

OPERATING MANUAL

Cross Flow Fans MF Series



Introduction

■ Before using the fan

Only qualified and educated personnel should work with the product. Use the product correctly after thoroughly reading the section “Safety precautions”. The product described in this manual has been designed and manufactured to be incorporated in general industrial equipment. Do not use for any other purpose. Oriental Motor Co., Ltd. is not responsible for any damage caused through failure to observe this warning.

■ Standard - CE Marking

This product is recognized by UL and certified by CSA, and bears the CE Marking (Low Voltage Directive) in compliance with the EN Standards.

● Standards

| Standards | Certification body |
|------------------|--------------------|
| UL 507 | UL |
| CSA C22.2 No.113 | |

● Installation conditions (For EN Standards)

Overvoltage category II, Pollution degree 2, Class I equipment. When connecting to a power supply of overvoltage category III, supply power via the insulation transformer.

● RoHS Directive

The products do not contain the substances exceeding the restriction values of RoHS Directive (2011/65/EU).

Safety precautions

The precautions described below are intended to prevent danger or injury to the user and other personnel through safe, correct use of the product. Use the product only after carefully reading and fully understanding these instructions.



Warning

Handling the product without observing the instructions that accompany a “Warning” symbol may result in serious injury or death.

- Do not use the product in explosive or corrosive environments, in the presence of flammable gases, locations subjected to splashing water, or near combustibles. Doing so may result in fire, electric shock or injury.
- Only qualified and educated personnel should be allowed to perform installation, connection, operation and inspection/troubleshooting of the product. Handling by unqualified and uneducated personnel may result in fire, electric shock or injury.
- Do not transport, install the product, perform connections or inspections when the power is on. Always turn the power off before carrying out these operations. Failure to do so may result in electric shock.
- Turn off the power in the event the overheat protection device (thermal protector) is triggered. Failure to do so may result in injury or damage to equipment, since the fan will start abruptly when the overheat protection device (thermal protector) is automatically reset.

Thank you for purchasing an Oriental Motor product. This Operating Manual describes product handling procedures and safety precautions.

- Please read it thoroughly to ensure safe operation.
- Always keep the manual where it is readily available.

- The fan for class I equipment. Install the fan so as to avoid contact with hands, or ground it to prevent the risk of electric shock.

Lüfter zur Verwendung in Geräten der Schutzklasse I. Die Gehäuse der Lüfter sind mit einer Schraube und Zahnscheibe sicher mit dem geerdeten Gehäuse des Gerätes zu verbinden.

- Install the fan in an enclosure in order to prevent electric shock or injury.
- Keep the input-power voltage within the specified range to avoid fire and electric shock.
- Connect the cables securely according to the wiring diagram in order to prevent fire and electric shock.
- Do not forcibly bend, pull or pinch the cable. Doing so may fire and electric shock.
- Turn off the power in the event of a power failure, or the fan will suddenly start when the power is restored and may cause injury or damage to equipment.
- Do not disassemble or modify the fan. This may cause electric shock or injury. Refer all such internal inspections and repairs to the branch or sales office from which you purchased the product.



Caution

Handling the product without observing the instructions that accompany a “Caution” symbol may result in injury or property damage.

- Do not use the fan beyond its specifications, or electric shock, injury or damage to equipment may result.
- Keep your fingers and objects out of the openings in the fan. This may cause injury.
- Do not touch the motor during operation or immediately after stopping. The surface is hot and may cause a skin burn(s).
- Do not hold the rotating parts (impeller) of the fan or lead wire. This may cause injury.
- Keep the area around the fan free of combustible materials in order to prevent fire or a skin burn(s).
- To prevent the risk of damage to equipment, leave nothing around the fan that would obstruct ventilation.
- Do not touch the rotating parts (impeller) when the fan is in operation. This may cause injury. The use of the optional fingerguard is recommended to ensure protection.
Wegen der Verletzungsgefahr dürfen die Lüfterflügel bei Ventilatorbetrieb nicht berührt werden. Der Gebrauch des als Sonderzubehör erhältlichen Fingerschutzes ist empfehlenswert, um erhöhte Sicherheit zu gewährleisten.
- When an abnormality is noted, stop the operation immediately, or fire, electric shock or injury may occur.
- The motor's surface temperature may exceed 70 °C (158 °F), even under normal operating conditions. If a fan is accessible during operation, post the warning label shown in the figure in a conspicuous position to prevent the risk of skin burn(s).
- Dispose the product correctly in accordance with laws and regulations, or instructions of local governments.



Warning label

Preparation

To verify that the unit you've purchased is the correct one, check the model number shown on the identification plate.

Report any incorrect or damaged item to the branch or sales office from which you purchased the product.

**MF930-BC, MF930B-BC, MF930-DC, MF930B-DC,
MF915-BC, MF915B-BC, MF915-DC, MF915B-DC**

Installation

■ Location for installation

Install it in a well-ventilated location that provides easy access for inspection. The location must also satisfy the following conditions:

- Inside an enclosure that is installed indoors
- Operating ambient temperature
-10 to +60 °C (+14 to +140 °F) (non-freezing)
- Operating ambient humidity 85%, maximum (non-condensing)
- Area that is free of explosive atmosphere or toxic gas (such as sulfuric gas) or liquid
- Area not exposed to direct sun
- Area free of excessive amount of dust, iron particles or the like
- Area not subject to splashing water (rain, water droplets), oil (oil droplets) or other liquids
- Area not subject to continuous vibration or excessive shocks
- Area free of radioactive materials, magnetic fields or vacuum
- Area free of excessive electromagnetic noise (from welders, power machinery, etc.)

When using near a switching circuit or high-frequency power supply, the induced current may flow inside the fan due to electromagnetic noise (conductive noise, radiative noise). If the induced current flows, the electric corrosion is caused in the bearings of the fan. As a result, it may generate the noise or shorten the service life of the products. Use the fan in the environment that the electromagnetic noise does not cause.

■ How to install the fan

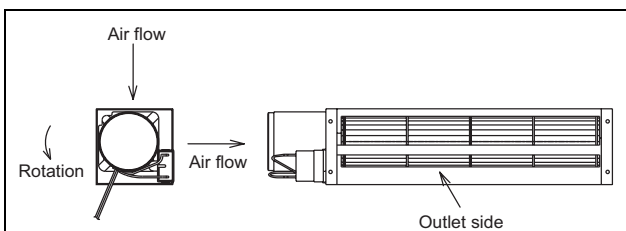
Install the fan onto an appropriate flat metal plate having excellent vibration resistance and heat conductivity.

See the panel cut-out, mounting-hall reference drawing for information on how to provide mounting holes on the equipment used and secure the fan with screws (not supplied).

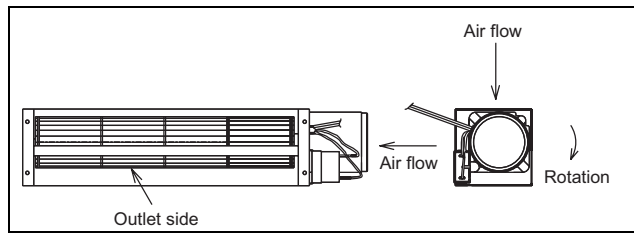
The screw size is M4 and the tightening torque is 1.4 N·m (12.4 lb-in).

Air flow, rotation

- MF930 type, MF915 type



- MF930B type, MF915B type



Overheat protection

The fan uses a thermal protector for overheat protection. Once the temperature reaches a specified level, the internal thermal protector that has an automatic-return feature is triggered to stop the fan operation. Be sure to turn off the power when checking the thermal protector.

Operating temperature of thermal protectors

Open (Power OFF).....120±5 °C (248±9 °F)

Close (Power ON).....77±15 °C (170±27 °F)

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• Please contact your nearest Oriental Motor office for further information.

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