

ENGINEERED AIRFLOW · RELIABLE THERMAL CONTROL

AC Metal Impeller Fan

AC METAL IMPELLER FAN

From mains supply and system impedance to mounting and environmental conditions — traceable, selectable cooling solutions.



COMPANY PROFILE

PROFILE OF THE COMPANY

Company Name

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Product Lines

AC Axial Fans • DC Brushless Fans • DC Blowers
EC Fans • Frameless DC Fans • Filters & Accessories

Certifications

ETL (Intertek) • CE • UL • RoHS • IP55/IP68 rated products

1984

Founded

8,000 m²

Plant Area

150+

Employees

50,000+

Monthly Capacity
(pcs)

About Us

Founded in New Taipei, Taiwan in 1984, MAX FLOW has spent more than four decades developing, manufacturing and exporting cooling fans. With in-house tooling, motor winding and impeller moulding, our fans serve industrial control cabinets, telecom racks, power supplies, medical equipment, automotive electronics and home appliances.

We operate on a customer-first, quality-first principle and offer OEM/ODM customisation — from blade angle and speed curve to lead wires, connectors and ingress protection, every detail can be tailored to the thermal requirement.

Export markets include Japan, the United States, Germany, Italy, Korea, India, Israel, Türkiye and Spain.

MANUFACTURING & QUALITY VERIFICATION

PROCESS AND PRODUCT ASSURANCE

From assembly and performance measurement to environmental reliability verification, a traceable process and product confirmation flow. Final ratings for each model are governed by the MAX FLOW complete approval sheet.



PRODUCTION · ASSEMBLY · INSPECTION

Assembly & In-Process Inspection

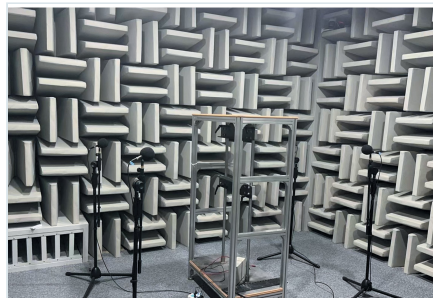
Assembly, wiring and pre-shipment inspection to a defined work flow, supporting the AC axial fan series and custom specifications.



AIRFLOW PERFORMANCE

Airflow & Static Pressure Test

Confirm the P-Q curve and the actual operating point by airflow / static-pressure measurement.



ACOUSTIC VERIFICATION

Low-Background-Noise Acoustic Test

Measures running noise and spectral behaviour in an acoustic test environment.



ENVIRONMENTAL RELIABILITY

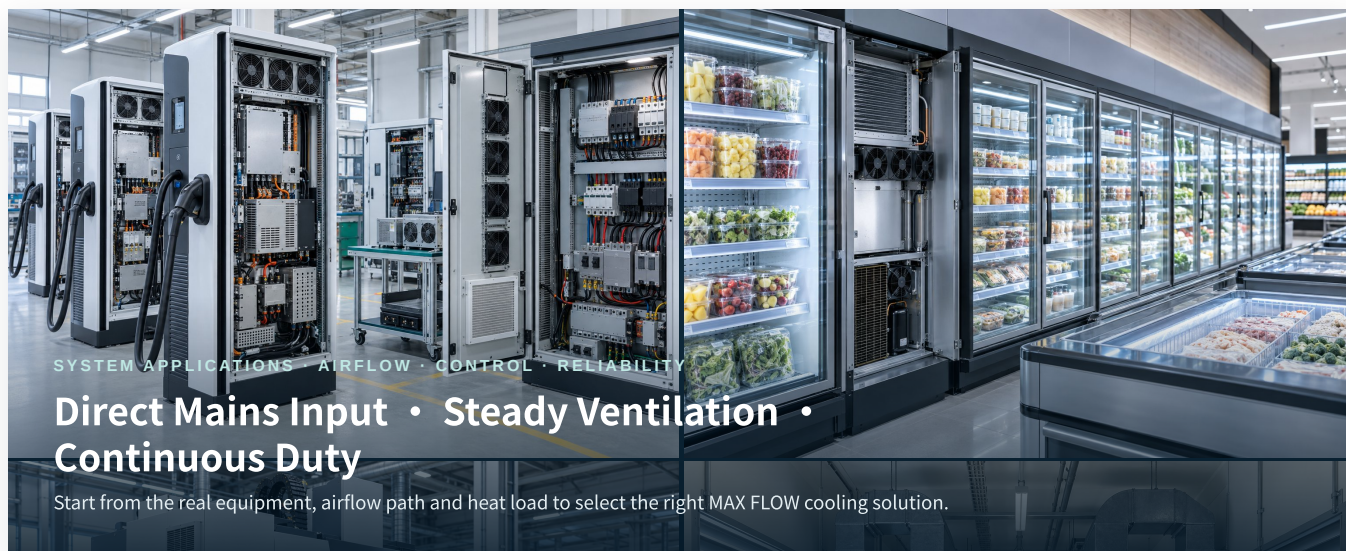
Environmental & Reliability Test

Verifies environmental capability with temperature/humidity, dust and weathering equipment.

Test conditions, tolerances and pass criteria follow the individual product approval sheet and project requirements.

APPLICATION LANDSCAPE

WHERE MAX FLOW FANS ARE USED



Representative Series

REFERENCE SERIES



MF12038-IP55
120 x 120 x 38mm (4.71 x 4.71 x 1.50inch)



MF17238
172 x 172 x 38 mm



MF17255
172 x 172 x 55 mm



EV CHARGING & DISTRIBUTION

01

Charging Equipment & Switchgear

Continuous cooling for charging posts, charging cabinets, power conversion equipment and switchgear.



REFRIGERATED DISPLAY

02

Commercial Refrigerated Display

Circulation and heat rejection inside refrigerated display cases, chillers and chest freezers.



CNC & INDUSTRIAL MACHINERY

03

CNC & Large Machine Tools

Steady cooling for CNC machining centres, large machine tools and machine control cabinets.



ENCLOSURE VENTILATION

04

Equipment Enclosures & High-Volume Ventilation

Direct mains-powered supply and exhaust ventilation for large enclosures, equipment rooms and general equipment.

The application grouping follows the industry-standard "application → selection → specification" reading order; MAX FLOW product capability is governed by this catalog, our website and the individual approval sheets.

FOUR APPLICATIONS IN DETAIL

APPLICATION INSIGHTS

Four major application areas, grouped by equipment function and airflow condition. The notes below are planning guidance; confirm with on-unit thermal testing, the P-Q operating point and the complete part-number approval sheet.



EV CHARGING & DISTRIBUTION

Charging Equipment & Switchgear

Continuous cooling for charging posts, charging cabinets, power conversion equipment and switchgear.

- Typical Equipment**
- DC fast-charging posts, charging cabinets, rectifier modules, power conversion equipment and switchgear.
- Selection Focus**
- Select the operating point from power-module heat load, filter and duct pressure drop, and confirm continuous-duty and protection requirements.



REFRIGERATED DISPLAY

Commercial Refrigerated Display

Circulation and heat rejection inside refrigerated display cases, chillers and chest freezers.

- Typical Equipment**
- Supermarket refrigerated display cases, upright chillers, chest freezers and beverage display cabinets.
- Selection Focus**
- Confirm the internal circulation path, evaporator resistance, low-temperature and humidity conditions, noise and service access.



CNC & INDUSTRIAL MACHINERY

CNC & Large Machine Tools

Steady cooling for CNC machining centres, large machine tools and machine control cabinets.

- Typical Equipment**
- CNC machining centres, large machine tools, machine control cabinets and oil-cooling units.
- Selection Focus**
- Size the airflow from spindle, drive and control-cabinet temperature rise, allowing for oil mist, dust, vibration and continuous duty.



ENCLOSURE VENTILATION

Equipment Enclosures & High-Volume Ventilation

Direct mains-powered supply and exhaust ventilation for large enclosures, equipment rooms and general equipment.

- Typical Equipment**
- Large equipment enclosures, equipment rooms, ventilation modules and direct supply/exhaust systems.
- Selection Focus**
- Verify inlet/outlet area, guard and grille pressure drop, mounting orientation and the actual system airflow.

SIX-STEP SELECTION GUIDE

AC AXIAL FAN SELECTION WORKFLOW

Step	Check	Engineering Note
01	Rated Voltage & Frequency	Choose A1, A2 or A3 by single rated voltage, and check current, power and performance at both 50 and 60 Hz.
02	Airflow & Static Pressure	Free airflow is not the airflow inside the unit; evaluate at the intersection of the P-Q curve and the system impedance.
03	Size & Airflow Path	Check frame size, thickness, inlet/outlet clearance, guards, filters, heat exchangers and heat-sink pressure drop.
04	Noise & Operating Frequency	Compare the effect of 50 and 60 Hz on speed, airflow and noise, and confirm in the installed condition.
05	Wiring & Mounting	Confirm terminal or lead type, lead length, protective earth, mounting orientation and airflow direction; AC fans offer no signal output option.
06	Environment & Life	Confirm temperature, dust, moisture, vibration, continuous-duty conditions, bearing and the required ingress protection.

Reading the P-Q Curve

The P-Q curve describes the relationship between airflow and static pressure: as duct impedance rises, actual airflow falls. Read the 50 Hz and 60 Hz curves separately. Final selection must be verified in the equipment's real airflow path.

Please provide when requesting a quotation

Size and mounting constraints, single rated voltage, frequency, target airflow/static pressure, noise limit, environmental conditions, life target, terminal or lead type, lead length, ingress protection and estimated quantity.

PART NUMBER CODE

HOW TO READ A MAX FLOW PART NUMBER

MF Series	120 Frame	38 Thickness	A1 Voltage	H Speed	B Bearing	A Frame Material	P Impeller	T Lead-out	IP55 Protection
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Example **MF12038A1-HBAPT-IP55**

From left to right: AC fan series, frame, thickness, single rated voltage, speed, bearing, frame material, impeller, lead-out and protection suffix. AC fans have no signal output option; available combinations follow the complete part-number approval sheet.

MF	AC Axial Fan	120 / 38	120mm frame, 38mm thickness
A1	110 / 120 VAC	A2	220 / 240 VAC
A3	380 / 440 VAC	L / M / H	Low / Medium / High speed
B / S	Ball Bearing / Sleeve Bearing	A	Aluminum die-cast frame
P / A	PBT + 30% glass-fibre impeller / aluminum-magnesium alloy impeller	SQ	Identifies the square 172 × 172 frame, distinct from the 172 × 150 frame
T / L	Terminal connector / flying leads; the lead-out type follows the complete part number	-IP55	IP55 water-protected type (IPX7 also available)

■ Some models carry additional custom suffixes (lead length, connector type, ingress protection, etc.); Please confirm the complete part number with our sales team before ordering.

PRODUCT INDEX

SERIES OVERVIEW BY FRAME SIZE

Model	Size	Airflow	Speed	Noise
AC Axial Fan				
MF12038-IP55	120 x 120 x 38mm (4.71 x 4.71 x 1.50inch)	84~105 CFM	2700~3100 RPM	45~51 dB(A)
MF14050	140 x 140 x 50 mm	125.39~140.58 CFM	2800~3200 RPM	45.6~50.8 dB(A)
MF17238	172 x 172 x 38 mm	149~160 CFM	2500~2600 RPM	40~46 dB(A)
MF17251-IP55	172 x 150 x 51 mm (6.77 x 5.91 x 2.01 inch)	190~220 CFM	2800~3100 RPM	53~59 dB(A)
MF17255	172 x 172 x 55 mm	162.96 CFM	2750 RPM	56.6 dB(A)

■ Specifications subject to change without notice. See each series page for full part numbers, dimensions and P-Q curves.



MF12038-IP55

AC Axial Fan

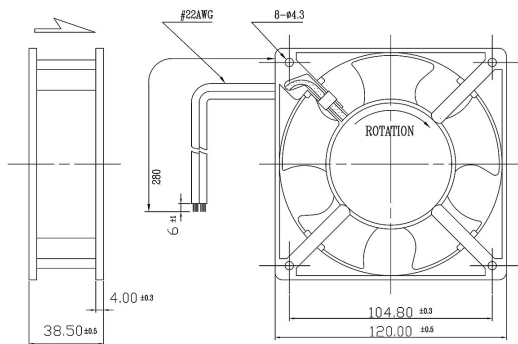
Size	120 x 120 x 38mm (4.71 x 4.71 x 1.50inch)
Voltage	110V / 220V AC, 50/60Hz
Motor	Shaded Pole
Frame	Aluminum Die-Cast
Impeller	Aluminum-magnesium alloy
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: Within -20 ~ 80°C / Sleeve Bearing: Within -10 ~ 60°C
Life Expectancy	Ball Bearing: 50,000 hours at 60°C / Sleeve Bearing: 30,000 hours at 40°C

120 x 120 x 38mm (4.71 x 4.71 x 1.50inch)

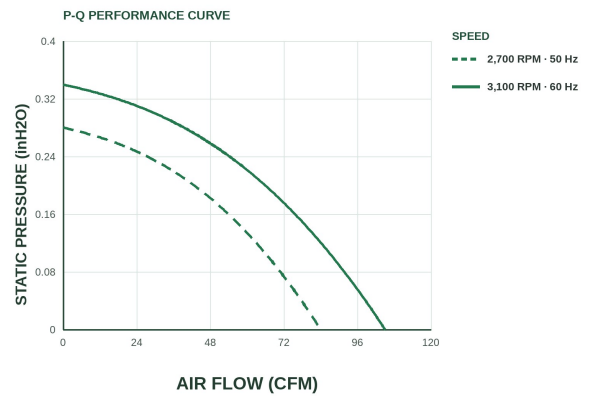
Airflow **84~105 CFM** Speed **2700~3100 RPM** Noise **45~51 dB(A)**

Part No.	Rated Voltage (V)	Frequency (Hz)	Current (A)	Input Power (W)	Speed (RPM)	Airflow (CFM)	Static Pressure (inch-H ₂ O)	Noise (dB-A)	Weight (g)
MF12038A1-HBAAT-IP55	110/120	50/60	0.27/0.24	20/24	2700/3100	84/105	0.28/0.34	45/51	520
MF12038A2-HBAAT-IP55	220/240	50/60	0.14/0.12	20/24	2700/3100	84/105	0.28/0.34	45/51	520

■ Specifications subject to change without notice. Specifications governed by the official approval sheet



DIMENSIONS (mm)



P-Q CURVE



MF14050

AC Axial Fan

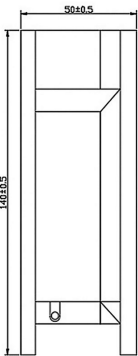
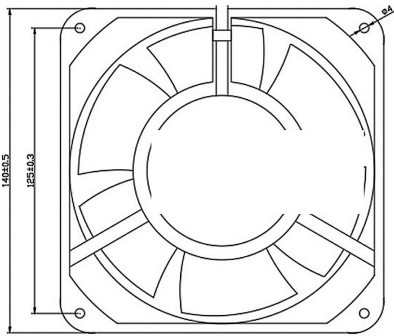
Size	140 x 140 x 50 mm
Voltage	110 / 220 VAC, 50/60 Hz
Motor	AC Motor
Frame	Aluminum Die-Cast
Impeller	Aluminum alloy impeller
Bearing Type	Ball Bearing
Weight	353 g

140 x 140 x 50 mm

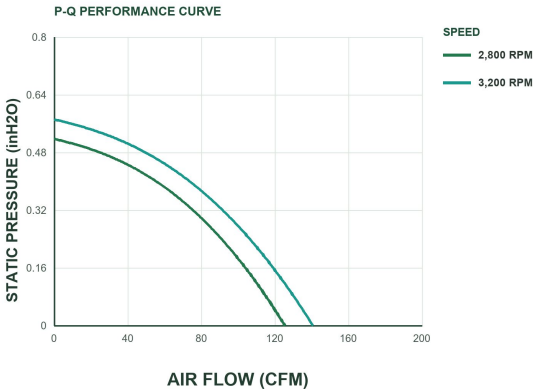
Airflow 125.39~140.58 CFM Speed 2800~3200 RPM Noise 45.6~50.8 dB(A)

Model	Rated Voltage (V)	Frequency (Hz)	Current (A)	Input Power (W)	Speed (RPM)	Airflow (CFM)	Static Pressure (inch-H ₂ O)	Noise (dB-A)	Weight (g)
MF14050A1-HBAAL	110/120	50/60	0.36*	34	3200	140.58	0.572	50.8	353
MF14050A1-MBAAL	110/120	50/60	0.4*	30	2800	125.39	0.518	45.6	353
MF14050A2-HBAAL	220/240	50/60	0.18	34	3200	140.58	0.572	50.8	353
MF14050A2-MBAAL	220/240	50/60	0.20	30	2800	125.39	0.518	45.6	353

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- *Current is a design reference scaled from the equivalent voltage rating; production data follows the complete part-number approval sheet.



DIMENSIONS (mm)



P-Q CURVE



MF17238

AC Axial Fan

Size	172 x 172 x 38 mm
Voltage	110 / 220 VAC, 50/60 Hz
Motor	AC Motor
Frame	Aluminum Die-Cast
Impeller	Aluminum alloy impeller
Bearing Type	Ball Bearing
Weight	760 g

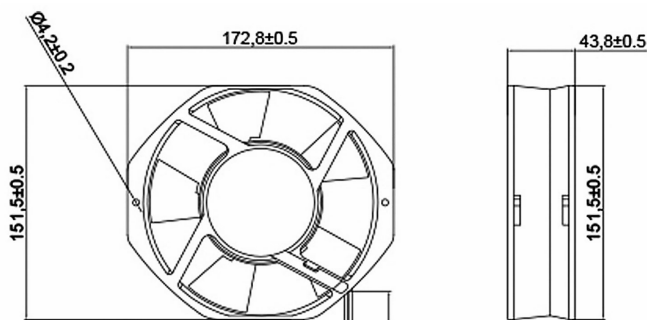
172 x 172 x 38 mm

Airflow **149~160 CFM** Speed **2500~2600 RPM** Noise **40~46 dB(A)**

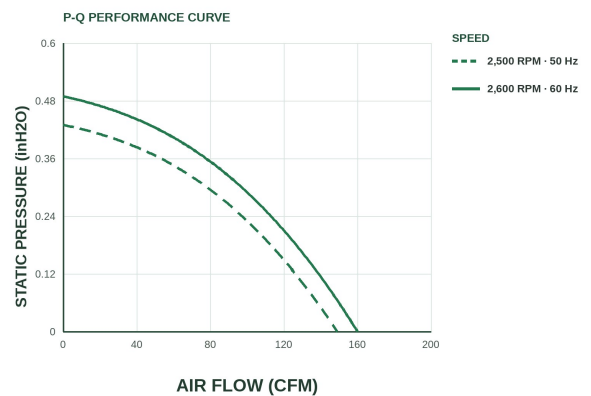
Model	Rated Voltage (V)	Frequency (Hz)	Current (A)	Input Power (W)	Speed (RPM)	Airflow (CFM)	Static Pressure (inch-H ₂ O)	Noise (dB-A)	Weight (g)
MF17238A1-HBAAL	110/120	50/60	0.32/0.36*	27.8/29.4	2500/2600	149/160	0.43/0.49	40/46	760
MF17238A2-HBAAL	220/240	50/60	0.16/0.18	27.8/29.4	2500/2600	149/160	0.43/0.49	40/46	760

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■ *Current is a design reference scaled from the equivalent voltage rating; production data follows the complete part-number approval sheet.



DIMENSIONS (mm)



P-Q CURVE



MF17251-IP55

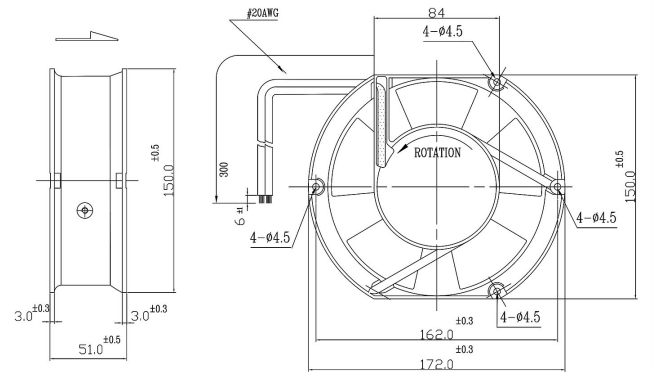
AC Axial Fan

Size	172 x 150 x 51 mm (6.77 x 5.91 x 2.01 inch)
Voltage	110V / 220V AC, 50/60Hz
Motor	Shaded Pole
Frame	Aluminum Die-Cast
Impeller	Aluminum-magnesium alloy
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: Within -20 ~ 80°C / Sleeve Bearing: Within -10 ~ 60°C
Life Expectancy	Ball Bearing: 50,000 hours at 60°C / Sleeve Bearing: 30,000 hours at 40°C

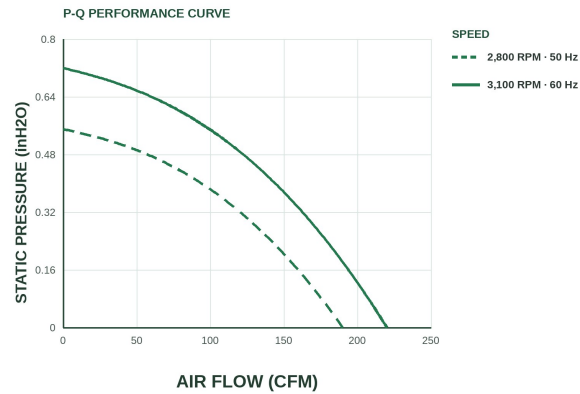
172 x 150 x 51 mm (6.77 x 5.91 x 2.01 inch) Airflow 190~220 CFM Speed 2800~3100 RPM Noise 53~59 dB(A)

Part No.	Rated Voltage (V)	Frequency (Hz)	Current (A)	Input Power (W)	Speed (RPM)	Airflow (CFM)	Static Pressure (inch-H ₂ O)	Noise (dB-A)	Weight (g)
MF17251A1-HBAAT-IP55	110/120	50/60	0.55/0.48	45/52	2800/3100	190/220	0.55/0.72	53/59	930
MF17251A2-HBAAT-IP55	220/240	50/60	0.35/0.28	45/52	2800/3100	190/220	0.55/0.72	53/59	930

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DIMENSIONS (mm)



P-Q CURVE



MF17255

AC Axial Fan

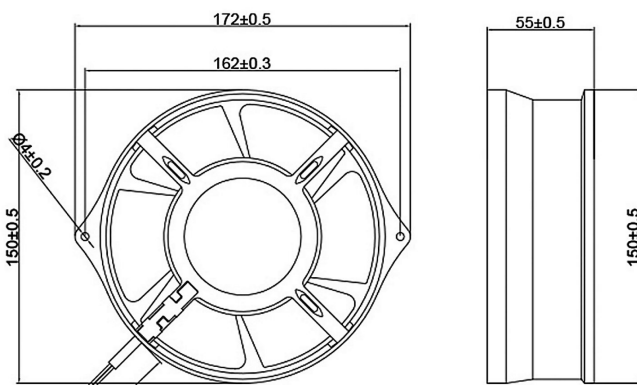
Size	172 x 172 x 55 mm
Voltage	110 / 220 / 380 VAC, 50/60 Hz
Motor	AC Motor
Frame	Aluminum Die-Cast
Impeller	Aluminum alloy impeller
Bearing Type	Ball Bearing
Weight	950 g

172 x 172 x 55 mm

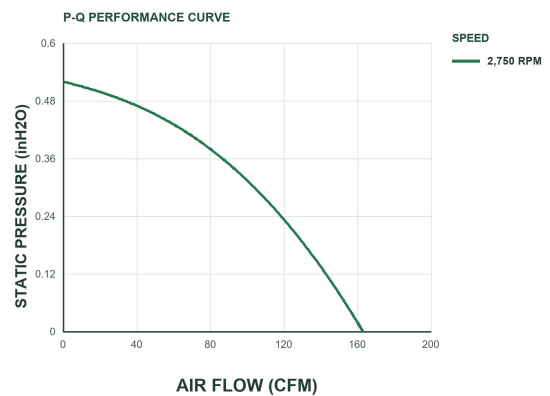
Airflow **162.96 CFM** Speed **2750 RPM** Noise **56.6 dB(A)**

Model	Rated Voltage (V)	Frequency (Hz)	Current (A)	Input Power (W)	Speed (RPM)	Airflow (CFM)	Static Pressure (inch-H ₂ O)	Noise (dB-A)	Weight (g)
MF17255A1-HBAAL	110/120	50/60	0.23	33.3	2750	162.96	0.52	56.6	950
MF17255A2-HBAAL	220/240	50/60	0.23	33.3	2750	162.96	0.52	56.6	950
MF17255A3-HBAAL	380/400	50/60	0.23	33.3	2750	162.96	0.52	56.6	950

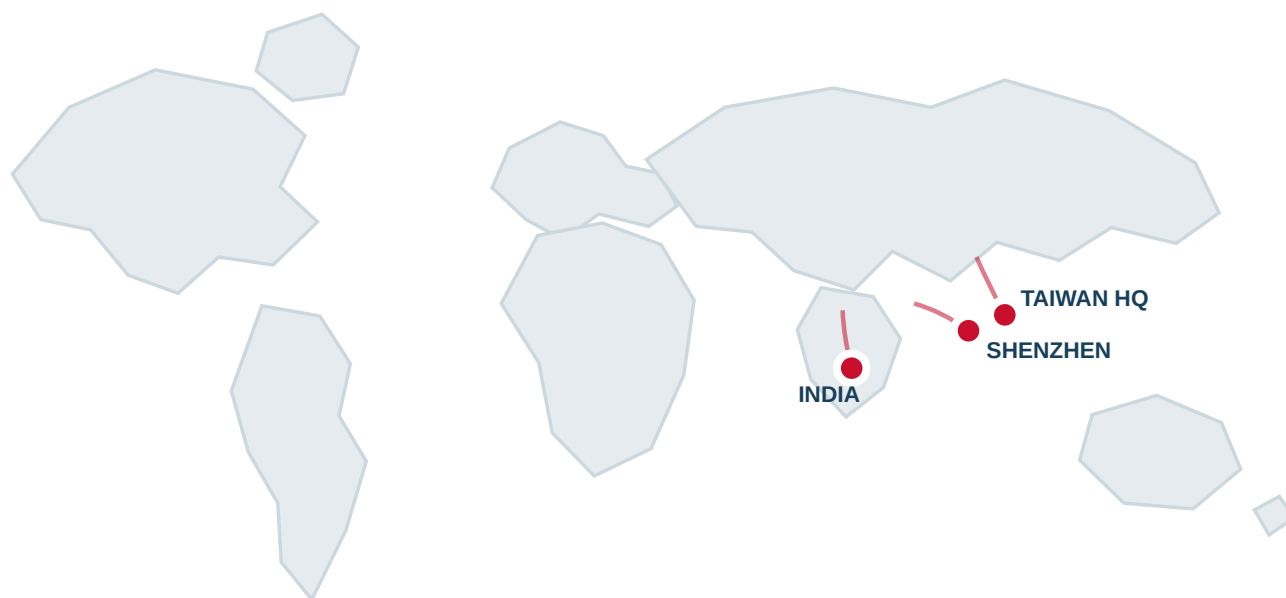
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DIMENSIONS (mm)



P-Q CURVE



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