Microstream flowsensor OF-Z is ideal for measuring a variety of liquids and it is capable of measuring small flow accurately.
### Specification

<table>
<thead>
<tr>
<th>Model</th>
<th>OF05ZAT-AR/MR</th>
<th>OF10ZAT-AR/MR</th>
<th>OF05ZAT-AR/BR</th>
<th>OF10ZAT-AR/BR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nominal diameter</strong></td>
<td>5mm</td>
<td>10mm</td>
<td>5mm</td>
<td>10mm</td>
</tr>
<tr>
<td><strong>Accuracy guaranteed flow range</strong></td>
<td>Liquid viscosity 0.3–0.8mPa-s: 0.085–0.85L/min, 0.7–5L/min</td>
<td>0.085–0.85L/min, 0.7–5L/min</td>
<td>0.085–0.85L/min, 0.7–5L/min</td>
<td>0.085–0.85L/min, 0.7–5L/min</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>±2%RS (Standard installation position)</td>
<td>±2%RS (Standard installation position)</td>
<td>±2%RS (Standard installation position)</td>
<td>±2%RS (Standard installation position)</td>
</tr>
<tr>
<td><strong>Measurable fluid</strong></td>
<td>Hot and cold water/Kerosene/Light oil/heavy oil</td>
<td>Weak acid/weak alkaline/hot and cold water/ kerosene/light oil/heavy oil</td>
<td>Hot and cold water/Kerosene/Light oil/heavy oil</td>
<td>Weak acid/weak alkaline/hot and cold water/ kerosene/light oil/heavy oil</td>
</tr>
<tr>
<td><strong>Maximum working pressure</strong></td>
<td>0.5MPa (Liquid at temperature at 20°C)</td>
<td>0.5MPa (Liquid at temperature at 20°C)</td>
<td>0.5MPa (Liquid at temperature at 20°C)</td>
<td>0.5MPa (Liquid at temperature at 20°C)</td>
</tr>
<tr>
<td><strong>Pressure loss &amp; accuracy guaranteed maximum flow</strong></td>
<td>kPa or less</td>
<td>kPa or less</td>
<td>kPa or less</td>
<td>kPa or less</td>
</tr>
<tr>
<td><strong>Liquid viscosity range</strong></td>
<td>4 kPa or less</td>
<td>10 kPa or less</td>
<td>10 kPa or less</td>
<td>10 kPa or less</td>
</tr>
<tr>
<td><strong>Liquid temperature range</strong></td>
<td>0°C to 200°C ±5</td>
<td>0°C to 200°C ±5</td>
<td>0°C to 200°C ±5</td>
<td>0°C to 200°C ±5</td>
</tr>
<tr>
<td><strong>Ambient working temperature / humidity range</strong></td>
<td>-10°C to +70°C</td>
<td>-10°C to +70°C</td>
<td>-10°C to +70°C</td>
<td>-10°C to +70°C</td>
</tr>
</tbody>
</table>

### Output signal

- **Voltage pulse output (Z..T-AR)**
  - Pulse specification: Load resistance 1KΩ or more, Duty ratio 2: B < 8% OFF = 8%:
  - Cable: Lead cable length: Approx 480mm 3-wire AWG26 Flat cable
  - Pulse unit: 0.46L/mI, 2.5mL/P, 0.46L/mI, 2.5mL/P
  - Max frequency & accuracy guaranteed maximum flow: Approx 31Hz, Approx 34Hz, Approx 31Hz, Approx 34Hz
  - Minimum pulse ON time: Approx 6.5 ms, Approx 6 ms, Approx 6.5 ms, Approx 6 ms
  - Power supply: 9–24VDC

- **PNP open collector pulse output (Z..T-AR)**
  - Pulse specification: Load resistance 1KΩ or more, Duty ratio 2: B < 8% OFF = 8%:
  - Cable: Lead cable length: Approx 600mm 4-wire AWG26 Flat cable
  - Pulse unit: 0.46L/mI, 2.5mL/P, 0.46L/mI, 2.5mL/P
  - Max frequency & accuracy guaranteed maximum flow: Approx 31Hz, Approx 34Hz, Approx 31Hz, Approx 34Hz
  - Minimum pulse ON time: Approx 6.5 ms, Approx 6 ms, Approx 6.5 ms, Approx 6 ms
  - Power supply: 9–24VDC

- **Consumption current**: 8.4mA or less
- **Installation position**: Position that the nameplate is vertical to the floor (Air intrusion shall be avoided)
- **Protection structure**: Indoor use (IPX4 equivalent)
- **Connection**: R1/4, R1/4, R1/4, R1/4
- **Weight**: Approx 100g, Approx 140g, Approx 100g, Approx 140g
- **Main materials of wetted part**: Case: PPS, Rotor: PPS, O-rings: NBR, Shaft: SUS3034, SIC

- For the details of material marks, refer to the back cover.
- For the back cover.
- If a fluid can get mixed with particles, install a filter of which mesh is #80 or more at an upstream side of flow sensor.
- Measurement of gasoline, sodium hydroxide (Caustic soda), hydrogen peroxide solution (Oxydol) and hydrochloric (strong acid) is not allowed.
- For the viscosity unit, refer to the back cover.
- Make sure to confirm product specification before usage.
- In case of open collector output, applied voltage of sensor power supply (Red-Black) and of pulse output (Blue-White-Black) shall be the same.

### Application examples

1. **For flow check of lubrication oil**
   - Combination use of a flow sensor and PLC can detect defects in a lubrication oil pipe and avoid machine breakdown.
   - Flow sensor
   - PLC
   - Lubrication oil

2. **For monitoring of dryer's kerosene**
   - Combination use of a flow sensor, a pump, a solenoid valve, PLC can control dried condition inside a dryer by controlling the fan speed in accordance with kerosene supply amount.
   - Flow sensor
   - PLC
   - Kerosene tank

### Wiring instruction

- **Voltage pulse output (Z..T-AR)**
- **PNP open collector pulse output (Z..T-AR)**

### External dimensions

- **Unit**: mm

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For inquiries, please contact us.

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Technical specifications in this catalog are up-to-date as of June 2022.

Wiring instruction

1. For the flow check of lubrication oil
2. For monitoring of dryer's kerosene

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