

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

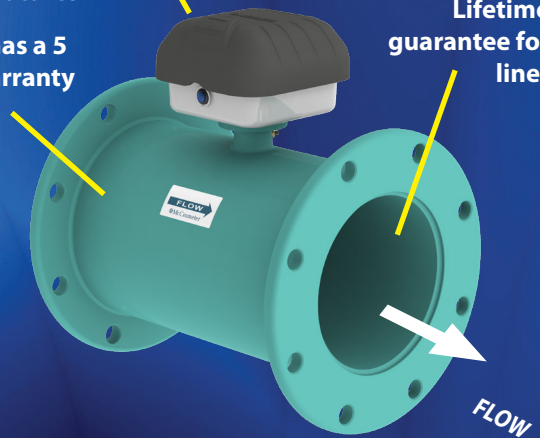
- Irrigation
- Center Pivot Systems
- Well Monitoring
- Water Distribution
- Dairy Lagoons
- Surface Water
- Chemigation Downstream
- Golf Course & Park Management
- Sandy Water

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	-	-	-	-	-	-	-	-
METER SIZE										
	2" Meter	02								
	3" Meter	03								
	4" Meter	04								
	6" Meter	06								
	8" Meter	08								
	10" Meter	10								
	12" Meter	12								
POWER & OUTPUT OPTIONS										
	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					
POWER CABLE LENGTH OPTIONS										
	No Cable - Output Configured	0								
	6ft (Open Leads - Hardwired only) [Default]	1								
	25ft (Open Leads)	2								
	50ft (Open Leads)	3								
PULSE CABLE LENGTH OPTIONS										
	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								
CABLE TERMINAL OPTIONS										
	Open Leads (Hardwired)	1								
	Quick Connection Cable Terminals (25 and 50 feet only)	2								
MCCROMETER COMPETITOR* REPLACEMENT LENGTH OPTION										
	McCrometer Dura Mag Length (Standard)	-								
	Competitor* Replacement Length	S								
SMART OUTPUT OPTIONS										
	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	
COLOR OPTIONS										
	McCrometer Green	-								
	Sky Blue	W								
	Dark Blue	DB								
	Lavender	LV								
	White	WH								
DATA LOGGER Standard Feature										
	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.



FREQUENTLY ASKED QUESTIONS

- | | |
|--|--|
| <p>Q: What are the warranty lengths?
 A: Meter warranty: 5 years
 Battery pack: 5 years
 Liner: Lifetime guarantee</p> <p>Q: Is there a data logger?
 A: Yes, every Dura Mag comes standard with an internal data logger for easy data recording and transfer.</p> | <p>Q: What alarms are available?
 A: Two alarms: Empty pipe alarm and low battery.</p> <p>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.</p> |
|--|--|

SPECIFICATIONS

Pipe Sizes	
	2", 3", 4", 6", 8", 10", 12"
Accuracy*	
	± 1% or ± 0.075% of standard full scale
Pipe Run Requirements	
2" & 3"	3D upstream / 1D downstream
4" and larger	2D upstream / 1D downstream
Display	
	2-Line LCD display (no backlight), 16 characters per line <ul style="list-style-type: none"> • Non-volatile memory • Anti-reverse totalizer (standard) • Total (to 9 digits of precision) • Flow Rate and Velocity (to 5 digits of precision) • 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>
Power	
Battery	Standard: three 3.6V lithium-thionyl chloride (Li-SOCl ₂) D size batteries. Batteries are field replaceable
DC Power	Linear power supply 10-35VDC, 2.4W
Warranty	
Meter	5 year warranty
Battery Pack	5 year warranty
Liner	Lifetime guarantee
Outputs	
Pulse Output	Digital pulse (open collector) output for volumetric and/or alarm
Analog Output	4-20mA (not galvanically separated from the power supply). DC powered option only.
Data Storage	
	Data logger (standard with all models), minimum of five years of data stored



SPECIFICATIONS (CONT.)

Environmental

Operating Temperature

-4° to 140°F (-20° to 60°C)

Storage Temperature

-40° to 149°F (-40° to 65°C)

Converter Enclosure

IP67

Electrical Connections

Optional quick connect for easy installation

Pressure Rating

150 psi

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

* 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.

METER GROUNDING RECOMMENDATIONS

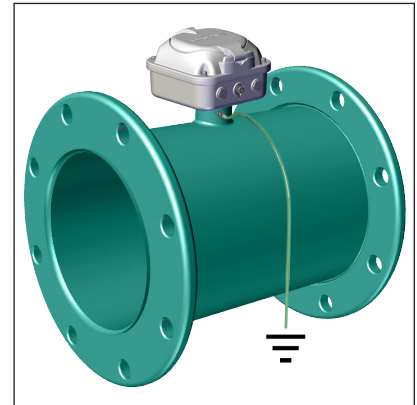
Grounding the meter body for safety according to national (NEC) or local electrical codes is recommended on ALL meter installations.

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

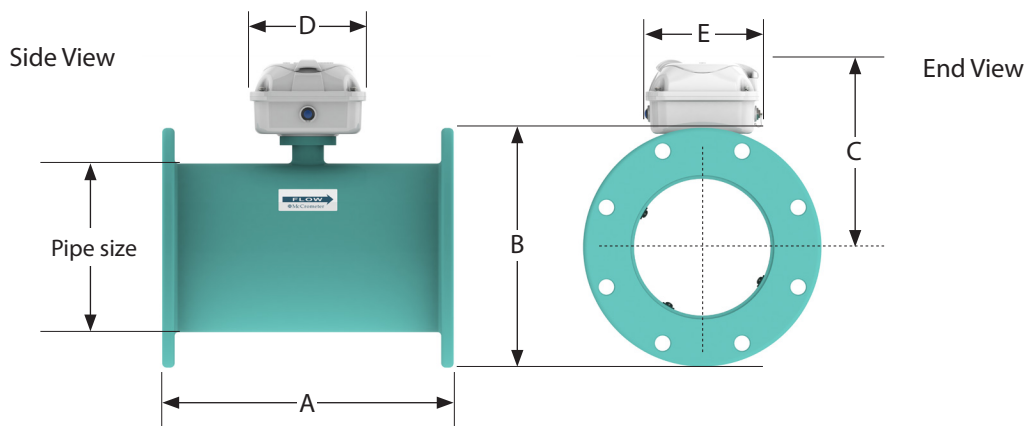
Dura Mag body type 1

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.



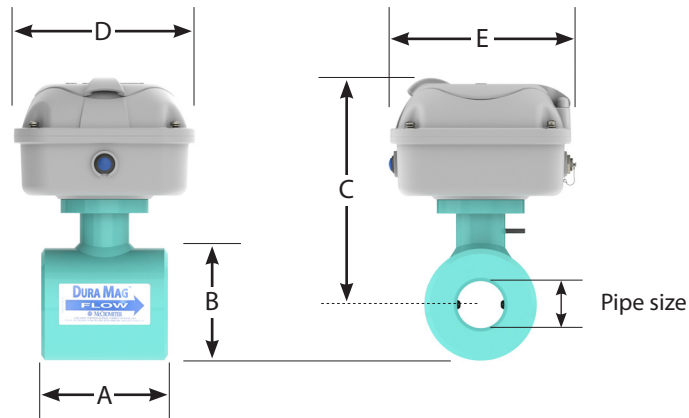
Dura Mag body type 2

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

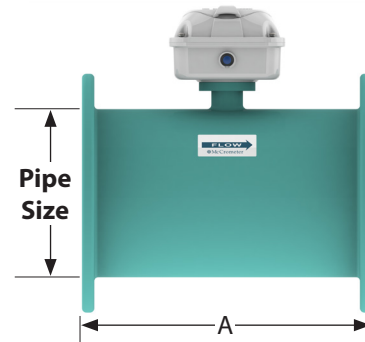
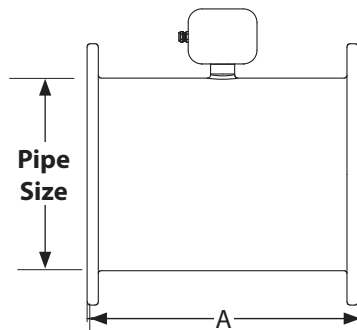
Dura Mag S Series meters are available in lay lengths compatible with products from other meter suppliers*. See the tables below for matched lay length options.

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



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