

DESCRIPTION

The Model MT100 is manufactured to comply with the applicable provisions of the AWWA Standard No. C704-02 and latest revisions for propeller type flowmeters.

The threaded ends of the MT100 allow it to be directly coupled into an existing pipeline.

The carbon steel flow tube has a fusion-bonded epoxy coating offering excellent corrosion protection.

As with all McCrometer propeller flowmeters, standard features include a magnetically coupled drive, instantaneous flowrate indicator and straight-reading, six-digit totalizer.

FEATURES

Impellers

Impellers are manufactured of high-impact plastic, capable of retaining their shape and accuracy over the life of the meter.

Each impeller is individually calibrated at the factory to accommodate the use of any standard McCrometer register, and since no change gears are used, the MT100 can be field-serviced without the need for factory recalibration.

Bearings

Factory lubricated stainless steel bearings are used to support the impeller shaft.

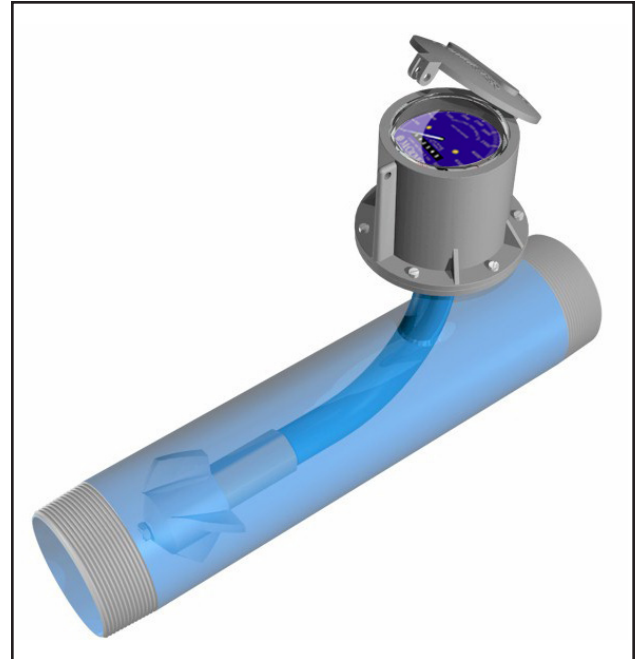
The shielded bearing design limits the entry of materials and fluids into the bearing chamber providing maximum bearing protection.

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 liner.

The 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 and wastewater treatment applications as well as agricultural and turf irrigation measurement. Typical applications include:

- Water and wastewater management
- Truck loading and discharge
- Sprinkler irrigation systems
- Drip irrigation systems
- Golf course and park water management
- Commercial nurseries

INSTALLATION

Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory. A straight run of full pipe the length of ten pipe diameters upstream and two diameters downstream of the meter is recommended for meters without straightening vanes. Meters with optional straightening vanes require at least five pipe diameters upstream and two diameters downstream of the meter.

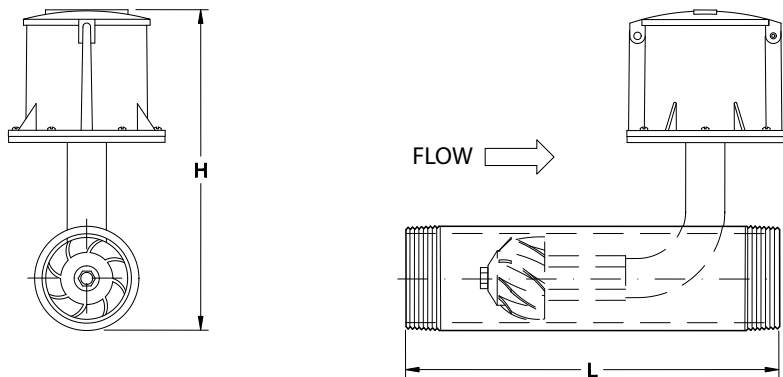
SPECIFICATIONS

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
Maximum Temperature	(Standard Construction) 160°F constant
Pressure Rating	150 psi

Materials	
Spool	Carbon steel standard, stainless steel optional
Coating	Fusion-bonded epoxy
Body	Fusion-bonded epoxy-coated carbon steel threaded to NPT. (Other thread standards available)
Bearing Assembly	Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel.
Magnets	(Permanent type) Alnico
Bearing Housing	<ul style="list-style-type: none"> • For models 2" to 6": 304 stainless steel standard, 316 stainless steel optional
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	
	<ul style="list-style-type: none"> • Extended warranty • Register extensions • Custom lay lengths • High temperature construction 180°F • Marathon bearing assembly for higher than normal flowrates 4" and larger • Digital register available in all sizes of this model • A complete line of recording/control instrumentation can be driven from this flowmeter • Canopy boot

DIMENSIONS



MT100	DIMENSIONS				
Meter Size	2"	2 ½"	3"	4"	6"
Maximum Flow U.S. GPM	250	250	250	600	1200
Minimum Flow U.S. GPM	35	35	40	50	90
Approx. Head Loss in Inches at Max. Flow	29.50	29.50	29.50	23	17
Approx. Shipping Weight-lbs.	* SEE SPECIAL NOTE		17	40	42
H (inches)			10	13	14
L (inches)			13	20	22
O.D. of Meter Tube			3.50	4.500	6.625

Larger flowmeters on special order.

*SPECIAL NOTE — Reducing fittings are supplied to adapt the 3-inch model to smaller line sizes.

PIPE RUN REQUIREMENTS

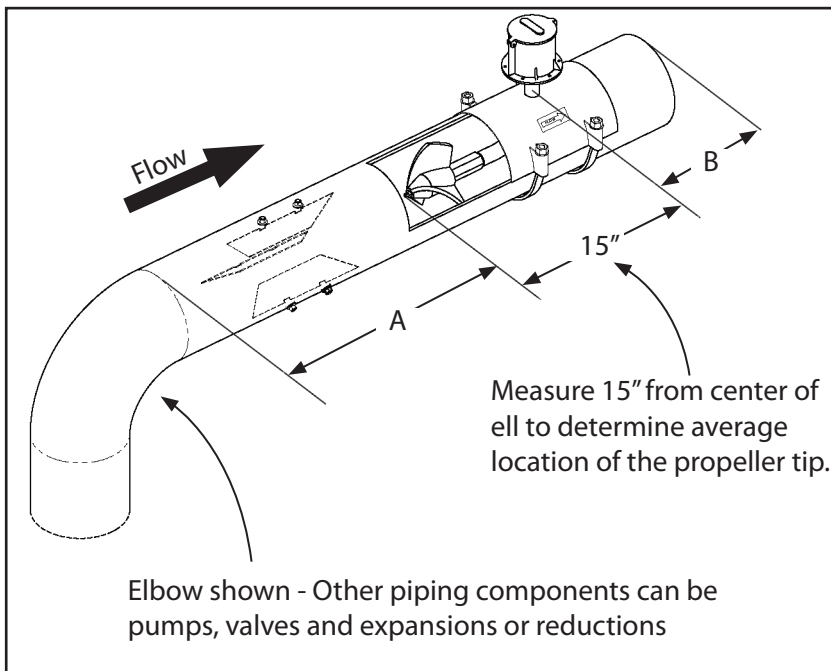
Upstream Requirement

Mc Propeller meters should be installed a minimum of five to ten diameters downstream of any obstructions.

Downstream Requirement

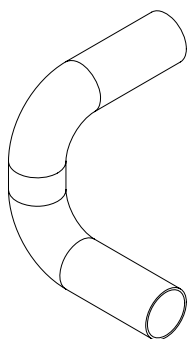
The downstream run should be one diameter of straight pipe length after the meter.

Configuration	A	B
Without straightening vanes	10	1
With straightening vanes	5	1
With FS100 Flow Straightener	1.5	1

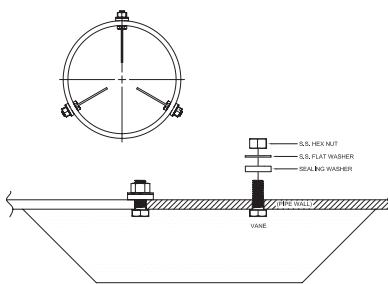


STRAIGHTENING VANES

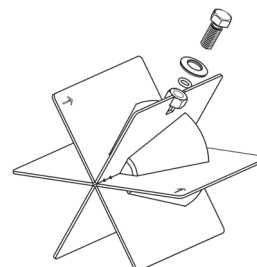
Special attention should be given to systems using two elbows “out of plane” or devices such as a centrifugal sand separator. These cause swirling flow in the line that affect propeller meters. Well developed swirls can travel up to 100 diameters downstream if unobstructed. Since most installations have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

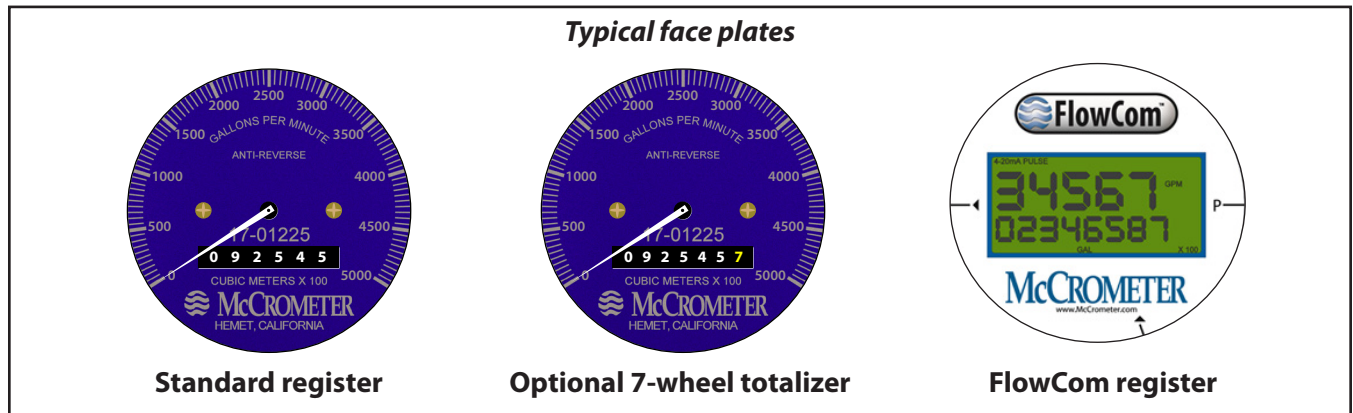


Bolt-in straightening vanes



FS100 Flow Straightener

TOTALIZERS



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.



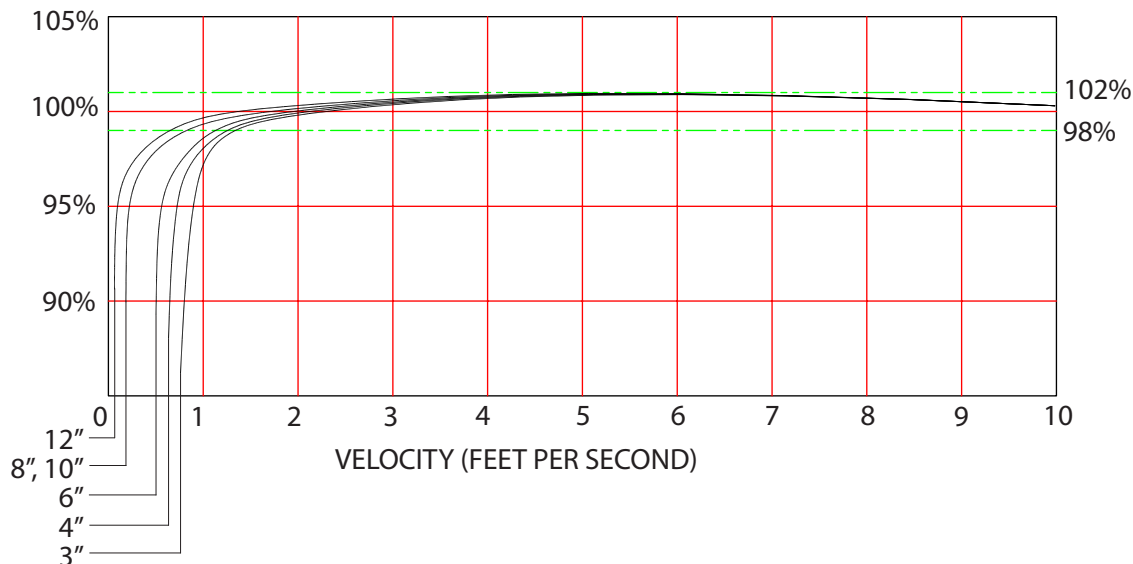
Wireless Telemetry

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.

Accuracy

ACCURACY CHART



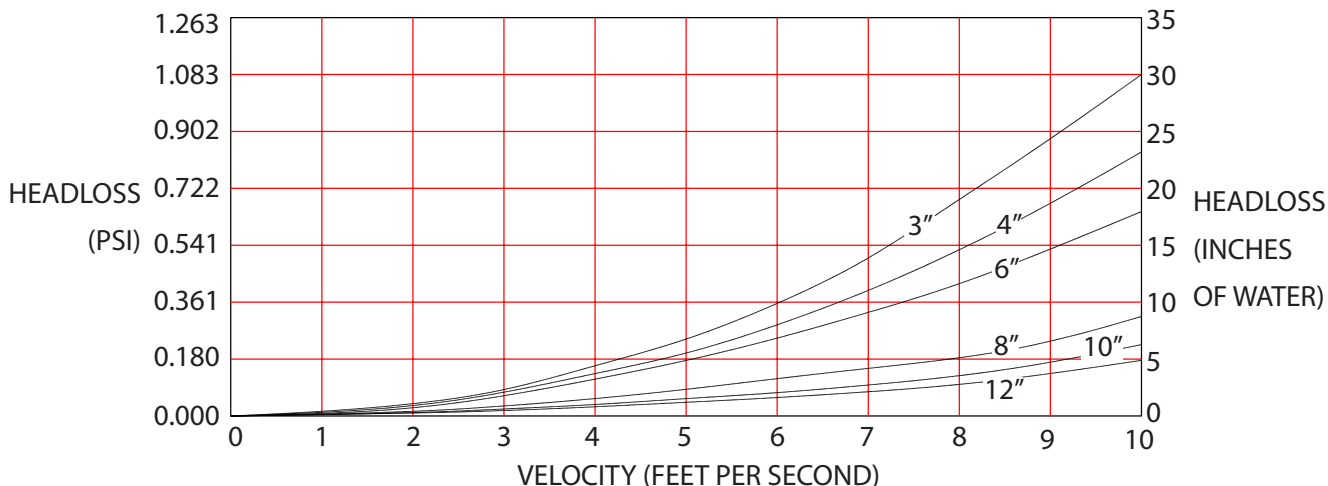
Standard flowrates for McCrometer propeller meters are shown below. Readings are guaranteed accurate within $\pm 2\%$ in these flowrates. Please note that over 80 percent of the meter's flow range, the accuracy is better than $\pm 1\%$.

Nominal Meter Size	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Minimum Flow(U.S.GPM)	40	40	40	50	90	100	125	150	250	275	400	475	700
Maximum Flow(U.S.GPM)	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500
Dial Face Range	250	250	250	800	1300	2500	3000	4000	6000	8000	10000	10000	15000

Headloss

Headloss refers to the fluid pressure lost due to the meter. Propeller meters have very low permanent headloss as seen in the chart below.

HEADLOSS CHART



Nominal Meter Size	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Max. Headloss (in. H ₂ O column)	30	23	17	7	4	3	2	2	2	1	1

Copyright © 2001-2019 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.