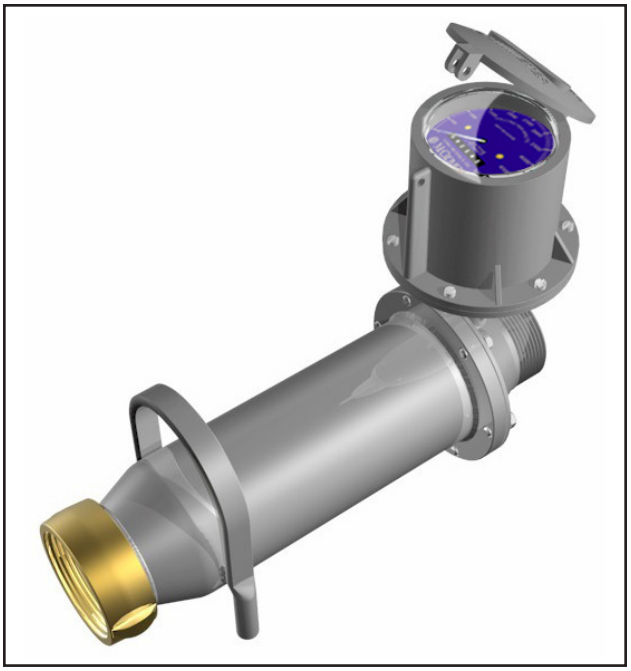
DESCRIPTION

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

Part Numbers, Digital Registers

M1104	_	_	_	_	-	_	-	__
Assembly Component Options								
Standard Tube	**A**							
Non Standard Tube with swivel 3/8" coupling	**B**							
Non Standard Tube with swivel 1/4" coupling	**C**							
Non Standard Tube with 3/8" coupling 4" offset	**D**							
Non Standard Tube	**X**							
Bearing								
Standard		**1**						
Marathon		**2**						
SS316		**3**						
SS316 Marathon		**4**						
SS316 Ceramic		**5**						
Register Options								
Flowcom			**D**					
Flowcom Non Programmable			**N**					
Flow Connect (FC Smart Part on 2nd Line)			**T**					
Output Options								
No Outputs				**-**				
Open Collector Pulse(Flowcom 01)				**1**				
Opto Isolated Pulse & 4-20 Analog (Flowcom 02)				**2**				
Dry Contact Pulse & 4-20 Analog (Flowcom-03)				**3**				
Sensus Only (Flowcom 06)				**6**				
OC Pulse & Sensus (Flowcom-07)				**7**				
Opto Isolated Pulse & 4-20 Analog & Sensus (Flowcom-08)				**8**				
Dry Contact Pulse & 4-20 Analog & Sensus (Flowcom-09)				**9**				
Output Cable Options								
No Outputs						**-**		
6 ft						**C1**		
15 ft						**C2**		
25 ft						**C3**		
50 ft						**C4**		
75 ft						**C5**		
100 ft						**C6**		
125 ft						**C7**		
150 ft						**C8**		
7 pin Female pigtail Telemetry ready (Output Option 1 Only [Flowcom-05])						**T1**		
7 pin Male 25ft Telemetry ready (Output Option 1 Only)						**T2**		
7 pin Male 50ft Telemetry ready (Output Option 1 Only)						**T3**		
Register Remote and Extension Options								
Meter Mount (Standard)								**-**
6 ft Cable Remote Mount (Flowcom only)								**R06**
25 ft Cable Remote Mount (Flowcom only)								**R25**
50 ft Cable Remote Mount (Flowcom only)								**R50**
6" Long Extension (Mech or DIgital)								**006**
7" Long Extension (Mech or DIgital)								**007**
8" Long Extension (Mech or DIgital)								**008**
1" Increments for Extensions Lengths								**XXX**
150" Maximum extension length								**150**

Part Numbers, Mechanical Registers

M1104	_	_	_	_	-	___
Assembly Component Options						
Standard Tube	**A**					
Non Standard Tube with swivel 3/8" coupling	**B**					
Non Standard Tube with swivel 1/4" coupling	**C**					
Non Standard Tube with 3/8" coupling 4" offset	**D**					
Non Standard Tube	**X**					
Bearing						
Standard		**1**				
Marathon		**2**				
SS316		**3**				
SS316 Marathon		**4**				
SS316 Ceramic		**5**				
Register Options						
6 Wheel			**1**			
6 Wheel Anti Reverse			**2**			
6 Wheel with Index			**3**			
6 Wheel Anti Reverse & Index			**4**			
7 Wheel			**5**			
7 Wheel Anti Reverse			**6**			
7 Wheel with Index			**7**			
7 Wheel Anti Reverse & Index			**8**			
Output Options						
No Outputs				**-**		
4-20 Analog Only (E7000-000)				**A**		
Dry Contact Pulse & 4-20 Analog (E7000-001)				**B**		
Opto Isolated Pulse & 4-20 Analog (E7000-002)				**C**		
Mechanical Datalogger (MC20-D2)				**E**		
Non Powered Pulse (EA618-02)				**G**		
CMOS Square Wave Pulse (EA631-002)				**J**		
Sink to Ground Pulse (EA631-102)				**K**		
Dry Contact Pulse (SA100)				**L**		
Extension Options						
Meter Mount (Standard)						**-**
6" Long Extension (Mech or DIgital)						**006**
7" Long Extension (Mech or DIgital)						**007**
8" Long Extension (Mech or DIgital)						**008**
1" Increments for Extensions Lengths						**XXX**
150" Maximum extension length						**150**

SPECIFICATIONS

Performance

Accuracy / Repeatability	• ±2% of reading guaranteed throughout full range • ±1% over reduced range • Repeatability 0.25% or better
Range	4”
Maximum Temperature	(Standard Construction) 160°F constant
Pressure Rating	150 psi. Consult factory for higher rated version.

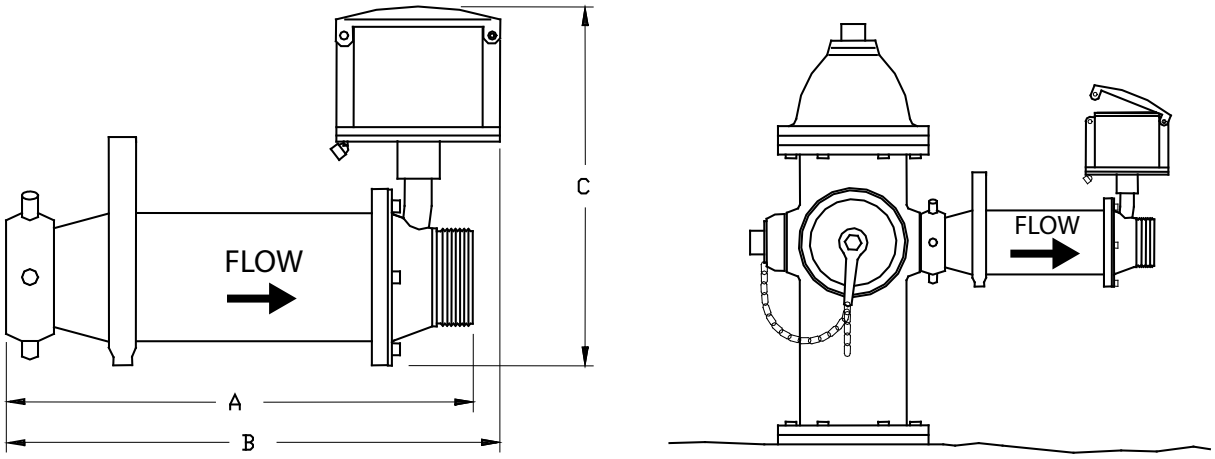
Materials

Flow Tube	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.
Bearing Assembly	Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel
Bearing Housing	304 stainless steel standard, 316 stainless steel optional
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. High temperature impeller is optional.

Options

- Extended warranty
- Register extensions
- All stainless steel construction
- High temperature construction
- Marathon bearing assembly for higher than normal flowrates
- A complete line of flow recording/control instrumentation
- Flow straightening vanes
- Certified calibration test results
- Canopy boot

DIMENSIONS



M1104	DIMENSIONS	
Meter Size	inches	4
	mm	102
Minimum Flow	GPM	50
	LPS	3.2
Maximum Flow	GPM	600
	LPS	37.9
Maximum Flow w/ Marathon Bearing	GPM	900
Approx. Head Loss in Inches at Max. Flow	inches	60
	mm	1524
Standard Dial Face*	GPM/ Gal	1000/ 100
Approx. Shipping Weight	lbs	20
	kg	9.1
A	inches	15
	mm	381
B	inches	16
	mm	406
C	inches	11.25
	mm	285.75

*Indicates the dial face range and multiplier

Large flowmeters available on special order.

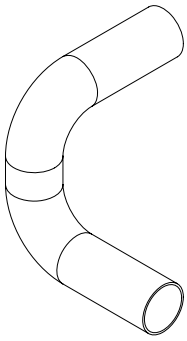
McCrometer reserves the right to change design or specifications without notice.

INSTALLATION

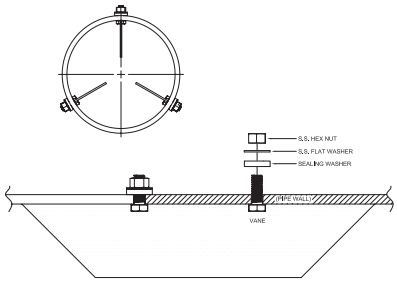
Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory.

STRAIGHTENING VANES

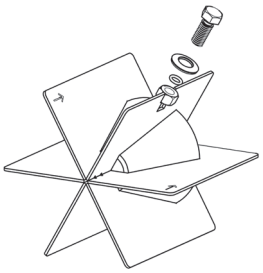
Special attention should be given to systems using two elbows "out of plane" or devices such as a centrifugal sand separator. These cause swirling flow in the line that affect propeller meters. Well developed swirls can travel up to 100 diameters downstream if unobstructed. Since most installations have 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

Typical face plates

Standard register

Optional 7-wheel totalizer

FlowCom register

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.

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