

# BATTERY POWERED FLANGED ELECTROMAGNETIC FLOW METER

### DESCRIPTION

McCrometer's Dura Mag is the easy choice for tough applications. With a 5-year meter warranty and a 5-year battery life, Dura Mag eliminates the need for AC power connection while providing the easiest installation possible for a flanged mag flow meter.

The meter is available to fit a common range of irrigation line sizes, from 4" to 12" diameter pipe. Dura Mag offers accuracy of +/- 1% with only 2D of upstream and 1D of downstream straight pipe required for most installations, all with the durability that the agricultural market has come to expect from McCrometer for the past 60 years.

The integrated electronic converter is secured with tamper evident screws. The meter offers flow rate and totalizer with a 5-year battery warranty. Dura Mag features two 3.6V lithiumthionyl chloride (Li-SOCl<sub>2</sub>) D size batteries and one back-up battery. The batteries are easily replaced in the field in under 10 minutes.

Pulse and 4-20mA output are available for remote meter reading or SCADA. Dura Mag is compatible with McCrometer CONNECT wireless systems, which allows users to access flow data by simply logging on to the Internet. This eliminates costly manual meter reading.

### KEY APPLICATIONS - Agriculture

- Irrigation
- Center Pivot Systems
- Well Monitoring
- Water Distribution
- Dairy Lagoons
- Surface Water
- Chemigation Downstream
- Golf Course & Park Management
- Sandy Water

### FREQUENTLY ASKED QUESTIONS

- Q: What are the warranty lengths?  
 A: Meter warranty: 5 years  
 Battery pack: 5 years  
 Liner: Lifetime guarantee
- Q: Is there a data logger?  
 A: Yes, every Dura Mag comes standard with an internal data logger for easy data recording and transfer.
- Q: What alarms are available?  
 A: Two alarms: Empty pipe alarm and low battery.
- Q: What if I need to connect to telemetry?  
 A: Choose one of the pulse or 4-20mA output options. If using one of McCrometer's telemetry options, choose the telemetry-ready 7-pin connector.

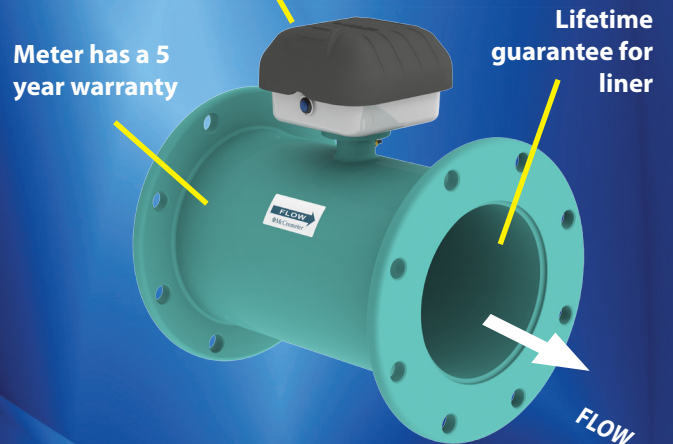
### KEY FEATURES

- 5-year meter warranty
- 5-year battery warranty
- Lifetime liner guarantee
- Battery powered for easy installation – eliminate the hassle of cables or AC power
- Durable design – Proven in tough environments
- 10 minute DIY replaceable battery pack, keeps your meter running
- Made in the USA



Included canopy protects converter from weather and extreme temperatures

Epoxy coating replaces liner, eliminating risk of separation or water intrusion



## SPECIFICATIONS

<b>Pipe Sizes</b>	4", 6", 8", 10", 12"
<b>Accuracy *</b>	± 1% or ± 0.075% of standard full scale
<b>Display</b>	2-Line LCD display (no backlight), 16 characters per line <ul style="list-style-type: none"> <li>• Non-volatile memory</li> <li>• Anti-reverse totalizer (standard)</li> <li>• Total (to 9 digits of precision)</li> <li>• Flow Rate and Velocity (to 5 digits of precision)</li> <li>• Two alarms: low battery and empty pipe <i>Note: To preserve battery life a button on the front of the converter activates the display.</i></li> </ul>
<b>Power</b>	<p>Battery Standard: two 3.6V lithium-thionyl chloride (Li-SOCl<sub>2</sub>) D size batteries. Batteries are field replaceable</p> <p>DC Power Linear power supply 10-35VDC, 2.4W</p>
<b>Warranty</b>	<p>Meter 5 year warranty</p> <p>Battery Pack 5 year warranty</p> <p>Liner Lifetime guarantee</p>
<b>Outputs</b>	<p>Pulse Output Digital pulse (open collector) output for volumetric and/or alarm</p> <p>Analog Output 4-20mA (not galvanically separated from the power supply). DC powered option only.</p>
<b>Data Storage</b>	Data logger (standard with all models), minimum of five years of data stored

<b>Environmental</b>	<p>Operating Temperature -4° to 140°F (-20° to 60°C)</p> <p>Storage Temperature -40° to 149°F (-40° to 65°C)</p>
<b>Converter Enclosure</b>	IP67
<b>Electrical Connects</b>	Optional quick connect for easy installation
<b>Pipe Run Requirements</b>	2D Upstream / 1D Downstream
<b>Pressure Rating</b>	150 psi
<b>Options and Accessories</b>	<ul style="list-style-type: none"> <li>• Two alarms: low battery and empty pipe</li> <li>• Data logger cable (sold separately)</li> <li>• DC power w/battery backup</li> <li>• Pulse &amp; 4 20mA output</li> <li>• Annual verification / calibration</li> </ul>
<b>Units</b>	<p>US gallons</p> <p>US gallons x1000 (standard totalizer)</p> <p>US gallons x1,000,000</p> <p>cubic inches</p> <p>cubic feet</p> <p>cubic feet x1000</p> <p>cubic centimeters</p> <p>cubic decimeters</p> <p>milliliters, liters</p> <p>deciliters</p> <p>hectoliters</p> <p>kiloliters</p> <p>megaliters</p> <p>cubic meters</p> <p>cubic meters x1000</p> <p>acre feet</p> <p>acre inches</p> <p>imperial gallons</p> <p>imperial gallons x1000</p> <p>imperial gallons x1,000,000</p> <p>standard barrels</p> <p>oil barrels</p> <p>miner inch days</p>
<b>Unit Rate Scales</b>	seconds, minutes, hours, days

\* All Dura Mag meters are calibrated in a NIST traceable gravimetric test stand with a minimum straight run of 10D upstream and 2D downstream. A calibration certification report is provided with each Dura Mag meter certifying the specification accuracy in our laboratory test. Alternative piping configurations or electrical environments may impact the performance of the meter in the field.



3255 WEST STETSON AVENUE • HEMET, CALIFORNIA 92545 USA  
TEL: 951-652-6811 • 800-220-2279 • FAX: 951-652-3078

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www.mccrometer.com

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## METER GROUNDING RECOMMENDATIONS

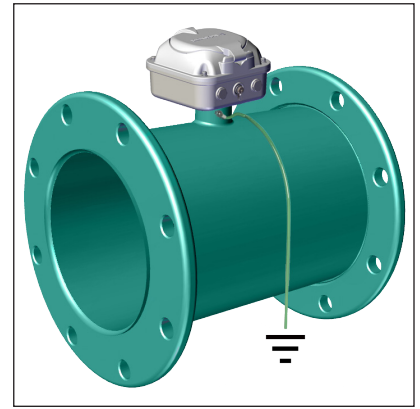
Grounding the meter body for safety according to national (NEC) or local electrical codes is recommended on ALL meter installations.

For best performance, grounding the fluid column is recommended when the meter is installed in an electrically noisy environment, such as with VFD pumps or nearby electrical systems with insufficient grounding.

**Conductive or uncoated pipe** - The uncoated pipe flange can be used to establish a connection to earth ground.

**Plastic or internally coated pipe** - Grounding rings can be installed to establish a connection to earth ground

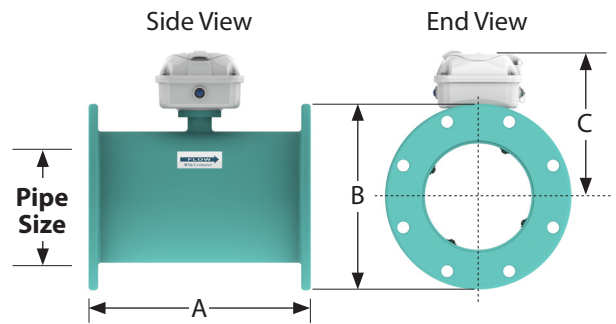
See the Dura Mag IOM Manual, Lit. # 30122-53, for more information on grounding configurations using grounding rods and grounding rings.



## METER BODY DIMENSIONS AND WEIGHTS

Pipe Size (Nominal)	Standard GPM Flow Ranges Min - Max	DIMENSIONS (Lay Lengths in Inches)			* Estimated Shipping Weight (lbs.)
		A*	B	C	
4"	30 - 1,000	13.4"	9.0"	9.25"	70
6"	60 - 2,000	14.6"	11.0"	10.25"	80
8"	105 - 3,500	16.1"	13.5"	11.25"	115
10"	165 - 5,500	18.5"	16.0"	12.5"	140
12"	195 - 6,500	19.7"	19.0"	13.5"	190

\* Shipping weights are estimated and may change due to specific order packaging.



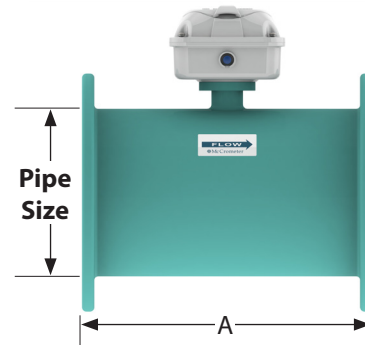
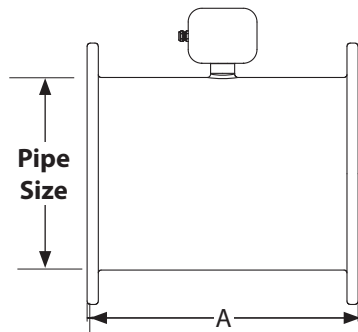
**Dura Mag S Series meters are available in lay lengths compatible with products from other meter suppliers\*. See the tables below for matched lay length options.**

Other Supplier Dimensions\*

Pipe Size (Nominal)	L (inches)	Weight (lbs)
4"	10.24	34
6"	12.27	50
8"	14.24	71
10"	18.18	130
12"	19.68	170

Dura Mag - S Series Dimensions

Pipe Size (Nominal)	L (A)	Weight (lbs)
4"	10.24	70
6"	12.27	80
8"	14.24	115
10"	18.18	140
12"	19.7	190



\* Seametrics Electromagnetic Meters (Ag3000/Ag3000P or iMag4700 series); Seametrics® is a registered trademark of their respective owners. Sparling Instruments (BlueWater Flowmeter FM676); Sparling® is a registered trademark of their respective owners.



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