Flowmeter Selection Guide
# Flowmeter Selection Guide

## Liquids

<table>
<thead>
<tr>
<th>Clean Liquid</th>
<th>Dirty Liquid</th>
<th>Abrasive</th>
<th>Corrosive</th>
<th>Low Pressure</th>
<th>Low Velocity</th>
<th>Cryptogenic</th>
<th>Hi Temp</th>
<th>Mass Flow</th>
<th>Low Flow Rate</th>
<th>Non-Conductive Fluids</th>
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**Concrete Flow Meter**
- Designed for this service
- Applicable for this service under certain conditions - consult manufacturer

**Magnetic Flow Meter**
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**Magnetic Flow Meter (Variable Area)**
- Designed for this service
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**Capacitance Magnetic**
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**Vortex Flow Meter**
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**Variable Area Flow Meter**
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**Differential Pressure Flow Meter**
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## Gas & Steam

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<tr>
<th>Clean Gas</th>
<th>Dry Gas</th>
<th>Corrosive</th>
<th>Low Pressure</th>
<th>Submerged Stagnant</th>
<th>Superheated Steam</th>
<th>Cryptogenic</th>
<th>Hi Temp</th>
<th>Mass Flow</th>
<th>Low Flow Rate</th>
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**Yokogawa Family**

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**Recommended Model**
- AXFM
- AXMR
- DFMAG
- DFMAG
- DFMAG
- DFMAG

**Typical Applications**
- Conductive fluid (brines, slurries, etc.)
- Non-conductive fluids (water, rainwater)
- Ultra-low-conductive fluid (abnormal deliquescent)
- Corrosive fluids (acids, alkalis)
- Cooling fluids (industrial processes)
- Viscous fluids (food industries)
- Fluids with particles (pipelines)
- Heavy fluids (oil refineries)
- Gasoline (petrochemical plants)
- Coolant fluid (automotive industry)
- Chemicals (pharmaceutical industry)
- Paint products (coatings industry)
- Pharmaceutical industry

**Process Connections**
- Flanged
- Welded
- Threaded
- Barbed

**Communication**
- Analogue output
- HART
- Foundation Fieldbus
- PROFIBUS

**Approvals**
- IEC
- CSA
- CE
- Other consult factory

**Power Supply**
- 24 VDC or 100-240 VAC, 50-60 Hz (dependent on configuration)

**Advantages of the Technology**
- Full bore and no pressure loss, no moving parts, bi-directional, Linear accuracy, no thermal expansion.
- Flow not affected by change in pressure, viscosity, density, temperature, salinity of material in line.
- Viscosity of less than 2000 cSt.
- Wide choice of materials (PVDF, 316L, Acrylic, Glass, etc.)
- Rotameter technology
- Direct mass measurement and density measurement.
- Available in a wide range of sizes, from small to large, for a variety of applications.
- No moving parts, minimum maintenance.
- Dual measurement range, suitable for a large variety of fluids.
- Exothermic and endothermic processes.
- No fluid-chemical compatibility issues.
- High pressure capability.
- Primary element largely depends on performance and engineering simplicity.
- Additional installation for flow measurement.

**Challenges of Technology**
- Conductive fluids not recommended for wide range of gas.
- Susceptible to coating
- Application suitability dependent on conductivity, viscosity and flow rate.
- Pressure loss limited to negligible range with increased viscosity.

**Vertical Installation**
- Not recommended for high viscosity fluids.

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*This information is to be used for reference only. For detailed specifications and application suitability please refer to the general specifications and/or contact your local Yokogawa representative.

www.yokogawa.com/us