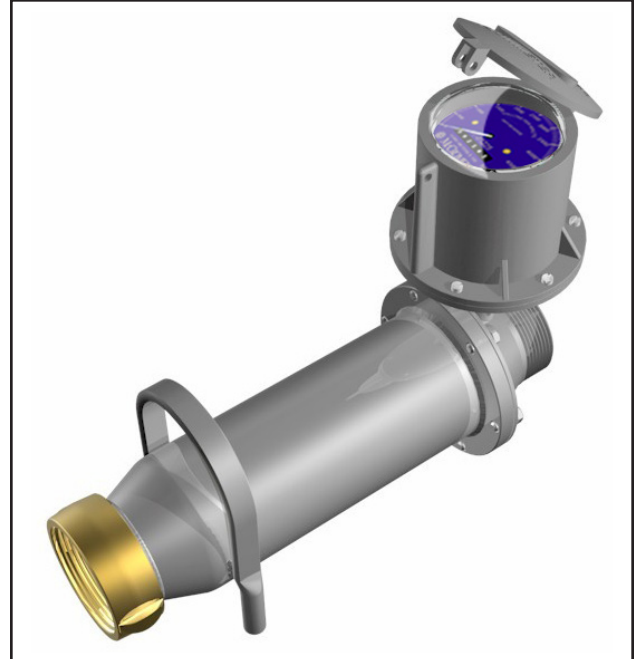


DESCRIPTION

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 register 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 (no pressure port)	A											
Standard Tube with 3/8" NPT pressure port (3.5" Offset)	B											
Standard Tube with 1/4" NPT pressure port (3.5" Offset)	C											
Standard Tube with 3/8" NPT pressure port (4" Offset)	D											
Non Standard Tube	X											
Bearing												
Standard	1											
Marathon	2											
SS316	3											
SS316 Marathon	4											
SS316 Ceramic	5											
Register Options												
Flowcom (FC200)	F											
Flow Connect (FC Smart Part on 2nd Line)	T											
Output Options												
No Outputs												
Open Collector Pulse	1											
4-20mA Analog Only	2											
4-20mA Analog + Open Collector Pulse	3											
Output Cable Options												
No Output Cables												
6 ft	C1											
15 ft	C2											
25 ft	C3											
50 ft	C4											
75 ft	C5											
100 ft	C6											
150 ft	C8											
Smart Output Protocol / Telemetry Options												
No AMI Outputs/Telemetry Options												
Sensus Protocol (6ft Open End Cable)	SEN											
Itron 6 digit Protocol (6ft Open End Cable)	IT6											
Itron 9 digit [100W] Protocol (6ft Open End Cable)	IT9											
Neptune Protocol (6ft Open End Cable)	NEP											
SmartTrax On-Board (Integrated Telemetry on FlowCom)												
2 ft SmartTrax Standalone Unit ExactRead Cable	S02											
6 ft SmartTrax Standalone Unit ExactRead Cable	S06											
25 ft SmartTrax Standalone Unit ExactRead Cable	S25											
50 ft SmartTrax Standalone Unit ExactRead Cable	S50											
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	006											
1" Increments for Extensions Lengths	XXX											
120" Maximum extension length	120											
No Batteries, Battery Tray Options												
Includes Batteries (Standard)												
No Batteries (Alkaline Tray)	NBA											
No Batteries (Lithium Tray)	NBL											

Part Numbers, Mechanical Registers

M1104		-
Assembly Component Options		
Standard Tube (no pressure port)	A	
Standard Tube with 3/8" NPT pressure port (3.5" Offset)	B	
Standard Tube with 1/4" NPT pressure port (3.5" Offset)	C	
Standard Tube with 3/8" NPT pressure port (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		006
1" Increments for Extensions Lengths		XXX
150" Maximum extension length		150

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
Range	4"
Maximum Temperature	(Standard Construction) 160°F constant
Pressure Rating	150 psi. Consult factory for higher rated version.

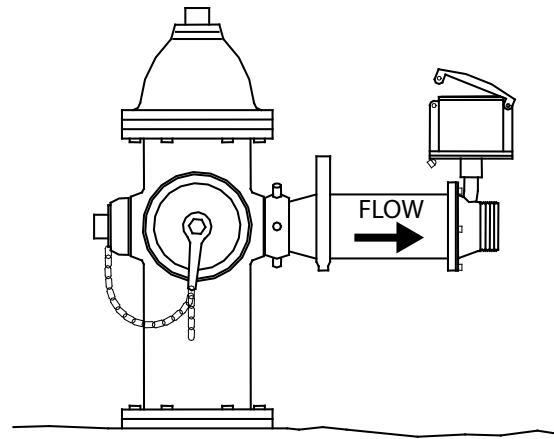
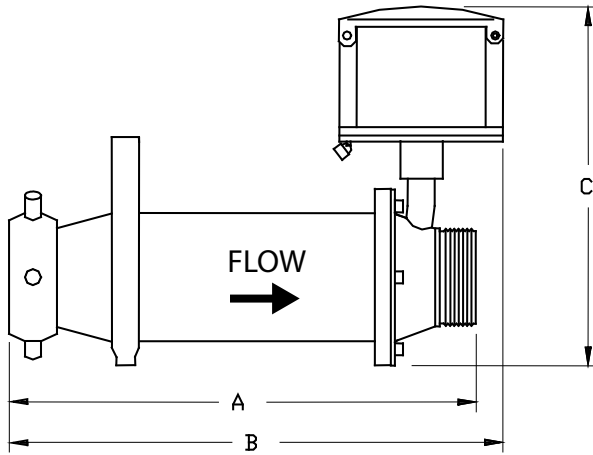
Materials

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 register 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
- Digital register available in all sizes of this model
- A complete line of flow recording/control instrumentation
- Flow straightening vanes
- Certified calibration test results
- Canopy boot
- SmartTrax on Board integrated telemetry for digital register option

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/	1000/	
	Gal	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.

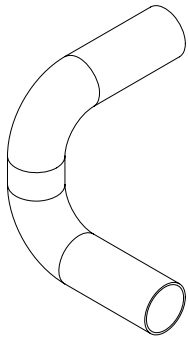
McCrometer reserves the right to change design or specifications without notice.

INSTALLATION

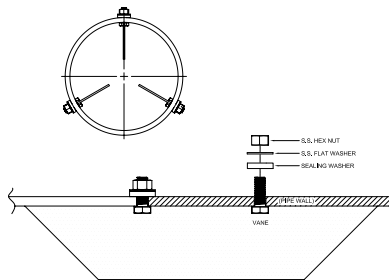
Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory.

STRAIGHTENING VANES

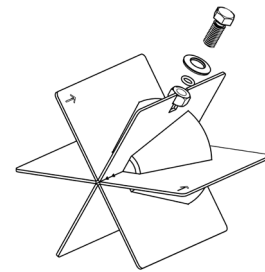
Special attention should be given to systems using two elbows “out of plane” or devices such as a centrifugal sand separator. These cause swirling flow in the line that affect propeller meters. Well developed swirls can travel up to 100 diameters downstream if unobstructed. Since most installations have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

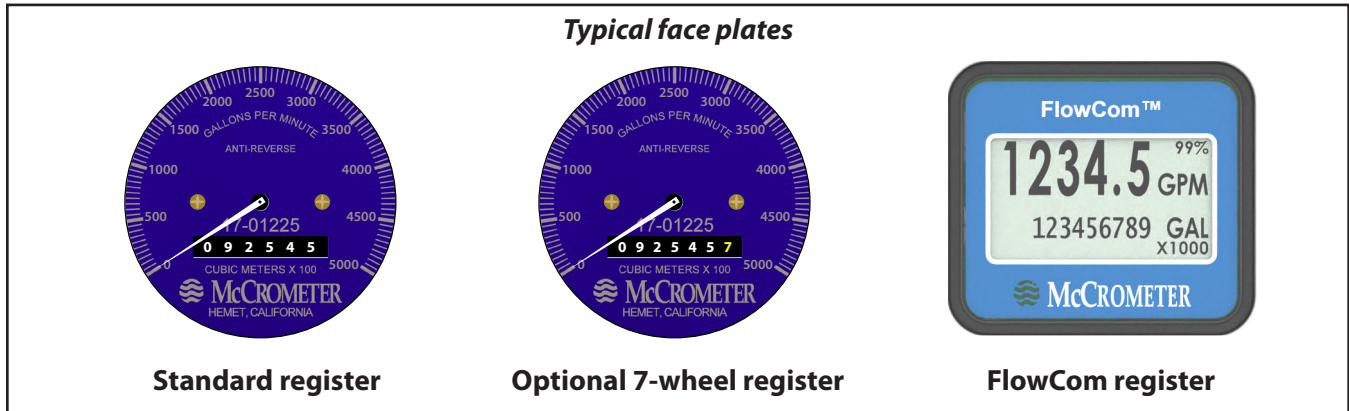


Bolt-in straightening vanes



FS100 Flow Straightener

REGISTERS



Mechanical Register

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 Register

The optional FlowCom digital register displays a flowmeter's flowrate and volumetric total. Available are four optional outputs: 4-20mA loop, open collector, optically isolated, and contact closure. Unique units of measurement for rate, total, 4-20mA, and pulse outputs. The FlowCom can be fitted to any new or existing McCrometer propeller flowmeter. The FlowCom also features a built-in data logger.



SmartTrax on Board

In addition to features mentioned on the FlowCom digital register, SmartTrax On Board integrated telemetry provide a streamlined, all-in-one flow measurement and telemetry system allowing growers and districts to remotely monitor water usage and manage allocations across their territories. This affects input costs such as chemigation, fuel and electricity costs, and most importantly - your time! For natural resource districts and the like, SmartTrax on Board removes the need to manually collect flow data from each metered well, freeing up personnel time.

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