

## 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 2" to 12" diameter pipe. Dura Mag offers accuracy of +/- 1% with minimal upstream and downstream straight pipe required for most installations, all with the durability that the agricultural market has come to expect from McCrometer for the past 65 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 three 3.6V lithiumthionyl chloride (Li-SOCI2) D size batteries and one back-up battery. The batteries are easily replaced in the field in under 10 minutes.

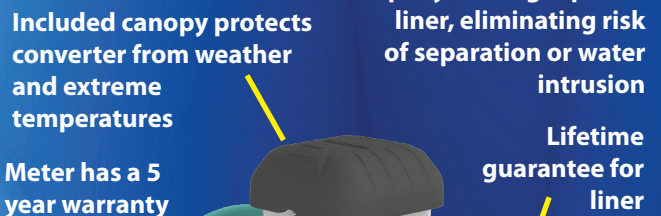
Pulse and 4-20mA output are available for remote meter reading or SCADA. Dura Mag is compatible with McCrometer CONNECT wireless systems, which allows users to access flow data by simply logging on to the Internet. This eliminates costly manual meter reading.

### KEY APPLICATIONS - Agriculture

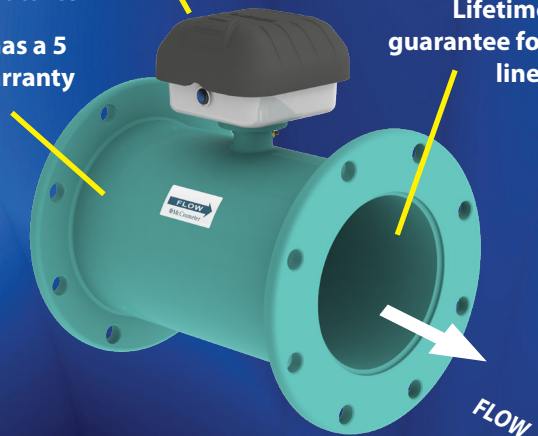
- Irrigation
- Center Pivot Systems
- Well Monitoring
- Water Distribution
- Dairy Lagoons
- Surface Water
- Chemigation Downstream
- Golf Course & Park Management
- Sandy Water

## KEY FEATURES

- 5-year meter warranty
- 5-year battery warranty
- Lifetime liner guarantee
- Upstream/downstream requirements:
  - 2" & 3": 3D/1D
  - 4" & larger: 2D/1D
- 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



New 2" and 3" wafer design



## Part Number Structure

D	M	XX	-	-	-	-	-	-	-	-	-
<b>METER SIZE</b>											
	2" Meter	02									
	3" Meter	03									
	4" Meter	04									
	6" Meter	06									
	8" Meter	08									
	10" Meter	10									
	12" Meter	12									
<b>POWER &amp; OUTPUT OPTIONS</b>											
	Battery Power / No Outputs ( Default )	-									
	Battery Power / Pulse Output	1	0	•	•						
	DC Power (10-32v) / 4-20mA Output	2	•	0	•						
	DC Power (10-32v) / 4-20mA Output / Pulse Output	3	•	•	•						
	Battery Power / Smart Output Only	-									
	Battery Power / Pulse Output / Smart Output	4	0	•	•						
	DC Power (10-32V)	5	•	0	0						
<b>POWER CABLE LENGTH OPTIONS</b>											
	No Cable - Output Configured	0									
	6ft (Open Leads - Hardwired only) [Default]	1									
	25ft (Open Leads)	2									
	50ft (Open Leads)	3									
<b>PULSE CABLE LENGTH OPTIONS</b>											
	No Cable - Output Configured	0									
	6ft (Open Leads - Hardwired only) [Default]	1									
	25ft (Open Leads)	2									
	50ft (Open Leads)	3									
	25ft (7-Pin Male Connector for Telemetry Output)	4									
	50ft (7-Pin Male Connector for Telemetry Output)	5									
<b>CABLE TERMINAL OPTIONS</b>											
	Open Leads ( Hardwired )	1									
	Quick Connection Cable Terminals (25 and 50 feet only)	2									
<b>MCCROMETER COMPETITOR* REPLACEMENT LENGTH OPTION</b>											
	McCrometer Dura Mag Length (Standard)	-									
	Competitor* Replacement Length	S									
	Competitor** Replacement Length	P									
<b>SMART OUTPUT OPTIONS</b>											
	Sensus Protocol (6ft cable, Nicor Connector hardwired only)	SEN									
	Itron 6 digit Protocol (6ft cable, Nicor Connector hardwired only)	ITR6									
	Itron 9 digit Protocol (6ft cable, Nicor Connector hardwired only)	ITR9									
	Battery Power / ATT Wireless Telemetry System ( RTU, Solar Panel, 7 pin cable)	ATT									
	Battery Power / Verizon Wireless Telemetry System ( RTU, Solar Panel, 7 pin cable)	VZW									
<b>COLOR OPTIONS</b>											
	McCrometer Green	-									
	Sky Blue	W									
	Dark Blue	DB									
	Lavender	LV									
	White	WH									
<b>DATA LOGGER Standard Feature</b>											
	Internal Data Logger (Default frequency every 12 hours)										

\* 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.

## SPECIFICATIONS

<b>Pipe Sizes</b>	
	2", 3", 4", 6", 8", 10", 12"
<b>Accuracy*</b>	
	± 1% or ± 0.075% of standard full scale
<b>Pipe Run Requirements</b>	
<b>2" &amp; 3"</b>	3D upstream / 1D downstream
<b>4" and larger</b>	2D upstream / 1D downstream
<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>	
<b>Battery</b>	Standard: three 3.6V lithium-thionyl chloride (Li-SOCl <sub>2</sub> ) D size batteries. Batteries are field replaceable
<b>DC Power</b>	Linear power supply 10-35VDC, 2.4W
<b>Warranty</b>	
<b>Meter</b>	5 year warranty
<b>Battery Pack</b>	5 year warranty
<b>Liner</b>	Lifetime guarantee
<b>Outputs</b>	
<b>Pulse Output</b>	Digital pulse (open collector) output for volumetric and/or alarm
<b>Analog Output</b>	4-20mA (not galvanically separated from the power supply). DC powered option only.
<b>Data Storage</b>	
	Data logger (standard with all models), minimum of five years of data stored
<b>Environmental</b>	
<b>Operating Temperature</b>	-4° to 140°F (-20° to 60°C)
<b>Storage Temperature</b>	-40° to 149°F (-40° to 65°C)
<b>Converter Enclosure</b>	
	IP67

\* 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.

## SPECIFICATIONS (CONT.)

### Electrical Connections

Optional quick connect for easy installation

### Pressure Rating

150 psi

### Certification

Certified by IAPMO R&T to NSF/ANSI 61 for material safety and NSF/ANSI 372 for low lead content.



### Options and Accessories

- Two alarms: low battery and empty pipe
- Data logger cable (sold separately)
- DC power w/battery backup
- Pulse & 4 20mA output
- Annual verification / calibration

### Units

US gallons	megaliters
US gallons x1000 (standard totalizer)	cubic meters
US gallons x1,000,000	cubic meters x1000
cubic inches	acre feet
cubic feet	acre inches
cubic feet x1000	imperial gallons
cubic centimeters	imperial gallons x1000
cubic decimeters	imperial gallons x1,000,000
milliliters, liters	standard barrels
deciliters	oil barrels
hectoliters	miner inch days
kiloliters	

### Unit Rate Scales

seconds, minutes, hours, days

## METER GROUNDING RECOMMENDATIONS

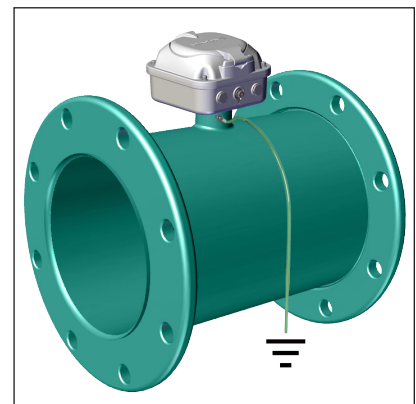
Grounding the meter body for safety according to national (NEC) or local electrical codes is recommended on ALL meter installations.

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.



## DIMENSION AND WEIGHTS

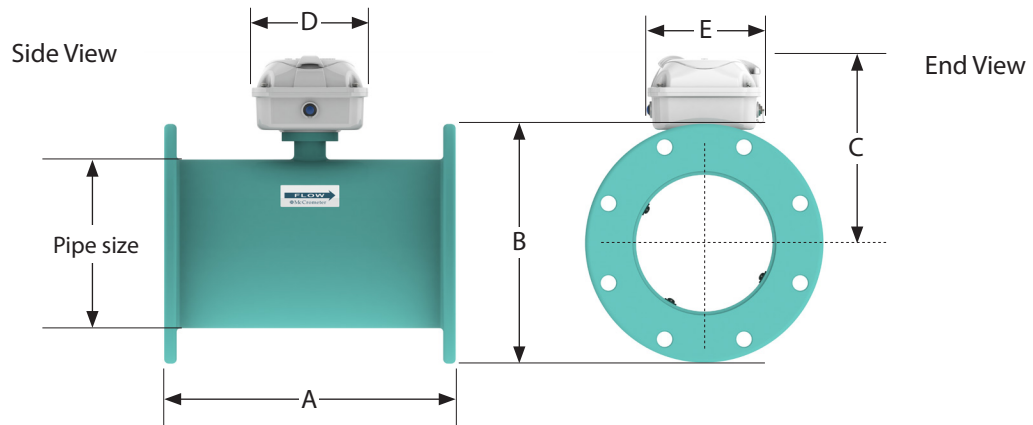
### Dura Mag body type 1

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

D (front)	E (side)
6.44"	7.37"

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



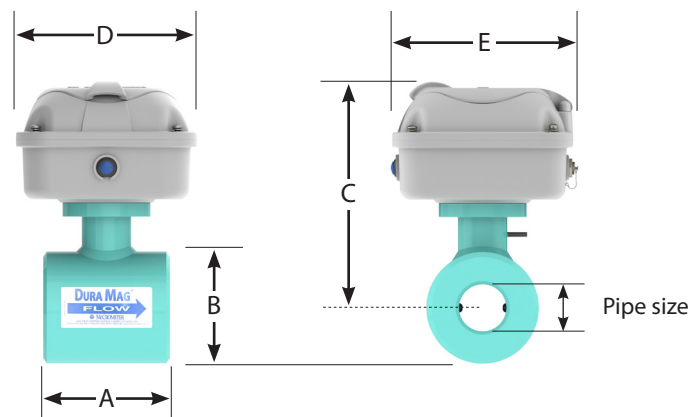
### Dura Mag body type 2

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	
2"	10-250	4.5	5	8.1	10.1
3"	20-550	4.5	5	8.6	11.7

D (front)	E (side)
6.44	7.37

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



## Dura Mag S Series and P Series

Dura Mag S Series and P 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

compare to:



### Dura Mag - S Series Dimensions

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

### Other Supplier Dimensions\*\*

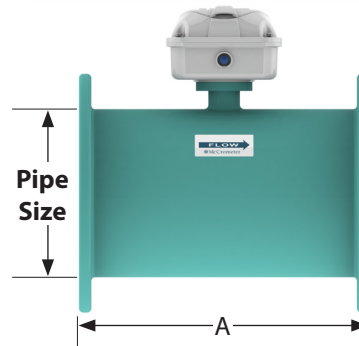
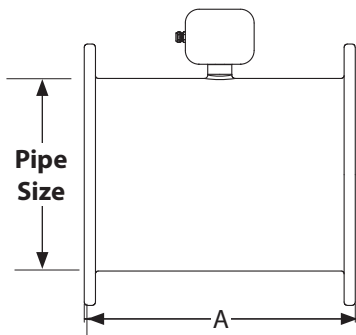
Pipe Size (Nominal)	L (inches)	Weight (lbs.)
4"	6	55
6"	13.38	75
8"	13.38	105
10"	18.15	155
12"	19.40	235

compare to:



### Dura Mag - P Series Dimensions

Pipe Size (Nominal)	L (inches)	Weight (lbs.)
4"	6.25	50
6"	13.38	65
8"	13.38	120
10"	18.15	130
12"	19.40	170



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

\*\* Sparling Instruments (Tigermag EP FM656); Sparling® is a registered trademark of their respective owners.