

MC PROPELLER M17 Open Flow Meter Instruction Manual

[Home](#) » [MC PROPELLER](#) » MC PROPELLER M17 Open Flow Meter Instruction Manual 

Contents

- 1 [MC PROPELLER M17 Open Flow Meter](#)
- 2 [Product Usage Instructions](#)
- 3 [FAQ](#)
- 4 [DESCRIPTION](#)
- 5 [FEATURES](#)
- 6 [Typical Applications](#)
- 7 [Part Numbers, Digital Registers](#)
- 8 [INSTALLATION](#)
- 9 [SPECIFICATIONS](#)
- 10 [DIMENSIONS](#)
- 11 [REGISTERS](#)
- 12 [Documents / Resources](#)
 - 12.1 [References](#)
- 13 [Related Posts](#)





Specifications

- **Model:** M17 Open Flow Meter
- **Standard:** American Water Works Association Standard C704-02

Product Description

The MC Propeller Model M17 open-flow meters are designed to measure flow in canal outlets, discharge and inlet pipes, irrigation turnouts, and similar installations.

Features

- **Construction:** Durable materials
- **Impellers:** High-quality impellers for accurate measurements
- **Bearings:** Various bearing options available for different needs
- **Register:** Digital registers and mechanical registers available

Product Usage Instructions

Installation

Mount the Model M17 on a headwall, standpipe, or suitable structure ensuring the propeller is positioned in the center of the discharge or inlet pipe.

Pipe Run Requirements

For meters without straightening vanes, a straight run of full pipe length of ten pipe diameters upstream and one

diameter downstream is recommended. Meters with optional straightening vanes require at least five pipe diameters upstream.

FAQ

Q: What are the typical applications of the Model M17 Open Flow Meter?

A: The Model M17 is commonly used to measure flow in canal outlets, discharge and inlet pipes, irrigation turnouts, and similar installations.

Q: What bearing options are available for the Model M17?

A: The bearing options include Standard, Marathon, SS316, SS316 Marathon, SS316 Ceramic.

Q: What output options are available for the Model M17?

A: Output options include No Outputs, Open Collector Pulse, 4-20mA Analog Only, and 4-20mA Analog + Open Collector Pulse.

DESCRIPTION

- Model M17 open flow meters are designed to measure the flow in canal outlets, discharge and inlet pipes, irrigation turnouts, and other similar installations.
- Model M17 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 M17 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 flow rate 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, self-lubricating vinyl liner.
- The die-cast aluminum register housing protects both the register and cable drive system from moisture while allowing a clear reading of the flowrate indicator and totalizer.

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

Part Numbers, Digital Registers

METER SIZE		-	-	-	-	-	-
10" Open Flow Meter	10						
12" Open Flow Meter	12						
14" Open Flow Meter	14						
16" Open Flow Meter	16						
18" Open Flow Meter	18						
20" Open Flow Meter	20						
24" Open Flow Meter	24						
30" Open Flow Meter	30						
36" Open Flow Meter	36						
42" Open Flow Meter	42						
48" Open Flow Meter	48						
54" Open Flow Meter	54						
60" Open Flow Meter	60						
72" Open Flow Meter	72						
Drop Pipe Options							
4' Length Drop Pipe (Non Standard length)	A						
5' Length Drop Pipe (Standard length for 10"-16" sizes)	B						
6' Length Drop Pipe (Standard length for 18"-36" sizes)	C						
7' Length Drop Pipe (Non Standard length)	D						
8' Length Drop Pipe (Non Standard length)	E						
9' Length Drop Pipe (Non Standard length)	F						
10' Length Drop Pipe (Standard length for 42"-72" Sizes)	G						
11' Length Drop Pipe (Non Standard length)	H						
12' Length Drop Pipe (Non Standard length)	I						
13' Length Drop Pipe (Non Standard length)	J						
14' Length Drop Pipe (Non Standard length)	K						
15' Length Drop Pipe (Non Standard length)	L						
16' Length Drop Pipe (Non Standard length)	M						
17' Length Drop Pipe (Non Standard length)	N						
20' Length Drop Pipe (Non Standard length)	O						
Bearing Options							
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						

M17		-	-	-	-	-	-
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					
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 Length 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					
1" Increments for Extensions Lengths		XXX					
150" Maximum extension length		150					
SPECIAL OPTIONS							
No Special Options							
High Temp Prop and Seals		H					
No Batteries, Battery Tray Options							
Includes Batteries (Standard)							
No Batteries (Alkaline Tray)		NBA					
No Batteries (Lithium Tray)		NBL					

Part Numbers, Mechanical Registers

M17							-		-	
METER SIZE										
10" Open Flow Meter	10									
12" Open Flow Meter	12									
14" Open Flow Meter	14									
16" Open Flow Meter	16									
18" Open Flow Meter	18									
20" Open Flow Meter	20									
24" Open Flow Meter	24									
30" Open Flow Meter	30									
36" Open Flow Meter	36									
Drop Pipe Options										
4' Length Drop Pipe (Non Standard length)	A									
5' Length Drop Pipe (Standard length for 10"-16" sizes)	B									
6' Length Drop Pipe (Standard length for 18"-36" sizes)	C									
Bearing Options										
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									

INSTALLATION

Model M17 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.

PIPE RUN REQUIREMENTS

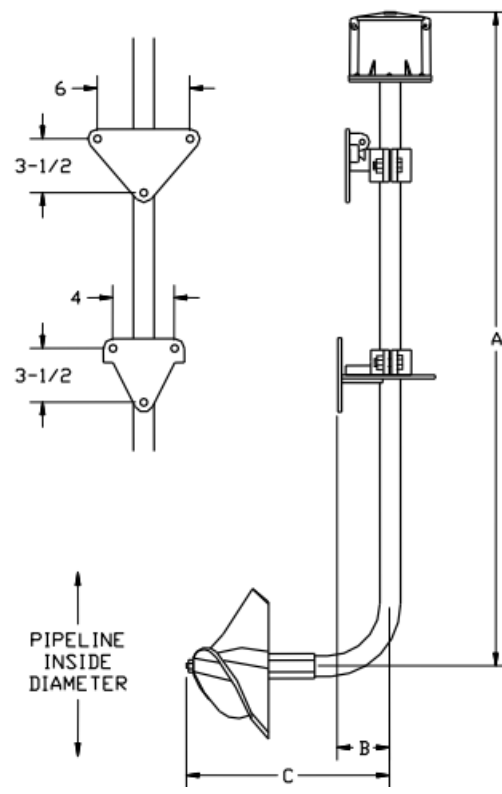
- A straight run of full pipe the length of ten pipe diameters upstream and one diameter downstream of the meter is recommended for meters without straightening vanes.
- Meters with optional straightening vanes require at least five pipe diameters upstream of the meter.

SPECIFICATIONS

Performance	
Accuracy / Repeatability	<ul style="list-style-type: none"> • $\pm 2\%$ of reading guaranteed throughout the full range • $\pm 1\%$ over reduced range • Repeatability 0.25% or better
Range	10" to 72"
Maximum Temperature	(Standard Construction) 160°F constant
Materials	
Bearing Assembly	The 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 flow rate indicator and a 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 a hinged lens cover with a 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

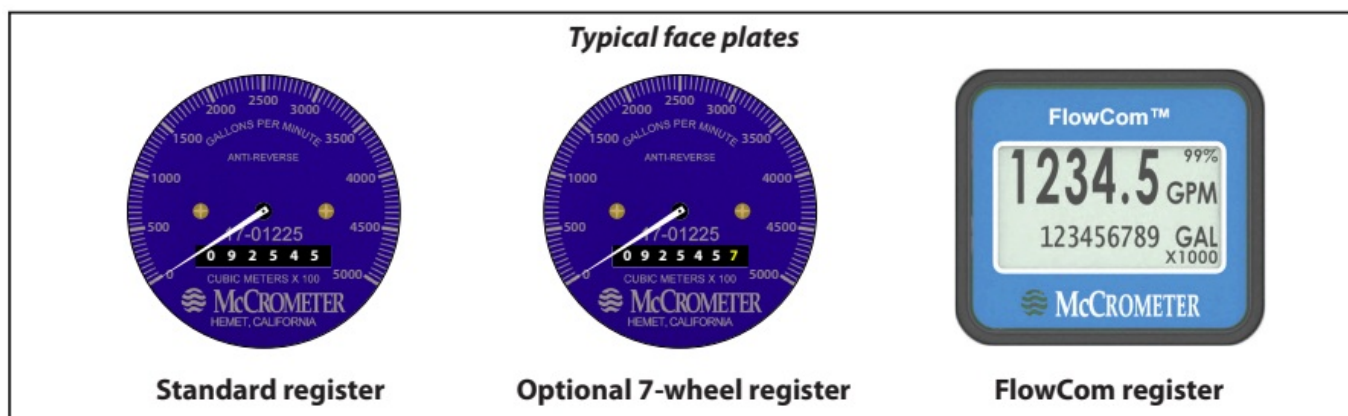
IMPORTANT Open flow meters 30" and larger require a FlowCom register.



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
Max. Flow w/ Marathon Bearing	2700	3750	4500	6000	7500	9000	12750	18750	25500	37500	45000	54000	63000	90000
Approx. Head Loss in Inches at Maximum Flow	3.75	2.75	2.00	1.75	1.50	1.20	1.00	.52	.40	–	–	–	–	–
Standard Dial Face (GPM/Gal) *	3K/1000	4K/1000	6K/1000	8K/1000	10K/1000	10K/10K	15K/10K	15K/10K	30K/10K	35K/10K	Consult factory			
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
Approx. Shipping Weight Crated – lbs.	120	120	120	120	140	140	140	140	140	250	250	250	250	250
Overall Height (ft)	5	5	5	5	6	6	6	6	6	10	10	10	10	10

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

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 a clear reading of the flow rate indicator and totalizer.



Digital Register

- The optional FlowCom digital register displays a flowmeter's flow rate 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.



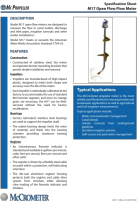
Wireless Telemetry

- The optional FlowConnect is designed specifically for wireless telemetry via either satellite or cellular data service. A 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 a cell phone.
- The viewing utility provides data tools that can analyze flow rate, consumption, and possible anomalies in an irrigation system.



- Copyright © 2024 McCrometer, Inc. All printed material should not be changed or altered without permission of McCrometer.
- Any published pricing, technical data, and instructions are subject to change without notice. Contact your McCrometer representative for current pricing, technical data, and instructions.
- **3255 WEST STETSON AVENUE**
- **HEMET, CALIFORNIA 92545 USA**
- **TEL: [951-652-6811](tel:951-652-6811)**
- **8002202279**
- **FAX: 9516523078 www.mccrometer.com**

Documents / Resources

	<p>MC PROPELLER M17 Open Flow Meter [pdf] Instruction Manual 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54, 60, 72, M17 Open Flow Meter, M17, Open Flow Meter, Flow Meter, Meter</p>
---	--

References

- [User Manual](#)

Manuals+, Privacy Policy

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.