WAKEFIELDTHERMAL

AC FANS
Design Guide 2026
REV1.0



Total Thermal Solution

WAKEFIELDTHERMAL.COM | 603.635.2800

TABLE OF CONTENTS

4-5..... AC Fans Introduction

6-18..... Wakefield Thermal AC Fans

- 80 x 80 x 25mm
- 80 x 80 x 38mm
- 92 x 92 x 25mm
- 92 x 92 x 38mm
- 120 x 120 x 25mm
- 120 x 120 x 38mm
- 172 x 51mm
- 180 x 180 x 60mm
- 200 x 200 x 60mm
- 220 x 60mm
- 205 x 205 x 72mm
- 254 x 89mm
- 280 x 80mm

19-20..... Wakefield Thermal Dual Voltage AC Fans

- 120 x 120 x 38mm
- 172 x 51mm

AC FANS

Wakefield Thermal's AC fans use alternating current, which allows them to operate directly from standard power lines without a separate power supply or driver circuit. This simplifies installation in industrial enclosures, control cabinets, and HVAC equipment where AC power is already present. Unlike DC fans, which require voltage regulation and are typically limited to lower-power applications, AC fans can be driven directly from 110 VAC or 220 VAC mains, making them well suited for high-airflow and continuous-duty environments.

Engineered with aluminum die cast frames, these AC fans use a shaded pole motor with impedance protection, giving them the strength to overcome a momentary stall or blocked rotor condition without burning out. The motor's synchronous speed is set by line frequency, which means speed is stable and predictable over the fan's lifespan. They operate globally on both 50Hz and 60Hz frequency without any modification. Rated for 50,000 hours at 25°C and 65% RH, Wakefield Thermal's AC fans are fully UL/CUL/CE with RoHS and REACH compliance.

How to Choose the Right Fan

	AC Fans	DC Fans
Power Input	Direct mains connection, 110 or 220 VAC	Requires regulated DC supply or driver circuit
Motor Type	Shaded pole, no electronics in motor	Brushless motor with electronic commutation
Speed Control	Fixed by line frequency (50 or 60 Hz)	Variable via PWM or voltage adjustment
Overload Protection	Impedance protected, survives momentary stall	Requires thermal or electronic protection
Voltage Flexibility	Single fan runs on 110V or 220V, 50 or 60 Hz	Voltage-specific; separate 24V and 48V models
Reliability / Life	50,000 hrs at 25*C, no drive electronics to fail	Typically 70,000+ hrs, dependent on driver design
Best For	Industrial enclosures, control panels, HVAC, telecom, continuous-duty with AC infrastructure	Electronics cooling, variable speed, battery-powered or low-voltage systems
Safety Approvals	UL/CUL/CE, RoHS, REACH	Varies by model

Sold through our Distribution Channel.
For help finding your AC Fan, contact us at: Phone: **(603) 635-2800** or **communications@wakefieldthermal.com**

AC FANS

Bottom line: Choose AC when you have mains power available and need a simple, reliable, long-life solution that installs without a driver board. Choose DC when you need variable speed, low voltage, or PWM control.



Key application environments include:

- HVAC
- Industrial Control Panels
- Telecom Equipment
- Power Supplies

AC Fan Constants				
Motor	**Operating Temp**	**Storage Temp**	**Insulation Resistance**	**Operating Voltage Range**
INNER ROTOR, SHADED POLE AC MOTOR	-10°C~70°C	-40°C~70°C	≥10MΩ @ 500V DC	**110V:** 100~120 VAC **220V:** 200~240 VAC

AC FANS 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.

Example: AC08025110H2B

Series	Frame Size (mm)	Thickness (mm)	Voltage (V)	Speed	Bearing System
AC	080	25	110	High	2 Ball

DISCLAIMER: All statements, technical information, and recommendations related to Wakefield Thermal products are based on information believed to be reliable, but accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You must assume all risks and liability associated with such use. Wakefield Thermal will not be liable for any indirect, special, incidental or consequential loss or damage arising from this product, regardless of legal theory asserted.

AC FAN

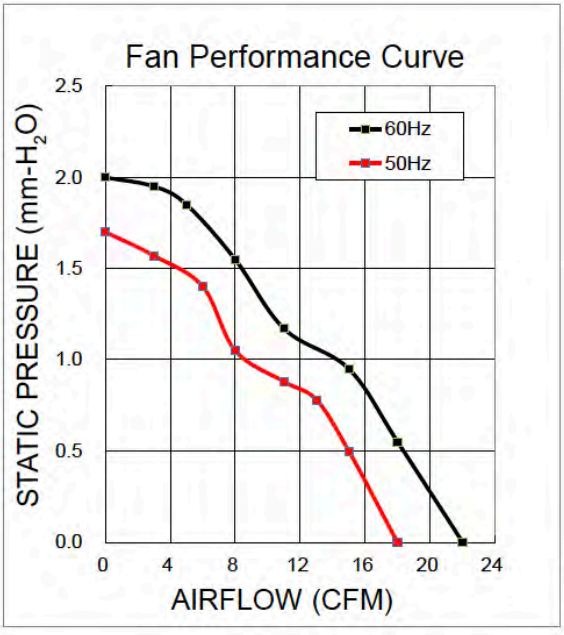
80X80X25MM

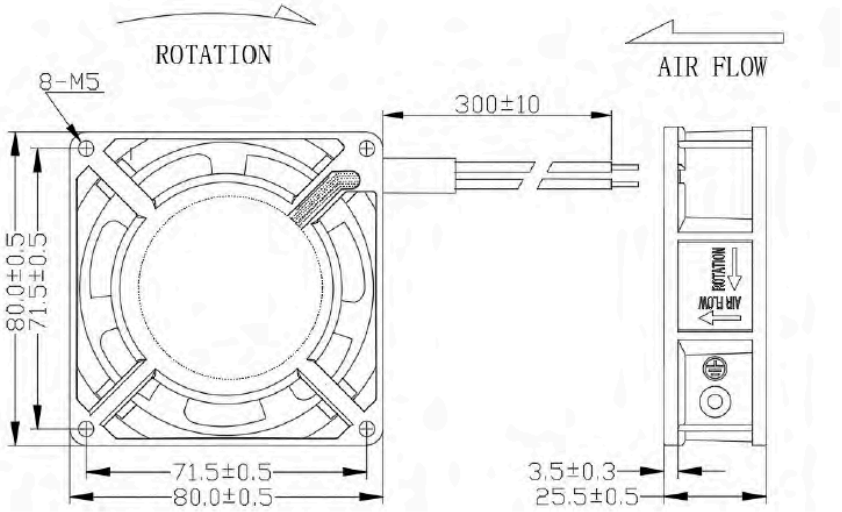


- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- WEIGHT: 230g
- SAFETY: UL / CUL / CE
- WIRE TYPE STANDARD (part numbers shown)

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC08025110H2B-W (T)	2 BALL	110	50/60	14/12	2500/3000	0.51 / 0.62	18.0 / 22.0	1.7 / 2.0	0.07 / 0.08	28 / 33
AC08025220H2B-W (T)	2 BALL	220	50/60	13/12	2500/3000	0.51 / 0.62	18.0 / 22.0	1.7 / 2.0	0.07 / 0.08	28 / 33

TERMINAL TYPE OPTIONAL (replace -W with -T)





AC FAN
80X80X38MM

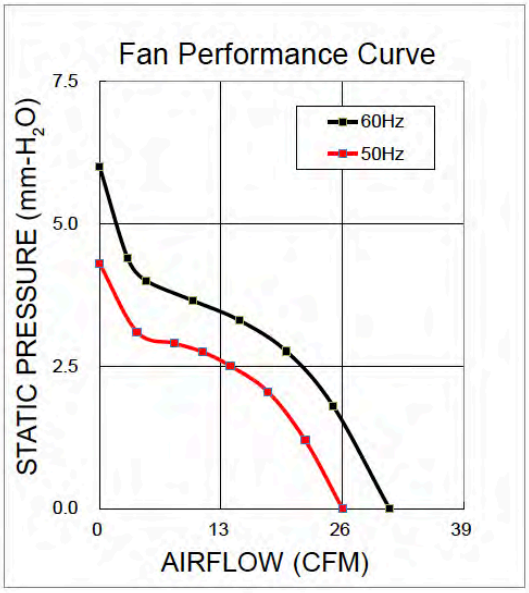
WAKEFIELDTHERMAL

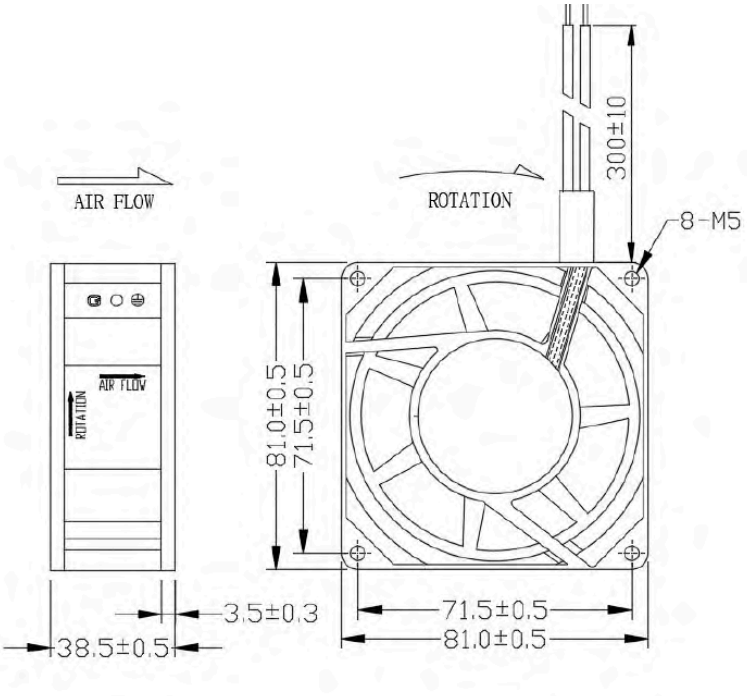


- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- WEIGHT: 370g
- SAFETY: UL / CUL / CE
- WIRE TYPE STANDARD (part numbers shown)

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC08038110H2B-W (T)	2 BALL	110	50/60	13/12	2400/2900	0.74 / 0.88	26 / 31	4.3 / 6.0	0.17 / 0.24	29 / 32
AC08038220H2B-W (T)	2 BALL	220	50/60	13/12	2400/2900	0.74 / 0.88	26 / 31	4.3 / 6.0	0.17 / 0.24	29 / 32

TERMINAL TYPE OPTIONAL (replace -W with -T)





AC FAN

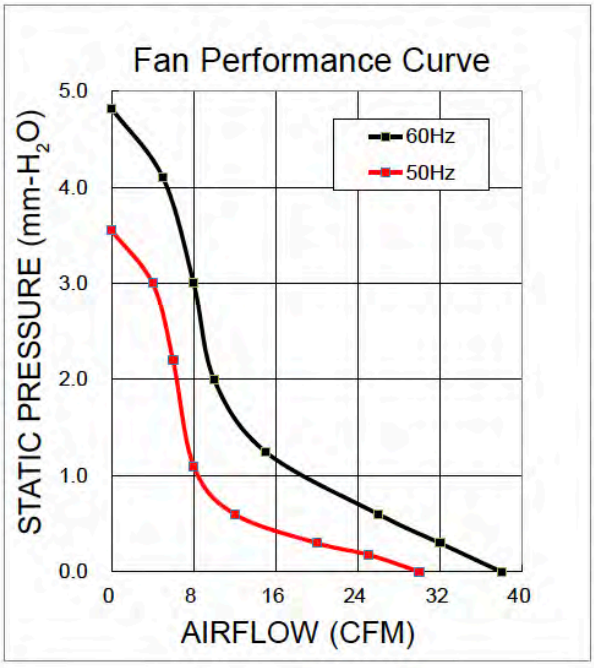
92X92X25MM

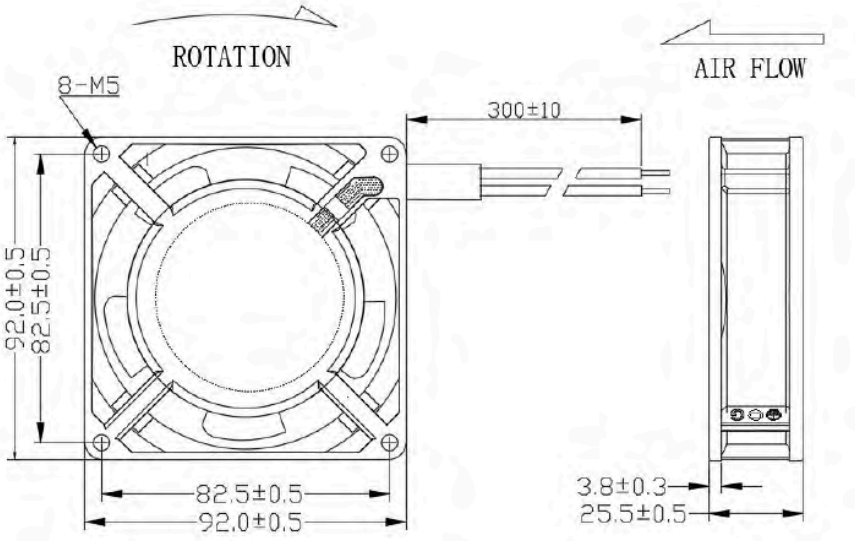


- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- WEIGHT: 250g
- SAFETY: UL / CUL / CE
- WIRE TYPE STANDARD (part numbers shown)

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC09225110H2B-W (T)	2 BALL	110	50/60	16/13	2450/2850	0.85 / 1.08	30.0 / 38.0	3.55 / 4.82	0.14 / 0.19	31 / 39
AC09225220H2B-W (T)	2 BALL	220	50/60	15/12	2450/2850	0.85 / 1.08	30.0 / 38.0	3.55 / 4.82	0.14 / 0.19	31 / 39

TERMINAL TYPE OPTIONAL (replace -W with -T)





AC FAN

92X92X38MM

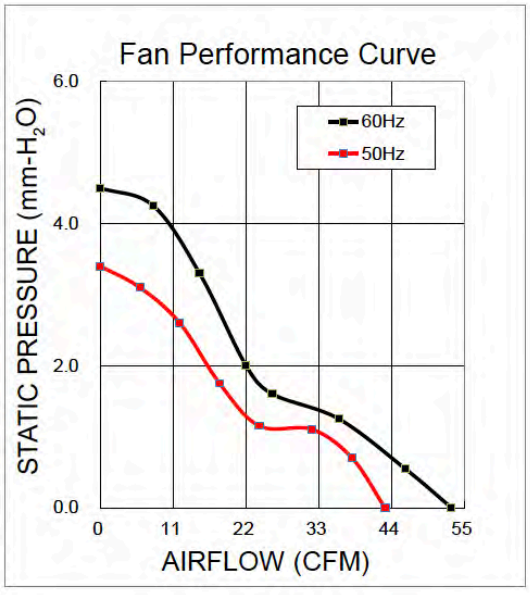
WAKEFIELDTHERMAL

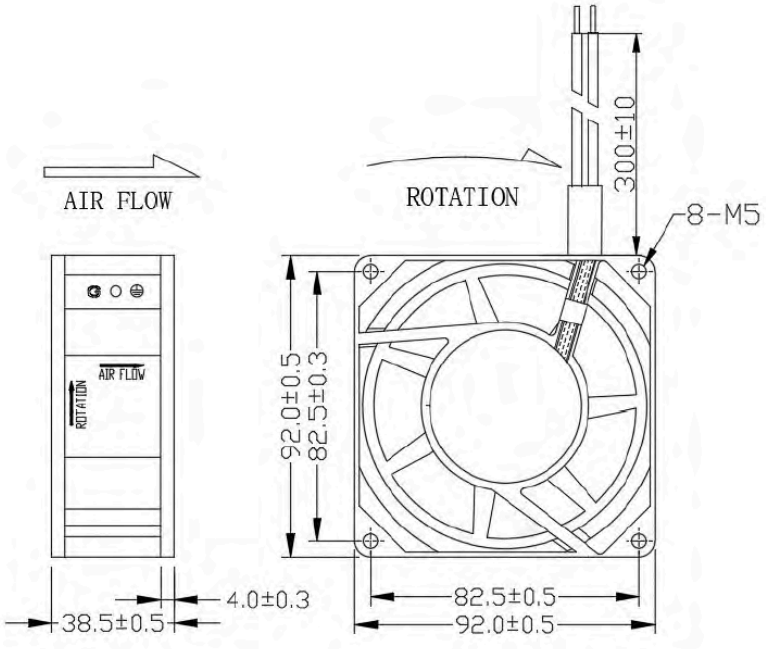


- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- WEIGHT: 340g
- SAFETY: CE
- WIRE TYPE STANDARD (part numbers shown)

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC09238110H2B-W (T)	2 BALL	110	50/60	12/9	2300/2700	1.22 / 1.50	43.0 / 53.0	3.4 / 4.5	0.13 / 0.18	30 / 34
AC09238220H2B-W (T)	2 BALL	220	50/60	12/9	2300/2700	1.22 / 1.50	43.0 / 53.0	3.4 / 4.5	0.13 / 0.18	30 / 34

TERMINAL TYPE OPTIONAL (replace -W with -T)





AC FAN

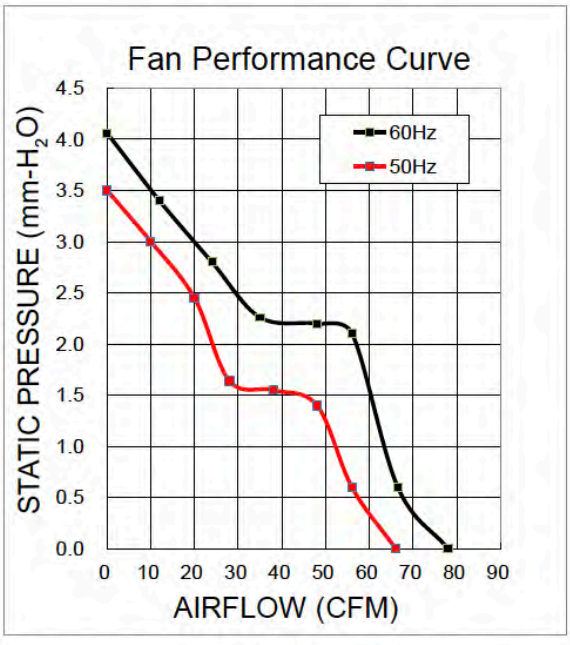
120X120X25MM

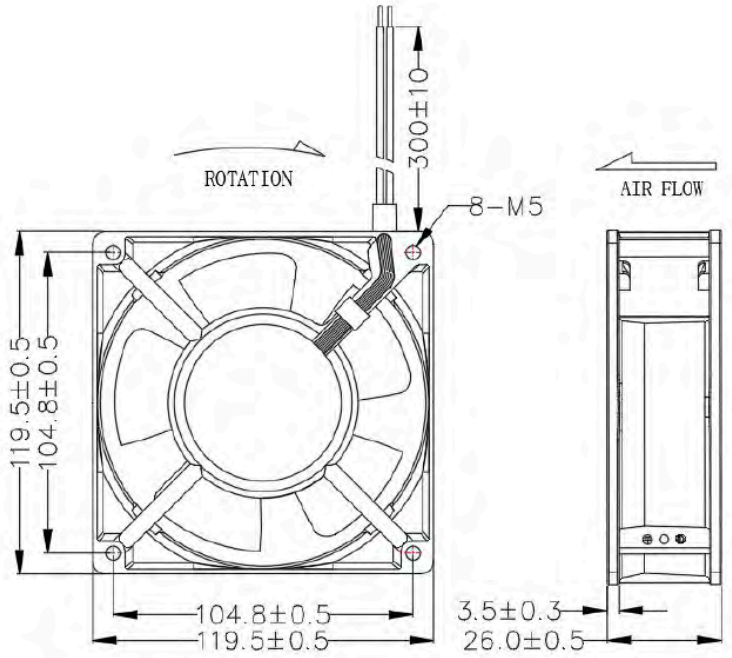


- FRAME : Aluminum Alloy ; IMPELLER : PBT (94V-0)
- WEIGHT : 330g
- SAFETY : UL / CUL / CE
- WIRE TYPE STANDARD (part numbers shown)

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC12025110H2B-W (T)	2 BALL	110	50/60	19/18	2200/2400	1.87 / 2.21	66.0 / 78.0	3.56 / 4.06	0.14 / 0.16	35 / 40
AC12025220H2B-W (T)	2 BALL	220	50/60	19/18	2200/2400	1.87 / 2.21	66.0 / 78.0	3.56 / 4.06	0.14 / 0.16	35 / 40

TERMINAL TYPE OPTIONAL (replace -W with -T)





AC FAN

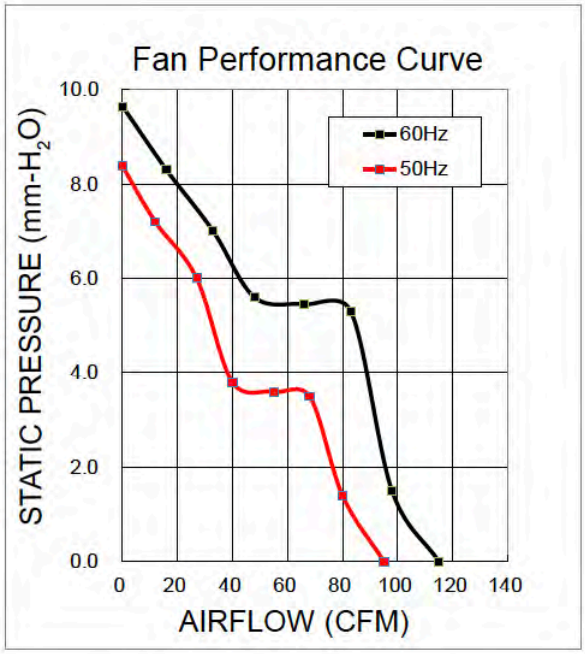
120X120X38MM

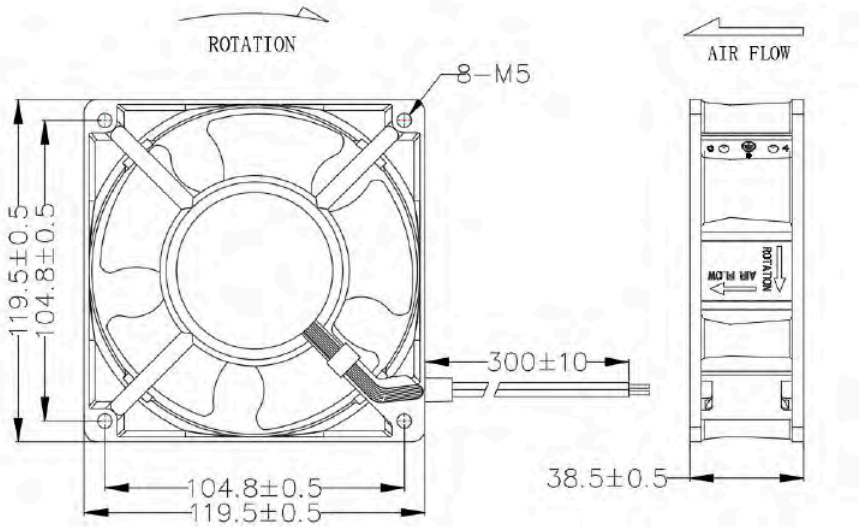


- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- WEIGHT: 530g
- SAFETY: UL / CUL / CE
- WIRE TYPE STANDARD (part numbers shown)

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC12038110H2B-W (T)	2 BALL	110	50/60	21/19	2700/3100	2.68 / 3.25	95 / 115	8.38 / 9.65	0.33 / 0.38	38 / 43
AC12038220H2B-W (T)	2 BALL	220	50/60	21/19	2700/3100	2.68 / 3.25	95 / 115	8.38 / 9.65	0.33 / 0.38	38 / 43

TERMINAL TYPE OPTIONAL (replace -W with -T)





AC FAN

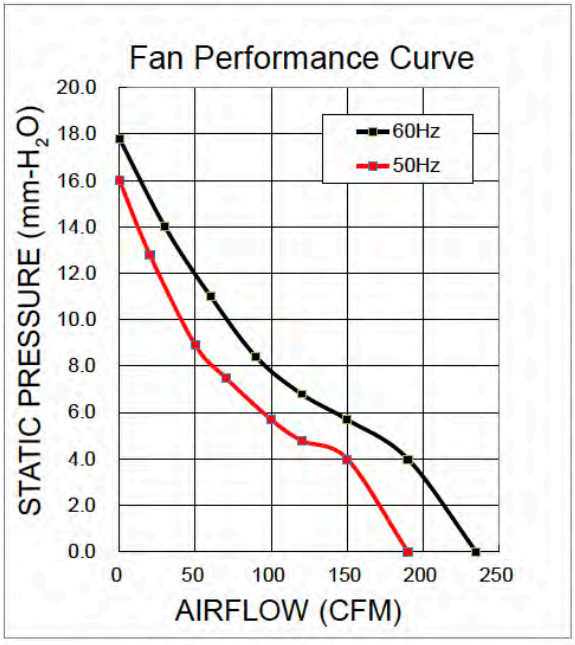
172X51MM

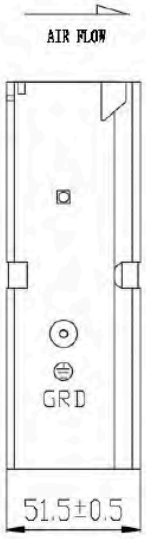


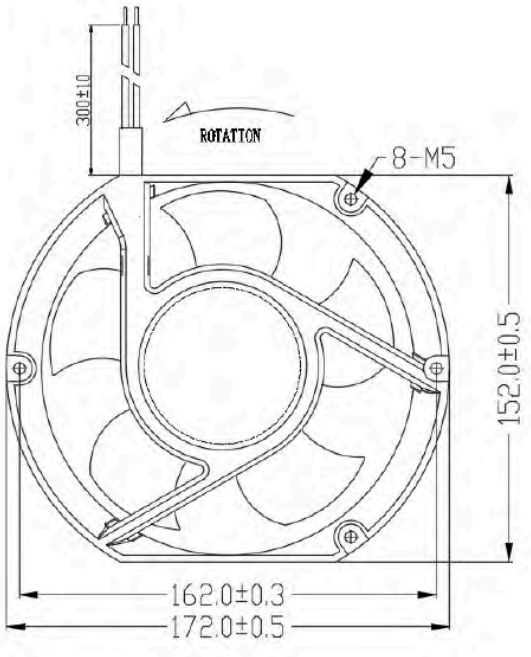
- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- WEIGHT: 1050g
- SAFETY: UL / CUL / CE
- WIRE TYPE STANDARD (part numbers shown)

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC17251110H2B-W (T)	2 BALL	110	50/60	35/32	2700/3100	5.38 / 6.65	190 / 235	16.0 / 17.8	0.63 / 0.70	50 / 52
AC17251220H2B-W (T)	2 BALL	220	50/60	35/32	2700/3100	5.38 / 6.65	190 / 235	16.0 / 17.8	0.63 / 0.70	50 / 52

TERMINAL TYPE OPTIONAL (replace -W with -T)







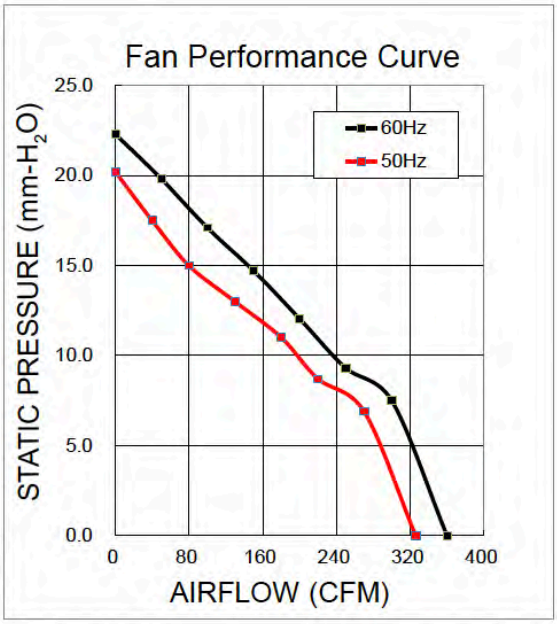
AC FAN

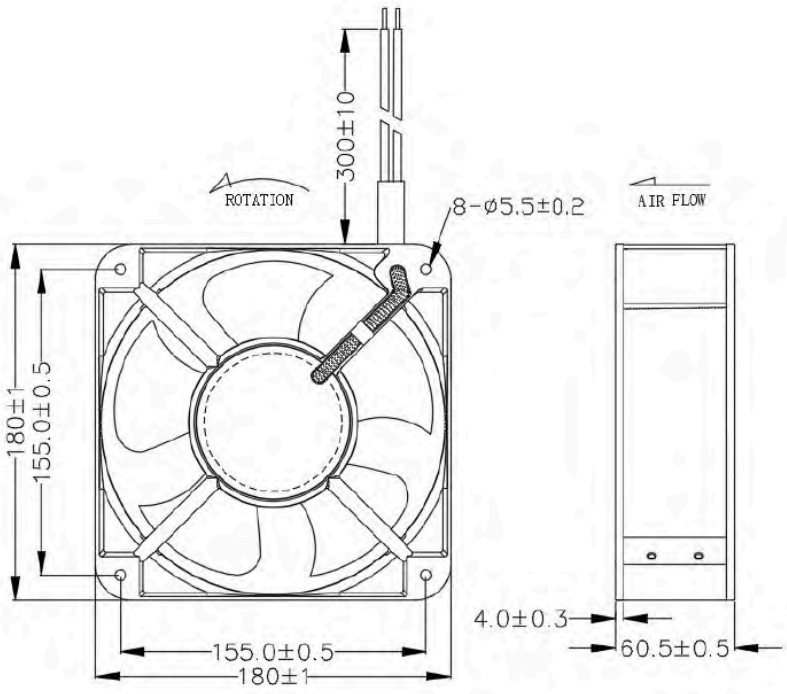
180X180X60MM



- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- CONNECTION: Lead wires
- WEIGHT: 1450g
- SAFETY: UL / CUL / CE

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC18060110H2B-W	2 BALL	110	50/60	47/45	2800/3200	9.23 / 10.19	326 / 360	20.2 / 22.3	0.80 / 0.88	50 / 56
AC18060220H2B-W	2 BALL	220	50/60	45/43	2800/3200	9.23 / 10.19	326 / 360	20.2 / 22.3	0.80 / 0.88	50 / 56



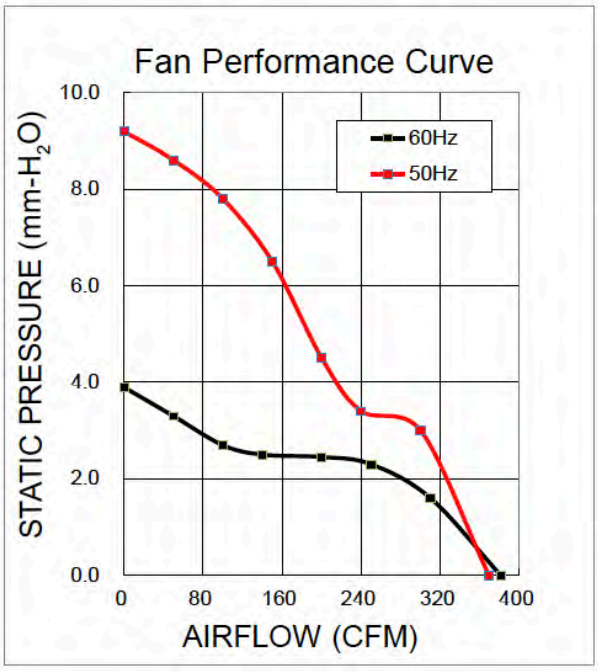


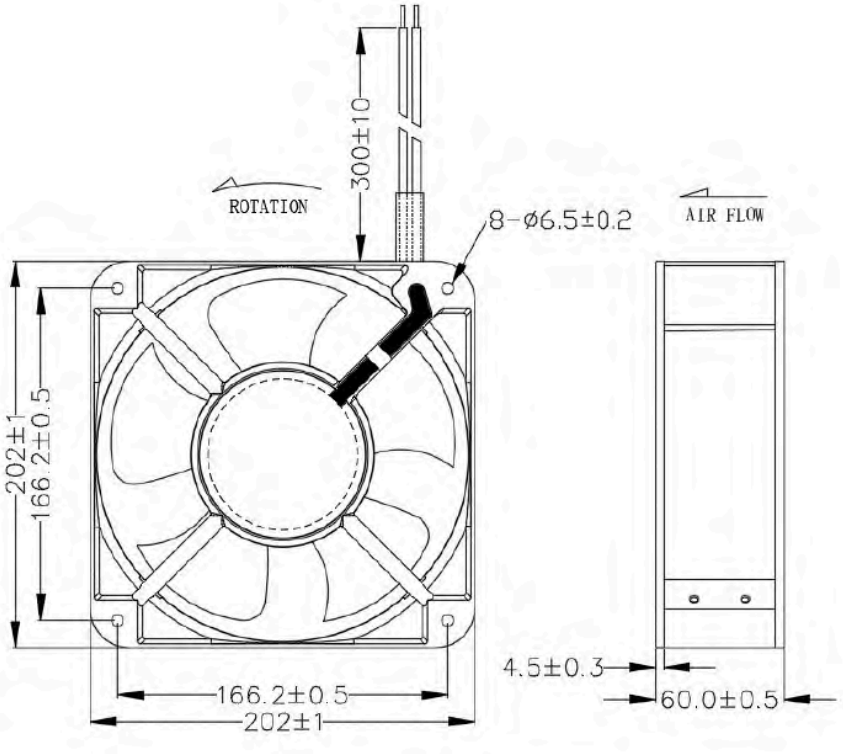
AC FAN
200X200X60MM



- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- CONNECTION: Lead wires
- WEIGHT: 1700g
- SAFETY: UL / CUL / CE

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC20060110H2B-W	2 BALL	110	50/60	48/48	2700/2900	10.44 / 10.78	369/ 381	9.2 / 3.9	0.36 / 0.15	59 / 62
AC20060220H2B-W	2 BALL	220	50/60	48/48	2700/2900	10.44 / 10.78	369 / 381	9.2 / 3.9	0.36 / 0.15	59 / 62





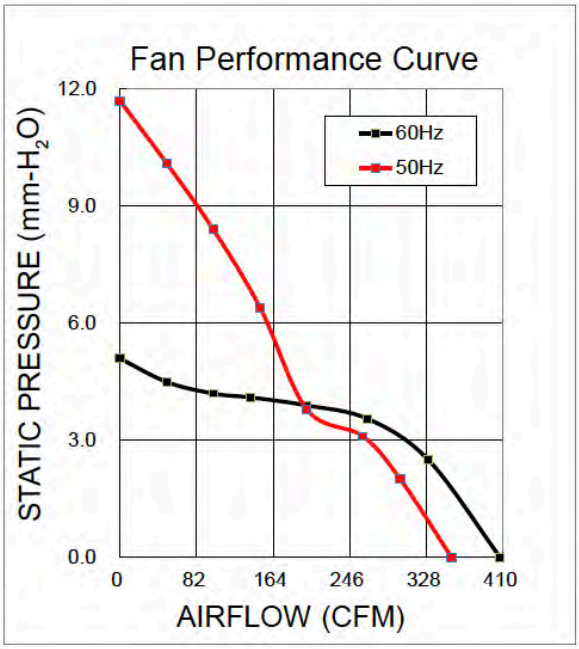
AC FAN

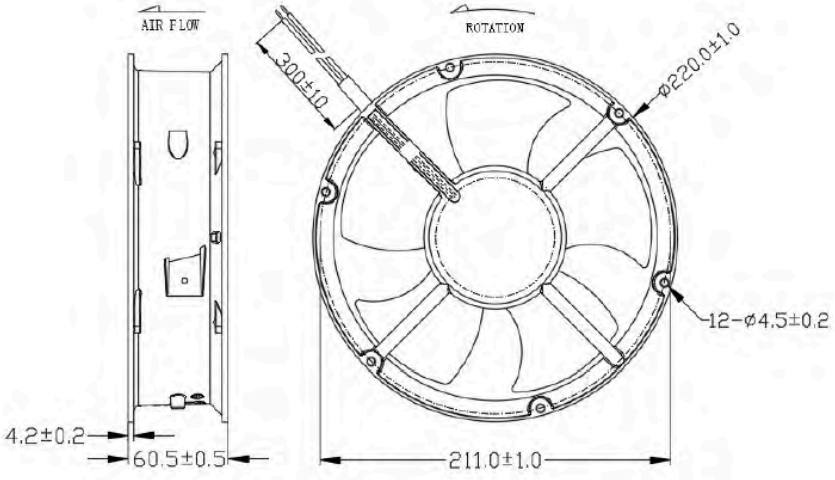
220X60MM



- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- CONNECTION: Lead wires
- WEIGHT: 1480g
- SAFETY: UL / CUL / CE

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC22060110H2B-W	2 BALL	110	50/60	53/50	2700/3000	10.05 / 11.52	355 / 407	11.7 / 5.1	0.46 / 0.20	59 / 62
AC22060220H2B-W	2 BALL	220	50/60	51/48	2700/3000	10.05 / 11.52	355 / 407	11.7/ 5.1	0.46 / 0.20	59 / 62





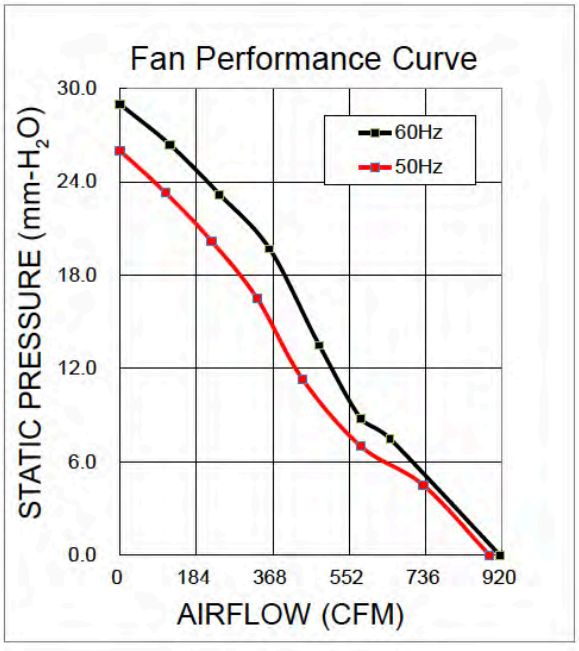
AC FAN

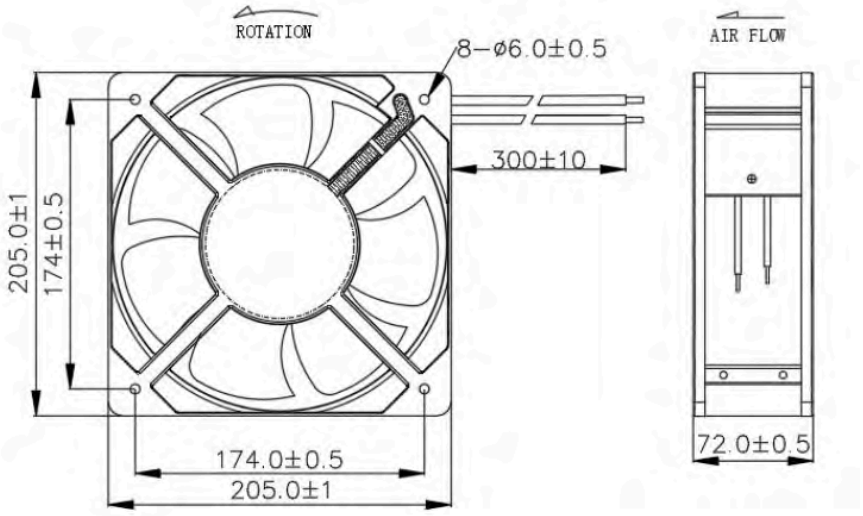
205X205X72MM



- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- CONNECTION: Lead wires
- WEIGHT: 1700g
- SAFETY: CE

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC20572110H2B-W	2 BALL	110	50/60	68/105	2850/3250	25.19 / 25.89	890/ 915	26.0 / 29.0	1.02 / 1.14	60 / 80
AC20572220H2B-W	2 BALL	220	50/60	65/102	2850/3250	25.19 / 25.89	890 / 915	26.0 / 29.0	1.02 / 1.14	60 / 80





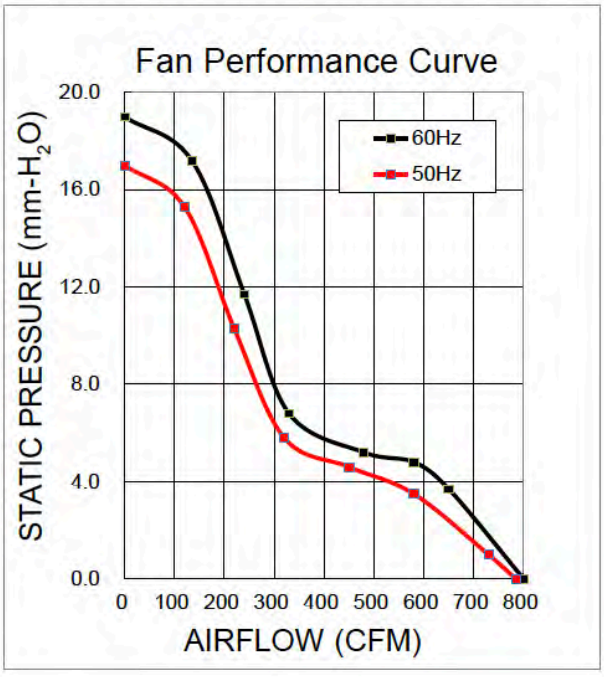
AC FAN

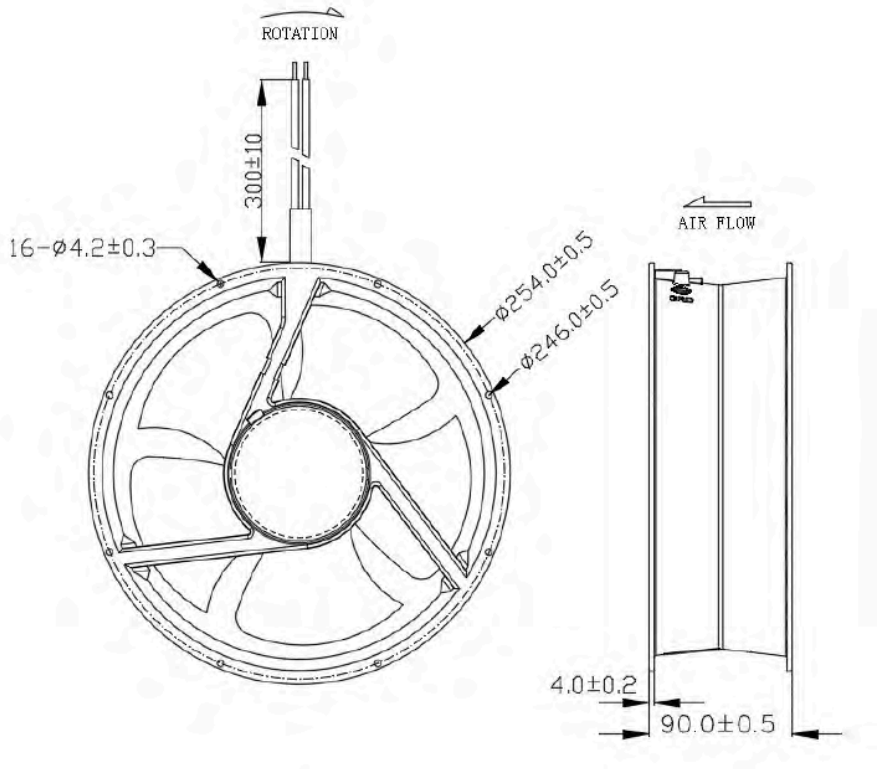
254X89MM



- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- CONNECTION: Lead wires
- WEIGHT: 2100g
- SAFETY: CE

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC25489110H2B-W	2 BALL	110	50/60	53/65	2700/2800	22.22 / 22.64	785 / 800	17.0 / 19.0	0.67 / 0.75	56 / 60
AC25489220H2B-W	2 BALL	220	50/60	50/63	2700/2800	22.22 / 22.64	785 / 800	17.0 / 19.0	0.67 / 0.75	56 / 60



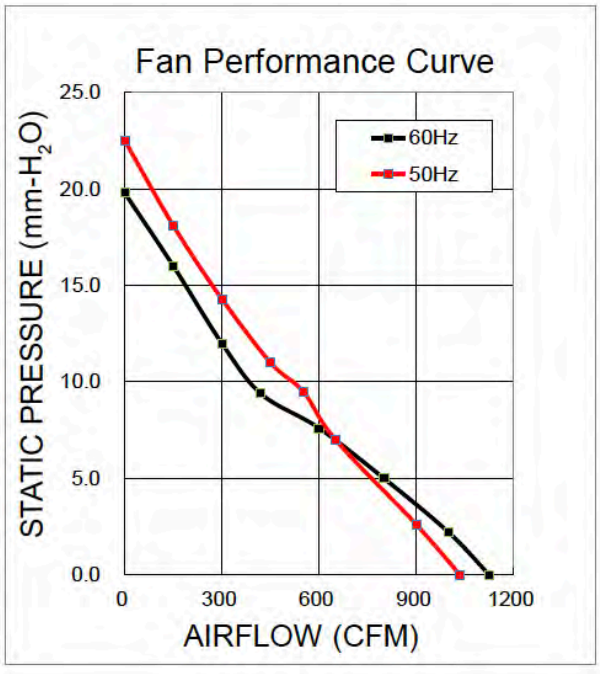


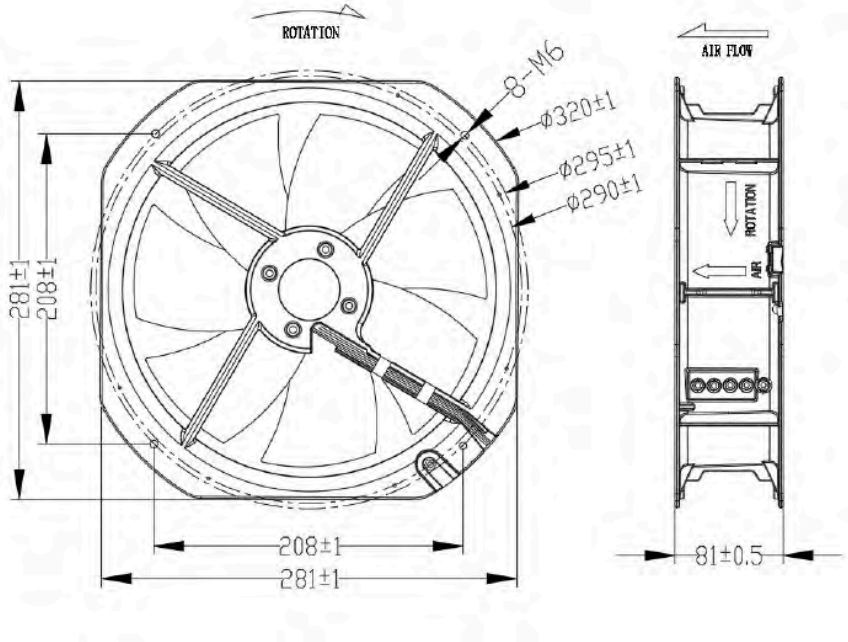
AC FAN
280X80MM



- FRAME: Aluminum Alloy; IMPELLER: Metal vane
- CONNECTION: Lead wires
- WEIGHT: 2980g
- SAFETY: UL / CUL / CE

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC28080110H2B-W	2 BALL	110	50/60	124/153	2600/2800	29.26 / 31.84	1034 / 1125	22.5 / 19.8	0.89 / 0.78	68 / 70
AC28080220H2B-W	2 BALL	220	50/60	120/150	2600/2800	29.26 / 31.84	1034 / 1125	22.5 / 19.8	0.89 / 0.78	68 / 70





AC FAN DUAL VOLTAGE

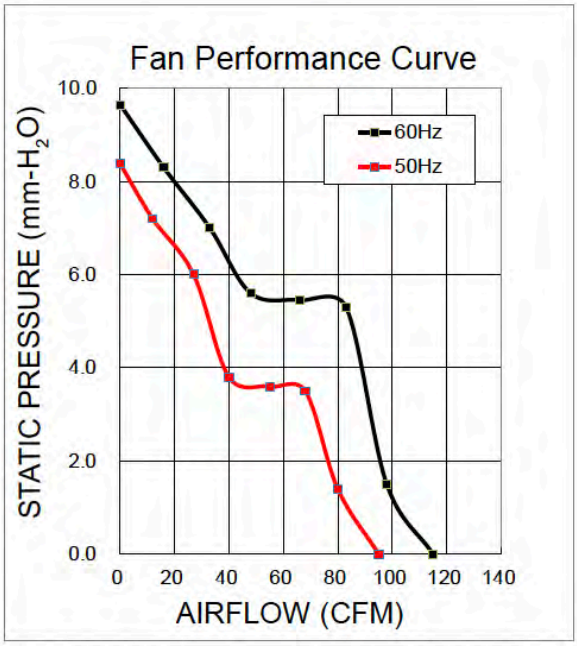
120X120X38MM

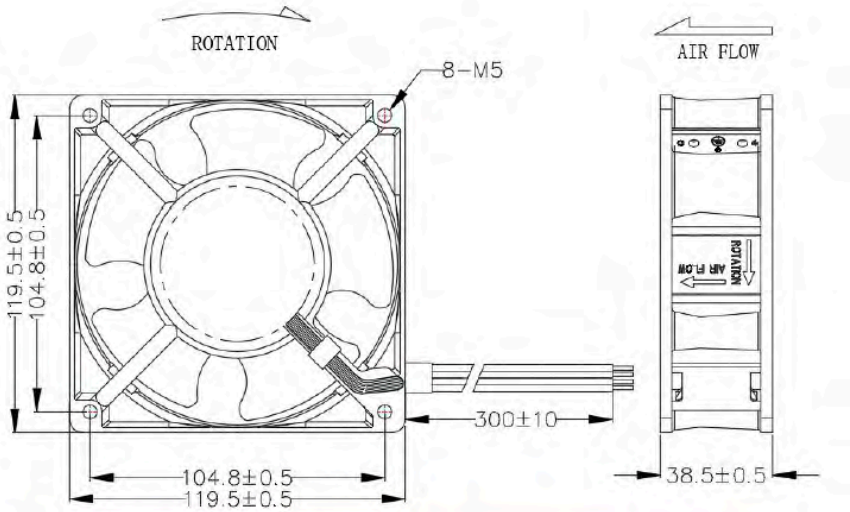
WAKEFIELDTHERMAL

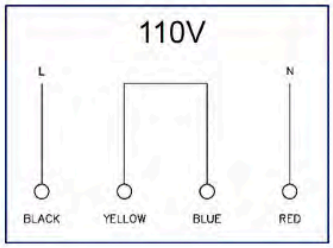


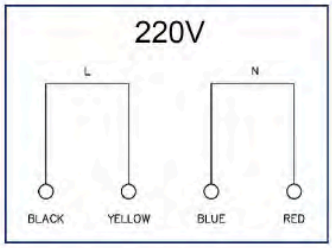
- FRAME: Aluminum Alloy; IMPELLER: PBT (94V-0)
- CONNECTION: Lead wires
- WEIGHT: 530g
- SAFETY: UL / CUL / CE

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC12038DVH2B-W	2 BALL	110/220	50/60	21/19	2700/3100	2.68 / 3.25	95 / 115	8.38 / 9.65	0.33 / 0.38	38 / 43









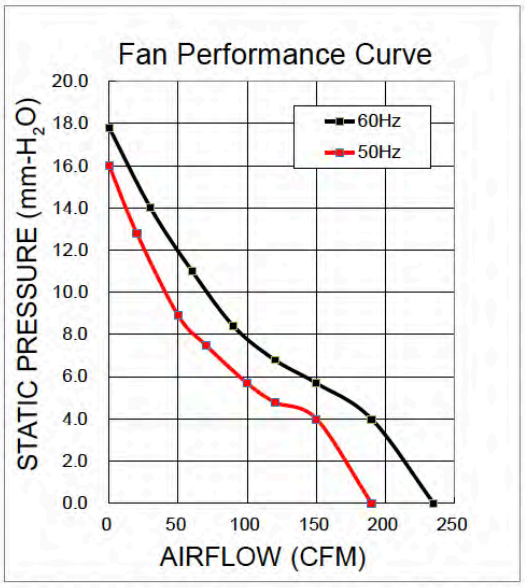
AC FAN DUAL VOLTAGE

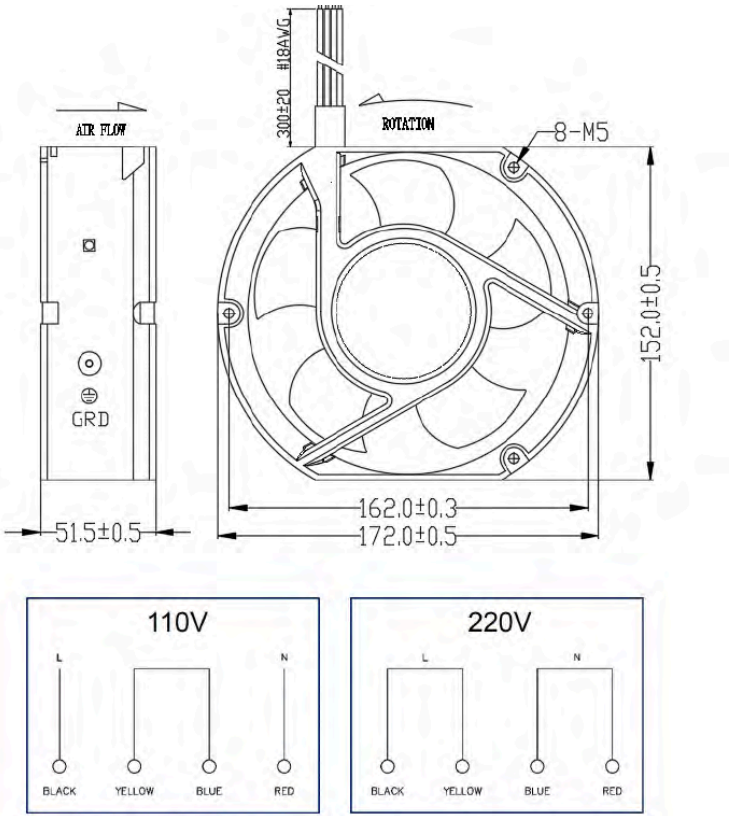
172X51MM



- FRAME: Aluminum Alloy; IMPELLER : PBT (94V-0)
- CONNECTION: Lead wires
- WEIGHT: 1050g
- SAFETY: UL / CUL / CE

Wakefield Part Number	Bearing System	Rated Voltage (VAC)	Frequency (Hz)	Input Power (W)	Rated Speed (RPM)	Maximum Air Flow		Maximum Static Pressure		Noise Level
						m^3/min	CFM	mm-H_2O	In-H_2O	dB(A)
AC17251DVH2B-W	2 BALL	110/220	50/60	35/32	2700/3100	5.38 / 6.65	190 / 235	16.0 / 17.8	0.63 / 0.70	50 / 52





NOTES

NOTES

WAKEFIELDTHERMAL

THERMAL SOLUTIONS SEGMENT

INDUSTRIAL TECHNOLOGIES GROUP
THE HEICO COMPANIES

120 NORTHWEST BLVD, NASHUA, NH 03063
PHONE: (603) 635-2800 | FAX: (603) 635-1900
COMMUNICATIONS@WAKEFIELDTHERMAL.COM
WAKEFIELDTHERMAL.COM

© 2025 WAKEFIELD THERMAL, INC. ALL RIGHTS RESERVED.