**MCF Air Flowmeter NPT Model Measurement Module Replacement Manual**

This manual describes how to replace the MCF measurement module. Before attempting to replace the module, please take note of the below points.

Please read the “Terms and Conditions” from the following URL before ordering or use:
http://www.azbil.com/products/bi/order.html

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### Precautions for Replacing the Measurement Module

**DANGER**
When servicing or replacing the measurement module, release the flowmeter’s internal pressure before removing the measurement module.

**Handling Precautions**
- The measurement module in models MCF0080, MCF0150, and MCF151 cannot be replaced.

After replacement of the measurement module, the accuracy guaranteed for MCF0120, MCF0150, and MCF0500 flowmeters changes from ±1.5% to ±2.5% FS.

- If the measurement module of a model with RS-485 RS-485 communications is replaced with a module for a 4-20 mA output model, the rubber material cannot be changed from HNBR to FKM.

### Handling Precautions

- If the flow path identifier and output field are not input, the flow rate will not be measured correctly.

1. Open the model number of the measurement module with a blower.

2. Push the [flow path identifier] key for 2 seconds or more.

3. Use the [mode] key to change the flow path identifier.

4. Use the [enter] key to exit the setup mode.

5. Power ON

6. When changing the setting, press and hold the [flow path identifier] key for 2 seconds or more to return to normal indication mode.

### Function Selection

**Required items**
- Hex wrench (3 mm), air blower, protective goggles, helmet, and gloves

**Procedure**
1. Wear protective goggles, helmet, and gloves.

2. In order to transfer the settings from the present measurement module to the new one, reset the function setup, parameter settings, and maintenance mode settings, and record the settings in the tables on the next page. For help in navigating between the modes, refer to the state transitions chart.

3. Turn off the power, and disconnect the connector.

**Handling Precautions**

- Do not rotate the connector cable at the neck where it is inserted into the MCF flowmeter, as this may rotate the connector, holding and damaging the main path.

- When the flow rate is less than 0.001 m³/h, the measured value and integrated flow value are displayed.

- Release the air pressure from the flowmeter and from the piping, and then make sure that the gauge pressure is zero.

- Loosen the four bolts holding the measurement module bit by bit, and then remove both the measurement module and packing.

- If the rubber bush in the flange is attached to the main flow path, remove it also.

- When connecting the output lines of inlet and outlet holes on top of the main path for the measurement module with a blower.

**Handling Precautions**

- If there is foreign matter or blockage in the inlet or outlet of the main flow path, the flow cannot be correctly measured.

- Make sure that the pressure of new measurement module is assembled correctly. If the rubber bush is out of place, mount it in the new measurement module.

- Put the new packing on the main flow path, and then attach it to the main flow path sets the flow path arrow on the label of the measurement module with the direction of the flow arrow on the label of the measurement module. Place the tube on the top main flow path. Tighten the bolts by bit by the specified torque, alternating bolts in a diagonal pattern.

- After attaching the measurement module, connect the connector, turn on the power, and then move to function setup mode. If the settings of the previous measurement module are different from the measurement module, do not touch the measurement module.

- Next, move to parameter setup mode, and change the settings as required.

- Do not move the measurement module or change the module for 4-20 mA output model.

- After the measurement module is attached, connect to the main path, and move to the function setup mode.

- After attaching the connector, note the following specifications for the cable with the Y4 connector. (1) Tightening torque for the M12 nut on the connector cable 0.4 to 0.6 N·m (2) Pullout strength for the connector cable 20 N·m

- When detecting the measurement module, wear safety goggles. Before replacing, release the internal pressure of the flowmeter. Failure to do so may cause an accident or equipment damage.

- When installing the measurement module, take care that the rubber bush and the bolt-in filter remain in their proper locations. If these parts slip out of place during assembly, external leakage or reduced accuracy may result.

- When attaching the measurement module, tighten the 4 bolts bit by bit, switching back and forth in a diagonal pattern, until they reach the specified torque (2.5-3.5 N·m).

### Part Names and Measurement Module Structure

**Specifications are subject to change without notice. (03) 2010.07.09 2nd ed.**