

### 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 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, 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.



### 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**

<b>M17</b>															
<b>METER SIZE</b>															
10" Open Flow Meter	<b>10</b>														
12" Open Flow Meter	<b>12</b>														
14" Open Flow Meter	<b>14</b>														
16" Open Flow Meter	<b>16</b>														
18" Open Flow Meter	<b>18</b>														
20" Open Flow Meter	<b>20</b>														
24" Open Flow Meter	<b>24</b>														
30" Open Flow Meter	<b>30</b>														
36" Open Flow Meter	<b>36</b>														
42" Open Flow Meter	<b>42</b>														
48" Open Flow Meter	<b>48</b>														
54" Open Flow Meter	<b>54</b>														
60" Open Flow Meter	<b>60</b>														
72" Open Flow Meter	<b>72</b>														
<b>Drop Pipe Options</b>															
4' Length Drop Pipe (Non Standard length)	<b>A</b>														
5' Length Drop Pipe (Standard length for 10"-16" sizes)	<b>B</b>														
6' Length Drop Pipe (Standard length for 18"-36" sizes)	<b>C</b>														
7' Length Drop Pipe (Non Standard length)	<b>D</b>														
8' Length Drop Pipe (Non Standard length)	<b>E</b>														
9' Length Drop Pipe (Non Standard length)	<b>F</b>														
10' Length Drop Pipe (Standard length for 42"-72" Sizes)	<b>G</b>														
11' Length Drop Pipe (Non Standard length)	<b>H</b>														
12' Length Drop Pipe (Non Standard length)	<b>I</b>														
13' Length Drop Pipe (Non Standard length)	<b>J</b>														
14' Length Drop Pipe (Non Standard length)	<b>K</b>														
15' Length Drop Pipe (Non Standard length)	<b>L</b>														
16' Length Drop Pipe (Non Standard length)	<b>M</b>														
17' Length Drop Pipe (Non Standard length)	<b>N</b>														
20' Length Drop Pipe (Non Standard length)	<b>O</b>														
<b>Bearing Options</b>															
Standard	<b>1</b>														
Marathon	<b>2</b>														
SS316	<b>3</b>														
SS316 Marathon	<b>4</b>														
SS316 Ceramic	<b>5</b>														
<b>Register Options</b>															
Flowcom (FC200)	<b>F</b>														
Flow Connect (FC Smart Part on 2nd Line)	<b>T</b>														

**Part Numbers, Digital Registers (cont.)**

<b>Output Options</b>						
No Outputs						
Open Collector Pulse	<b>1</b>					
4-20mA Analog Only	<b>2</b>					
4-20mA Analog + Open Collector Pulse	<b>3</b>					
<b>Output Cable Options</b>						
No Output Cables						
6 ft	<b>C1</b>					
15 ft	<b>C2</b>					
25 ft	<b>C3</b>					
50 ft	<b>C4</b>					
75 ft	<b>C5</b>					
100 ft	<b>C6</b>					
150 ft	<b>C8</b>					
<b>Smart Output Protocol / Telemetry Options</b>						
No AMI Outputs/Telemetry Options						
Sensus Protocol (6ft Open End Cable)	<b>SEN</b>					
Itron 6 digit Protocol (6ft Open End Cable)	<b>IT6</b>					
Itron 9 digit [100W] Protocol (6ft Open End Cable)	<b>IT9</b>					
Neptune Protocol (6ft Open End Cable)	<b>NEP</b>					
SmartTrax On-Board (Integrated Telemetry on FlowCom)	<b>STX</b>					
2 ft SmartTrax Standalone Unit ExactRead Cable	<b>S02</b>					
6 ft SmartTrax Standalone Unit ExactRead Cable	<b>S06</b>					
25 ft SmartTrax Standalone Unit ExactRead Cable	<b>S25</b>					
50 ft SmartTrax Standalone Unit ExactRead Cable	<b>S50</b>					
<b>Register Remote and Extension Length Options</b>						
Meter Mount (Standard)		<b>-</b>				
6 ft Cable Remote Mount (Flowcom only)	<b>R06</b>					
25 ft Cable Remote Mount (Flowcom only)	<b>R25</b>					
50 ft Cable Remote Mount (Flowcom only)	<b>R50</b>					
6" Long Extension (Mech or Digital)	<b>006</b>					
1" Increments for Extensions Lengths	<b>XXX</b>					
150" Maximum extension length	<b>150</b>					
<b>SPECIAL OPTIONS</b>						
No Special Options						
High Temp Prop and Seals	<b>H</b>					
<b>No Batteries, Battery Tray Options</b>						
Includes Batteries ( <i>Standard</i> )						
No Batteries (Alkaline Tray)	<b>NBA</b>					
No Batteries (Lithium Tray)	<b>NBL</b>					

**Part Numbers, Mechanical Registers**

<b>M17</b>						-		-	
<b>METER SIZE</b>									
10" Open Flow Meter	<b>10</b>								
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14" Open Flow Meter	<b>14</b>								
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24" Open Flow Meter	<b>24</b>								
30" Open Flow Meter	<b>30</b>								
36" Open Flow Meter	<b>36</b>								
<b>Drop Pipe Options</b>									
4' Length Drop Pipe (Non Standard length)	<b>A</b>								
5' Length Drop Pipe (Standard length for 10"-16" sizes)	<b>B</b>								
6' Length Drop Pipe (Standard length for 18"-36" sizes)	<b>C</b>								
<b>Bearing Options</b>									
Standard	<b>1</b>								
Marathon	<b>2</b>								
SS316	<b>3</b>								
SS316 Marathon	<b>4</b>								
SS316 Ceramic	<b>5</b>								
<b>Register Options</b>									
6 Wheel	<b>1</b>								
6 Wheel Anti Reverse	<b>2</b>								
6 Wheel with Index	<b>3</b>								
6 Wheel Anti Reverse & Index	<b>4</b>								
7 Wheel	<b>5</b>								
7 Wheel Anti Reverse	<b>6</b>								
7 Wheel with Index	<b>7</b>								
7 Wheel Anti Reverse & Index	<b>8</b>								

## 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

<b>Accuracy / Repeatability</b>	<ul style="list-style-type: none"> <li>• <math>\pm 2\%</math> of reading guaranteed throughout full range</li> <li>• <math>\pm 1\%</math> over reduced range</li> <li>• Repeatability 0.25% or better</li> </ul>
<b>Range</b>	10" to 72"
<b>Maximum Temperature</b>	(Standard Construction) 160°F constant

### Materials

<b>Bearing Assembly</b>	Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel
<b>Drop Pipe</b>	304 stainless steel construction
<b>Bearing Housing</b>	<ul style="list-style-type: none"> <li>• Impeller shaft: 316 stainless steel</li> <li>• Ball bearings: 440C stainless steel</li> </ul>
<b>Magnets</b>	Permanent type. Alnico.
<b>Register</b>	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.
<b>Impeller</b>	Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter.

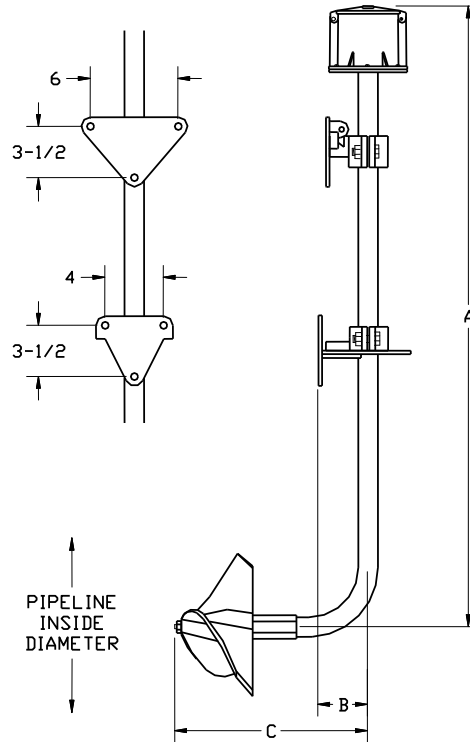
### Options

<ul style="list-style-type: none"> <li>• Marathon bearing assembly for higher than normal flowrates 4" and larger</li> <li>• Digital register available in all sizes of this model</li> <li>• A complete line of flow recording/control instrumentation</li> <li>• Extra wall brackets</li> <li>• Canopy boot</li> <li>• SmartTrax on Board integrated telemetry for digital register option</li> </ul>
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## DIMENSIONS

### IMPORTANT

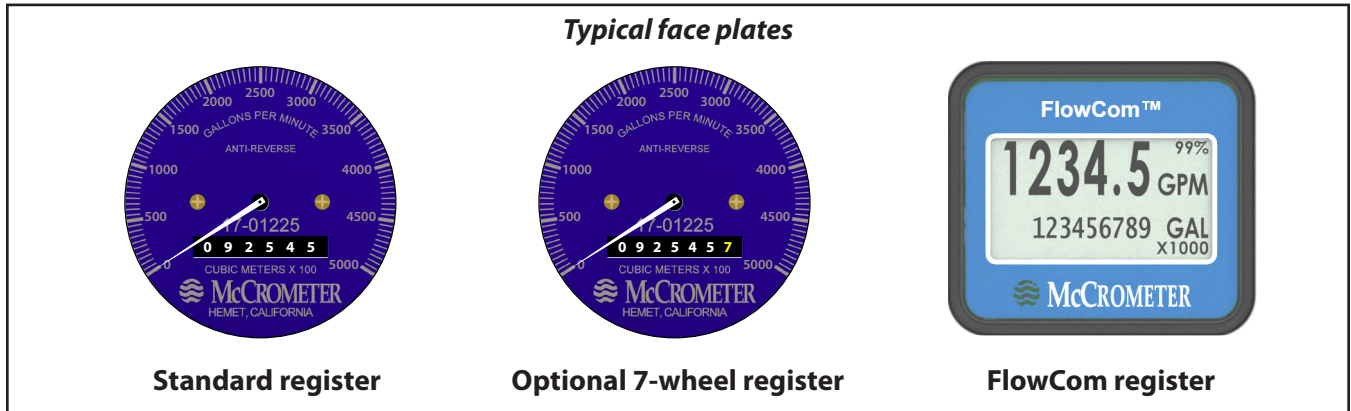
Open flow meters 30" and larger require a FlowCom register.



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 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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