



## OPERATING MANUAL

### Cooling Module FM Series IP43/55 Rated Filter Panel

#### Introduction

##### ■ Before using the product

Only qualified personnel should work with the product. The product described in this manual has been designed and manufactured for use in general industrial machinery, and must not be used for any other purpose. Oriental Motor Co., Ltd. is not responsible for any damage caused through failure to observe this warning.

##### ■ Hazardous substances

RoHS (Directive 2002/95/EC 27Jan.2003) compliant

#### Preparation

##### ■ Checking the product

Upon opening the package, verify that the items listed below are included. Report any missing or damaged items to the branch or sales office from which you purchased the product.

- Filter panel ..... 1 pc.
- Mounting frame ..... 1 pc.
- Mounting screw set ..... 2 sets  
(Tap-tight screws for affixing mounting frame and grille affixing screws)
- Operating manual ..... 1 copy

##### ■ Checking the model name

Check the model number against the number indicated on the product.

#### Installation

##### ■ Location for installation

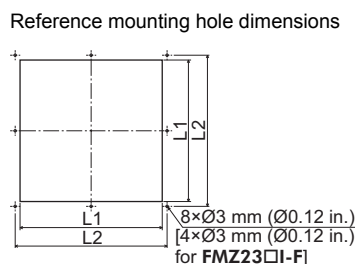
The filter panel is designed and manufactured for installation in equipment. The hood side of the filter panel is designed to IP43 or IP55 to provide protection against ingress of objects and liquids in an environment of pollution degree 2. Install it in a well-ventilated location that provides easy access for inspection. The location must also satisfy the following conditions:

- Inside an enclosure that is installed indoors (provide vent holes)
- Operating ambient temperature  
-45 to +85 °C (-49 to +185 °F) (non-freezing)
- Operating ambient humidity 65% or less (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 (rains, water droplets), oil (oil droplets) or other liquids
- Area free of excessive salt
- Area not subject to continuous vibration or excessive shocks
- Area free of excessive electromagnetic noise (from welders, power machinery, etc.)
- Area free of radioactive materials, magnetic fields or vacuum

##### ■ Installation method

Install the filter panel onto an appropriate flat metal plate having excellent vibration resistance and heat conductivity. Position the filter panel vertically with the hood outlet facing down.

1. Drill a mounting hole in the enclosure.



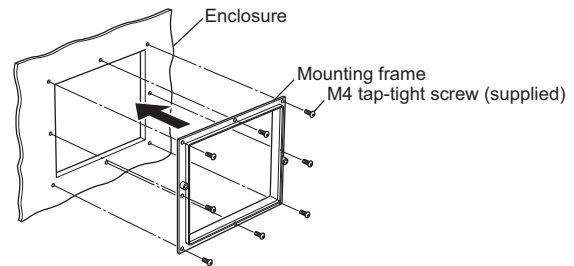
Thank you for purchasing an Oriental Motor product. This Operating Manual describes product handling procedures and safety precautions.

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

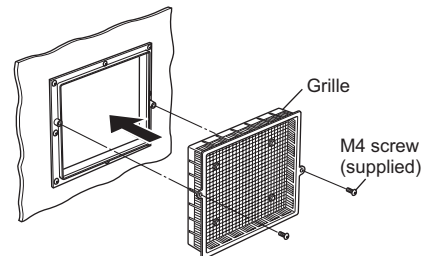
| Model            | Dimensions [mm (in.)]                   |                            |
|------------------|---|----------------------------|
|                  | L1                                      | L2                         |
| <b>FMZ23□I-D</b> | 176 <sup>+0.4</sup> <sub>0</sub> (6.93) | 188 <sup>+0.2</sup> (7.40) |
| <b>FMZ23□I-E</b> | 125 <sup>+0.4</sup> <sub>0</sub> (4.92) | 137 <sup>+0.2</sup> (5.39) |
| <b>FMZ23□I-F</b> | 97 <sup>+0.4</sup> <sub>0</sub> (3.82)  | 109 <sup>+0.2</sup> (4.29) |

2. Remove the protective tape from the mounting frame. Fit the mounting frame into the protective hole and affix the frame with the supplied tap-tight screws at eight locations (or at four locations for **FMZ□23□I-F**).

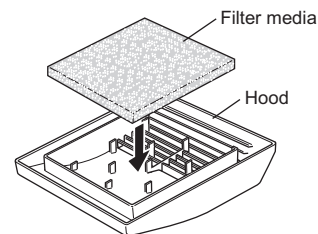
Take note that since the mounting frame is made of ABS resin, tightening the screws excessively may damage the frame.



3. Insert the grille assembly into the mounting frame and affix the assembly with the supplied screws at two locations. The tightening torque is 0.57 N·m (81 oz-in).



4. Install the filter media into the hood. Do not install the media on the grille side, as it may reduce the air volume. The filter media must be installed in such a way that air will flow from the coarse-mesh side to the fine-mesh side. Wrong orientation will cause the media to clog easily.



5. Install the hood on the grille.

## Option

### ■ Replacement filter media

#### ● IP43 rated filter media

Set of 5 sheets

| Model          | Applicable product  |
|----------------|---|
| <b>FMXAB-D</b> | <b>FM series</b> – External dimensions:<br>209 × 226 mm (8.23 × 8.90 in.) |
| <b>FMXAB-E</b> | <b>FM series</b> – External dimensions:<br>157 × 170 mm (6.18 × 6.69 in.) |
| <b>FMXAB-F</b> | <b>FM series</b> – External dimensions:<br>129 × 134 mm (5.08 × 5.28 in.) |

#### ● IP55 rated filter media

Set of 5 sheets

| Model          | Applicable product  |
|----------------|---|
| <b>FMXAC-D</b> | <b>FM series</b> – External dimensions:<br>209 × 226 mm (8.23 × 8.90 in.) |
| <b>FMXAC-E</b> | <b>FM series</b> – External dimensions:<br>157 × 170 mm (6.18 × 6.69 in.) |
| <b>FMXAC-F</b> | <b>FM series</b> – External dimensions:<br>129 × 134 mm (5.08 × 5.28 in.) |

Cooling of the filter media reduces the cooling capacity. Clean or replace the filter media regularly.

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