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

M17	XX	_	_	_	_	-	_	-	_	-	_
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										
Mating Pipe or Tube 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				D							
Flowcom Non Programmable				N							
Flow Connect (FC Smart Part on 2nd Line)				T							

Part Numbers, Digital Registers (cont.)

M17 XX _ _ _ _ - _ - _ - _	
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 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
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
SPECIAL OPTIONS	
High Temp Prop and Seals (Up to 18")	H

Part Numbers, Mechanical Registers

M17	XX	_	_	_	_	-	___	-	_
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								
Mating Pipe or Tube 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					
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				

Part Numbers, Mechanical Registers (cont.)

M17 XX _ _ _ _ - _ _ - _	
Extension Length 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
SPECIAL OPTIONS	
High Temp Prop and Seals (Up to 18")	H

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	• ±2% of reading guaranteed throughout full range • ±1% over reduced range • Repeatability 0.25% or better
Range	10" to 72"
Maximum Temperature	(Standard Construction) 160°F constant

Materials

Bearing Assembly	Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel
Drop Pipe	304 stainless steel construction
Bearing Housing	• Impeller shaft: 316 stainless steel • Ball bearings: 440C stainless steel
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.

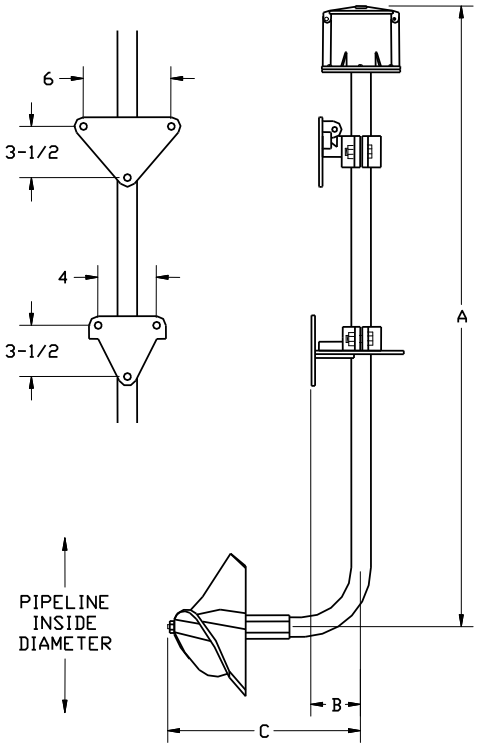
Options

- 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

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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