

DESCRIPTION

Model M1700 open flow meters are designed to measure the flow in canal outlets, discharge and inlet pipes, irrigation turnouts and other similar installations.

The M1700 series meets or exceeds the American Water Works Association Standard C704-02.

FEATURES

Construction

- Constructed of stainless steel, the meter incorporates bronze mounting brackets that permit simple installation and removal.

Impellers

- Impellers are manufactured of high-impact plastic, designed to retain both shape and accuracy over the life of the meter.
- Each impeller is individually calibrated at the factory to accommodate the use of standard McCrometer registers, and since no change gears are necessary, the M1700 can be field-serviced without the need for factory recalibration.

Bearings

- Factory lubricated, stainless steel bearings are used to support the impeller shaft.
- The sealed bearing design limits the entry of materials and fluids into the bearing chamber providing maximum bearing protection.

Register

- An instantaneous flowrate indicator is standard and available in gallons per minute, cubic feet per second, liters per second and other units.



Typical Applications

The McCrometer propeller meter is the most widely used flowmeter for municipal water and wastewater applications as well as agricultural and turf irrigation measurements.

Typical applications include:

- Water and wastewater management
 - Canal laterals
 - Gravity turnouts from underground pipelines
 - Sprinkler irrigation systems
 - Golf course and park water management
- The register is driven by a flexible steel cable encased within a protective, self-lubricating vinyl liner.
 - The die-cast aluminum register housing protects both the register and cable drive system from moisture while allowing clear reading of the flowrate indicator and totalizer.

INSTALLATION

The M1700 must be mounted on a headwall, standpipe or other suitable structure so that the propeller is located in the center of the discharge or inlet pipe. A straight run of full pipe the length of ten pipe diameters upstream and two diameters downstream of the meter is recommended for meters without straightening vanes. Meters with optional straightening vanes require at least five pipe diameters upstream of the meter. Please specify the inside diameter of the pipe when ordering.

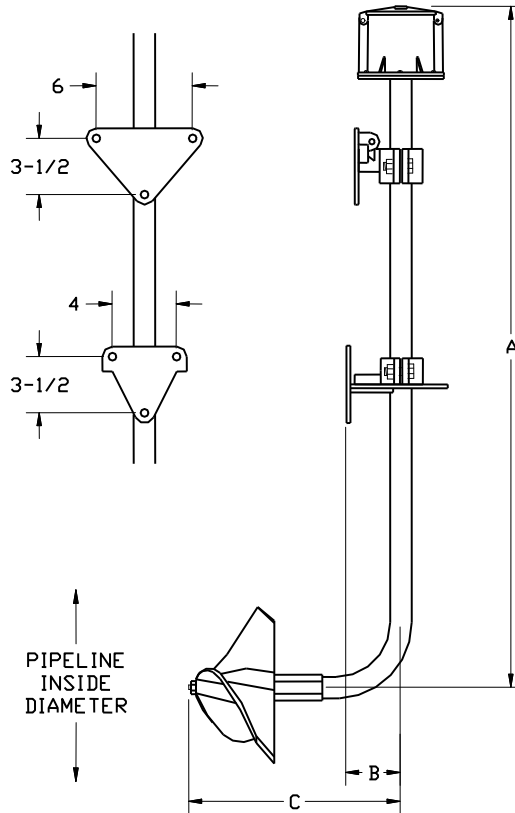
SPECIFICATIONS

Performance	
Accuracy / Repeatability	<ul style="list-style-type: none"> • $\pm 2\%$ of reading guaranteed throughout full range • $\pm 1\%$ over reduced range • Repeatability 0.25% or better
Maximum Temperature	(Standard Construction) 160°F constant
Materials	
Bearing Assembly	Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel
Drop Pipe	304 stainless steel construction
Bearing Housing	<ul style="list-style-type: none"> • Impeller shaft: 316 stainless steel • Ball bearings: 440C stainless steel
Magnets	Permanent type. Alnico.
Register	An instantaneous flowrate indicator and six-digit straight-reading totalizer are standard. The register is hermetically sealed within a die cast aluminum case. This protective housing includes a domed acrylic lens and hinged lens cover with locking hasp.
Impeller	Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter.
Options	
	<ul style="list-style-type: none"> • Marathon bearing assembly for higher than normal flowrates 4" and larger • Digital register available in all sizes of this model • A complete line of flow recording/control instrumentation • Extra wall brackets • Canopy boot

DIMENSIONS

IMPORTANT

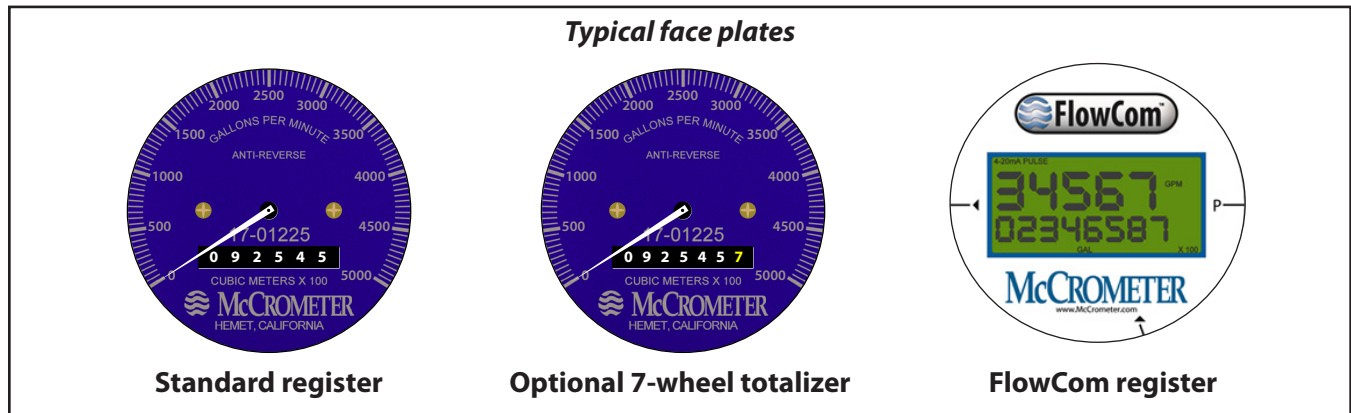
Open flow meters 30" and larger require a FlowCom register.



M1700	DIMENSIONS													
Meter Size (inches)	10	12	14	16	18	20	24	30	36	42	48	54	60	72
Maximum Flow U.S. GPM	1800	2500	3000	4000	5000	6000	8500	12500	17000	22000	30000	36000	42000	60000
Minimum Flow U.S. GPM	125	150	250	275	400	475	700	1200	1500	2200	2800	3500	4000	6000
Approx. Head Loss in Inches at Maximum Flow	3.75	2.75	2.00	1.75	1.50	1.20	1.00	.52	.40	-	-	-	-	-
Approx. Shipping Weight Crated - lbs.	120	120	120	120	140	140	140	140	140	250	250	250	250	250
A * (in feet)	5	5	5	5	6	6	6	6	6	10	10	10	10	10
B Regular Brackets (inches)	2 13/16									4 3/8				
B Universal Brackets (inches)	3 15/16									-				
C (inches)	14 3/4	14 3/4	14 3/4	14 3/4	17	17	17	17	17	21 1/2	21 1/2	21 1/2	21 1/2	21 1/2

* Standard lengths, optional lengths in 12" increments per customer order

TOTALIZERS



Mechanical Totalizer

The instantaneous flowrate indicator is standard and available in gallons per minute, cubic feet per second, liters per second and other units. The register is driven by a flexible steel cable encased within a protective vinyl liner. The register housing protects both the register and cable drive system from moisture while allowing clear reading of the flowrate indicator and totalizer.



Digital Totalizer

The optional FlowCom register displays a flowmeter's flowrate and volumetric total. Available are optional outputs: scaled pulse and/or industry standard 4-20mA signal. The FlowCom can be fitted to any new or existing McCrometer propeller flowmeter.



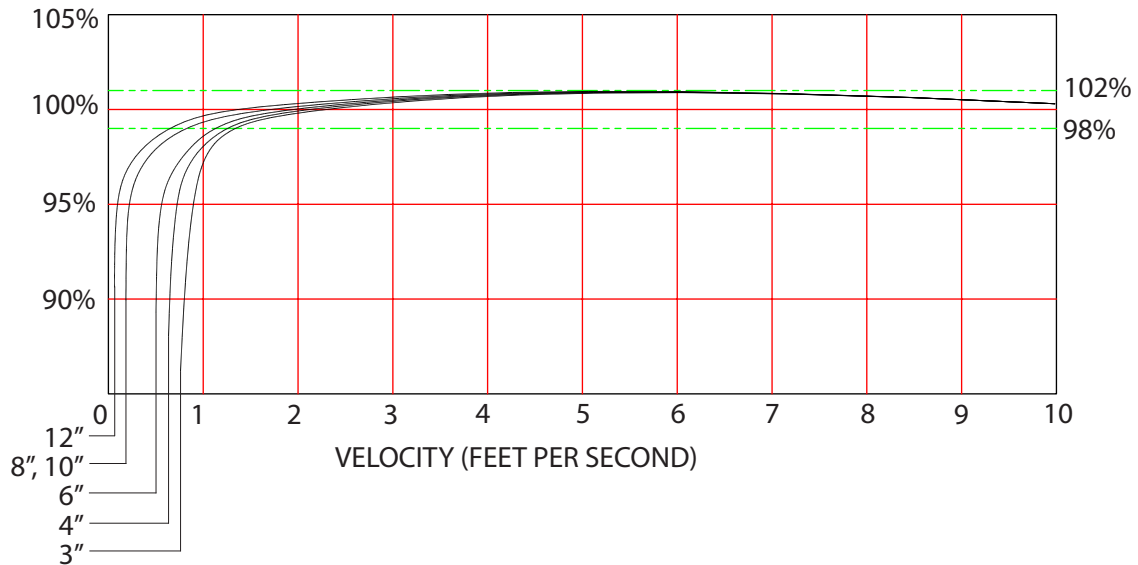
Wireless Telemetry

The optional FlowConnect is designed specifically for wireless telemetry via either satellite or cellular data service. Manual meter reading is never required. It uses either the mechanical register or the digital register (both shown above).

You can determine how often readings are made and transmitted to the cloud database, which you can view on a PC or on a cell phone. The viewing utility provides data tools that can analyze flow rate, consumption, and possible anomalies in an irrigation system.

Accuracy

ACCURACY CHART



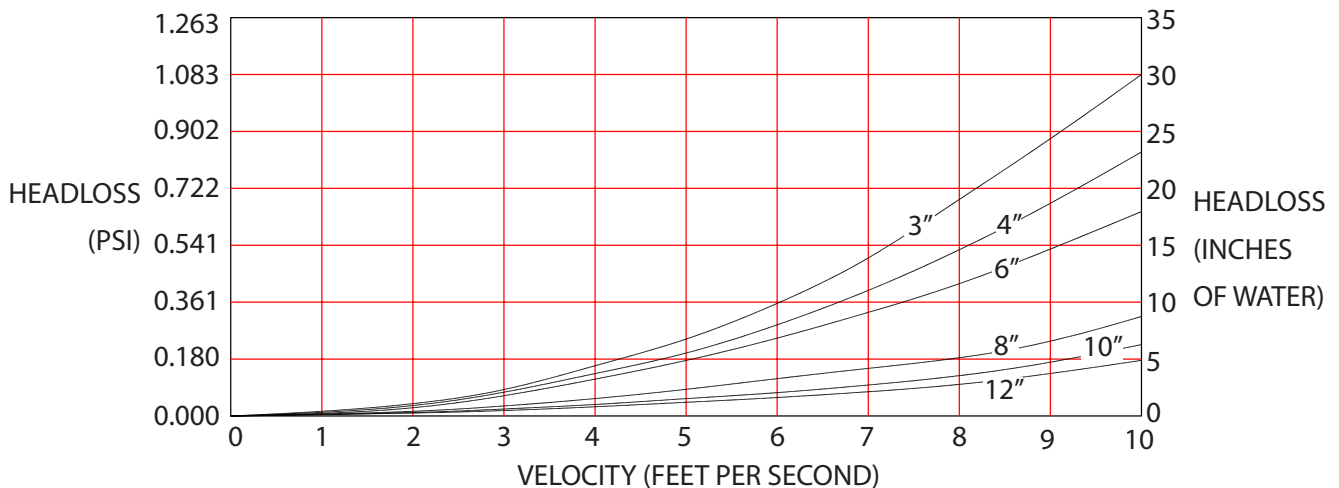
Standard flowrates for McCrometer propeller meters are shown below. Readings are guaranteed accurate within $\pm 2\%$ in these flowrates. Please note that over 80 percent of the meter's flow range, the accuracy is better than $\pm 1\%$.

Nominal Meter Size	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Minimum Flow(U.S.GPM)	40	40	40	50	90	100	125	150	250	275	400	475	700
Maximum Flow(U.S.GPM)	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500
Dial Face Range	250	250	250	800	1300	2500	3000	4000	6000	8000	10000	10000	15000

Headloss

Headloss refers to the fluid pressure lost due to the meter. Propeller meters have very low permanent headloss as seen in the chart below.

HEADLOSS CHART



Nominal Meter Size	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Max. Headloss (in. H ₂ O column)	30	23	17	7	4	3	2	2	2	1	1

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