

Open Channel Flow Measurement Technology Selection Guide

Suitability for Different Applications	Ultrasonic Sensor	Submerged Probe	Bubbler	Area Velocity Sensor
Weirs and flumes	Excellent ¹	Excellent	Excellent	Excellent
Channels less than 6 in. (150 mm)	Not Recommended	Excellent	Excellent	Not Recommended
Small round pipes, 6 to 8 in. (150 to 200 mm)	Good ²	Excellent	Excellent	Excellent
Medium round pipes, 10 to 15 in. (250 to 375 mm)	Good ²	Excellent	Excellent	Excellent
Large round pipes, 15 to 96 in. (375 to 2500 mm)	Excellent ²	Good	Excellent	Excellent
Irrigation channels and small streams	Excellent ²	Good	Excellent	Good
Rivers and large streams	Excellent ²	Good	Excellent	Good
Chemical Compatibility of Sensor				
Organic solvents	Compatible	Not Recommended	Compatible	Not Recommended
Organic acids	Compatible	Not Recommended	Compatible	Not Recommended
Alcohols	Compatible	Compatible	Compatible	Compatible
Esters	Compatible	Not Recommended	Compatible	Not Recommended
Inorganic acids	Compatible	Not Recommended	Compatible	Not Recommended
Inorganic bases	Compatible	Not Recommended	Compatible	Not Recommended
Inorganic salts	Compatible	Compatible	Compatible	Compatible
Performance Under Adverse Conditions				
Strong winds	Not Recommended	Excellent	Excellent	Excellent
Air temperature fluctuations	Very Good ³	Excellent	Very Good ³	Excellent
Steam above liquid	Not Recommended	Excellent	Excellent	Excellent
Foam on liquid	Not Recommended	Excellent	Excellent	Excellent
Flow stream turbulence	Not Recommended	Excellent	Excellent	Excellent
Floating debris	Not Recommended	Excellent	Excellent	Excellent
Floating oil or grease	Not Recommended	Excellent	Excellent	Excellent
Suspended solids	Excellent	Very Good	Good	Very Good
Suspended grease	Excellent	Very Good	Good	Very Good
Silting in	Excellent	Very Good	Good	Very Good
Liquid temperature fluctuations	Very Good ⁴	Good ⁴	Excellent	Good ⁴
Submerged flow	Not Recommended	Not Recommended	Not Recommended	Excellent
Full pipe flow	Not Recommended	Not Recommended	Not Recommended	Excellent
Surcharged flow	Not Recommended	Not Recommended	Not Recommended	Excellent
Reverse flow	Not Recommended	Not Recommended	Not Recommended	Excellent
Maintenance Requirements Caused by Adverse Conditions				
Silting in	None	Occasional	Occasional	Occasional
Suspended solids	None	Occasional	Occasional	Occasional
High grease concentration	None	Occasional	Occasional	Occasional

1. Use with caution in small flumes
2. There must be adequate space above for mounting sensor.
3. Large air temperature fluctuations will affect accuracy.
4. Large water temperature fluctuations will affect accuracy.



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