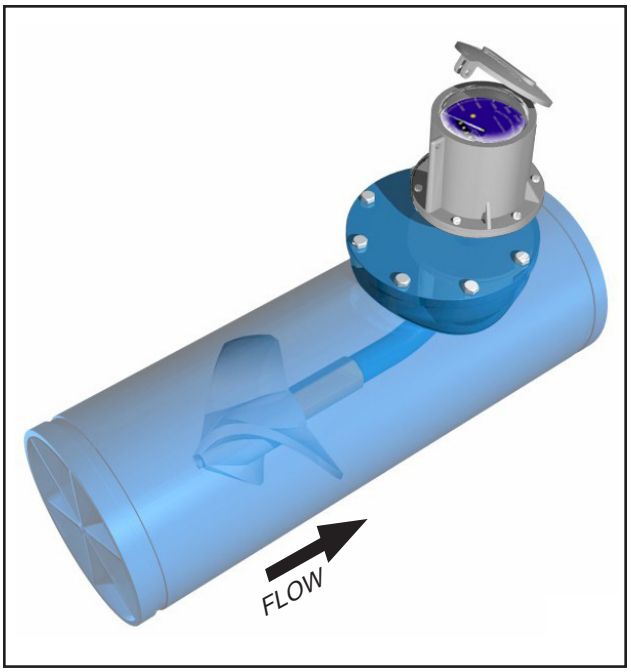
DESCRIPTION

Models MW900, MG900 and MT900 are manufactured to comply with the applicable provisions of AWWA Standard No. C704-02 for propeller type flowmeters.

The 900 series is manufactured in three different end connections:

- MW900 with beveled ends
- MG900 with grooved ends
- MT900 in line sizes 2" to 6" NPT threaded ends

The 900 series can be field-serviced without the need for factory recalibration. The meter flow tubes are coated with fusion-bonded epoxy for maximum corrosion protection and integral flow straightening vanes reduce upstream flow turbulence.



FEATURES

Weldment/Top Plate

- The meter head weldment is either stainless steel or fusion-bonded epoxy coated carbon steel for maximum corrosion protection.
- The top plate is either stainless steel (for sizes 2" to 4") or fusion-bonded epoxy coated carbon steel (6" and larger). As with all McCrometer propeller flow meters, standard features include a magnetically coupled drive, instantaneous flow rate indicator and straight-reading, six-digit totalizer.

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.

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.

Typical Applications

The McCrometer propeller meter is the most widely used flow meter for municipal and wastewater treatment applications as well as agricultural and turf irrigation measurement. Typical applications include:

- Water and wastewater management
- Center pivot systems
- Sprinkler irrigation systems
- Drip irrigation systems
- Golf course and park water management
- Gravity turnouts from underground pipelines
- Commercial nurseries

Register

- The 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 vinyl liner.
- The register housing protects both the register and cable drive system from moisture while allowing clear reading of the flow rate indicator and totalizer.

SPECIFICATIONS

Performance

Accuracy / Repeatability	±2% of reading guaranteed throughout range. ±1% over reduced range. Repeatability 0.25% or better.
Range	See dimensions chart on next page.
Head Loss	See dimensions chart on last page.
Maximum Temperature	(Standard construction) 160°F constant
Pressure Rating	150 psi

Materials

Top Plate Weldment	Stainless steel (2" to 4") or fusion-bonded exoxy coated carbon steel (6" and larger)
Top Plate	Stainless steel (2" to 4") or fusion-bonded epoxy coated carbon steel (6" and larger)
Spool	Carbon steel standard, stainless steel optional
Coating	Fusion-bonded epoxy
Body	Epoxy-coated carbon steel pipe conforming to A.S.A pipe schedules
Bearing Assembly	Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel
Magnets	(Permenant type) Alnico
Bearing Housing	• For models 2" to 16": 304 stainless steel standard, 316 stainless steel optional • For models 18" and larger: Brass 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.

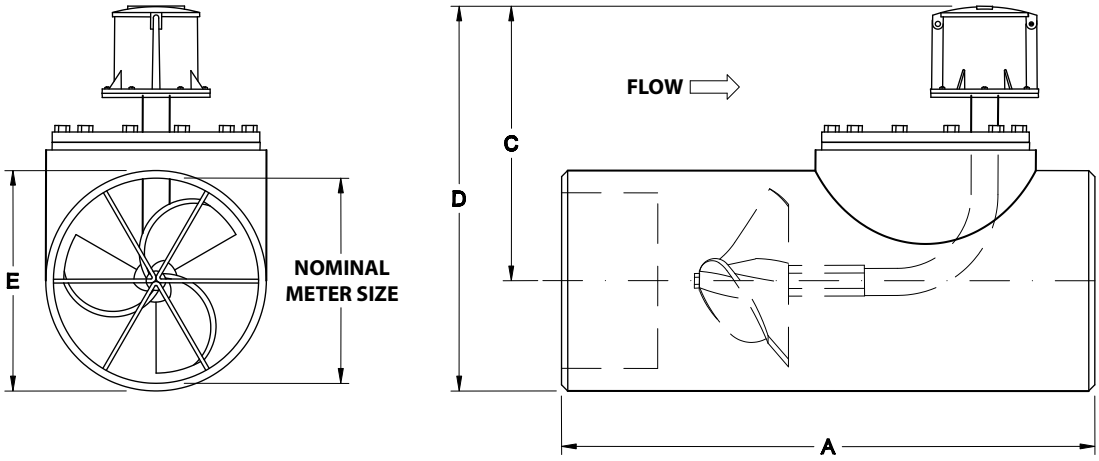
Options

- Register extensions available
- All stainless steel construction
- High temperature construction
- "Over Run" bearing assembly for higher-than-normal flowrates (available only on 4" and larger)
- Electronic propeller meter available in all sizes of this model
- A complete line of flow recording/control instrumentation
- Certified calibration test results
- Stainless steel bearing housing
- Canopy boot

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 five diameters ahead and one diameter behind the meter is the minimum normally recommended.

DIMENSIONS



MW900 MG 900 MT900	DIMENSIONS												
Meter and Nominal Pipe Size	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
Maximum Flow U.S. GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500
Minimum Flow U.S. GPM	40	40	40	50	90	100	125	150	250	275	400	475	700
Approx. Head Loss in Inches at Max. Flow	29.50	29.50	29.50	23.00	17.00	6.75	3.75	2.75	2.00	1.75	1.50	1.25	1.00
Approx. Shipping Weight-lbs.	* SEE SPECIAL NOTE BELOW		25	45	80	110	190	232	259	300	596	680	885
A (inches)			16.00	20.00	22.00	24.00	26.00	28.00	42.00	48.00	54.00	60.00	60.00
B (inches)			5.25	5.25	6.25	6.25	8.25	10.00	13.00	13.00	14.00	16.00	18.00
C (inches)			8.75	10.75	10.75	11.75	13.75	14.75	14.75	16.75	16.75	18.75	20.75
D (inches)			10.50	13.00	14.06	16.06	19.12	21.12	21.75	24.75	25.75	28.75	32.75
E (inches)			3.50	4.50	6.62	8.62	10.75	12.75	14.00	16.00	18.00	20.00	24.00
No. of Topplate Bolts	6		6	6	8	8	12	12	12	12	16	16	16

*SPECIAL NOTE: Reducing fittings (female threaded), are included to adapt the 3-inch model to 2" and 2 ½" line sizes.

Larger flowmeters on special order.

MT900 available in sizes 2" through 6" only.

PIPE RUN REQUIREMENTS

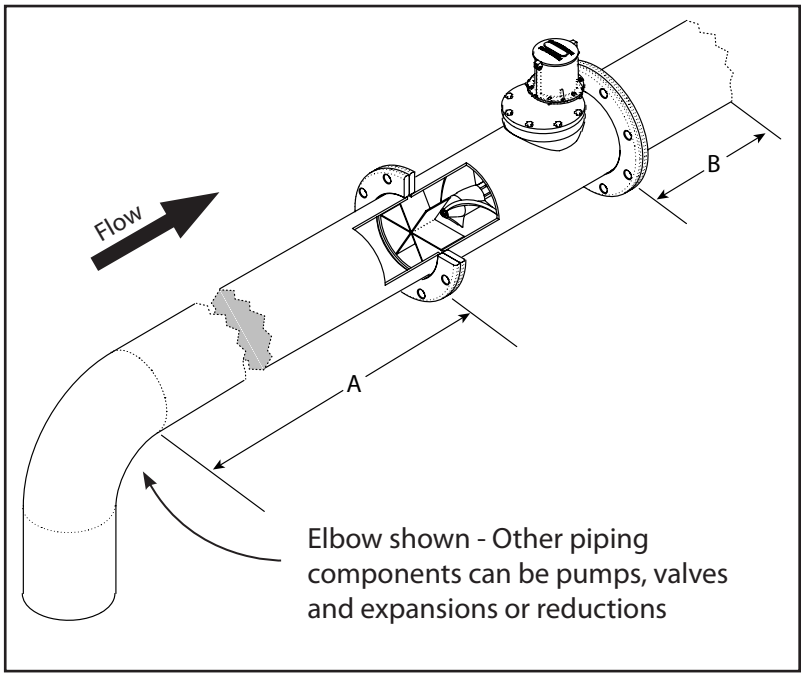
Upstream Requirement

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

Downstream Requirement

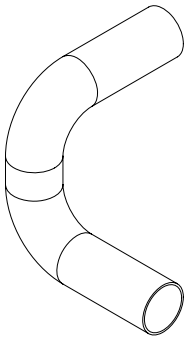
The downstream run should be one diameter of straight pipe length after the meter.

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

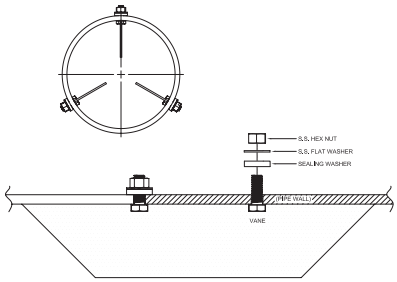


STRAIGHTENING VANES

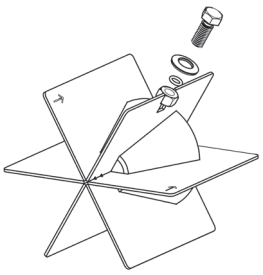
Special attention should be given to systems using two elbows "out of plane" or devices such as a centrifugal sand separator. These cause swirling flow in the line that affect propeller meters. Well developed swirls can travel up to 100 diameters downstream if unobstructed. Since most installations have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

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.

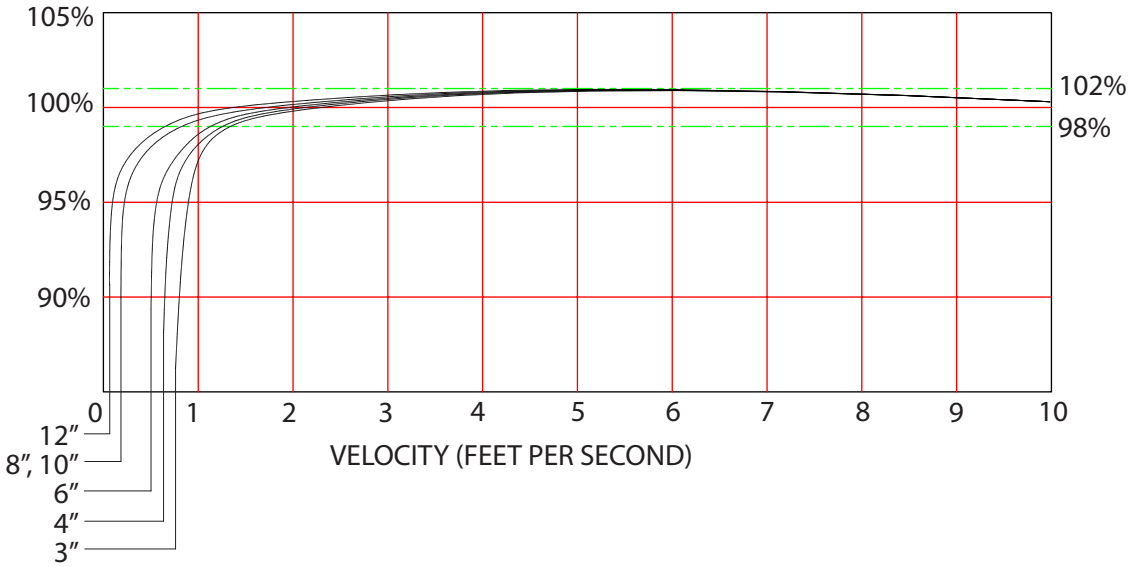
Wireless Telemetry

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.

Accuracy

ACCURACY CHART



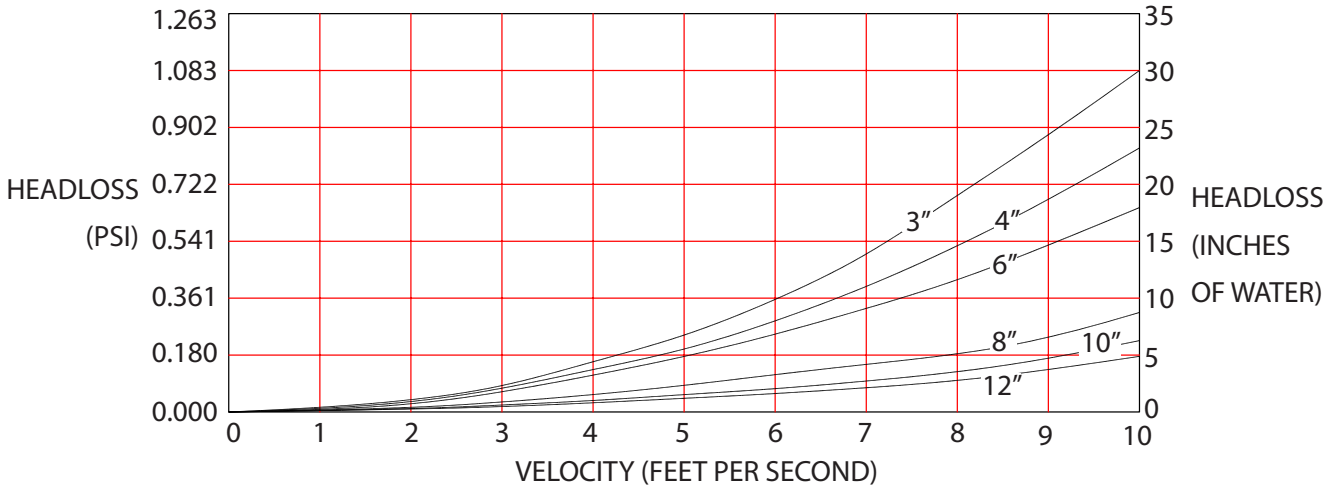
Standard flowrates for McCrometer propeller meters are shown below. Readings are guaranteed accurate within ±2% in these flowrates. Please note that over 80 percent of the meter's flow range, the accuracy is better than ±1%.

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_20 column)	30	23	17	7	4	3	2	2	2	1	1

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