**DESCRIPTION**

Model MG100 and MS100 meters are designed to provide high pressure rating and “main line” meter accuracy in an inexpensive package.

The flow meters are manufactured to comply with the applicable provisions of the AWWA Standard No. C704-02 for propeller type flow meters.

The impeller and drive assembly are fully accessible through the open end of the meter tube.

**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 flow meters 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 vinyl liner.

**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:
- Center pivot systems
- Sprinkler irrigation systems
- Drip irrigation systems
- Golf course and park water management
- Gravity turnouts from underground pipelines
- Commercial Nurseries
- Water and Wastewater management
- The register housing protects both the register and cable drive system from moisture while allowing clear reading of the flowrate indicator and totalizer.
**SPECIFICATIONS**

### Performance

| Accuracy / Repeatability | ±2% of reading guaranteed throughout full range
|                          | ±1% over reduced range
|                          | Repeatability 0.25% or better.

| Range                     | 2” to 24”
| Maximum Temperature       | (Standard Construction) 160°F constant
| Pressure Rating           | 150 psi

### Materials

| Spool                      | Epoxy-coated carbon steel
| 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                   | (Permanent 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

- Extended warranty
- 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 flow recording/control instrumentation
- Register extensions available
- Certified calibration test results
- Canopy boot
- Non-standard laying lengths
## DIMENSIONS

<table>
<thead>
<tr>
<th>MG100 / MS100</th>
<th>2</th>
<th>2 ½</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
<th>18</th>
<th>20</th>
<th>24</th>
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<tbody>
<tr>
<td>Meter Size (inches)</td>
<td>2</td>
<td>2 ½</td>
<td>3</td>
<td>4</td>
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<td>8</td>
<td>10</td>
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<tr>
<td>Minimum Flow U.S. GPM</td>
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<td>40</td>
<td>50</td>
<td>90</td>
<td>100</td>
<td>125</td>
<td>150</td>
<td>250</td>
<td>275</td>
<td>400</td>
<td>475</td>
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<tr>
<td>Maximum Flow U.S. GPM</td>
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<td>250</td>
<td>600</td>
<td>1200</td>
<td>1500</td>
<td>1800</td>
<td>2500</td>
<td>3000</td>
<td>4000</td>
<td>5000</td>
<td>6000</td>
<td>8500</td>
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<td>Maximum Flow w/ Marathon Bearing</td>
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<td>2250</td>
<td>2700</td>
<td>3750</td>
<td>4500</td>
<td>6000</td>
<td>7500</td>
<td>9000</td>
<td>12750</td>
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<td>Head Loss in Inches at Max. Flow</td>
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<td>17.00</td>
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<td>Standard Dial Face (GPM/Gal)</td>
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<td>250/10</td>
<td>1000/100</td>
<td>1800/100</td>
<td>2500/100</td>
<td>3K/1000</td>
<td>4K/1000</td>
<td>6K/1000</td>
<td>8K/1000</td>
<td>10K/1000</td>
<td>10K/10K</td>
<td>15K/10K</td>
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<td>Shipping Weight, lbs.</td>
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<td>53</td>
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<td>106</td>
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<td>144</td>
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<tr>
<td>L (inches) MG100</td>
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<td>L1 (inches) MS100</td>
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</tbody>
</table>

*Special Note—Reducing fittings incorporating grooves are supplied to adapt the 3-inch model to smaller line sizes. Larger flowmeters on special order.
INSTALLATION

Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory.

PIPE RUN REQUIREMENTS

<table>
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<tr>
<th>Configuration</th>
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<th>B</th>
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<tbody>
<tr>
<td>Without straightening vanes</td>
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<td>1</td>
</tr>
<tr>
<td>With straightening vanes</td>
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<td>1</td>
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<tr>
<td>With FS100 Flow Straightener</td>
<td>1.5</td>
<td>1</td>
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</tbody>
</table>

Elbow shown - Other piping components can be pumps, valves and expansions or reductions

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.
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.