt	DC1203812J2B-2T0-68	120	38	12	0.35	4.20	2300	J	101.40	0.32	38
	DC1203812L2B-2T0-68	120	38	12	0.46	5.52	2600	L	114.70	0.41	41
	DC1203812M2B-2T0-68	120	38	12	0.52	6.24	2900	M	123.20	0.45	44
	DC1203812H2B-2T0-68	120	38	12	0.55	6.60	3200	H	135.90	0.54	48
24 Volt	DC1203824J2B-2T0-68	120	38	24	0.13	3.12	2300	J	101.40	0.32	38
	DC1203824L2B-2T0-68	120	38	24	0.26	6.24	2600	L	114.70	0.41	41
	DC1203824M2B-2T0-68	120	38	24	0.44	10.56	2900	M	123.20	0.45	44
	DC1203824H2B-2T0-68	120	38	24	0.53	12.72	3200	H	135.90	0.54	48
48 Volt	DC1203848J2B-2T0-68	120	38	48	0.09	4.32	2300	J	101.40	0.32	38
	DC1203848L2B-2T0-68	120	38	48	0.12	5.76	2600	L	114.70	0.41	41
	DC1203848M2B-2T0-68	120	38	48	0.21	10.08	2900	M	123.20	0.45	44
	DC1203848H2B-2T0-68	120	38	48	0.22	10.56	3200	H	135.90	0.54	48

