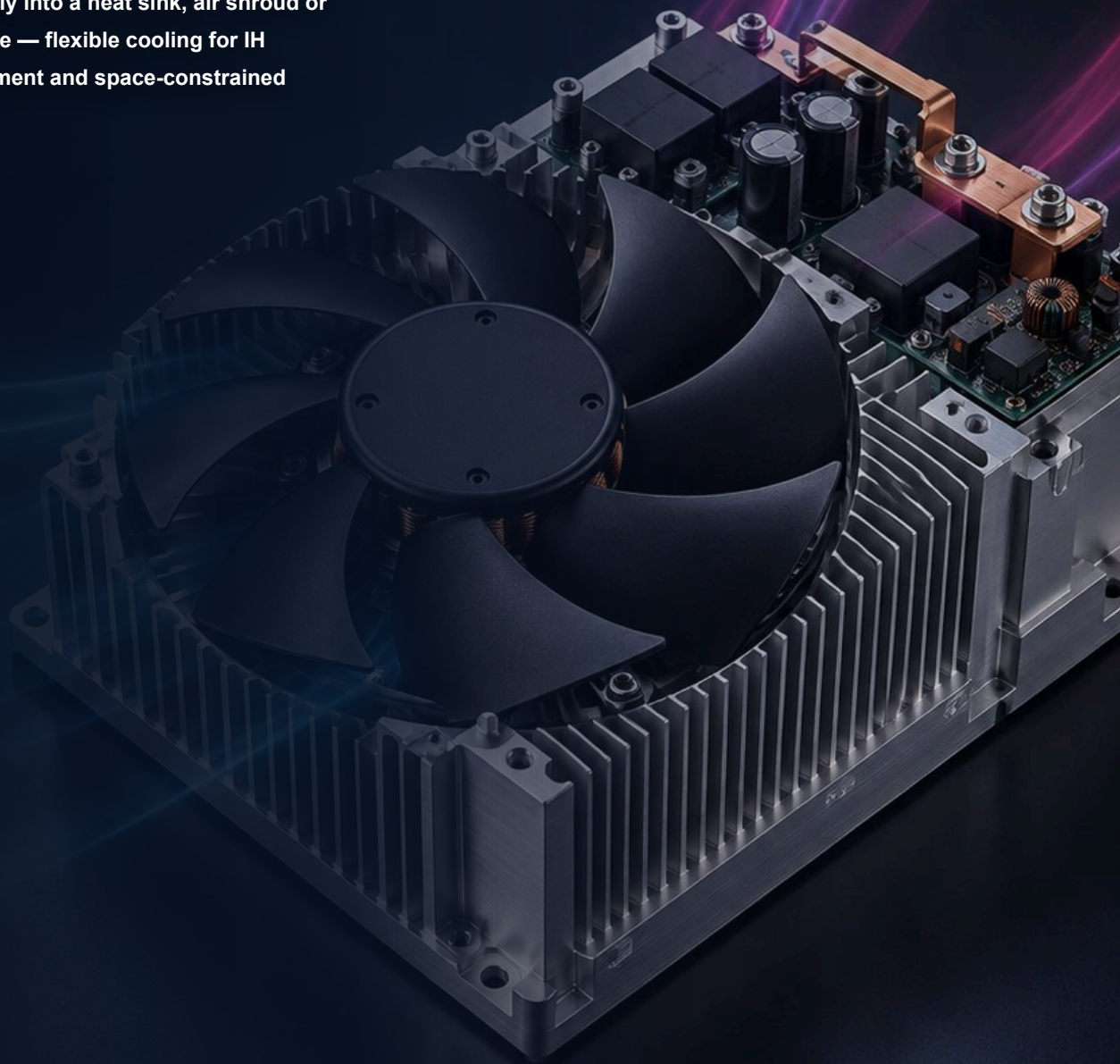


ENGINEERED AIRFLOW · RELIABLE THERMAL CONTROL

FRAMELESS DC FAN

With no conventional frame, the impeller integrates directly into a heat sink, air shroud or product structure — flexible cooling for IH induction equipment and space-constrained products.



COMPANY PROFILE

PROFILE OF THE COMPANY

Company Name

MAX FLOW Electric Machinery Co., Ltd.

Address

No.19, Ln. 349, Huacheng Rd., Xinzhuang Dist., New Taipei City 242, Taiwan

Contact

Tel +886-2-8521-8198 Fax +886-2-8521-8201

E-mail sales@max-flow.com Web www.max-flow.com D-U-N-S 65-675-1455

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.

APPLICATION LANDSCAPE

WHERE MAX FLOW FANS ARE USED



Representative Series

REFERENCE SERIES



MFD3010Y
28 x 28 x 10 mm



MFD8015Y
Ø75 x 15.5 mm



MFD18025Y
Ø168.5 x 23 mm



IH INDUCTION HEATING

IH Induction Heating Equipment

Cooling of coils, power devices and control boards in IH cooktops and commercial induction heating equipment.

01



EMBEDDED POWER & THERMAL MODULES

Embedded Power & Cooling Modules

Integrates directly into a heat sink, air shroud or custom structure, reducing the space taken by a frame.

02



PROJECTION & OPTICAL SYSTEMS

Projection & Optical Equipment

Creates directed airflow for light sources, imaging modules and dense heat sinks within a limited volume.

03



COMPACT TELECOM & EDGE DEVICES

Small-Cell & Edge Equipment

High-density cooling for small cells, network gateways and edge computing equipment.

04



AUTOMOTIVE COMPUTE & CONTROL

In-Vehicle Infotainment & Control Electronics

Confined-space cooling in vehicle computing, cabin electronics and communication control modules.

05



SLIM SMART APPLIANCES

Slim Smart Appliances

Embedded airflow for robot vacuums, charging docks and slim smart appliances.

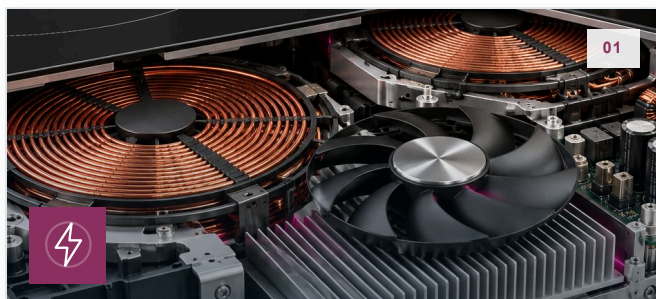
06

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.

SIX APPLICATIONS IN DETAIL | 01-04

APPLICATION INSIGHTS

Six 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.



IH INDUCTION HEATING

IH Induction Heating Equipment

Cooling of coils, power devices and control boards in IH cooktops and commercial induction heating equipment.

Typical Equipment IH cooktops, commercial induction heating equipment, induction control boards and power modules.

Selection Focus Confirm power-device and coil heat load, inlet/outlet clearance, oil-vapour environment, noise and post-shutdown run-on cooling.



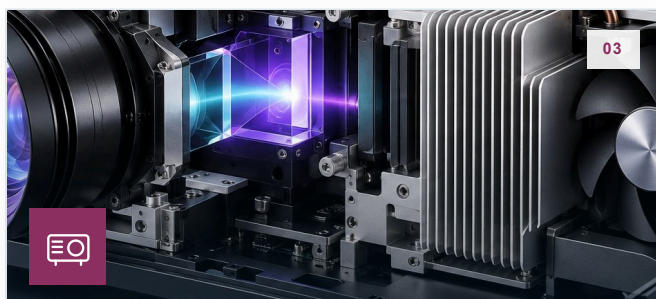
EMBEDDED POWER & THERMAL MODULES

Embedded Power & Cooling Modules

Integrates directly into a heat sink, air shroud or custom structure, reducing the space taken by a frame.

Typical Equipment Custom heat sinks, power conversion modules, charging modules and high-density power electronics.

Selection Focus Impeller and air guide must be designed together: confirm safety clearance, mounting tolerance, heat-sink impedance and the real P-Q operating point.



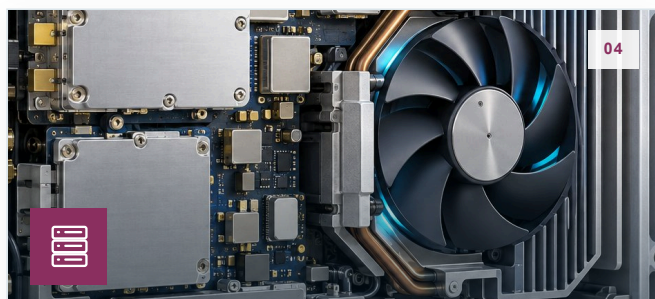
PROJECTION & OPTICAL SYSTEMS

Projection & Optical Equipment

Creates directed airflow for light sources, imaging modules and dense heat sinks within a limited volume.

Typical Equipment Laser projectors, digital projection equipment, light-source modules and imaging systems.

Selection Focus Set the P-Q operating point from light-source heat load, fin impedance, discharge direction and available space.



COMPACT TELECOM & EDGE DEVICES

Small-Cell & Edge Equipment

High-density cooling for small cells, network gateways and edge computing equipment.

Typical Equipment Small cells, outdoor communication units, network gateways and edge computing equipment.

Selection Focus Assess heat density in the small enclosure, airflow short-circuiting, ambient temperature, noise, service life and status feedback.

SIX APPLICATIONS IN DETAIL | 05-06

APPLICATION INSIGHTS

Six 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.



AUTOMOTIVE COMPUTE & CONTROL

In-Vehicle Infotainment & Control Electronics

Confined-space cooling in vehicle computing, cabin electronics and communication control modules.

Typical Equipment Automotive infotainment, computing controllers, cabin electronics and communication control modules.

Selection Focus Confirm voltage, temperature, vibration, noise, harness routing and fan mounting to the automotive project requirements.



SLIM SMART APPLIANCES

Slim Smart Appliances

Embedded airflow for robot vacuums, charging docks and slim smart appliances.

Typical Equipment Robot vacuums, charging docks, slim kitchen appliances and smart-home control equipment.

Selection Focus Confirm available thickness, inlet/outlet openings, dust and oil vapour, acoustics, service access and the overall airflow path.

SIX-STEP SELECTION GUIDE

FRAMELESS FAN INTEGRATION WORKFLOW

Step	Check	Engineering Note
01	Power Supply & Consumption	Confirm rated voltage, operating voltage range, start-up current, wiring layout and power-supply headroom.
02	Target Airflow & Static Pressure	Set the operating point from heat load and system impedance; free airflow is not the actual airflow inside the unit.
03	Impeller Integration & Safety Clearance	Verify impeller diameter, height, centring, mounting tolerance and the rotating envelope so that wires, structure or debris cannot interfere.
04	Heat Sink & Air Guide	Plan inlet/outlet area, fin direction, guards, ducting and recirculation control together, and leave room for assembly and service.
05	Speed Control & Status Feedback	Confirm speed control and output signals per the actual model, together with wiring, terminals, lead length and host control logic.
06	Environment & Reliability	Confirm temperature, oil mist, dust, moisture, vibration, mounting attitude, service life and the required protection.

Re-confirm the P-Q operating point after integration

For a frameless fan the air guide and mounting structure are formed by the end product: fin pitch, guards, inlet/outlet openings and recirculation all change real performance. Catalog curves are for preliminary selection; confirm by thermal and airflow testing in the fully assembled condition.

Please provide when requesting a quotation

Installation space or 3D/dimensional drawing, heat load and temperature target, target airflow/static pressure, supply conditions, speed and noise limits, air-guide structure, environmental conditions, life target, control/output signals and estimated quantity.

CONTROL & MONITORING SIGNALS

SIGNAL DEFINITIONS AND SYSTEM NOTES

Signal	Direction	Function	Description
PWM	Control Input	PWM speed control	The industry-typical control frequency is 25 kHz $\pm$ 10%. A 0% duty cycle may mean minimum speed or full stop, so a 20–100% control window is commonly recommended; confirm on the complete part-number approval sheet.
VPWM	Control Input	DC voltage speed control	EC series speed is set by an external DC control voltage, commonly 0–5 V or 0–10 V. The control line must share ground with the fan supply negative; input range, wire colour, impedance and minimum speed follow the complete part-number approval sheet.
FG / TACH	Status Output	Reports speed as a pulse train	Typically an open-collector/open-drain output with an external 4.7–10 k Ω pull-up; usually 2 pulses per revolution, RPM = FG Hz $\times$ 60 $\div$ 2. Pull up to the host logic supply, never directly to the fan supply.
RDH / RDL	Alarm Output	Locked-Rotor Alarm Rotation Detector / Locked-rotor Alarm	RD is a locked-rotor status output — it does not indicate reverse rotation. RDH goes high when the fan is locked or stopped; RDL goes low. Usually an open-collector output; start-up delay and actual levels follow the complete part-number approval sheet.
LD	Alarm Output	Life Detection Life / Low-Speed Detection	Detects speed decay or fan ageing: the output goes low when speed falls to roughly 70% of rated. LD is not the same function as the RD locked-rotor alarm and is available on selected models only.

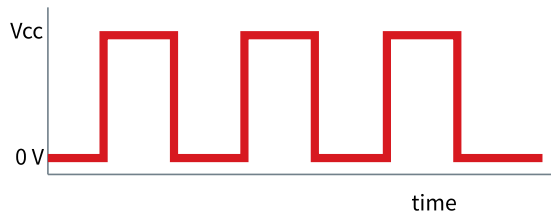
Signal notes: RDH and RDL are two output polarities of the same locked-rotor alarm; LD is life/low-speed detection. The three are not interchangeable, and wire colour must never be used to identify a function. PWM/VPWM describe series capability — the actual model, wire colours and control range follow the approval sheet. A ● on a product page means the MAX FLOW series data flags that function; "not stated/to be confirmed" does not mean unsupported.

TYPICAL SIGNAL DIAGRAMS

FUNCTION CONCEPT DIAGRAMS

FG / TACH

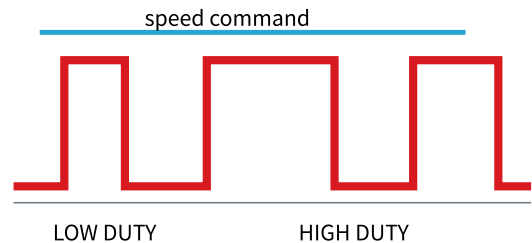
Tachometer Pulse Output



A continuous pulse train lets the host calculate speed. Usually an open-collector output; pulses per revolution, pull-up voltage and resistor must be confirmed per model.

PWM

PWM speed control input



Duty cycle sets the speed. Frequency, amplitude, usable duty range, minimum speed and input wiring must not be treated as universal values.

VPWM

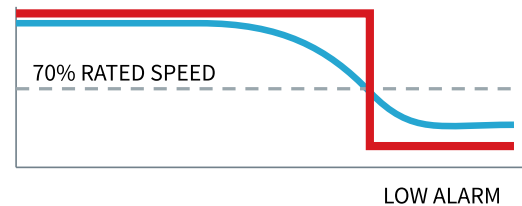
DC voltage speed control input



The external DC control voltage is applied to the VPWM lead and shares ground with the supply negative; speed rises from minimum to maximum with the control voltage. Wire colour and range follow the approval sheet.

LD

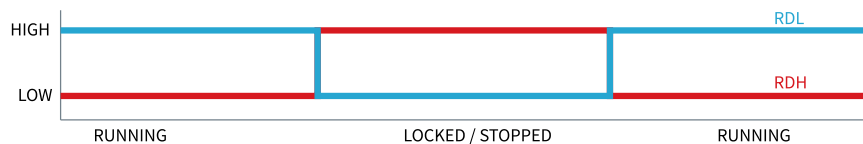
Life Detection life / low-speed detection output



The output goes low when speed falls to roughly 70% of rated, indicating performance decay; LD differs from the RD locked-rotor alarm.

RDH / RDL

Two output polarities of the locked-rotor alarm



RDH is high on lock; RDL is low on lock. They differ only in polarity and both indicate whether the fan is locked or stopped; start-up delay and electrical ratings follow the complete part-number approval sheet.

How to read these diagrams: These are MAX FLOW function concept diagrams, not fixed electrical parameters for every series. Before design, obtain the wire colours, ratings, pull-up conditions, output polarity and failure states for the complete part number.

PART NUMBER CODE

HOW TO READ A MAX FLOW PART NUMBER

MFD Series	12025 Size	L Bracket	D1 Voltage	H Speed	B Bearing	PF Signal	IP68 Protection
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Example **MFD12025LD1-HBPF-IP68**

From left to right: MFD series, size code, bracket code, voltage code, speed code, bearing code, signal code and ingress protection. The code order matches the DC fan series, except that frameless fans add a bracket letter. Available combinations follow the complete part-number approval sheet.

MFD	Frameless DC fan series	12025	Size code: 120mm frame, 25mm thickness
L	Rectangular-bracket series: MFD9225L/MFD12025L/MFD12038L/MFD15050L	Y	Round or other bracket structures; remaining letters are distinguished by the product drawing
D05	5 VDC	D1	12 VDC
D2	24 VDC	D4	48 VDC
L / M / H	Low / Medium / High speed	LM / HL / HV	Two-letter speed codes are sub-steps within the same speed class (also LL/LH/LV/ML/VL/VM/VH/HH); refer to each series' part-number table
B / S	Ball Bearing / Sleeve Bearing	PF / PR	PF = PWM + FG; PR = PWM + RD
L P F R	Signal letters always follow the order L, P, F, R — L = LD, P = PWM, F = FG, R = RD	R / RDL	R defaults to an RDH locked-rotor output with no added H; only the low-level type is marked RDL
IP55 / IP68	Ingress-protection suffix; applies only to complete part numbers with the corresponding certification or approval sheet		

■ 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
Frameless DC Fan				
MFD3010Y	28 x 28 x 10 mm	2.21~4.49 CFM	5000~11000 RPM	20.8~34 dB(A)
MFD3510Y	32 x 32 x 12.2 mm	3.91~7.41 CFM	7000~14000 RPM	28~44.7 dB(A)
MFD4010Y	37.5 x 37.5 x 10.5 mm	3.93~7.02 CFM	4500~8500 RPM	24.6~39.5 dB(A)
MFD5010Y	Ø46 x 10.5 mm	6.34~10.9 CFM	4000~6500 RPM	22.1~40 dB(A)
MFD6010Y	Ø55 x 10.5 mm	11.4~19.4 CFM	3000~5000 RPM	25.3~39 dB(A)
MFD7015Y	Ø64 x 15.5 mm	13.9~29.8 CFM	2000~4500 RPM	22.9~38.9 dB(A)
MFD8015Y	Ø75 x 15.5 mm	22.8~36.6 CFM	2000~3500 RPM	30.4~40.3 dB(A)
MFD9225L	112 x 85.5 x 24.5 mm	31.9~66.2 CFM	2500~4500 RPM	27.5~46.4 dB(A)
MFD12025L	145.7 x 108 x 24.5 mm	64.2~107 CFM	1500~3000 RPM	30.5~47.4 dB(A)
MFD12038L	159.6 x 111 x 38 mm	96.55~209.92 CFM	2500~5500 RPM	43.4~65.2 dB(A)
MFD15050L	159 x 142 x 41 mm	172.21~361.69 CFM	2500~5000 RPM	56.1~71.4 dB(A)
MFD18025Y	Ø168.5 x 23 mm	89~123.8 CFM	1000~1800 RPM	24.5~30 dB(A)

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



MFD3010Y

Frameless DC Fan

Size	28 x 28 x 10 mm
Voltage	5V / 12V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

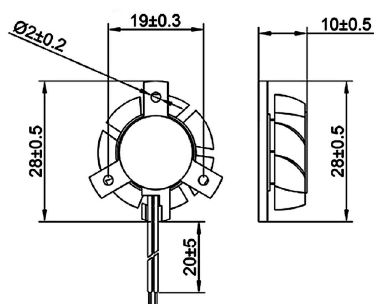
28 x 28 x 10 mm

Airflow **2.21~4.49 CFM** Speed **5000~11000 RPM** Noise **20.8~34 dB(A)**

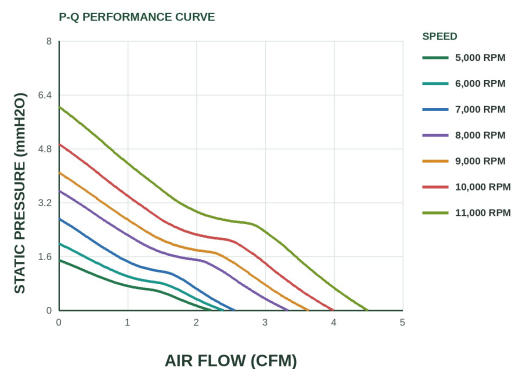
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent options...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD3010YD05-L	5	1.8 ~ 6.8	0.14	0.72	5000	2.21	1.49	20.8
MFD3010YD05-LM	5	1.8 ~ 6.8	0.15	0.75	6000	2.39	1.98	22.7
MFD3010YD05-M	5	1.8 ~ 6.8	0.17	0.84	7000	2.55	2.72	24
MFD3010YD05-LH	5	1.8 ~ 6.8	0.18	0.9	8000	3.33	3.55	26.5
MFD3010YD05-H	5	1.8 ~ 6.8	0.19	0.96	9000	3.63	4.09	28.8
MFD3010YD05-HL	5	1.8 ~ 6.8	0.2	1	10000	3.99	4.94	30.4
MFD3010YD05-HH	5	1.8 ~ 6.8	0.22	1.08	11000	4.49	6.05	34
MFD3010YD1-L	12	7.0 ~ 13.5	0.06	0.72	5000	2.21	1.49	20.8
MFD3010YD1-LM	12	7.0 ~ 13.5	0.07	0.84	6000	2.39	1.98	22.7
MFD3010YD1-M	12	7.0 ~ 13.5	0.08	0.96	7000	2.55	2.72	24
MFD3010YD1-LH	12	7.0 ~ 13.5	0.09	1.08	8000	3.33	3.55	26.5
MFD3010YD1-H	12	7.0 ~ 13.5	0.1	1.2	9000	3.63	4.09	28.8
MFD3010YD1-HL	12	7.0 ~ 13.5	0.12	1.44	10000	3.99	4.94	30.4
MFD3010YD1-HH	12	7.0 ~ 13.5	0.13	1.56	11000	4.49	6.05	34

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



DIMENSIONS (mm)



P-Q CURVE

MAX FLOW

www.max-flow.com



MFD3510Y

Frameless DC Fan

Size	32 x 32 x 12.2 mm
Voltage	5V / 12V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

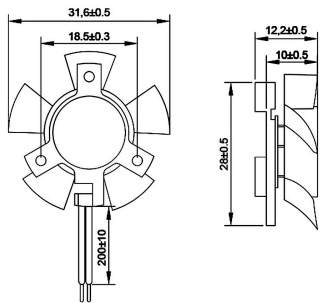
32 x 32 x 12.2 mm

Airflow 3.91~7.41 CFM Speed 7000~14000 RPM Noise 28~44.7 dB(A)

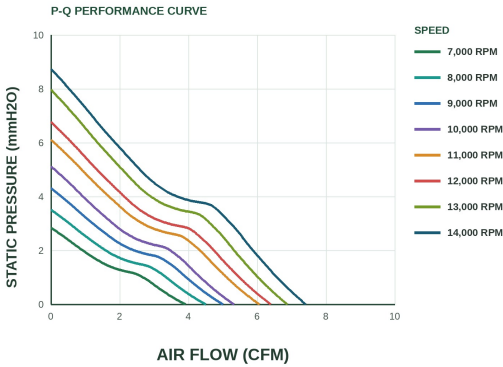
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent options...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD3510YD05-M	5	1.8 ~ 6.8	0.1	0.5	7000	3.91	2.84	28
MFD3510YD05-ML	5	1.8 ~ 6.8	0.12	0.6	8000	4.5	3.51	31
MFD3510YD05-H	5	1.8 ~ 6.8	0.13	0.65	9000	5	4.31	34.4
MFD3510YD05-LH	5	1.8 ~ 6.8	0.14	0.7	10000	5.32	5.12	37.1
MFD3510YD05-HH	5	1.8 ~ 6.8	0.16	0.8	11000	6.06	6.11	39.4
MFD3510YD05-HL	5	1.8 ~ 6.8	0.18	0.9	12000	6.39	6.77	41
MFD3510YD05-VH	5	1.8 ~ 6.8	0.2	1	13000	6.87	7.97	42.6
MFD3510YD05-HV	5	1.8 ~ 6.8	0.22	1.1	14000	7.41	8.74	44.7
MFD3510YD1-M	12	7.0 ~ 13.5	0.042	0.5	7000	3.91	2.84	28
MFD3510YD1-ML	12	7.0 ~ 13.5	0.05	0.6	8000	4.5	3.51	31
MFD3510YD1-H	12	7.0 ~ 13.5	0.054	0.65	9000	5	4.31	34.4
MFD3510YD1-LH	12	7.0 ~ 13.5	0.058	0.7	10000	5.32	5.12	37.1
MFD3510YD1-HH	12	7.0 ~ 13.5	0.067	0.8	11000	6.06	6.11	39.4
MFD3510YD1-HL	12	7.0 ~ 13.5	0.075	0.9	12000	6.39	6.77	41
MFD3510YD1-VH	12	7.0 ~ 13.5	0.083	1	13000	6.87	7.97	42.6
MFD3510YD1-HV	12	7.0 ~ 13.5	0.092	1.1	14000	7.41	8.74	44.7

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



DIMENSIONS (mm)



P-Q CURVE



MFD4010Y

Frameless DC Fan

Size	37.5 x 37.5 x 10.5 mm
Voltage	5V / 12V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

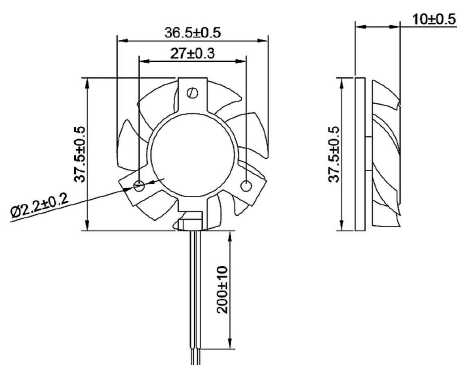
37.5 x 37.5 x 10.5 mm

Airflow **3.93~7.02 CFM** Speed **4500~8500 RPM** Noise **24.6~39.5 dB(A)**

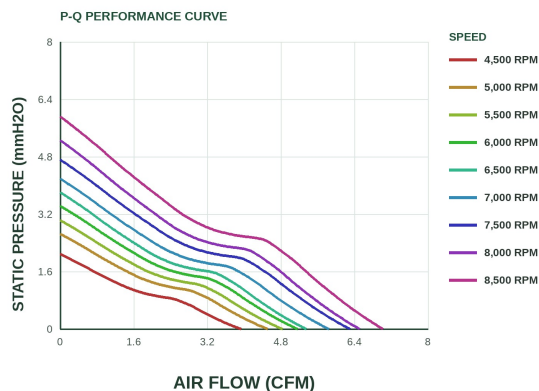
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent option...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD4010YD05-L	5	1.8 ~ 6	0.072	0.36	4500	3.93	2.09	24.6
MFD4010YD05-LV	5	1.8 ~ 6	0.096	0.48	5000	4.51	2.65	28.5
MFD4010YD05-LM	5	1.8 ~ 6	0.12	0.6	5500	4.83	3.03	30
MFD4010YD05-M	5	1.8 ~ 6	0.144	0.72	6000	5.16	3.43	31
MFD4010YD05-ML	5	1.8 ~ 6	0.168	0.84	6500	5.35	3.81	33.4
MFD4010YD05-H	5	1.8 ~ 6	0.19	0.96	7000	5.84	4.19	35.3
MFD4010YD05-HL	5	1.8 ~ 6	0.22	1.08	7500	6.3	4.72	37.1
MFD4010YD05-HH	5	1.8 ~ 6	0.24	1.2	8000	6.51	5.26	38
MFD4010YD05-VH	5	1.8 ~ 6	0.26	1.32	8500	7.02	5.92	39.5
MFD4010YD1-L	12	8.5 ~ 13.5	0.03	0.36	4500	3.93	2.09	24.6
MFD4010YD1-LV	12	8.5 ~ 13.5	0.04	0.48	5000	4.51	2.65	28.5
MFD4010YD1-LM	12	8.5 ~ 13.5	0.05	0.6	5500	4.83	3.03	30
MFD4010YD1-M	12	8.5 ~ 13.5	0.06	0.72	6000	5.16	3.43	31
MFD4010YD1-ML	12	8.5 ~ 13.5	0.07	0.84	6500	5.35	3.81	33.4
MFD4010YD1-H	12	8.5 ~ 13.5	0.08	0.96	7000	5.84	4.19	35.3
MFD4010YD1-HL	12	8.5 ~ 13.5	0.09	1.08	7500	6.3	4.72	37.1
MFD4010YD1-HH	12	8.5 ~ 13.5	0.1	1.2	8000	6.51	5.26	38
MFD4010YD1-VH	12	8.5 ~ 13.5	0.11	1.32	8500	7.02	5.92	39.5

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



DIMENSIONS (mm)



P-Q CURVE

MAX FLOW

www.max-flow.com



MFD5010Y

Frameless DC Fan

Size	Ø46 x 10.5 mm
Voltage	5V / 12V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

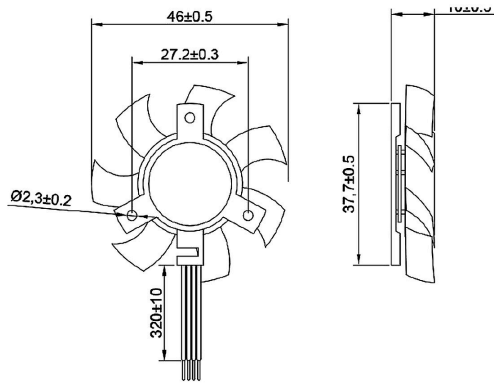
Ø46 x 10.5 mm

Airflow 6.34~10.9 CFM Speed 4000~6500 RPM Noise 22.1~40 dB(A)

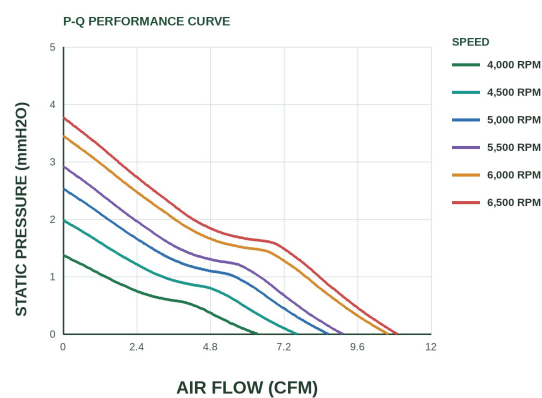
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent options...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD5010YD05-L	5	1.8 ~ 6	0.072	0.36	4000	6.34	1.37	22.1
MFD5010YD05-LM	5	1.8 ~ 6	0.096	0.48	4500	7.62	1.98	27.1
MFD5010YD05-M	5	1.8 ~ 6	0.12	0.6	5000	8.65	2.53	31.8
MFD5010YD05-LH	5	1.8 ~ 6	0.144	0.72	5500	9.12	2.92	35.1
MFD5010YD05-H	5	1.8 ~ 6	0.168	0.84	6000	10.6	3.45	37.6
MFD5010YD05-HH	5	1.8 ~ 6	0.19	0.96	6500	10.9	3.77	40
MFD5010YD1-L	12	8.5 ~ 13.5	0.03	0.36	4000	6.34	1.37	22.1
MFD5010YD1-LM	12	8.5 ~ 13.5	0.04	0.48	4500	7.62	1.98	27.1
MFD5010YD1-M	12	8.5 ~ 13.5	0.05	0.6	5000	8.65	2.53	31.8
MFD5010YD1-LH	12	8.5 ~ 13.5	0.06	0.72	5500	9.12	2.92	35.1
MFD5010YD1-H	12	8.5 ~ 13.5	0.07	0.84	6000	10.6	3.45	37.6
MFD5010YD1-HH	12	8.5 ~ 13.5	0.08	0.96	6500	10.9	3.77	40

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



DIMENSIONS (mm)



P-Q CURVE



MFD6010Y

Frameless DC Fan

Size	Ø55 x 10.5 mm
Voltage	5V / 12V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

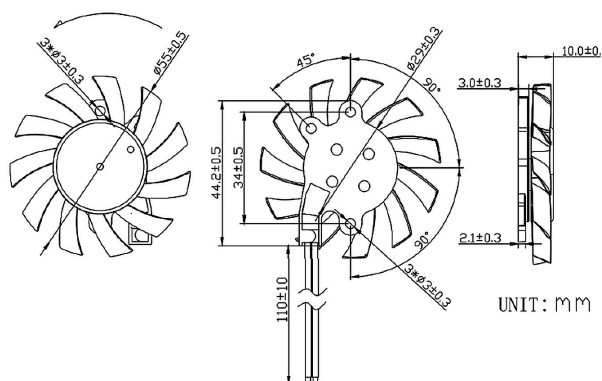
Ø55 x 10.5 mm

Airflow **11.4~19.4 CFM** Speed **3000~5000 RPM** Noise **25.3~39 dB(A)**

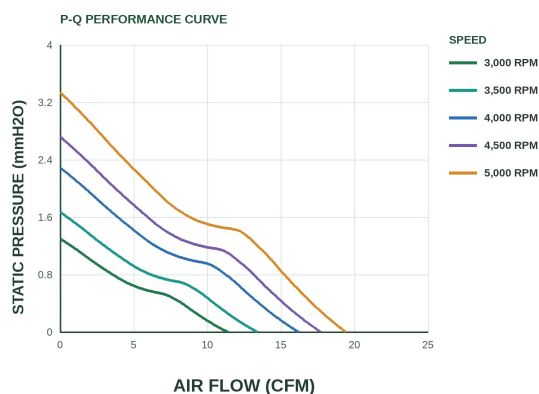
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent options...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD6010YD05-L	5	1.8 ~ 6	0.12	0.6	3000	11.4	1.3	25.3
MFD6010YD05-M	5	1.8 ~ 6	0.19	0.95	3500	13.4	1.67	29.3
MFD6010YD05-H	5	1.8 ~ 6	0.26	1.32	4000	16.2	2.29	32.8
MFD6010YD05-HH	5	1.8 ~ 6	0.34	1.68	4500	17.7	2.72	35.9
MFD6010YD05-VH	5	1.8 ~ 6	0.43	2.04	5000	19.4	3.34	39
MFD6010YD1-L	12	8.5 ~ 13.5	0.05	0.6	3000	11.4	1.3	25.3
MFD6010YD1-M	12	8.5 ~ 13.5	0.08	0.95	3500	13.4	1.67	29.3
MFD6010YD1-H	12	8.5 ~ 13.5	0.11	1.32	4000	16.2	2.29	32.8
MFD6010YD1-HH	12	8.5 ~ 13.5	0.14	1.68	4500	17.7	2.72	35.9
MFD6010YD1-VH	12	8.5 ~ 13.5	0.17	2.04	5000	19.4	3.34	39

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



DIMENSIONS (mm)



P-Q CURVE



MFD7015Y

Frameless DC Fan

Size	Ø64 x 15.5 mm
Voltage	5V / 12V / 24V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

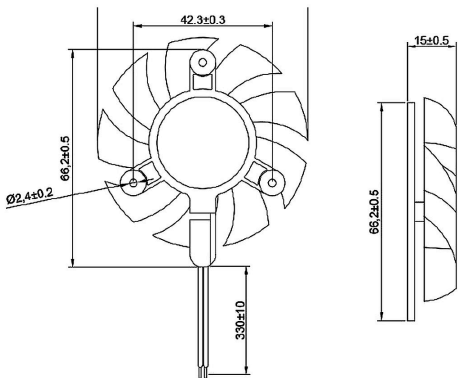
Ø64 x 15.5 mm

Airflow 13.9~29.8 CFM Speed 2000~4500 RPM Noise 22.9~38.9 dB(A)

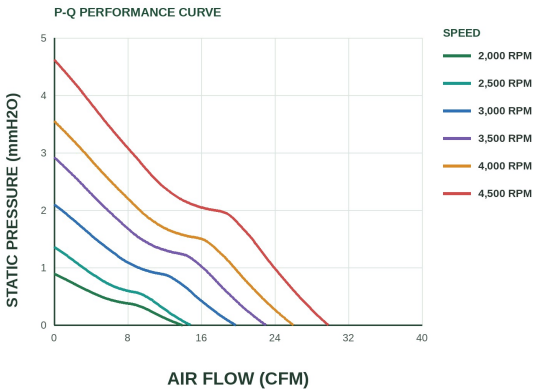
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent option...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD7015YD05-VL	5	1.8 ~ 6	0.1	0.48	2000	13.9	0.89	22.9
MFD7015YD1-VL	12	7 ~ 13.5	0.04	0.48	2500	14.8	1.36	22.9
MFD7015YD1-LL	12	7 ~ 13.5	0.06	0.72	3000	19.7	2.1	27.2
MFD7015YD1-L	12	7 ~ 13.5	0.08	0.96	3500	23	2.92	33.3
MFD7015YD1-M	12	7 ~ 13.5	0.12	1.44	4000	26	3.55	36.2
MFD7015YD1-H	12	7 ~ 13.5	0.29	3.48	4500	29.8	4.62	38.9
MFD7015YD2-VL	24	18 ~ 26.5	0.02	0.48	2500	14.8	1.36	22.9
MFD7015YD2-LL	24	18 ~ 26.5	0.03	0.72	3000	19.7	2.1	27.2
MFD7015YD2-L	24	18 ~ 26.5	0.04	0.96	3500	23	2.92	33.3
MFD7015YD2-M	24	18 ~ 26.5	0.06	1.44	4000	26	3.55	36.2
MFD7015YD2-H	24	18 ~ 26.5	0.09	2.16	4500	29.8	4.62	38.9

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



DIMENSIONS (mm)



P-Q CURVE



MFD8015Y

Frameless DC Fan

Size	Ø75 x 15.5 mm
Voltage	5V / 12V / 24V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

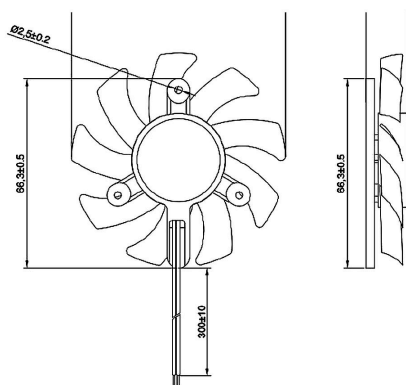
Ø75 x 15.5 mm

Airflow **22.8~36.6 CFM** Speed **2000~3500 RPM** Noise **30.4~40.3 dB(A)**

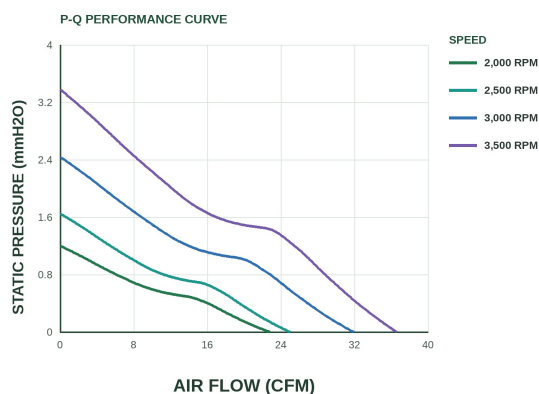
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent option...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD8015YD05-L	5	3.6 ~ 6.8	0.24	1.2	2000	22.8	1.2	30.4
MFD8015YD1-L	12	6.0 ~ 13.5	0.1	1.2	2000	22.8	1.2	30.4
MFD8015YD1-M	12	6.0 ~ 13.5	0.16	1.92	2500	25	1.65	33.5
MFD8015YD1-H	12	6.0 ~ 13.5	0.2	2.4	3000	31.9	2.44	36.2
MFD8015YD1-HH	12	6.0 ~ 13.5	0.25	3	3500	36.6	3.38	40.3
MFD8015YD2-L	24	18 ~ 26.5	0.06	1.44	2000	22.8	1.2	30.4
MFD8015YD2-M	24	18 ~ 26.5	0.08	1.92	2500	25	1.65	33.5
MFD8015YD2-H	24	18 ~ 26.5	0.1	2.4	3000	31.9	2.44	36.2
MFD8015YD2-HH	24	18 ~ 26.5	0.18	3	3500	36.6	3.38	40.3

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



DIMENSIONS (mm)



P-Q CURVE

MAX FLOW

www.max-flow.com



MFD9225L

Frameless DC Fan

Size	112 x 85.5 x 24.5 mm
Voltage	12V / 24V / 48V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

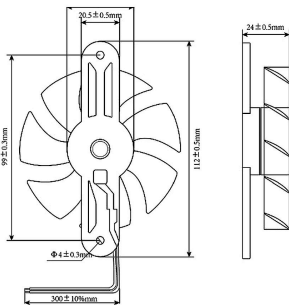
112 x 85.5 x 24.5 mm

Airflow 31.9~66.2 CFM Speed 2500~4500 RPM Noise 27.5~46.4 dB(A)

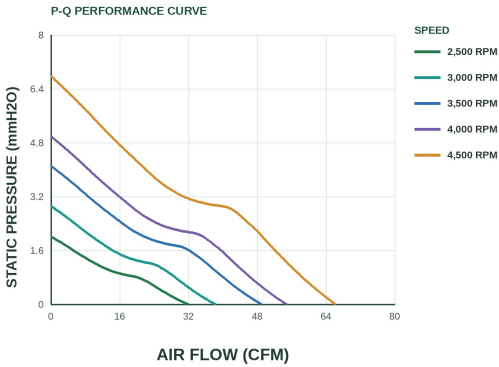
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent option...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD9225LD1-L	12	7 ~ 13.5	0.07	0.84	2500	31.9	2.01	27.5
MFD9225LD1-M	12	7 ~ 13.5	0.12	1.44	3000	38.3	2.92	33.7
MFD9225LD1-H	12	7 ~ 13.5	0.14	1.68	3500	49	4.11	39.1
MFD9225LD1-HH	12	7 ~ 13.5	0.24	2.88	4000	54.8	4.99	42.4
MFD9225LD1-HV	12	7 ~ 13.5	0.32	3.84	4500	66.2	6.78	46.4
MFD9225LD2-L	24	18 ~ 26.5	0.06	1.44	2500	31.9	2.01	27.5
MFD9225LD2-M	24	18 ~ 26.5	0.08	1.92	3000	38.3	2.92	33.7
MFD9225LD2-H	24	18 ~ 26.5	0.12	2.88	3500	49	4.11	39.1
MFD9225LD2-HH	24	18 ~ 26.5	0.15	3.6	4000	54.8	4.99	42.4
MFD9225LD2-HV	24	18 ~ 26.5	0.16	3.84	4500	66.2	6.78	46.4
MFD9225LD4-L	48	36 ~ 54	0.03	1.44	2500	31.9	2.01	27.5
MFD9225LD4-M	48	36 ~ 54	0.04	1.92	3000	38.3	2.92	33.7
MFD9225LD4-H	48	36 ~ 54	0.05	2.4	3500	49	4.11	39.1
MFD9225LD4-HH	48	36 ~ 54	0.06	2.88	4000	54.8	4.99	42.4
MFD9225LD4-HV	48	36 ~ 54	0.08	3.84	4500	66.2	6.78	46.4

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



DIMENSIONS (mm)



P-Q CURVE

MAX FLOW

www.max-flow.com



MFD12025L

Frameless DC Fan

Size	145.7 x 108 x 24.5 mm
Voltage	12V / 24V / 48V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

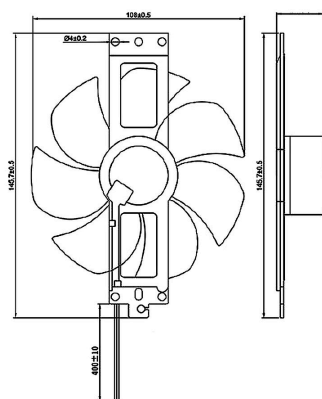
145.7 x 108 x 24.5 mm

Airflow **64.2~107 CFM** Speed **1500~3000 RPM** Noise **30.5~47.4 dB(A)**

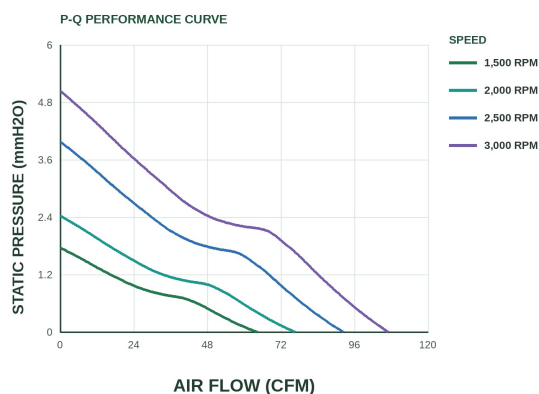
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent options...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD12025LD1-L	12	6.0 ~ 13.5	0.18	2.16	1500	64.2	1.76	30.5
MFD12025LD1-M	12	6.0 ~ 13.5	0.25	3	2000	76.6	2.43	36.5
MFD12025LD1-H	12	6.0 ~ 13.5	0.31	3.72	2500	92.4	3.98	42.1
MFD12025LD1-HH	12	6.0 ~ 13.5	0.45	5.4	3000	107	5.04	47.4
MFD12025LD2-L	24	18 ~ 26.5	0.09	2.16	1500	64.2	1.76	30.5
MFD12025LD2-M	24	18 ~ 26.5	0.125	3	2000	76.6	2.43	36.5
MFD12025LD2-H	24	18 ~ 26.5	0.155	3.72	2500	92.4	3.98	42.1
MFD12025LD2-HH	24	18 ~ 26.5	0.225	5.4	3000	107	5.04	47.4
MFD12025LD4-L	48	36 ~ 55	0.045	2.16	1500	64.2	1.76	30.5
MFD12025LD4-M	48	36 ~ 55	0.063	3	2000	76.6	2.43	36.5
MFD12025LD4-H	48	36 ~ 55	0.078	3.72	2500	92.4	3.98	42.1
MFD12025LD4-HH	48	36 ~ 55	0.112	5.4	3000	107	5.04	47.4

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



DIMENSIONS (mm)



P-Q CURVE

MAX FLOW

www.max-flow.com



MFD12038L

Frameless DC Fan

Size	159.6 x 111 x 38 mm
Voltage	12V / 24V / 48V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing / Sleeve Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C / Sleeve Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C / Sleeve Bearing: 20,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

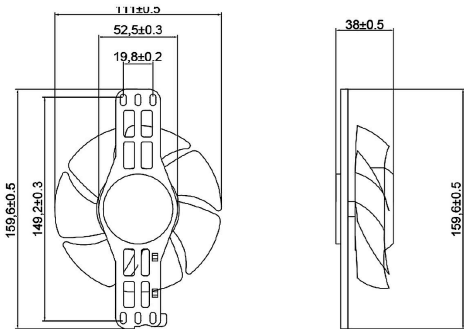
159.6 x 111 x 38 mm

Airflow 96.55~209.92 CFM Speed 2500~5500 RPM Noise 43.4~65.2 dB(A)

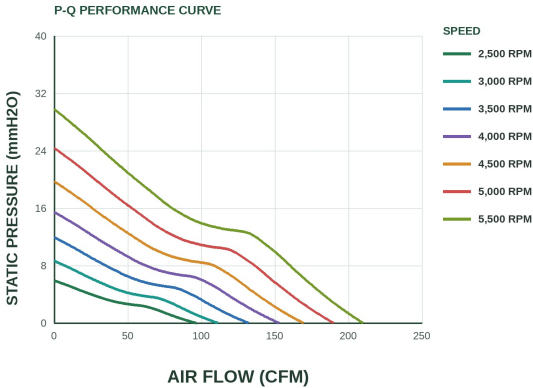
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent op...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD12038LD1-L	12	8 ~ 13.5	0.3	3.6	2500	96.55	5.91	43.4
MFD12038LD1-M	12	8 ~ 13.5	0.6	7.2	3000	111.26	8.66	47.7
MFD12038LD1-VM	12	8 ~ 13.5	0.9	10.8	3500	132.14	11.94	52.8
MFD12038LD1-H	12	8 ~ 13.5	1.2	14.4	4000	152.89	15.46	54.8
MFD12038LD1-HH	12	8 ~ 13.5	1.5	18	4500	169.37	19.73	58.1
MFD12038LD1-VH	12	8 ~ 13.5	1.8	21.6	5000	189.97	24.4	62.1
MFD12038LD1-HV	12	8 ~ 13.5	2	24	5500	209.92	29.8	65.2
MFD12038LD2-L	24	18 ~ 26.5	0.15	3.6	2500	96.55	5.91	43.4
MFD12038LD2-M	24	18 ~ 26.5	0.3	7.2	3000	111.26	8.66	47.7
MFD12038LD2-VM	24	18 ~ 26.5	0.45	10.8	3500	132.14	11.94	52.8
MFD12038LD2-H	24	18 ~ 26.5	0.6	14.4	4000	152.89	15.46	54.8
MFD12038LD2-HH	24	18 ~ 26.5	0.75	18	4500	169.37	19.73	58.1
MFD12038LD2-VH	24	18 ~ 26.5	0.9	21.6	5000	189.97	24.4	62.1
MFD12038LD4-L	48	36 ~ 54	0.075	3.6	2500	96.55	5.91	43.4
MFD12038LD4-M	48	36 ~ 54	0.15	7.2	3000	111.26	8.66	47.7
MFD12038LD4-VM	48	36 ~ 54	0.225	10.8	3500	132.14	11.94	52.8
MFD12038LD4-H	48	36 ~ 54	0.3	14.4	4000	152.89	15.46	54.8
MFD12038LD4-HH	48	36 ~ 54	0.375	18	4500	169.37	19.73	58.1
MFD12038LD4-VH	48	36 ~ 54	0.45	21.6	5000	189.97	24.4	62.1

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



DIMENSIONS (mm)



P-Q CURVE



MFD15050L

Frameless DC Fan

Size	159 x 142 x 41 mm
Voltage	12V / 24V / 48V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

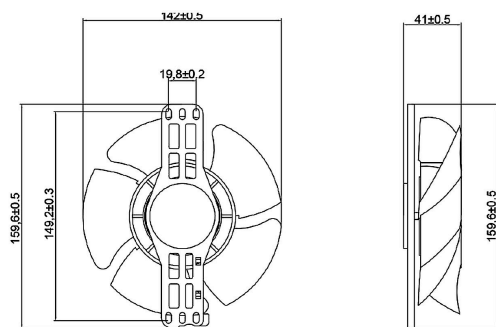
159 x 142 x 41 mm

Airflow **172.21~361.69 CFM** Speed **2500~5000 RPM** Noise **56.1~71.4 dB(A)**

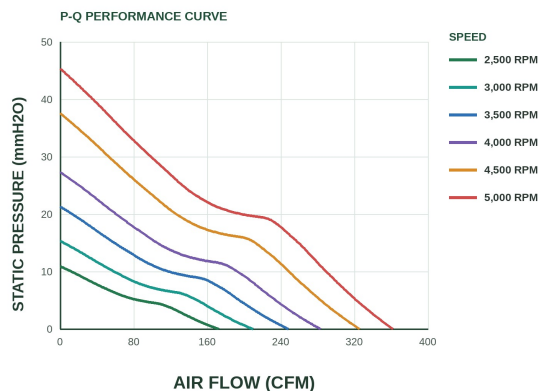
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent o...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD15050LD1-L	12	6.0 ~ 13.5	0.8	9.6	2500	172.21	10.92	56.1
MFD15050LD1-M	12	6.0 ~ 13.5	2.4	28.8	3000	209.4	15.33	58.3
MFD15050LD1-H	12	6.0 ~ 13.5	4.41	53	3500	248.09	21.33	62.5
MFD15050LD1-HH	12	6.0 ~ 13.5	6	72	4000	283	27.36	65.5
MFD15050LD1-VH	12	6.0 ~ 13.5	7.6	91.2	4500	325.57	37.57	68.2
MFD15050LD1-HV	12	6.0 ~ 13.5	10	120	5000	361.69	45.36	71.4
MFD15050LD2-L	24	18 ~ 26.5	0.4	9.6	2500	172.21	10.92	56.1
MFD15050LD2-M	24	18 ~ 26.5	1.2	28.8	3000	209.4	15.33	58.3
MFD15050LD2-H	24	18 ~ 26.5	2.2	53	3500	248.09	21.33	62.5
MFD15050LD2-HH	24	18 ~ 26.5	3	72	4000	283	27.36	65.5
MFD15050LD2-VH	24	18 ~ 26.5	3.8	91.2	4500	325.57	37.57	68.2
MFD15050LD2-HV	24	18 ~ 26.5	5	120	5000	361.69	45.36	71.4
MFD15050LD4-L	48	36 ~ 55	0.2	9.6	2500	172.21	10.92	56.1
MFD15050LD4-M	48	36 ~ 55	0.6	28.8	3000	209.4	15.33	58.3
MFD15050LD4-H	48	36 ~ 55	1.1	53	3500	248.09	21.33	62.5
MFD15050LD4-HH	48	36 ~ 55	1.5	72	4000	283	27.36	65.5
MFD15050LD4-VH	48	36 ~ 55	1.9	91.2	4500	325.57	37.57	68.2
MFD15050LD4-HV	48	36 ~ 55	2.5	120	5000	361.69	45.36	71.4

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



DIMENSIONS (mm)



P-Q CURVE

MAX FLOW

www.max-flow.com



MFD18025Y

Frameless DC Fan

Size	Ø168.5 x 23 mm
Voltage	12V / 24V DC
Motor	Brushless DC
Frame	plastic PBT UL94V-0
Impeller	plastic PBT UL94V-0
Bearing	Ball Bearing
Operating Temp.	Ball Bearing: -10 ~ 70°C
Life Expectancy	Ball Bearing: 50,000 hours at 25°C
Available Functions	FG / PWM / RD / LD

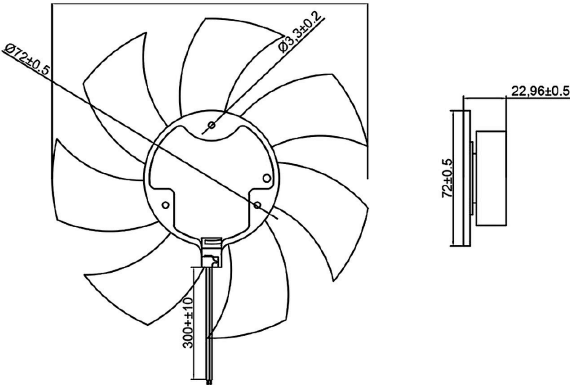
Ø168.5 x 23 mm

Airflow 89~123.8 CFM Speed 1000~1800 RPM Noise 24.5~30 dB(A)

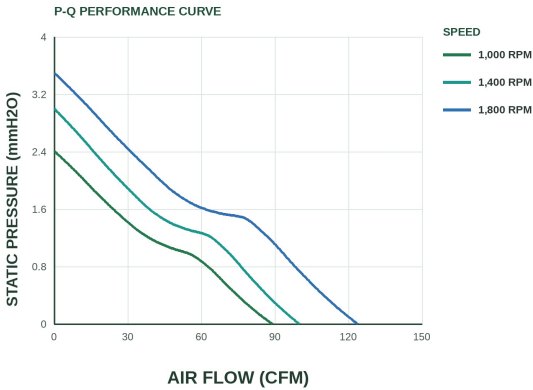
Signal Interface FG / PWM / RDH / RDL / LD are model-dependent options ...

Model	Rated Voltage (V)	Voltage Range (V)	Rated Current (A)	Input Power (W)	Speed (RPM)	Max. Airflow (CFM)	Max. Pressure (mmH ₂ O)	Noise (dB-A)
MFD18025YD1-L	12	10.8 ~ 13.5	0.24	2.88	1000	89	2.41	24.5
MFD18025YD1-M	12	10.8 ~ 13.5	0.3	3.6	1400	100	3	26
MFD18025YD1-H	12	10.8 ~ 13.5	0.58	6.96	1800	123.8	3.5	30
MFD18025YD2-L	24	18 ~ 26	0.12	2.88	1000	89	2.41	24.5
MFD18025YD2-M	24	18 ~ 26	0.2	3.6	1400	100	3	26
MFD18025YD2-HH	24	18 ~ 26	0.25	6	1800	123.8	3.5	30

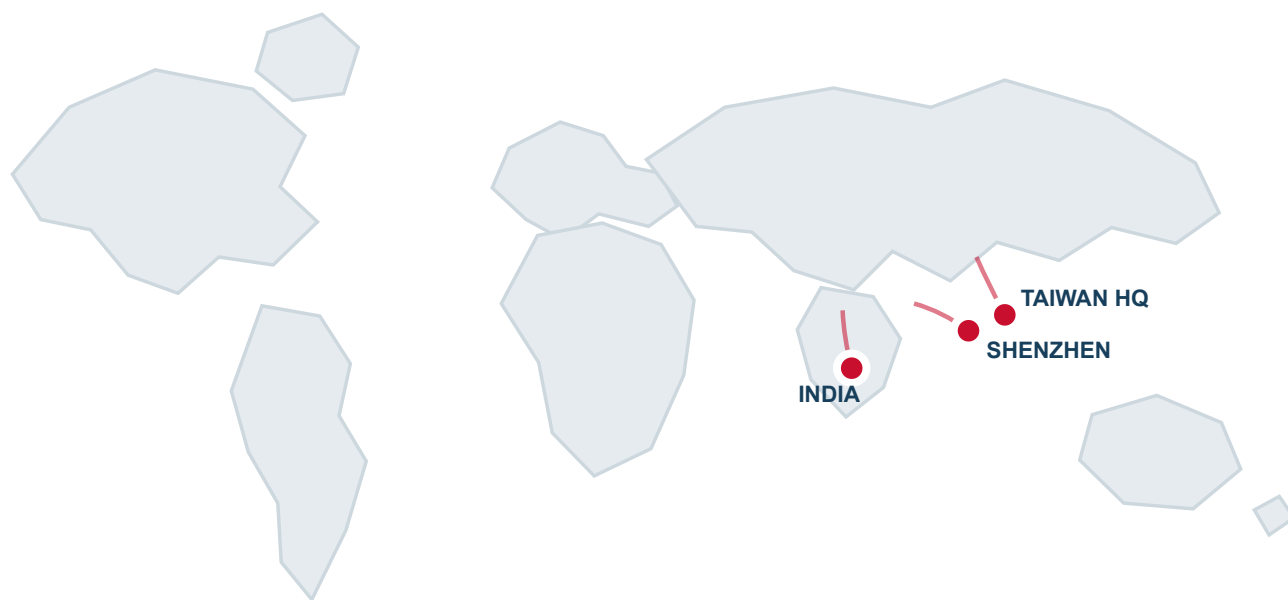
■ Specifications subject to change without notice. Specifications governed by the official approval sheet



DIMENSIONS (mm)



P-Q CURVE



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TAIWAN HEADQUARTERS

Taiwan Headquarters

MAX FLOW ELECTRIC MACHINERY CO., LTD.

No.19, Ln. 349, Huacheng Rd., Xinzhuang Dist., New Taipei City 242, Taiwan

TEL +886-2-8521-8198

FAX +886-2-8521-8201

EMAIL sales@max-flow.com

CHINA OFFICE

Shenzhen, China

SHENZHEN SPEED COOLING TECHNOLOGY CO., LTD.

3F, Building A3, Area A, Baoying Industrial Park, Longgang District, Shenzhen

TEL +86-755-2815139

INDIA OFFICE

India Office

MAX FLOW INDIA TECH PVT. LTD.

India
Global sales and local project support

TEL +91-6263235126

