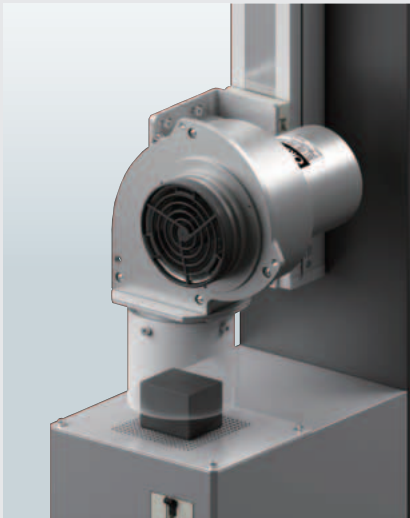


MB Series S Type

Cools Heated and Formed Workpieces as Quickly as Possible.



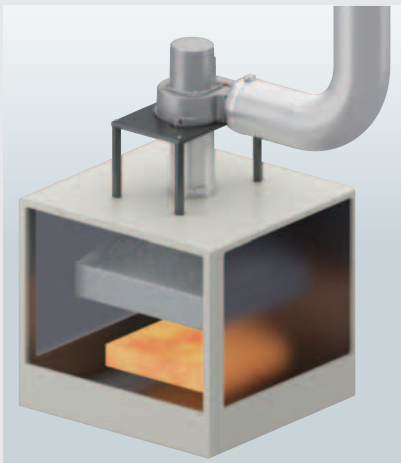
The high air velocity of the **MB** Series allows for high-speed cooling of heated and formed work pieces.

When cooling a 300°C iron plate (200 mm × 200 mm × 10 mm) to 100°C

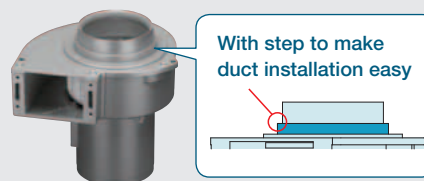
	Similar Sized Axial Flow Fan	MB Series S Type Impeller Diameter $\phi 120$ mm
Cooling Time*	5 minutes 30 seconds	▶▶ 2 minutes 30 seconds
Air Velocity	6.7 m/s	▶▶▶ 19.2 m/s

*Ambient operating temperature and intake temperature are calculated at 25°C.

Air is Drawn Up Through the Ducts.
(Supports Intake Air Temperatures of -10°C to +90°C)



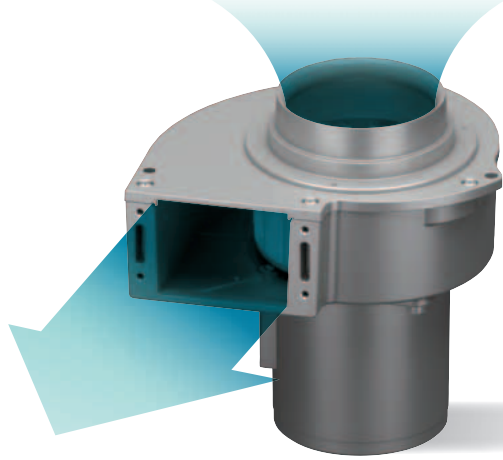
The **MB** Series' special design for use with ducts improves the ability to install with ducts.



Ducts can be installed directly using the step

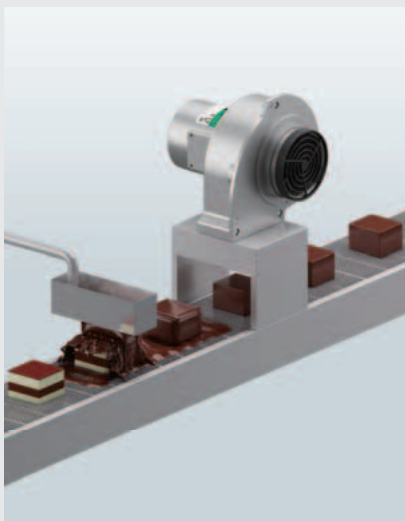


Duct joints (sold separately) are available to connect the duct and exhaust outlet.



See the Next Page for a Q & A
about the **MB Series**

Blows Liquids and Powders Off without Direct Contact.



The air flow directionality of the **MB Series** can be used to blow liquids and powders. No need for humans or robots to touch the work piece.



Manual airflow adjustment is possible with an airflow control damper (sold separately).

Work Piece Alignment is Maintained During Transport.



The suction power of the **MB Series** is useful in preventing lightweight or thin work pieces from scattering or becoming misaligned.



Risk of processing errors or loss



Reordering improves in-process defects

Q & A

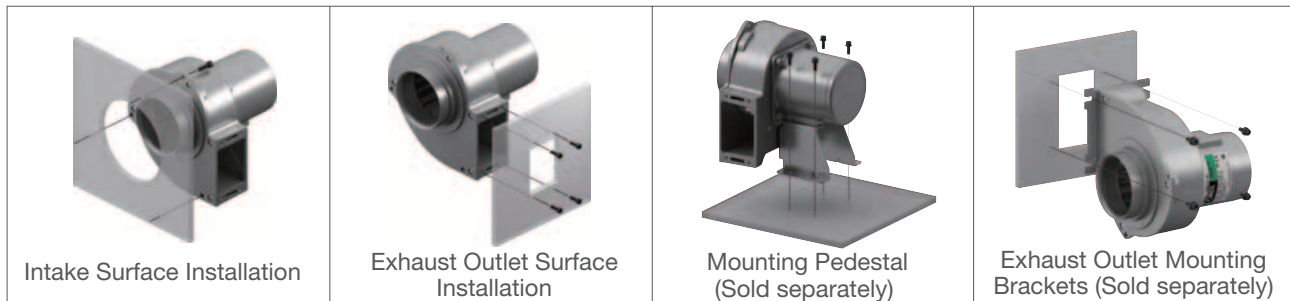
Ease-of-Use Focused on Practicality and Immediate Adaptability to the Site.



Q How can it be Installed?

- ▶▶▶ Can be installed using the through holes on the blower body or tapped holes.

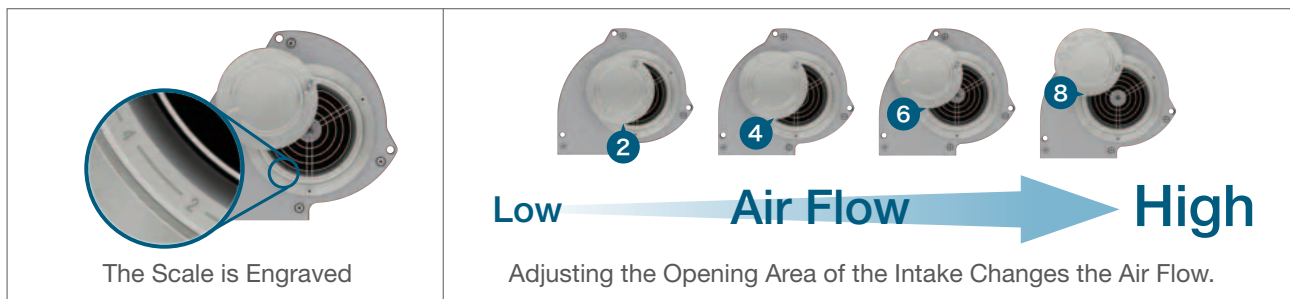
Other peripheral equipment to make installation convenient is also available.



●For details about duct installation, refer to the previous page

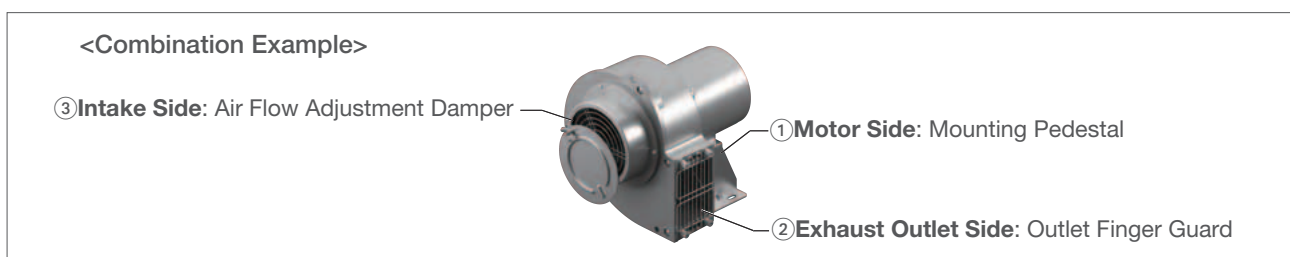
Q Can the air flow be adjusted?

- ▶▶▶ By using the **MB Series S** Type with an air flow adjustment damper (sold separately), the air flow can be adjusted manually.



Q Can it be used with multiple pieces of peripheral equipment?

- ▶▶▶ Components can be combined together. Select based on how it will be used.

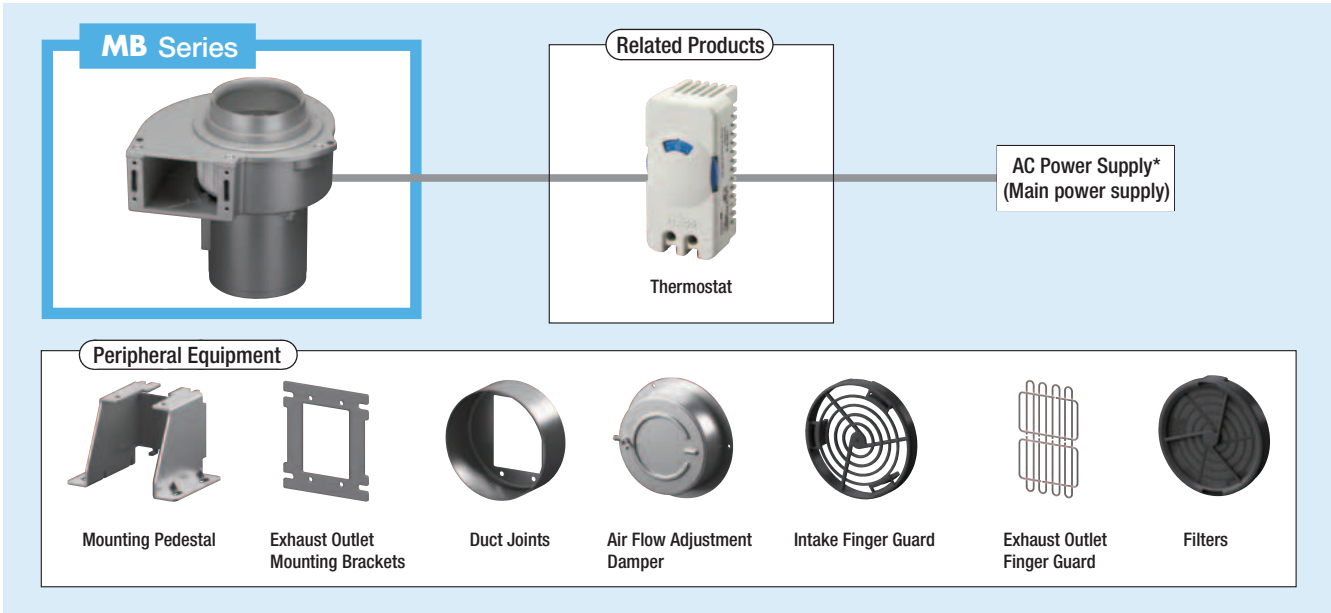


●Some combinations cannot be used together. For details, please check the **MB Series S** Type operating manual. (This can be downloaded from the Oriental Motor website)

System Configuration

An example of system configuration with the **MB Series S** Type is shown below.

*Not supplied.



Example of System Configuration



The system configuration shown above is an example. Other combinations are also available.

Product Number

MB S 12 - JA

① ② ③ ④

①	Series Name	MB: MB Series
②	Type	S: S Type (No alarm)
③	Impeller Diameter	10: $\phi 100$ mm 12: $\phi 120$ mm
④	Power Supply Voltage	JS: Three-Phase 200 VAC ES: Three-Phase 220/230 VAC JA: Single-Phase 100 VAC UA: Single-Phase 110/115 VAC JC: Single-Phase 200 VAC EC: Single-Phase 220/230 VAC

General Specifications

Item	Specifications	
Insulation Resistance	100 M Ω or more when a 500 VDC megger is applied between the windings and the case after continuous operation under normal ambient temperature and humidity.	
Dielectric Strength	Sufficient to withstand 1.5 kVAC at 50 Hz applied between the windings and the case for 1 minute after continuous operation under normal ambient temperature and humidity.	
Temperature Rise	45°C or less is measured by the thermometer method when the temperature of the case has stabilized after continuous operation under normal ambient temperature and humidity.	
Overheat Protection Device	Built-in thermal protector (Automatic return type) Release: $130 \pm 5^\circ\text{C}$, Reset: $85 \pm 20^\circ\text{C}$	
Operating Environment	Ambient Temperature*1	-10 ~ +50°C (Non-freezing)
	Intake Air Temperature (Temperature of Ingested Air)	Recorded in other table
	Ambient Humidity	85% or less (Non-condensing)
	Altitude	Up to 1000 m above sea level
	Atmosphere	No corrosive gases or dust. Do not expose to water or oil. Cannot be used in a radioactive area, magnetic field, vacuum, or other special environments.
Storage Condition*2	Ambient Temperature	-10 ~ +60°C (Non-freezing)
	Ambient Humidity	85% or less (Non-condensing)
	Altitude	Up to 3000 m above sea level
	Atmosphere	No corrosive gases or dust. Do not expose to water or oil. Cannot be used in a radioactive area, magnetic field, vacuum, or other special environments.
Thermal Class	UL/CSA Standards, EN Standards: 130 (B)	
Degree of Protection	IP00	

*1 Cannot be used in an environment where the temperature is modified to -10°C or lower, such as in a freezer.

*2 The storage condition applies to short periods such as the period during transport.

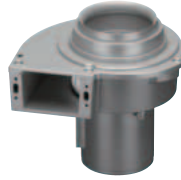
Intake Air Temperature

Intake Air Temperature	Operating Ambient Temperature
Above -10°C, less than +50°C	-10 ~ +50°C (Non-freezing)
Above +50°C, less than +90°C	-10 ~ +40°C (Non-freezing)

MB Series

Impeller Diameter $\phi 100$ mm

NEW



Operating Voltage Range: $\pm 10\%$ (Applies to each voltage)
 Overheat Protection: Built-in thermal protector
 Color: Misty gray metallic
 Materials
 Motor Case: Die cast aluminum
 Casing: Die cast aluminum
 Impeller: Aluminum

Specifications



Overseas Domestic	Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Speed r/min	Max Air Flow m ³ /min	Max Static Pressure Pa	Noise Level dB (A)	Capacitance μ F
Domestic Voltage	MBS10-JS	Three-Phase 200	50	0.17	40	2800	2.2	220	58	—
		Three-Phase 200	60	0.18	52	3200	2.5	320	62	
	MBS10-JA	Single-Phase 100	50	0.40	39	2800	2.2	220	58	3.5
		Single-Phase 100	60	0.52	52	3200	2.5	320	62	
	MBS10-JC	Single-Phase 200	50	0.19	38	2800	2.2	220	58	1.5
		Single-Phase 200	60	0.26	50	3200	2.5	320	62	
Overseas Voltage	MBS10-ES	Three-Phase 220	50	0.15	39	2800	2.2	220	58	—
		Three-Phase 220	60	0.16	52	3200	2.5	320	62	
		Three-Phase 230	60	0.16	53	3200	2.5	320	62	
	MBS10-UA	Single-Phase 110	60	0.45	50	3200	2.5	320	62	3.0
		Single-Phase 115	60	0.43	49	3200	2.5	320	62	
	MBS10-EC	Single-Phase 220	50	0.18	39	2800	2.2	220	58	1.3
		Single-Phase 220	60	0.24	51	3200	2.5	320	62	
		Single-Phase 230	50	0.17	40	2800	2.2	220	58	
		Single-Phase 230	60	0.24	52	3200	2.5	320	62	

- Values for maximum air flow and maximum static pressure were measured by the double chamber method.
- Noise level was measured at the A-weighted sound pressure level at a distance of 1 m from the intake side of fan.

Product Line

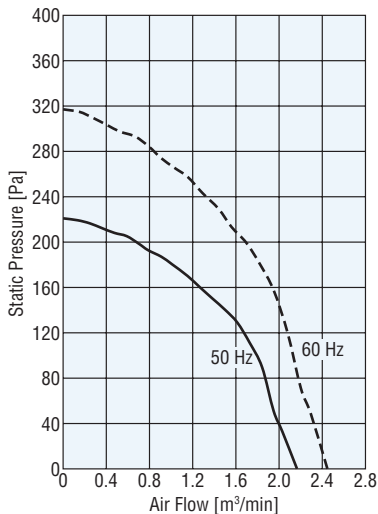
Product Name
MBS10-JS
MBS10-JA
MBS10-JC
MBS10-ES
MBS10-UA
MBS10-EC

Included Items

Type	Capacitor	Capacitor Caps	Operating Manual
Three-Phase Input	—	—	1 Set
Single-Phase Input	1 Piece	1 Piece	1 Set

Air Flow – Static Pressure Characteristics

(The characteristics are applicable for the centrifugal blower only.)



Peripheral Equipment

Product	Product Name
Mounting Pedestals	PAS12
Duct Joint	FD10A
Air Flow Adjustment Damper	DMP10
Intake Finger Guard*	FGB10
Exhaust Outlet Finger Guard	FGB10ES
Filter*	FLB10

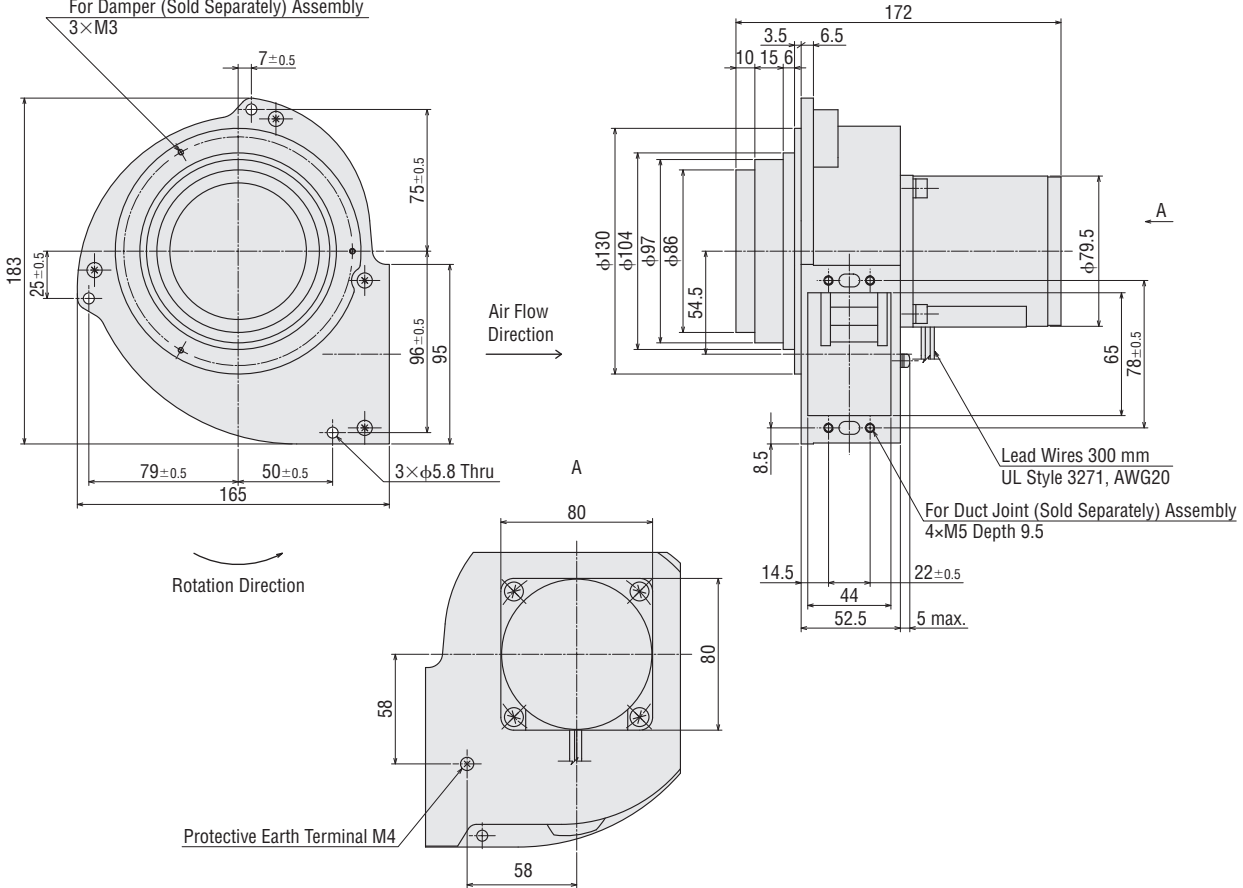
*Be sure to keep the intake air temperature at 50°C or less.

Dimensions (Unit = mm)

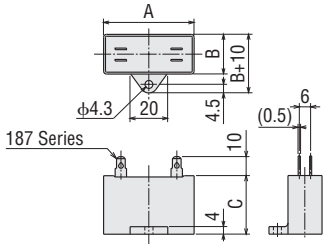
Mass: 2.1 kg

2D CAD E314 3D CAD

For Damper (Sold Separately) Assembly
3×M3



Capacitor (Included)

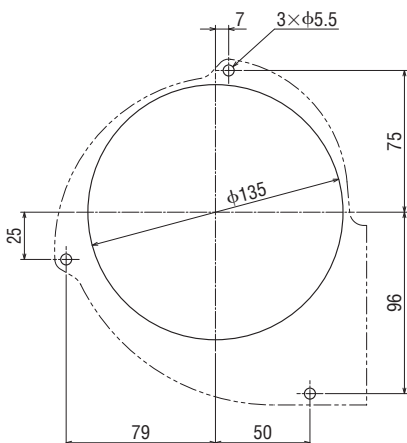


Capacitor Dimensions Table

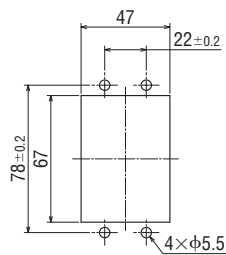
Product Name	Capacitor Product Name	Capacitor Dimensions mm			Mass g	Capacitor Caps
		A	B	C		
MBS10-JA	CH35FAUL2	31	17	27	22	Included
MBS10-JC	CH15BFAUL	38	21	31	37	Included
MBS10-UA	CH30FAUL2	31	17	27	22	Included
MBS10-EC	CH13BFAUL	38	19	29	32	Included

Panel Cut-Out

Intake



Exhaust Outlet



MB Series

Impeller Diameter ϕ 120 mm



Operating Voltage Range: $\pm 10\%$ (Applies to each voltage)

Overheat Protection: Built-in thermal protector

Color: Misty grey metallic

Materials

Motor Case: Die cast aluminum

Casing: Die cast aluminum

Impeller: Aluminum

Specifications



Overseas Domestic	Product Name	Voltage VAC	Frequency Hz	Current A	Input W	Speed r/min	Max Air Flow m ³ /min	Max Static Pressure Pa	Noise Level dB (A)	Capacitance μ F
Domestic Voltage	MBS12-JS	Three-Phase 200	50	0.36	84	2900	4.4	315	67	—
		Three-Phase 200	60	0.41	120	3400	5.2	450	72	—
	MBS12-JA	Single-Phase 100	50	0.77	76	2900	4.4	315	67	8.0
		Single-Phase 100	60	1.20	120	3400	5.2	450	72	8.0
Overseas Voltage	MBS12-JC	Single-Phase 200	50	0.4	81	2900	4.4	315	67	2.0
		Single-Phase 200	60	0.6	120	3400	5.2	450	72	2.0
	MBS12-ES	Three-Phase 220	50	0.31	84	2900	4.4	315	67	—
		Three-Phase 220	60	0.36	120	3400	5.2	450	72	—
		Three-Phase 230	60	0.36	120	3400	5.2	450	72	—
Overseas Voltage	MBS12-UA	Single-Phase 110	60	1.1	120	3400	5.2	450	72	6.5
		Single-Phase 115	60	1.0	120	3400	5.2	450	72	6.5
	MBS12-EC	Single-Phase 220	50	0.39	84	2900	4.4	315	67	1.5
		Single-Phase 220	60	0.56	120	3400	5.2	450	72	1.5
		Single-Phase 230	50	0.37	82	2900	4.4	315	67	1.5
		Single-Phase 230	60	0.53	120	3400	5.2	450	72	1.5

● Values for maximum air flow and maximum static pressure were measured by the double chamber method.

● Noise level was measured at the A-weighted sound pressure level at a distance of 1 m from the intake side of fan.

Product Line

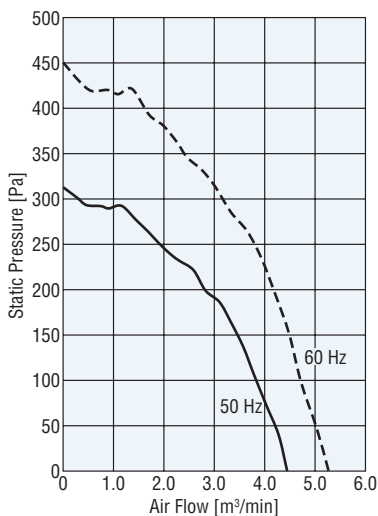
Product Name
MBS12-JS
MBS12-JA
MBS12-JC
MBS12-ES
MBS12-UA
MBS12-EC

Included Items

Type	Capacitor	Capacitor Caps	Operating Manual
Three-Phase Input	—	—	1 Set
Single-Phase Input	1 Piece	1 Piece	1 Set

Air Flow – Static Pressure Characteristics

(The characteristics are applicable for the centrifugal blower only.)



Peripheral Equipment

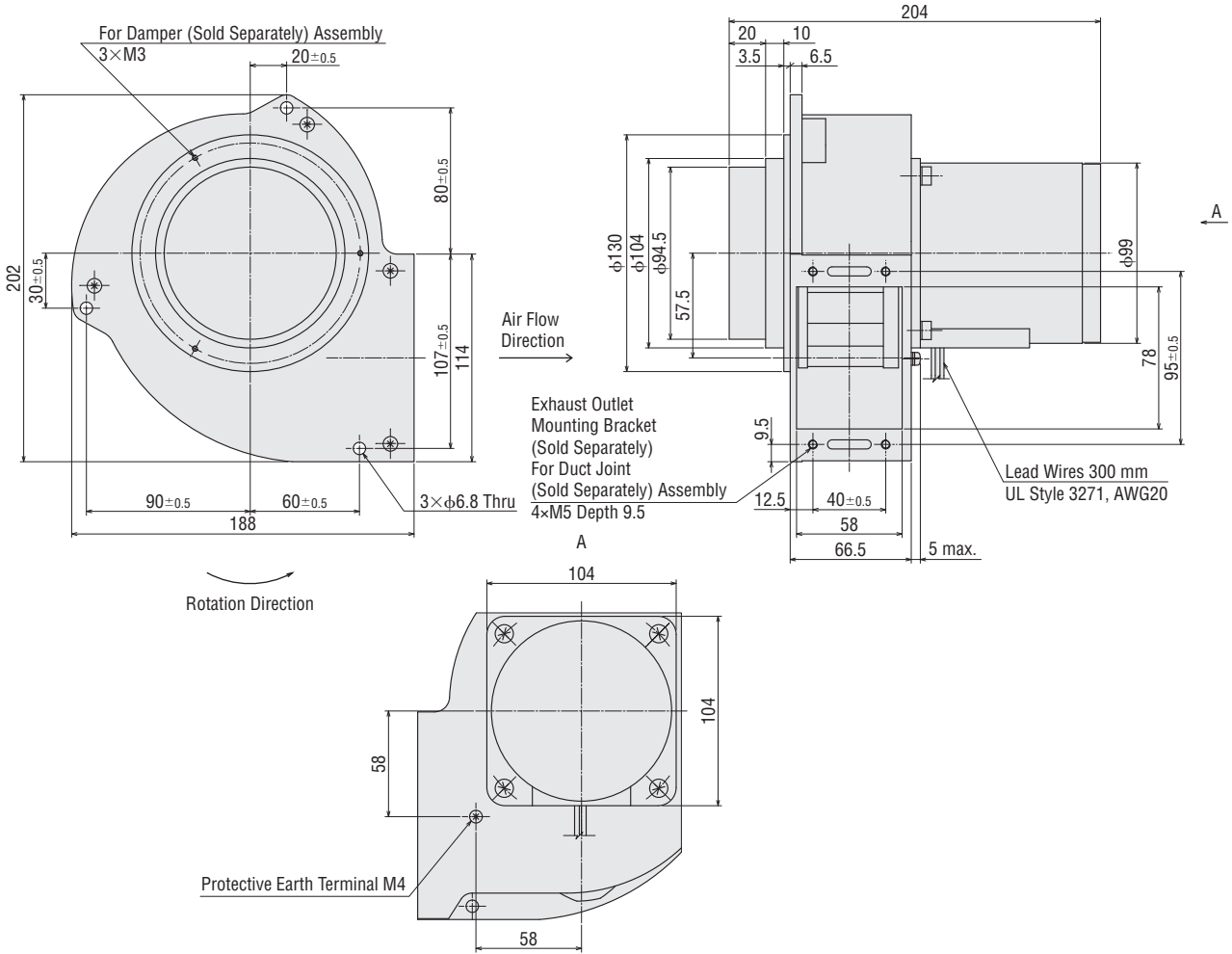
Product	Product Name
Mounting Pedestals	PAS12
Exhaust Outlet Mounting Brackets	PASF12
Duct Joint	FD12A
Air Flow Adjustment Damper	DMP12
Intake Finger Guard*	FGB12
Exhaust Outlet Finger Guard	FGB12ES
Filter*	FLB12

*Be sure to keep the intake air temperature at 50°C or less.

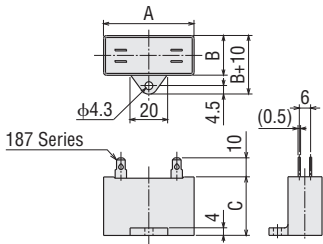
Dimensions (Unit = mm)

Mass: 4.0 kg

2D CAD E293 3D CAD



Capacitor (Included)

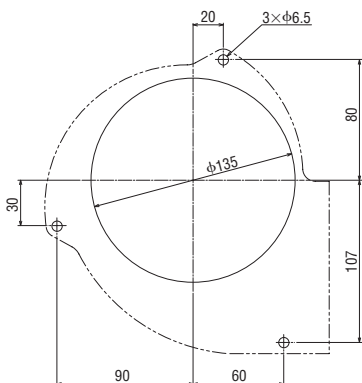


Capacitor Dimensions Table

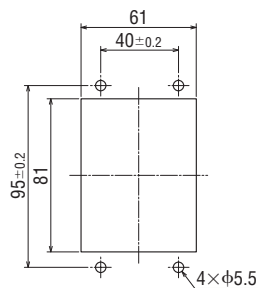
Product Name	Capacitor Product Name	Capacitor Dimensions mm			Mass g	Capacitor Caps
		A	B	C		
MBS12-JA	CH80CFAUL2	48	21	31	41	Included
MBS12-JC	CH20BFAUL	48	19	29	36	Included
MBS12-UA	CH65CFAUL2	48	19	29	35	Included
MBS12-EC	CH15BFAUL	38	21	31	37	Included

Panel Cut-Out (Unit = mm)

Intake

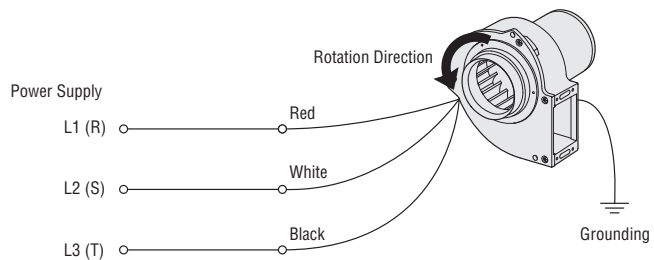


Exhaust Outlet

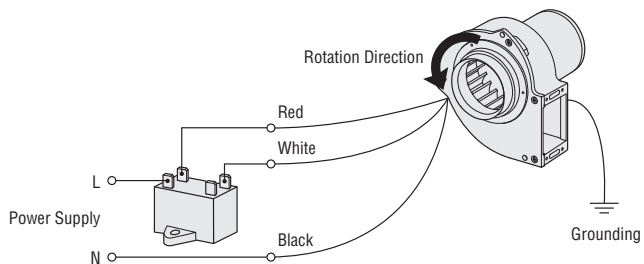


Connection Diagrams

Three-Phase Input



Single-Phase Input



Thermostat

Automatically performs ON and OFF fan control in accordance with the temperature fluctuation inside the equipment.

This helps improve the equipment's "environmental" performance relative to energy savings, noise reduction, etc.

Fan Thermostat **AM2-XA1**

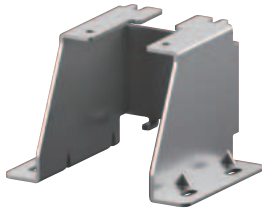


Mounting Pedestals

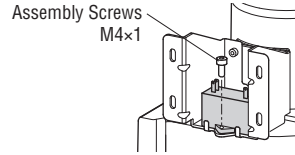
These are used by assembling the mounting holes on the motor side.
Capacitors can be fixed inside the mounting base, which helps to save space.

Material: Steel plate
Surface Treatment: Nickel plated

[Assembly Example]



The capacitor can be assembled as shown in the diagram.



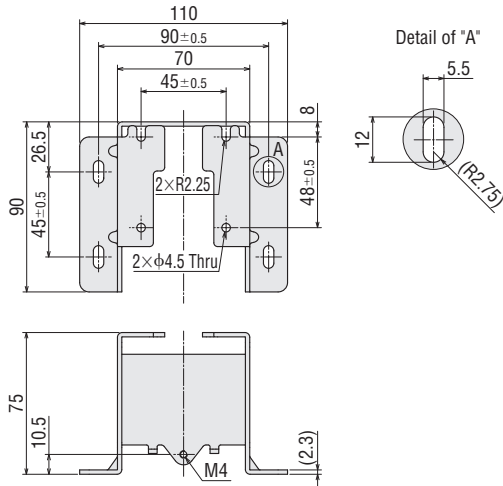
Included Items

Assembly Screws M4x5 (4 x for fan, 1 x for capacitor)

Dimensions (Unit = mm)

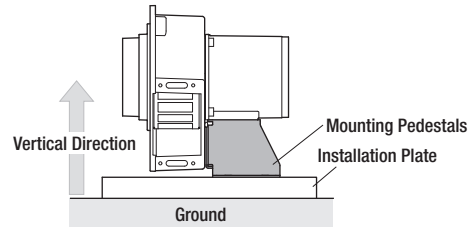
PAS12.....For MBS10, MBS12
Mass: 0.35 kg

2D CAD E295 3D CAD



Installation Direction

When mounting the device using the mounting pedestal, ensure that it is mounted perpendicular to the ground.

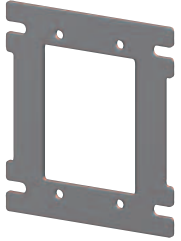


Exhaust Outlet Mounting Bracket

This is a mounting bracket for fixing on the blower's exhaust outlet side.

Material: Steel plate
Surface Treatment: Nickel plated

[Assembly Example]



Included Items

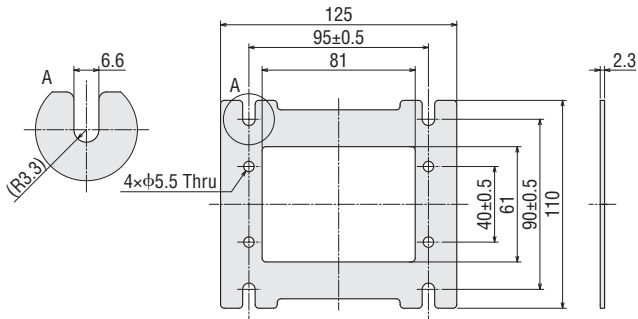
Assembly Screws M5 × 4

Dimensions (Unit = mm)

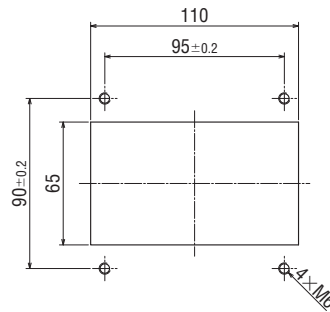
PASF12.....For MBS12

Mass: 0.14 kg

2D CAD E297 3D CAD



Panel Cut-Out (Unit = mm)



Duct Joint

This is a joint to connect the blower's exhaust outlet to a duct.

Material: Steel plate
Surface Treatment: Nickel plated

[Assembly Example]



● The duct must be supplied by the customer.

Included Items

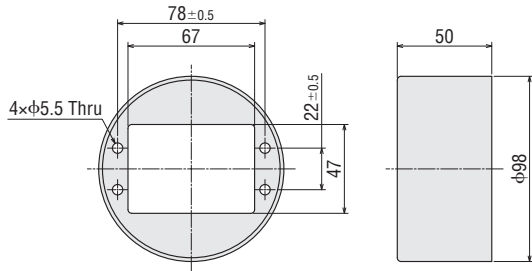
Assembly Screws M5 × 4

Dimensions (Unit = mm)

FD10A.....For **MBS10**

Mass: 0.14 kg

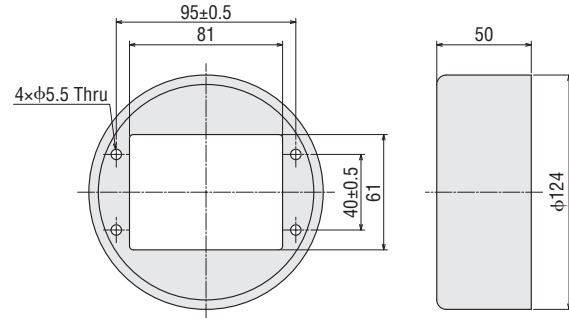
2D CAD E316 3D CAD



FD12A.....For **MBS12**

Mass: 0.18 kg

2D CAD E296 3D CAD



Air Flow Adjustment Damper

The airflow adjustment damper is peripheral equipment that can be attached to the intake to allow for easy manual adjustment of the air flow.

A numerical scale is engraved on the damper. This can be used as a marker when adjusting the air flow.

Material: Steel plate, steel wire
Surface Treatment: Nickel plated

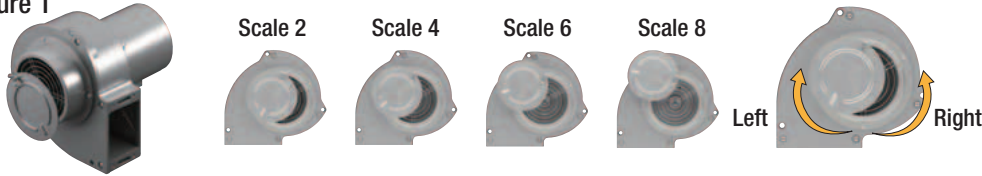
[Assembly Example]



Air Flow when Air Flow Adjustment Damper is Used – Static Pressure Characteristics (Reference Values)

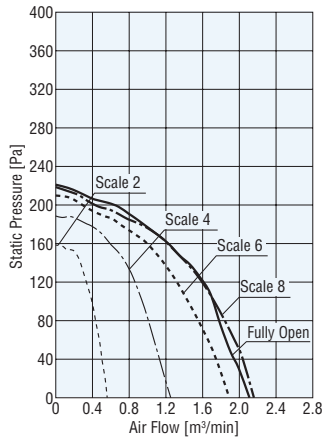
These are the characteristics when the air flow adjustment damper has been installed as shown in Figure 1. The characteristics may vary slightly depending on blower mounting direction and opening direction.

Figure 1

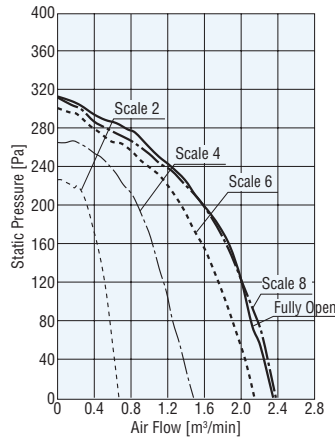


MBS10

◇ 50 Hz, Right-Hand Opening

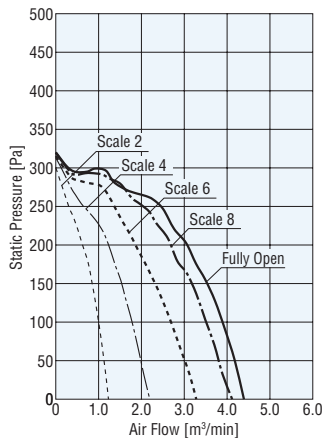


◇ 60 Hz, Right-Hand Opening

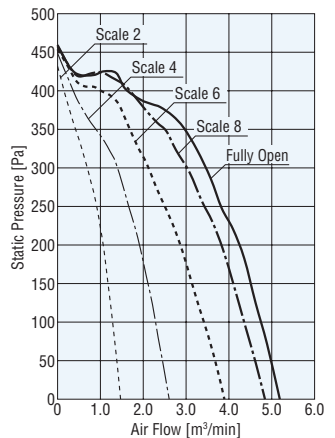


MBS12

◇ 50 Hz, Right-Hand Opening



◇ 60 Hz, Right-Hand Opening



Included Items

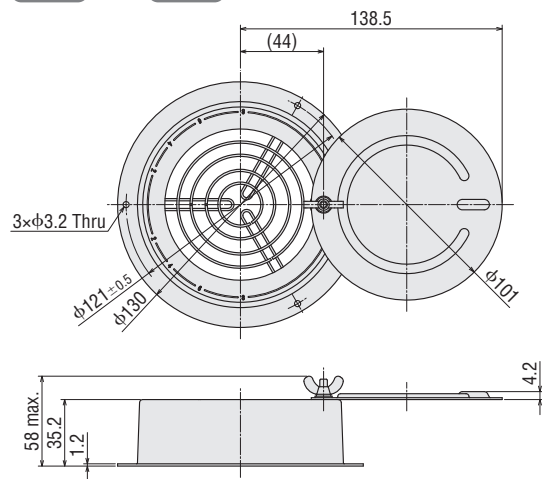
Assembly Screws M3 × 3

Dimensions (Unit = mm)

DMP10.....For **MBS10**

Mass: 0.25 kg

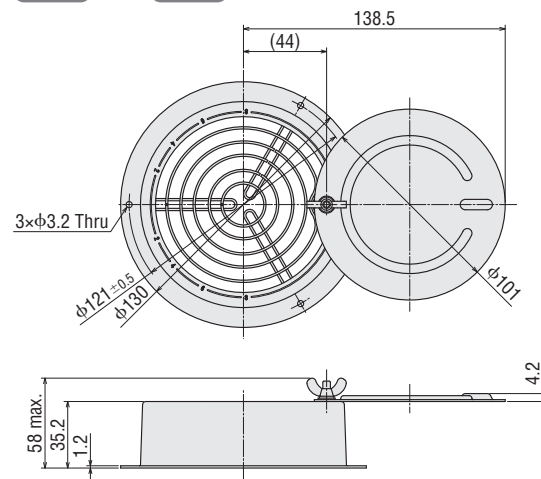
2D CAD E315 **3D CAD**



DMP12.....For **MBS12**

Mass: 0.23 kg

2D CAD E294 **3D CAD**



Intake Finger Guard

This is a finger guard that can be easily attached to the blower inlet. This prevents fingers and other objects from entering the inlet.

Material: Resin

[Assembly Example]

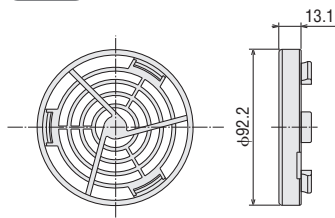


Dimensions (Unit = mm)

FGB10.....For **MBS10**

Mass: 38 g

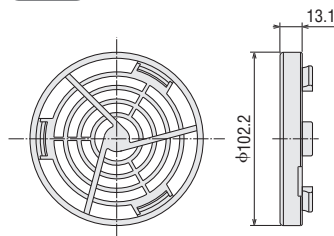
2D CAD E066



FGB12.....For **MBS12**

Mass: 40 g

2D CAD E067



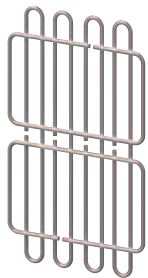
Exhaust Outlet Finger Guard

This is a finger guard for attachment to the blower's exhaust outlet. This prevents fingers and other objects from entering the exhaust outlet.

Material: Stainless steel

Surface Treatment: Electropolishing

[Assembly Example]



Included Items

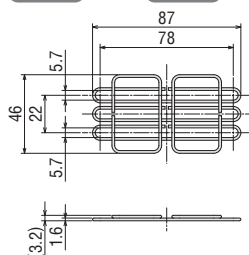
Assembly Screws M5 × 4

Dimensions (Unit = mm)

FGB10ES... For **MBS10**

Mass: 13 g

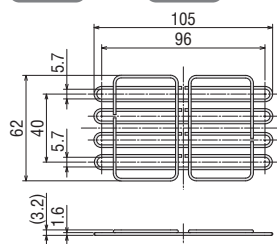
2D CAD E317 3D CAD



FGB12ES.....For **MBS12**

Mass: 20 g

2D CAD E298 3D CAD

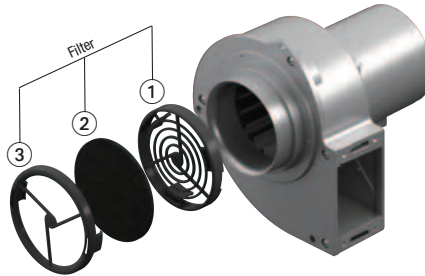


Filter

When using a fan to cool equipment, dust may accumulate as the fan ingests dust inside the equipment. These filters prevent dust from entering and keep the air inside the equipment dust-free.



[Assembly Example]

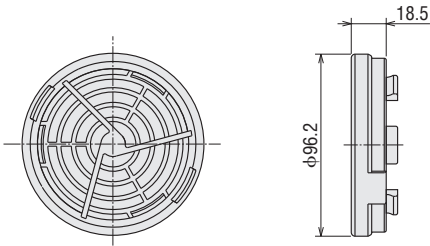


The filter consists of the following three parts:

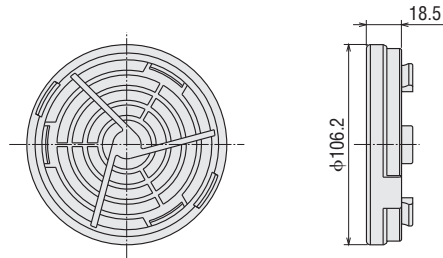
- ① Guard : Plastic finger guard
Flammability classification: V-0
 - ② Filter Media : Expanded polyurethane air cleaning filter media 30 PPI
(PPI: The number of air bubble per inch)
 - ③ Retainer : Plastic media retainer
Flammability classification: V-0
- The filter media and the retainer can be attached and detached very easily for washing or other kinds of maintenance.

Dimensions (Unit = mm)

FLB10.....For **MBS10**
Mass: 47 g (Filter media: 30 PPI)



FLB12.....For **MBS12**
Mass: 52 g (Filter media: 30 PPI)



Replacement Filter Media

Product Name	Applicable Filter
FLBM10	FLB10
FLBM12	FLB12

Note

- One package contains five filter media.
- When ordering, please specify the quantity by the number of packages.