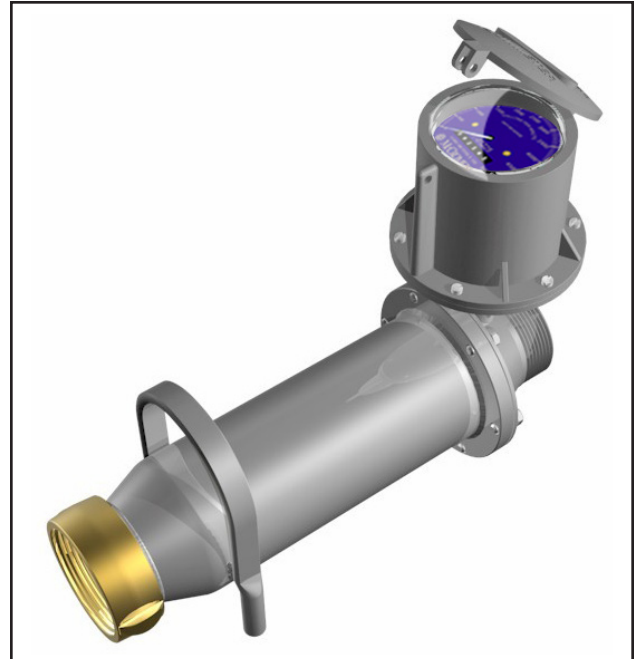


### DESCRIPTION

Designed for testing the flow rate of fire hydrants, the M1104 fire hydrant flow meter also provides totalization for use in determining collectible revenue for temporary hydrant deliveries.

The compact design enables the operator to quickly and easily install the flow meter for instantaneous and accurate flow measurement.

The short length design and convenient carrying handle facilitates installation, particularly in cramped spaces.



### FEATURES

- Complies with the applicable provisions of AWWA Standard C704-02 and latest revisions for propeller flowmeters
- A lightweight and portable meter that provides both instantaneous flowrate indication and totalization.
- Features a six-digit, straight-reading totalizer available in U.S. gallons, cubic feet and other standard units.
- The instantaneous flowrate indicator is standard and available in gallons per minute, cubic feet per second, liter per second and other units.
- Full 4-inch diameter stainless steel meter tube
- Standard 2½-inch fire hydrant threads: male threads on the outlet with a brass swivel coupling on the inlet side
- Modular assembly for easy removal and maintenance of major components

### Typical Applications

- Industrial fire control
- Marine and sprinkler system testing
- Center pivot systems
- Sprinkler irrigation systems
- Drip irrigation systems
- Golf course and park water management
- Commercial nurseries
- Water and wastewater management

### INSTALLATION

Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory.

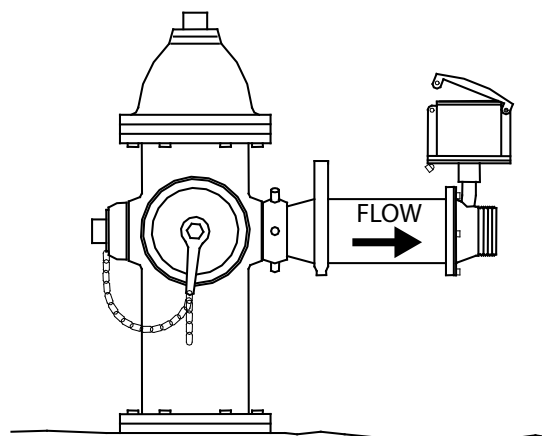
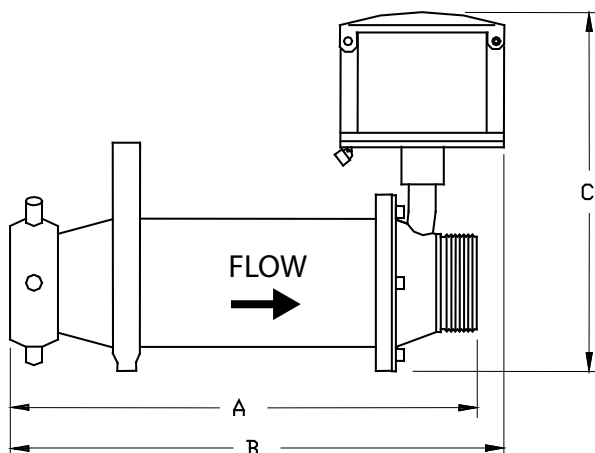
### SPECIFICATIONS

Performance	
<b>Accuracy / Repeatability</b>	<ul style="list-style-type: none"> <li>±2% of reading guaranteed throughout full range</li> <li>±1% over reduced range</li> <li>Repeatability 0.25% or better</li> </ul>
<b>Maximum Temperature</b>	(Standard Construction) 160°F constant
<b>Pressure Rating</b>	150 psi. Consult factory for higher rated version.

Materials	
<b>Flow Tube</b>	The flow tube is made of stainless steel. The impeller and bearing assembly are suspended in the center of the tube by 304 stainless steel ell. Stator vanes located in the inlet of the flow tube generate steady, non-rotational water flow for greater accuracy. The swivel race and outlet threads are stainless steel for trouble-free hook up.
<b>Bearing Assembly</b>	Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel
<b>Bearing Housing</b>	<ul style="list-style-type: none"> <li>For models 2" to 16": 304 stainless steel standard, 316 stainless steel optional</li> <li>For models 18" and larger: Brass standard, 316 stainless steel optional</li> </ul>
<b>Magnets</b>	(Permanent type) Alnico
<b>Register</b>	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.
<b>Impeller</b>	Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter. High temperature impeller is optional.

Options	
	<ul style="list-style-type: none"> <li>Extended warranty</li> <li>Register extensions</li> <li>All stainless steel construction</li> <li>High temperature construction</li> <li>Marathon bearing assembly for higher than normal flowrates</li> <li>A complete line of flow recording/control instrumentation</li> <li>Flow straightening vanes</li> <li>Certified calibration test results</li> <li>Canopy boot</li> </ul>

**DIMENSIONS**



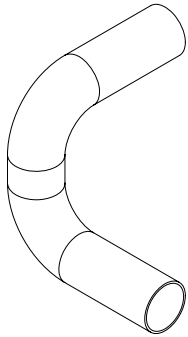
M1104	DIMENSIONS
Meter and Nominal Pipe Size (inches)	4"
Maximum Flow U.S. GPM	600
Minimum Flow U.S. GPM	50
Standard Dial Face (GPM/Gal)	1000/100
Approx. Head Loss in inches at Max. Flow	60.00
Approx. Shipping Weight-lbs.	20
A (inches)	15
B (inches)	16

Large flowmeters available on special order.

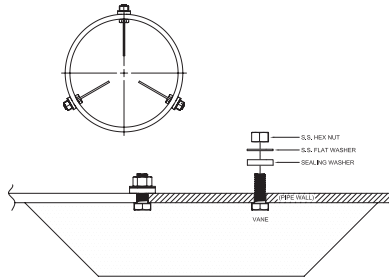
McCrometer reserves the right to change design or specifications without notice.

### STRAIGHTENING VANES

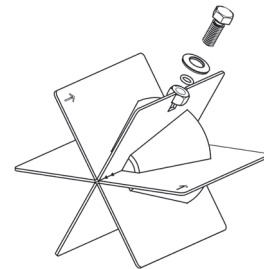
Special attention should be given to systems using two elbows “out of plane” or devices such as a centrifugal sand separator. These cause swirling flow in the line that affect propeller meters. Well developed swirls can travel up to 100 diameters downstream if unobstructed. Since most installations have less than 100 diameters to work with, straightening vanes become necessary to alleviate the problem. Straightening vanes will break up most swirls and ensure more accurate measurement. McCrometer actively encourages installing vanes just ahead of the meter. Straightening vanes are available in weld-in, bolt-in, and the FS100 Flow Straightener.



**Elbows out of plane**

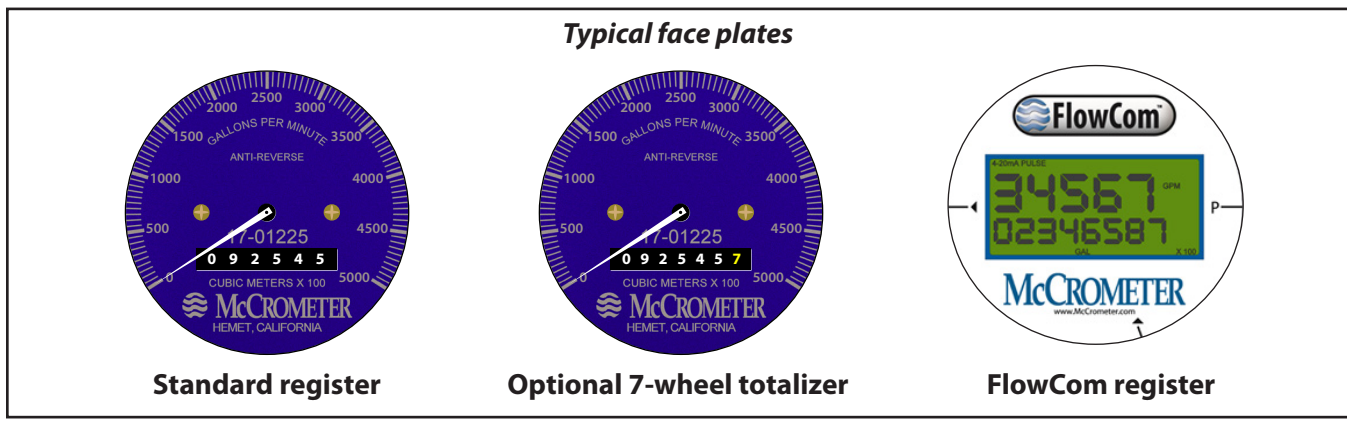


**Bolt-in straightening vanes**



**FS100 Flow Straightener**

**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.



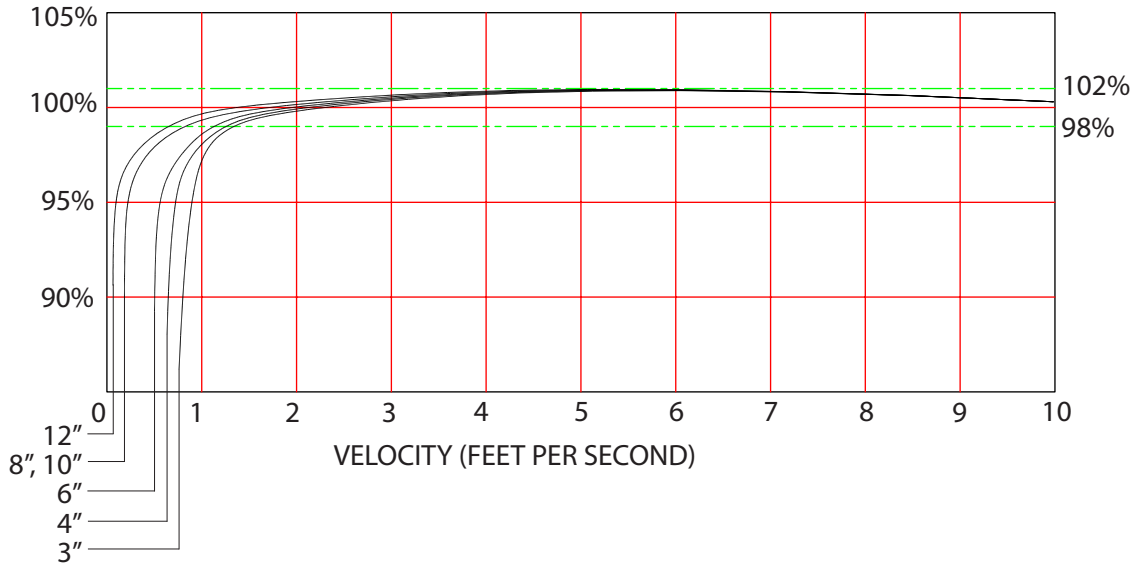
**Wireless Telemetry**

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



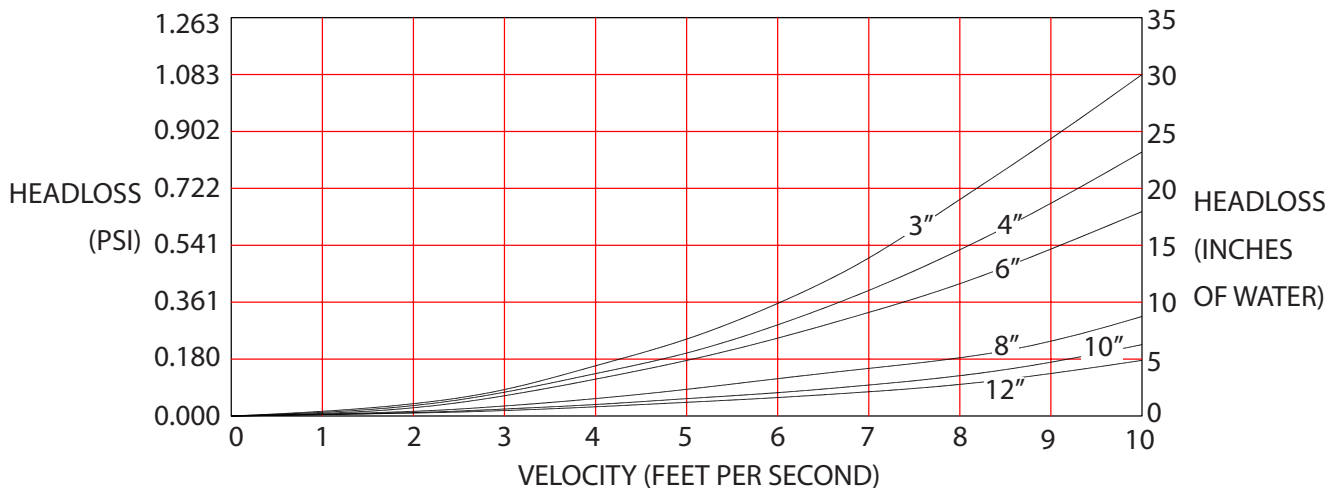
Standard flowrates for McCrometer propeller meters are shown below. Readings are guaranteed accurate within  $\pm 2\%$  in these flowrates. Please note that over 80 percent of the meter's flow range, the accuracy is better than  $\pm 1\%$ .

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 <sub>2</sub> O column)	30	23	17	7	4	3	2	2	2	1	1