

General Guide for the Most Common Types of Pressurized Pipe Flow Meters Used

Type of Flowmeter	Conditions of water	Pipe sizes	Pressure loss	Typical accuracy in percent	Required length of straight pipe upstream of meter	Required length of straight pipe downstream of meter	Cost
Electromagnetic full pipe meter	Few limitations	4", 6", 8", larger sizes available by order	None	±0.5 % of rate	5 or less. Consult dealer and specification sheet	2 or less. Consult dealer and specification sheet	Depends on brand and size of pipe (increases with pipe size)
Electromagnetic insertion meter	Few limitations	3" to 48"	None	±1 % of full scale	10 times the diameter of the pipe	5 times the diameter of the pipe	Low to medium
Ultrasonic (time-of-travel)	Clean water with some particles or air bubbles	1" to 60" or more	None	±2 % of full scale	10 times the inside diameter of the pipe	5 times the inside diameter of the pipe	Medium to high, depending on configuration needed and diameter of pipe
Propeller	Clean, relatively free of sediments preferred	2" to 96"	Low	±2 % of reading	5 to 10 diameters	1 to 2 diameters	Low to high, depending on pipe size
Positive displacement	Clean	5/8" to 2"	High	±1.5 to 2 %	Minimal	Minimal	Low
Vortex	Clean to dirty	2" to 20"	Low to medium	±1 % of full scale	10 times the diameter of the pipe	5 times the diameter of the pipe	Low to medium