The flow calibration rig in Kyoto has the only two-stage elevated water tank system in Japan. At a height of 35m, the tanks are also the highest in Japan. It can run eight systems simultaneously, and its weighing system with maximum flow of 5,000m$^3$/h makes this calibration rig the largest of its kind in Japan.

[Image: Calibration Facility for water]

Maximum 50D upstream straight pipe for accurate calibration

Elevated water tank for calibration

Calibration facility for JCSS MRA

Flowmeters
Selection Guide

Azbil Corporation
Advanced Automation Company

1-12-2 Kawana, Fujisawa
Kanagawa 251-8522 Japan

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Please read "Terms and Conditions" from the following URL before ordering and use.
http://www.azbil.com/products/factory/order.html

Yamatake Corporation changed its name to Azbil Corporation on April 1, 2012.

CA2-5100
The flow rate is the most basic measurement in a process. A variety of methods of measuring the flow rate have been developed to cover a broad spectrum of fluid characteristics and measuring environments. We have released the following five types of flowmeters to provide longer operating life, good maintainability, and saving energy as customers require: electromagnetic, differential pressure, coriolis mass, vortex, and thermal. From these, you can select the best for your specific needs.

We offer a wide variety of flowmeters to meet your specific needs.
MagneW3000 PLUS+ Series
Smart Electromagnetic Flowmeter
Model MGG/MGS

**Features**
The MagneW3000 PLUS+ electromagnetic flowmeter offers high performance, and high reliability based on the azbil Group’s field-proven technologies. The model MGG14C converter provides expanded flow rate and process measurement capabilities when used with the new selection of MagneW3000 PLUS+ detectors. FM/CSA nonincendive model is suitable for use in Class I / II / III Division 2, Groups A, B, C, D, F, and G or non-hazardous locations only. General model is suitable for non-hazardous locations.

**Standard specifications**
- **Diameter**: 2.5, 5, 10, 15, 25, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000, 1100 mm
- **Setting range**: 0 to 0.3 m/s (minimum), 0 to 10 m/s (maximum)
- **Power supply**: 90 to 130 Vac, 190 to 250 Vac, 47 to 63 Hz,
  110 Adc ±10%, 24 Vdc ±10%
- **Enclosure**: Detector: submersible (IEC IP68), submersible (IEC IP68)
  Converter: waterproof (NEMA 4X, IEC IP66)
- **Installation type**: Remote
- **Explosion-proof structure**: TIIS/ FM/ CSA nonincendive, FM/ CSA nonincendive
- **Case material**: Detector: SUS304, aluminum alloy, carbon steel
  Converter: aluminum alloy
- **Lining material**: PFA, polyurethane rubber, chloroprene rubber, ceramic, ETFE
- **Fluid temperature**: -40 to +120°C (lined with ETFE)
  -40 to +180°C (lined with ceramic)
- **Ambient temperature**: -25 to +60°C
- **Output**: 4 to 20 mAdc
- **Electrical conductivity of fluid**: 300 μS/m (3 μS/cm) or more
- **Applicable fluids**: Water, sewage, chemicals, slurries, food, highly viscosity liquid
- **Accuracy**: ±0.5 % of reading flow rate of more than 20 % of setting range,
  ±0.35 % of reading flow rate of more than 20 % of setting range
- **EMC conformity**: EN61326

MagneW3000 PLUS+ Series
Smart Electromagnetic Flowmeter for Open Channel Flowmeter Detector
Model NNK

**Features**
The MagneW3000 PLUS+ Open Channel Flowmeter is designed for both open channel and closed channel flow measurement. In open channel measurements, the MagneW provides accurate flow measurement even at minimal flow rates and is not affected by tidal levels or hydrostatic pressure changes. The detector is obstruction-less and has no moving parts, resulting in trouble-free operation and reduced maintenance costs. Unlike other open channel flowmeter designs, the MagneW provides an output that is linear with the flow rate.

**Standard specifications**
- **Diameter**: 50, 100, 200, 400, 600 mm
- **Setting range**: 0 to 0.3 m/s (minimum), 0 to 10 m/s (maximum)
- **Power supply**: 90 to 130 Vac, 47 to 63 Hz,
  110 Adc ±10%, 24 Vdc ±10%
- **Enclosure**: Detector: submersible (IEC IP68), submersible (IEC IP68)
  Converter: waterproof (NEMA 4X, IEC IP66)
- **Installation type**: Remote
- **Explosion-proof structure**: IN A I
- **Case material**: Detector: PVC
  Converter: aluminum alloy
- **Lining material**: PVC
- **Fluid temperature**: 0 to +90°C
- **Ambient temperature**: 0 to +40°C
- **Output**: 4 to 20 mAdc
- **Pulse output**: open collector, contact output: open collector
- **Electrical conductivity of fluid**: 300 μS/m (3 μS/cm) or more
- **Applicable fluids**: Water, sewage
- **Accuracy**: ±1.5 % (Detector only), ±2 % (Combined with dummy)
- **EMC conformity**: N/A

- **E=BDV**
  - **E**: Electromotive force
  - **B**: Magnetic induction density
  - **D**: Diameter
  - **V**: Average flow velocity

- **E=BDV**
  - **E**: Electromotive force
  - **B**: Magnetic induction density
  - **D**: Diameter
  - **V**: Average flow velocity
**Flowmeters Selection Guide**

### MagneW Two-wire PLUS Series

**Smart Two-wire Electromagnetic Flowmeter**

**Model MTG**

**Features**

- In the past, users had to make big sacrifices in functionality and performance to take advantage of two-wire simplicity, but this is no longer the case. The innovative design of the MTG18A delivers performance equal to current four-wire magnetic flowmeters. Azbil group released the world’s first two-wire loop powered magnetic flowmeter in 1992. Now we’ve taken the experience gained with the SMT3000 and developed the most innovative two-wire magnetic flowmeter on the market. Introducing the MagneW Two-wire PLUS, delivering four-wire functionality with two-wire simplicity.

- The major advantage of two-wire magnetic flowmeter technology is that it provides the end-user with a lower cost of ownership due to lower cost of flowmeter installation. Not only is the electrical installation more economical, but it can be simpler and easier to back up in the event of a power outage. In addition, replacement of existing two- and four-wire flowmeters can be implemented with little electrical work.

### Electromagnetic Flowmeter for Water Applications

**Model MCB**

**Features**

- The Magcube is an electromagnetic flowmeter designed specifically for water applications. Based on field-proven technologies, the Magcube provides cost-effective flow measurement with the features required for water applications.

**Standard specifications**

- **Diameter**: 15, 25, 40, 50, 65, 80, 100 mm
- **Setting range**: 0 to 0.5 m/s (minimum), 0 to 5 m/s (maximum)
- **Power supply**: 24 Vdc ±10%, 90 to 110 Vac
- **Enclosure**: Detector: waterproof (IEC IP65); Converter: waterproof (IEC IP65)
- **Installation type**: Integral
- **Explosion-proof structure**: N.A.
- **Case material**: Detector: SUS304; Converter: polycarbonate
- **Lining material**: PFA (15mm), polypropylene (25 to 100 mm)
- **Fluid temperature**: -20 to +90°C
- **Ambient temperature**: 0 to +50°C
- **Output**: 4 to 20 mAdc
- **Pulse and contact outputs**: open collector
- **Electrical conductivity of fluid**: 5000 μS/m (50 μS/cm) to 5000 000 μS/m (50 000 μS/cm)
- **Applicable fluids**: Water, sewage
- **Accuracy**: ±0.5 % of reading (flow rate of more than 30 % or 40 % of setting range)
- **EMC conformity**: EN61326

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**Flowmeters Selection Guide**

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Electromagnetic Flowmeter
Coriolis Mass Flowmeter
Thermal Vortex Gas Flowmeter
Thermal Flowmeter

7 8

Flowmeters Selection Guide

Multivariable Air Flowmeter
Model MVC

Features
AIRcube conducts air, CO₂, or N₂ gas compensation without any external instruments. This all-in-one transmitter achieves reduced engineering cost while guaranteeing complete accuracy as a flow measurement system.

Standard specifications
- Diameter: 50, 65, 80, 100, 150 mm
- Power supply: 90 to 250 VAC
- Enclosure:
  - Detector: IEC IP54
  - Converter: IEC IP54
- Installation type: Integral
- Explosion-proof structure: N.A.
- Case material:
  - Detector: SCS13, SUS316
  - Converter: aluminum alloy, polycarbonate
- Fluid temperature: -15 to +70°C
- Ambient temperature: -15 to +50°C
- Output:
  - 4 to 20 mA Dc
  - Pulse output: open collector
- Applicable fluids: Gas, steam, liquid
- Accuracy: ±3 % of reading
- EMC conformity: N.A.

Differential Pressure Transmitters
Model GTX

Features
The AT9000 Advanced Transmitter is a microprocessor-based smart transmitter that features high performance and excellent stability. Capable of measuring gas, liquid, vapor, and liquid levels, it transmits 4 to 20 mA DC analog and digital signals.

Standard specifications
- Diameter: 15 to 3000 mm
- Primary elements:
  - Orifice plate, venturi, flow nozzle
- Setting range: 0.1 kPa to 14 MPa for differential pressure flowmeter
- Power supply: 16 to 42 VDC
- Enclosure:
  - Detector: IEC IP67
  - Converter: IEC IP67
- Explosion-proof structure: TSG FM/ATEX/IECEx/REPS/NEPS/ISO 9001 intrinsically safe and explosion-proof, nonincendive
- Case material:
  - Meter body: SUS316, SUS316L
  - Case: aluminum alloy
- Fluid temperature: -40 to +650°C
- Ambient temperature: -25 to +80°C
- Output:
  - 4 to 20 mA Dc
  - Pulse output: open collector
- Applicable fluids: Gas, steam, liquid
- Accuracy: ±2 % of rate with orifice plate
- EMC conformity: EN 61326
**Multivariable Steam Flowmeter**

**Model MVC**

### Features

STEAMcube conducts saturated steam density compensation without any external instruments. This all-in-one transmitter achieves reduced engineering cost while guaranteeing complete accuracy as a flow measurement system.

### Standard specifications

- **Diameter:** 25, 40, 50, 80, 100, 150 mm
- **Power supply:** 16.7 to 45 Vdc
- **Enclosure:** IEC IP67
- **Installation type:** Integral/remote
- **Explosion-proof structure:** TIS explosion-proof
- **Fluid temperature:** -15 to +65°C
- **Ambient temperature:** -15 to +65°C
- **Output:** 4 to 20 mA
- **Fuse:** 0.7 MPa
- **Applicable fluid:** Saturated steam
- **Accuracy:** ±3 % of reading
- **EMC conformity:** N.A.

### Admass

**Coriolis Mass Flowmeter**

**Model RC111**

### Features

This is a Coriolis mass flowmeter for measurement of liquid and gas. The Admass Coriolis Mass Flowmeter measures fluid mass directly by detecting the phase difference of fluid that passes through a detector tube that is vibrated indirectly by a unique torsion bar vibration system. Accordingly, this flowmeter, unlike volumetric flowmeters, does not require temperature and pressure compensation, and is able to obtain the mass flow rate directly.

### Standard specifications

- **Diameter:** 10, 15, 25, 32, 40, 50, 80, 100, 150, 200, 250, 300 mm
- **Power supply:** 24 Vdc ±10%
- **Enclosure:** Detector: waterproof (IEC IP65) Converter: waterproof (IEC IP66)
- **Installation type:** Remote
- **Explosion-proof structure:** N.A.
- **Case material:** Detector: SUS904L, aluminum alloy Converter: aluminum alloy
- **Fluid temperature:** -20 to +120°C
- **Ambient temperature:** -20 to +55°C
- **Output:** 4 to 20 mA
- **Pulse output:** 4 to 20 mA
- **Applicable fluids:** Water, sewage, chemicals, food, high viscosity liquid, gas
- **Accuracy:** ±0.2 % of reading
- **EMC conformity:** EN 61326
**AX2000 Series**

**Multivariable Vortex Flowmeters**

**Model AX2**

### Features
- Measurement of the volumetric flow rate and mass flow rate of liquids, gases, and steam with a single unit.
- Three output signals for improved measurement efficiency and lower costs.
- Highly accurate mass flow rate measurement by compensating for temperature and pressure.
- Insertion models for large-diameter (125 mm or larger) pipes.

### Standard specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Integrated, separated converter</td>
</tr>
<tr>
<td>Diameter</td>
<td>15, 25, 40, 50, 80, 100, 150, 200 mm (inline model), 125 to 1800 mm (insertion model)</td>
</tr>
<tr>
<td>Process fluid</td>
<td>Standard model: -50 to +200°C, High-temperature model: -20 to +400°C, Cryogenic-temperature model: -200 to +50°C</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>Standard operating temperature: -40 to +85°C</td>
</tr>
<tr>
<td>Power supply</td>
<td>24 Vdc ± 10%</td>
</tr>
<tr>
<td>Enclosure</td>
<td>IEC IP67</td>
</tr>
<tr>
<td>Installation type</td>
<td>Integral</td>
</tr>
<tr>
<td>Case material</td>
<td>Detector: SUS304, Converter: aluminum alloy (ADC 12)</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>Standard: -15 to +60°C, Ambient: -15 to +60°C</td>
</tr>
<tr>
<td>Output</td>
<td>4 to 20 mA, Pulse output: open collector, 20% load</td>
</tr>
<tr>
<td>Applicable fluids</td>
<td>Air, N, O, CO, natural gas, methane, propane, butane, other inert gases</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Actual: 2 % of reading, Normal: 3.3 % of reading</td>
</tr>
<tr>
<td>EMC conformity</td>
<td>EN 61326</td>
</tr>
</tbody>
</table>

### Micro Flow Vortex Gas Flowmeter

**Model MVF**

### Features
- By using the high-sensitivity and high-speed response the azbil Group µF (Micro Flow) sensor for the detection of vortex frequency, the MVF is able to offer a wide rangeability of 100:1*.
- Temperature and pressure compensation functions are built in, so there is no need for costly external devices.

### Standard specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>50, 80, 100, 150 mm</td>
</tr>
<tr>
<td>Power supply</td>
<td>24 Vdc ± 10%</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>-15 to +60°C</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-15 to +60°C</td>
</tr>
<tr>
<td>Output</td>
<td>4 to 20 mA, Pulse output: open collector</td>
</tr>
<tr>
<td>Applicable fluids</td>
<td>Air, N, O, CO, natural gas, methane, propane, butane, other inert gases</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Actual: 2 % of reading, Normal: 3.3 % of reading</td>
</tr>
<tr>
<td>EMC conformity</td>
<td>EN 61326</td>
</tr>
</tbody>
</table>

* at 0.5 MPa
**μF Series**

### High-Flow Mass Flowmeter

**Model CML**

- **Features**
  - The CML is a high-flow gas mass flowmeter that uses the azbil Group μF (Micro Flow) sensor as its sensing element.
  - The combination of an ultraminiature high-precision sensor and advanced circuit design technology has enabled high accuracy and impressive 160:1 rangeability.

- **Standard specifications**
  - **Detector**
    - Diameter: 50, 80, 100, 150 mm
    - Setting range: 0 to 160 m³/h (minimum) to 1600 m³/h (maximum)
  - **Converter**
    - Power supply: 85 to 264 Vac
    - Enclosure: IEC IP65
    - Installation type: Integral
    - Case material: Detector: SUS304/SCS13A, Converter: aluminum alloy (ADC12)
  - **Fluid temperature**
    - -25 to +60°C
  - **Ambient temperature**
    - -25 to +60°C
  - **Output**
    - Pulse output: open collector
  - **Applicable fluids**
    - Air, N₂, Ar, O₂, CO₂, natural gas, propane, butane
  - **Accuracy**
    - 2% of reading

---

### Air Flowmeter

**Model MCF**

- **Features**
  - The MCF is a mass flowmeter specifically designed for use with compressed air or nitrogen use. It incorporates azbil group Micro Flow thermal mass-flow rate sensor.
  - The MCF can measure mass flow with an accuracy of ±3% FS over a 50:1 measurement range. Forward and reverse flow integration functions are provided.
  - Measurement is possible at up to 2 times the standard range with an accuracy of ±10% of reading.

- **Standard specifications**
  - **Detector**
    - Diameter: 8, 15, 25, 40, 50 mm
    - Setting range: 0 to 300  l/min (minimum) to 12000  l/min (maximum)
  - **Converter**
    - Power supply: 22.8 to 25.2 Vdc
    - Enclosure: IEC IP65
    - Installation type: Integral
    - Case material: Detector: aluminum alloy, Converter: PBT
  - **Fluid temperature**
    - -10 to +60°C
  - **Ambient temperature**
    - -10 to +60°C
  - **Output**
    - Pulse output: open collector
  - **Applicable fluids**
    - Air, N₂
  - **Accuracy**
    - 3% FS
  - **EMC conformity**
    - EN 61326
### μF Series

#### Gas Mass Flowmeter

**Model CMS**

<table>
<thead>
<tr>
<th><strong>Features</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The CMS is a highly reliable gas mass flowmeter that uses the abel Group μF (Micro Flow) sensor as its sensing element. The μF sensor is a MEMS thermal mass-flow sensor capable of measuring ultralow flow rates. The integration of the μF sensor and advanced channel design technology has achieved high accuracy and high rangeability at a low cost.</td>
<td></td>
</tr>
</tbody>
</table>

### μF Series

#### Gas Flow Monitor

**Model CMG**

<table>
<thead>
<tr>
<th><strong>Features</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The CMG is a flowmeter designed to measure the fuel flow to a gas burner. Its sensing element is the Micro Flow sensor chip, a MEMS thermal mass flow sensor. The monitor displays instantaneous or totalized flow. Available outputs include alarm, instantaneous flow (analog output), totalizer pulse (NPN open collector) and event, for management of combustion air/fuel ratio.</td>
<td></td>
</tr>
</tbody>
</table>

### Standard Specifications

#### CMS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>¼&quot;, ½&quot;</td>
</tr>
<tr>
<td>Setting range</td>
<td>0 to 0.5 L/min , 0 to 2000 L/min</td>
</tr>
<tr>
<td>Power supply</td>
<td>11.4 to 25.2 Vdc</td>
</tr>
<tr>
<td>Installation type</td>
<td>Integral</td>
</tr>
<tr>
<td>Case material</td>
<td>Detector: SUS303 / SUS316, Converter: polycarbonate</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>-10 to +60°C</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-10 to +60°C</td>
</tr>
<tr>
<td>Output</td>
<td>4 to 20 mAdc, 0 to 5 Vdc, 1 to 5 Vdc</td>
</tr>
<tr>
<td>EMC conformity</td>
<td>EN 61326</td>
</tr>
</tbody>
</table>

#### CMG

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>15, 25, 40, 50 mm</td>
</tr>
<tr>
<td>Setting range</td>
<td>0 to 2 m³/h (minimum), 0 to 150 m³/h (maximum)</td>
</tr>
<tr>
<td>Power supply</td>
<td>100/200 Vac (85 to 110 %), 24 Vdc ± 10 %</td>
</tr>
<tr>
<td>Enclosure</td>
<td>JIS IP54</td>
</tr>
<tr>
<td>Case material</td>
<td>Detector: aluminum alloy or SCS13, Converter: PBT + GF 30 %</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>-10 to +60°C</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-10 to +60°C</td>
</tr>
<tr>
<td>Output</td>
<td>4 to 20 mAdc, 1 to 5 Vdc</td>
</tr>
<tr>
<td>Pulse output (open collector), alarm (electromagnetic relay)</td>
<td></td>
</tr>
<tr>
<td>EMC conformity</td>
<td>EN 61326, EN 61010</td>
</tr>
</tbody>
</table>
### High-Flow Mass Flowmeter

**Model CMP**

**Features**
The CMP is a high-flow natural gas mass flowmeter that uses the azbil Group μF (Micro Flow) sensor as its sensing element. The combination of an ultraminiature precision sensor and advanced circuit design technology has enabled high accuracy and impressive 160:1 rangeability.

### Standard specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>50, 80, 100, 150 mm</td>
</tr>
<tr>
<td>Setting range</td>
<td>0 to 160 m³/h (traverse) 1600 m³/h (traverse)</td>
</tr>
<tr>
<td>Power supply</td>
<td>Lithium battery</td>
</tr>
<tr>
<td>Enclosure</td>
<td>IEC IP65</td>
</tr>
<tr>
<td>Installation type</td>
<td>Integral</td>
</tr>
<tr>
<td>Case material</td>
<td>Detector: SUS304, SS313A</td>
</tr>
<tr>
<td></td>
<td>Converter: aluminum alloy (AOD, 12)</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>-25 to +60°C</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-25 to +85°C</td>
</tr>
<tr>
<td>Output</td>
<td>Pulse output: open collector</td>
</tr>
<tr>
<td>Applicable fluids</td>
<td>Natural gas</td>
</tr>
<tr>
<td>Accuracy</td>
<td>1 % of reading</td>
</tr>
</tbody>
</table>
### μF Series

#### Digital Mass Flow Controller

**Model MQV**

- **Features**
  - The MQV is a digital mass flow controller that combines the azbil Group Micro Flow rate sensor and a proportioning solenoid valve with advanced actuator technology. The result is a high-performance, developed for general industrial use, the MQV was designed with high-speed, wide-rangeability flow control needs in mind.

- **Standard specifications**
  - **Diameter**: ¼", ½"
  - **Setting range**: 0 to 5 mL/min (minimum) - 0 to 1000 L/min (maximum)
  - **Power supply**: 21.6 to 26.4 Vdc (MQV0020 23.5 to 26.4 Vdc)
  - **Case material**: Detector: SUS316
  - **Fluid temperature**: -10 to +60°C
  - **Ambient temperature**: -10 to +60°C
  - **Output**: 0 to 5 Vdc, 1 to 5 Vdc, 4 to 20 mA
  - **Applicable fluids**: Air, N₂, Ar, O₂, CO₂, natural gas, methane, propane, butane, H₂, He
  - **Accuracy**: 1 % FS, 2 % FS
  - **EMC conformity**: EN 61326

#### Compact Digital Mass Flow Controller

**Model F4H**

- **Features**
  - The F4H is a next-generation standard massflow controller. The F4H is a digital mass flow controller equipped with the Micro Flow sensor, the sensor that achieves 0.3 s high-speed controllability.
   - Those are 50% smaller than our conventional models, and all models have communications functions for IoT compatibility.

- **Standard specifications**
  - **Diameter**: ¼"
  - **Setting range**: 0 to 50 mL/min (minimum), 0 to 20 L/min (maximum)
  - **Power supply**: 21.6 to 26.4 Vdc (F4H0020 23.5 to 26.4 Vdc)
  - **Case material**: Detector: SUS316
  - **Fluid temperature**: -10 to +60°C
  - **Ambient temperature**: -10 to +60°C
  - **Output**: 0 to 5 Vdc, 1 to 5 Vdc, 0 to 20 mA
  - **Applicable fluids**: Air, N₂, Ar, O₂, CO₂, natural gas, methane, propane, butane, H₂, He
  - **Accuracy**: 1 % FS, 2 % FS
  - **EMC conformity**: EN 61326
**μF Series**

**Panel Mount Mass Flow Controller**

**Model MPC**

### Features
The MPC is a highly reliable gas mass flow controller that uses the azbil Group Micro Flow sensor as its sensing element. The integration of the μF sensor and advanced channel design technology has achieved high accuracy and high rangeability at a low cost.

### Standard specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>1/8”</td>
</tr>
<tr>
<td>Setting range</td>
<td>0 to 0.5 L/min (minimum), 0 to 20 L/min (maximum)</td>
</tr>
<tr>
<td>Power supply</td>
<td>22.8 to 25.2 Vdc</td>
</tr>
<tr>
<td>Case material</td>
<td>Detector: brass (nickel-plated)</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>-10 to +50°C</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-10 to +50°C</td>
</tr>
<tr>
<td>Output</td>
<td>0 to 5 Vdc, 1 to 5 Vdc</td>
</tr>
<tr>
<td>Pulse output</td>
<td>Open collector</td>
</tr>
<tr>
<td>Applicable fluids</td>
<td>Air, N₂, Ar, CO₂</td>
</tr>
<tr>
<td>Accuracy</td>
<td>± 2 % FS</td>
</tr>
<tr>
<td>EMC conformity</td>
<td>EN 61326</td>
</tr>
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