iMAG 4700 Series
FLANGED MAGMETER

Seametrics

iMAG 4700

iMAG 4700p

iMAG 4700 200/300

iMAG 4700r
(Remote Display)

Features

- Easy setup
- Minimal straight pipe
- Mounted or remote display
- Tamper-evident seal
- Certified to NSF/ANSI standard 61
- IP68 rated
- No moving parts
- Data logging (Optional)
- Sensus Smart Output (Optional)
- Telemetry ready for wireless meter reading. Solutions available now by our sister company **SiGNALFIRE** — WIRELESS TELEMETRY —

Contact Your Supplier

The **iMAG-Series** is the most economical flanged electromagnetic flowmeter on the market. With electrodes designed to discourage fouling, it is available in 2" to 12" pipe in municipal or industrial water/wastewater and reclaimed water applications. Pump station, pump skid, and packaged plant applications are also suitable. Minimal straight pipe requirements allow iMAG-Series meters to be used in piping configurations where there is little space between the meter and an elbow.

iMAG-Series meters are CE certified, certified to NSF/ANSI standard 61 and are rated IP68 for applications where the meter may be operated under water to a depth of at least 10 feet (3 meters) continuously.
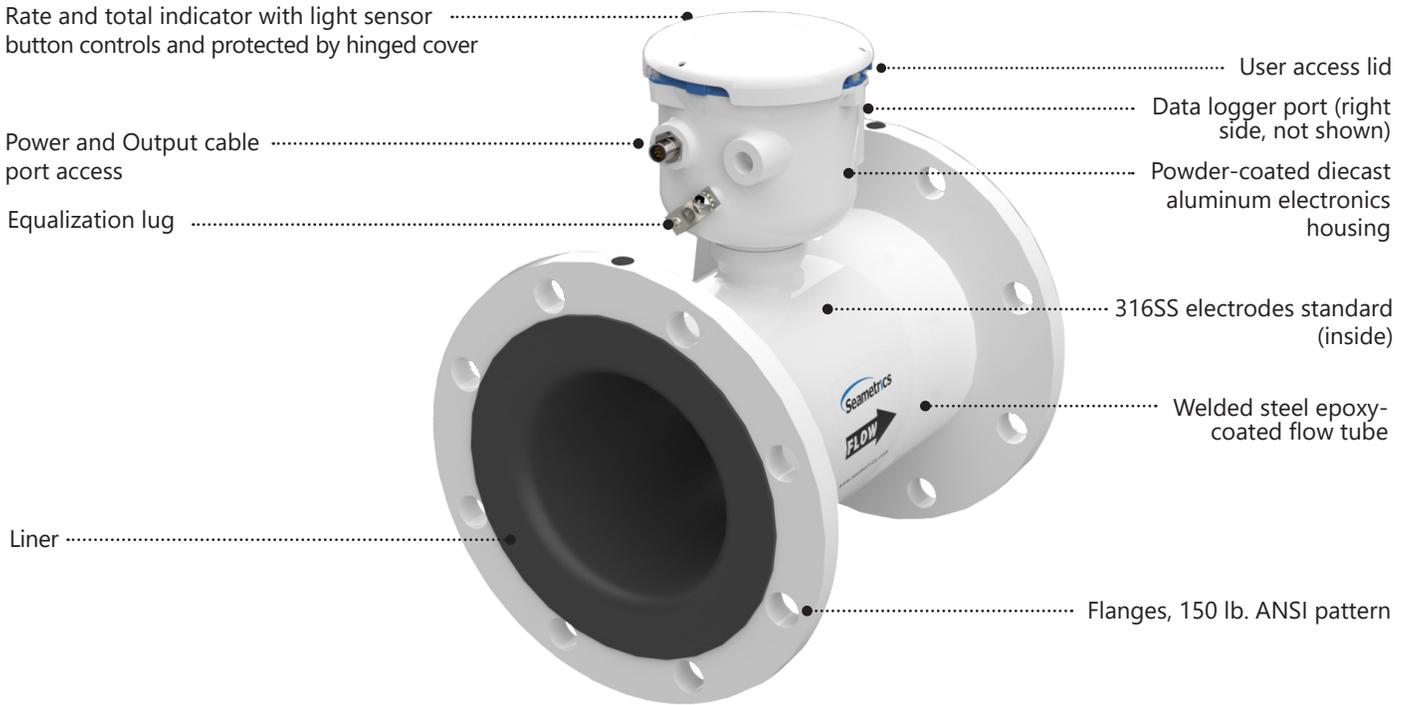
The display can be meter mounted or remote, and both rate and total indication are standard. Rate and total units and pulse scaling can be set via the front panel touch key pad by the user. Bidirectional flow reading is standard with totals available in forward total, reverse total, net flow total, batch forward flow total, and batch reverse flow total.

The iMAG 4700 is also available in either AC or DC powered versions, with battery backup. Pulse output is standard on all models, while 4-20mA passive current loop is also standard on the iMAG 4700p. 4-20mA loop is optional on the iMAG 4700 and iMAG 4700r externally powered meters and Modbus® protocol outputs are optional on all models although battery life will be reduced if ordered on battery powered units. A power/output cable allows outputs for use with a variety of Seametrics displays and other controls for remote reading and telemetry applications.
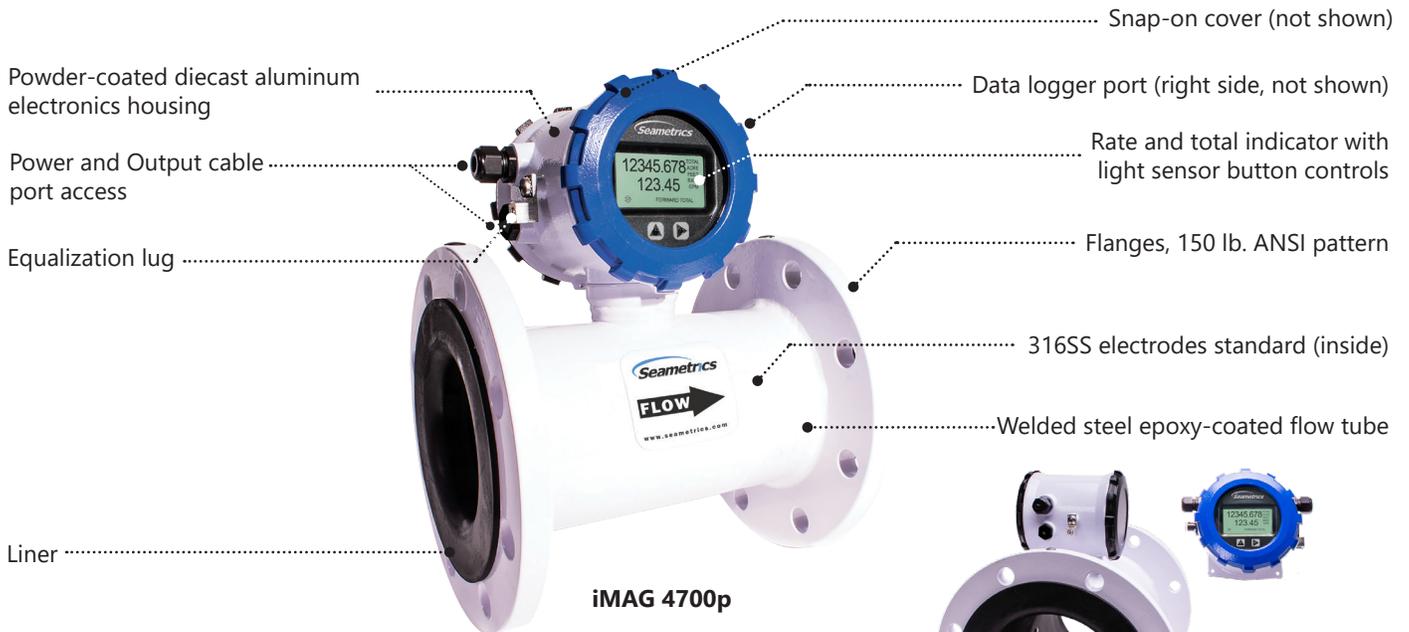
Features

Rate and total indicator with light sensor button controls and protected by hinged cover

User access lid

Data logger port (right side, not shown)

Power and Output cable port access

Powder-coated diecast aluminum electronics housing

Equalization lug

316SS electrodes standard (inside)

Welded steel epoxy-coated flow tube

Liner

Flanges, 150 lb. ANSI pattern

iMAG 4700

Snap-on cover (not shown)

Powder-coated diecast aluminum electronics housing

Data logger port (right side, not shown)

Power and Output cable port access

Rate and total indicator with light sensor button controls

Equalization lug

Flanges, 150 lb. ANSI pattern

316SS electrodes standard (inside)

Welded steel epoxy-coated flow tube

Liner

iMAG 4700p

iMAG 4700r
(Remote indicator)

Features

Built-in Data Logger *(Optional)*

Bidirectional Flow Reading *(Standard)*

Pulse Scaled Output *(Standard)*

4-20mA Output *(Optional*)*

Modbus® Protocol Output *(Optional*)*

Sensus Smart Output *(Optional*)*

High Speed Digital Output *(Optional*)*

Battery Power *(iMAG 4700 battery model only)*

External DC Power *(Optional*)*

Integrated AC Power Supply *(Optional*)*

Remote Display *(iMAG 4700r)*
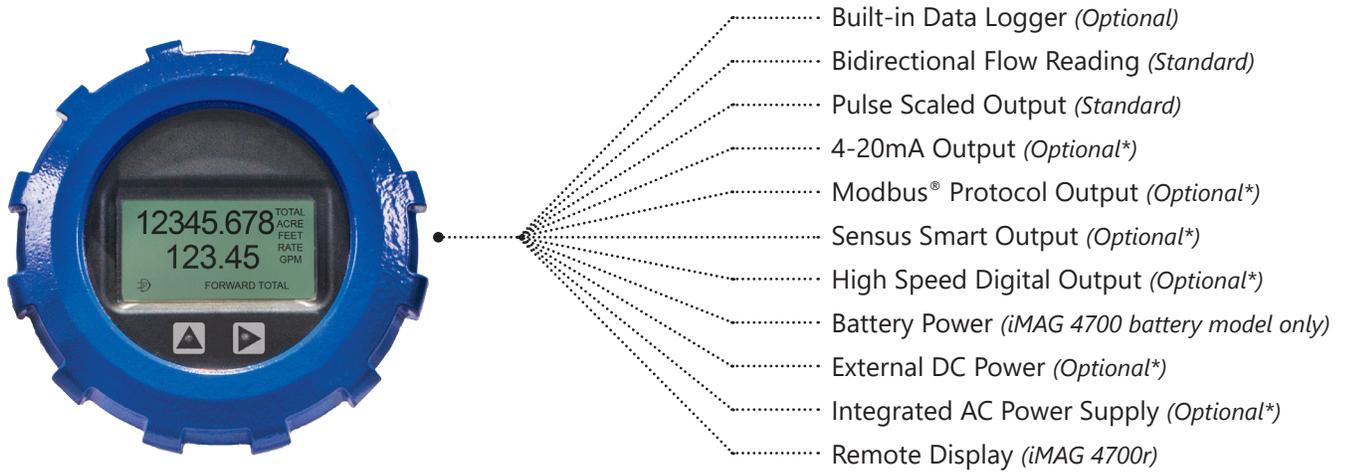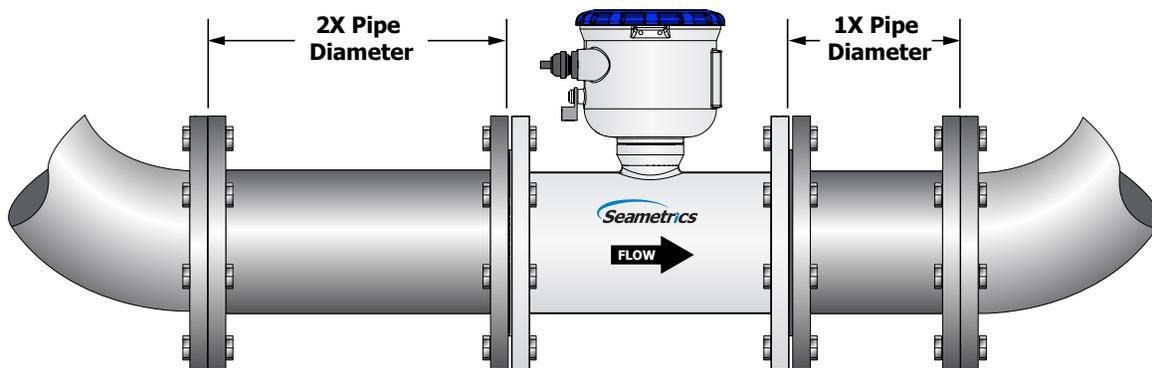
Quickly and easily change Total Volume Units, Flow Rate Units, Pulse Output Scaling, and many other settings using the two light sensor button controls on the display panel.

* *Some optional items only available on some configurations. See last page for further details.*

2X Pipe Diameter   **1X Pipe Diameter**

FLOW

Minimal straight pipe requirements, in most cases, to ease installation in tight quarters.

Specifications

Pipe Sizes	2", 3", 4", 6", 8", 10", 12"			
Flanges	150 lb. ANSI Pattern			
Pressure	150 psi (10.3 bar) line pressure			
Temperature	**Operating**	10˚ to 140˚ F (-12˚ to 60˚ C)		
	Humidity	Humidity 0-90% RH to 60˚ C, altitude 2000m		
	Storage	-40˚ to 158˚ F (-40˚ to 70˚ C)		
Accuracy	±0.75% of reading on iMAG 4700p and 4700r (±1.0% iMAG 4700), ±0.025% of full-scale flow from low flow cutoff to maxi. flow rate of 10 m/sec			
Low Flow Cutoff	0.5% of maximum flow rate			
Material	**Body**	Welded steel, epoxy-coated		
	Liner	Polyurethane/Noryl®		
	Electronics Housing	Powder-coated diecast aluminum		
	Electrodes	316 stainless steel standard/ Hastelloy optional		
Display	**Type**	128x64 dot-matrix LCD		
	Digits	5 Digit Rate		8 Digit Total
	Units	Rate Volume Units	Rate Time Units	Total Volume Units
	Please Note: All iMAG meters are factory set for gallons per minute (GPM) rate and gallons total. If other units are required, they can be set in the field.	Gallons, Liters, Barrels(42 gal), Cubic Feet, Cubic Meters / Million Gallons[2], Mega Liters[2], Imperial Gallons, Million Imperial Gallons[2]	Second, Minute, Hour, Day	Gallons, Gallons x 10, Gallons x 100, Gallons x 1000, Million Gallons, Liters, Kilo Liters, Mega Liters / Barrels (42 gal), Cubic Meters, Cubic Meters x 1000, Cubic Feet, Cubic Feet x 100, Cubic Feet x 1000, Second Foot Day, Million Cubic Feet / Acre Feet, Acre Inches, Imperial Gallons, Imperial Gallons x 1000, Million Imperial Gallons, Fluid Ounces
	Bidirectional[1]	Forward Total, Reverse Total, Net Total, Batch Forward Total, Batch Reverse Total[3]		
Power[4]	**DC Power**	9-36 Vdc @ 250 mA max, 30 mA average supplied from secondary non-hazardous live source		
	Battery Backup **(Not for use as primary power)**	DC powered units: One lithium 7.2V 'D' size battery pack, replaceable. AC powered units: One 9V alkaline battery, replaceable.		
	AC Power	100-240Vac, 50/60Hz, 0.12A *(iMAG 4700r and 4700p only)* Overvoltage category II		
	Battery	One lithium 7.2V 'D' size battery pack, replaceable. *(iMAG 4700 only)*		
Scaled Pulse Output	**Signal**	Current sinking pulse, isolated, 36 Vdc at 10 mA max		
	Pulse Rates	User-scalable from 0.1 to 99,999.9 volume units/pulse. Pulse width is one-half of pulse period with minimum pulse width of 2.5 ms, 200 pulses/sec max. For battery option meters, pulse width varies with frequency, 150 pulses/sec max.		
Options	**4-20mA Current Loop**	Isolated, passive, 24Vdc, 650 Ω maximum current loop		
	High Speed Digital	Isolated, open collector, 24 Vdc *(iMAG4700p only)*		
	Serial Communications	Isolated, asynchronous serial RS485, Modbus® RTU protocol		
	Sensus Smart Output	Connects to Sensus SmartPoint		
Cable	**Power/Output Cable**	20ft (6m) standard length polyurethane jacketed cable—for power and outputs (lengths up to 200' available).		
	Remote Display Cable	20ft (6m) standard length polyurethane jacketed cable—for connection between meter and remote display (lengths up to 200' available). *(iMAG 4700r)*		
Conductivity	>20 microSiemens/cm			
Empty Pipe Detection	Hardware/software, conductivity-based			
Regulatory	C€ (EN 61326), 2"-12" certified to NSF/ANSI standard 61 60°C (140°F), CSA/CUS			
Environmental	NEMA 6P, CSA 6P, IEC 60925 IP68 (10ft (3m) depth, continuously) Pollution degree 4, stability fixed/built in			

Modbus is a registered trademark of Schneider Electric.

* *Specifications subject to change. Please consult our website for the most current data (www.seametrics.com).*

[1] *If forward and reverse flow data needs to be sent to another device, either the Digital or Modbus output is required.*

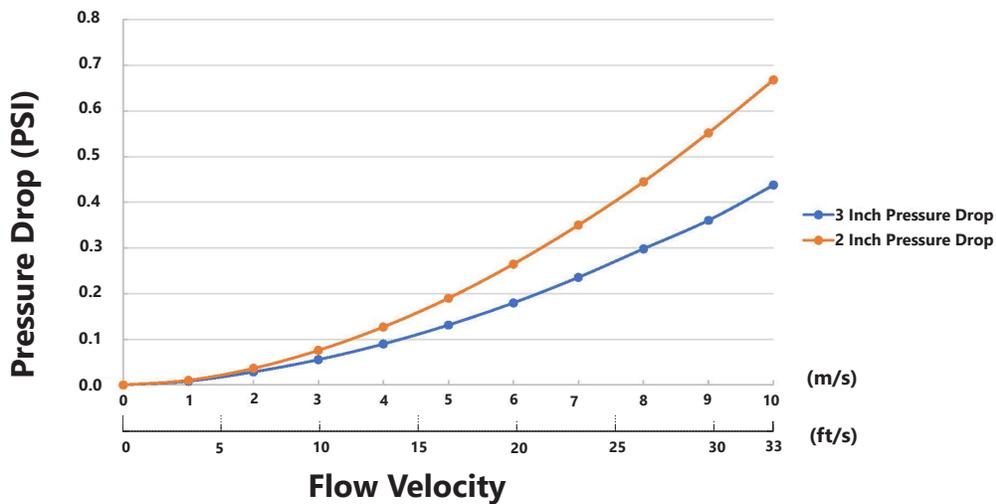[2] *Rate Time Unit is available in Day only.*

[3] *Forward and reverse flow totals are non-resettable. Batch forward and batch reverse totals can be reset.*

[4] *If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.*

iMAG Accuracy
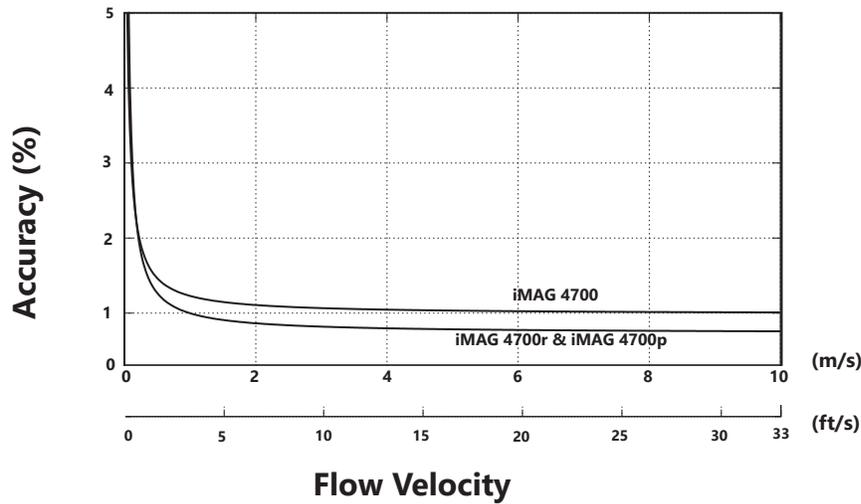
2" & 3" Pressure Drop Curve (No Pressure Drop 4"-12")

Flow Rate (2" - 12")

Pipe Size *(Inches in diameter)*	2"	3"	4"	6"	8"	10"	12"
Max Flow Rate *(Gallons/Minute)*	321	722	1285	2891	5140	8031	11565
Cut-off (min) Flow Rate *(Gallons/Minute)*	2	4.0	6.43	14.46	25.70	40.15	57.82
Max Flow Rate *(Liters/Second)*	20.25	46	81	182	324	507	730
Cut-off (min) Flow Rate *(Liters/Second)*	0.13	0.23	0.41	0.91	1.62	2.54	3.65
Max Flow Velocity *(Meters/Second)*	10	10	10	10	10	10	10

Seametrics

Dimensions - iMAG 4700
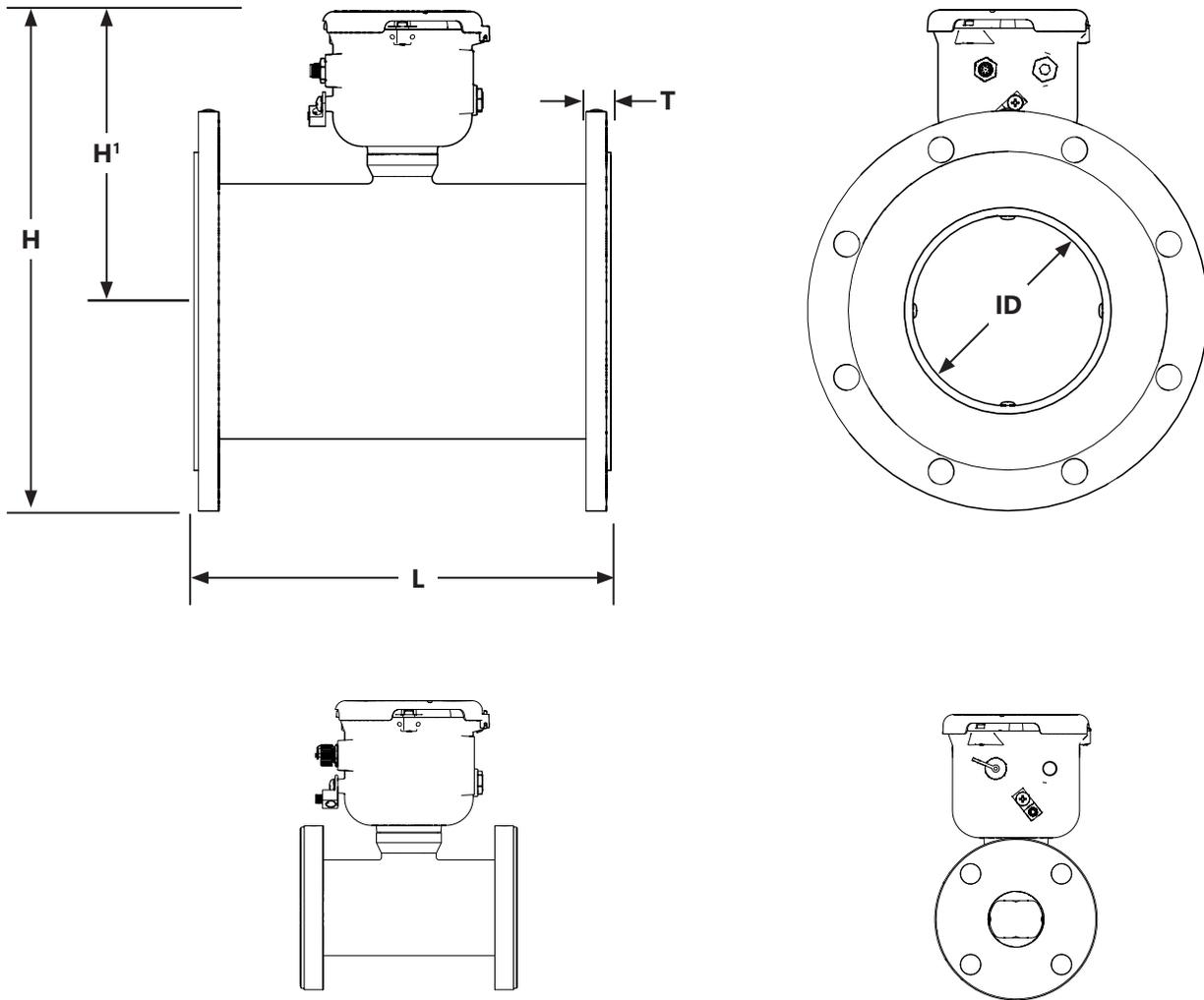
iMAG 4700 Meter Size	L		H¹		H		T		ID		Bolt Holes	Shipping Weight	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	#	lbs	Kg
2"	7.9	200	7.58	193	10.58	268.73	.62	15.7	1.76*	45*	4	20	9
3"	7.9	200	8.08	206	11.83	300.48	.62	15.7	2.68*	68*	4	26	11.8
4"	10.12	257	8.33	211	12.83	325.88	.62	15.7	3.12	79	8	33	15
6"	12.09	307	9.14	231	14.64	371.86	.69	17.5	5.05	128	8	49	22
8"	14.14	359	10.14	257	16.89	429.01	.69	17.5	6.44	164	8	70	32
10"	18.08	459	11.2	284	19.2	487.68	.69	17.5	8.61	219	12	130	59
12"	19.68	500	12.2	310	21.7	551.18	.81	20.6	10.55	268	12	170	77
Flanges	Standard ANSI 150 lb. drilling											Cable 1 lb.	

Note: 'L' dimension is total from liner face to liner face

*Average ID

Dimensions - iMAG 4700r and iMAG 4700p

iMAG 4700r (remote display)

6.840" *(173.7 mm)*
4.000" *(101.6 mm)*
3.500" *(88.9 mm)*

5.200" *(132.1 mm)*

4.375" *(111.1 mm)*

Ø 5.285" *(134.2 mm)*

Ø 0.200" *(5.08 mm)*

4.150" *(105.4 mm)*
4.20" *(106.68 mm)* with Cover
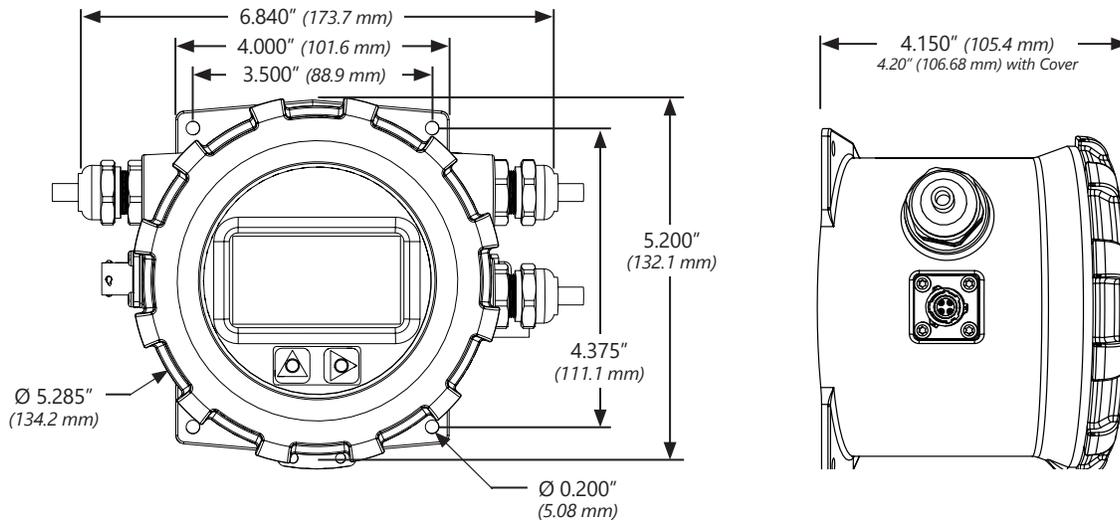
**iMAG 4700p and
iMAG 4700r (remote meter)**

H^1

H

T

L

ID

iMAG 4700 Meter Size	L		H^1		H		T		ID		Bolt Holes	Shipping Weight			
												iMAG 4700p		iMAG 4700r	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	#	lbs	Kg	lbs	Kg
2"	7.9	200	7.8	198	10.8	274	.62	15.7	1.76*	45*	4	21	9.5	22	10
3"	7.9	200	8.35	212	12.1	307	.62	15.7	2.68*	68*	4	27	12.3	28	12.7
4"	10.12	257	8.6	218	13.1	332	.62	15.7	3.12	79	8	34	15.5	43	19.5
6"	12.09	307	9.4	239	14.9	378	.69	17.5	5.05	128	8	50	22.5	59	27
8"	14.14	359	10.4	264	17.15	435	.69	17.5	6.44	164	8	71	32	78	35
10"	18.08	459	11.5	292	19.5	495	.69	17.5	8.61	219	12	130	59	135	61
12"	19.68	500	12.5	317	22	559	.81	20.6	10.55	268	12	170	77	175	79
Flanges	Standard ANSI 150 lb. drilling											Cable 1 lb.			

Note: 'L' dimension is total from liner face to liner face *Average ID

iMAG 4700 Series
FLANGED MAGMETER

Seametrics

How to Order Worksheet

	1	1a	1b	2	3	4	5	6	7	8
iMAG 4700										
iMAG 4700p										
iMAG 4700r										

1a **Ground Rings:** 0 = User Installed Grounding Rings G = Factory Installed Grounding Rings

1b **Electrode:** 0 = SS Button H = Hastelloy Button B = SS Bullet Y = Hastelloy Bullet

2 **Flange:** F1 = 150 lb ANSI Pattern

4 **Power:** D1 = DC 60Hz D2 = DC 50Hz A1 = AC 60Hz A2 = AC 50Hz BX = Battery

5 **Outputs:** X = No optional output L = 4-20mA S = Modbus® G = Digital

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iMAG 4700 (Integrated Display)

	1	1a	1b	2	3	4	5		6	7
	Size	**Grounding Rings[6]**	**Electrode**	**Flange**	**Gaskets[3]**	**Power**	**Optional Output[2]** _The 4700 comes standard with one pulse output_		**Options**	**DC Power/Output Cable** _(Must select one)_
	2" 02	0	0	F1	X None	D1	X	_(requires 4 conductor cable for DC power & output)_	XX None	0000 No Cable _(Cable required for power/output)_
	3" 03	G[8]	H[5]		R Non NSF	D2	L	_(requires 8 conductor cable for DC power & output)_	01 Data Logger	**4 Conductor 8 Conductor**
	4" 04		B[5]		P NSF		S	_(requires 8 conductor cable for DC power & output)_	02 Sensus Smart Output _(Includes 6' Cable)_	0064 0068 6 meter (20 ft)
	6" 06		Y[5]							0154 0158 15 meter (50 ft)
	8" 08									0304 0308 30 meter (100 ft)
	10" 10									0454 0458 45 meter (150 ft)
	12" 12					BX	X	_(requires 4 conductor cable for pulse output)_		0604 0608 60 meter (200 ft)
							S	_(requires 8 conductor cable for output)[4]_		

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iMAG 4700p (Integrated Display)

	1	1a	1b	2	3	4	5		6	7
	Size	**Grounding Rings[6]**	**Electrode**	**Style**	**Gaskets[3]**	**Power[1]**	**Optional Output[2]** _The 4700p comes standard with 4-20mA and one pulse output_		**Options**	**DC Power/Output Cable 8 conductor** _(Must select one)_
	2" 02	0	0	F1	X None	D1	X	_(requires single cable for DC power & output)_	XX None	0000 No Cable _(customer will supply)_
	3" 03	G[8]	H[5]		R Non NSF	D2	S	_(requires dual cable for DC power & output)_	01 Data Logger	**Single Dual**
	4" 04		B[5]		P NSF		G[7]	_(requires dual cable for DC power & output)_	02 Sensus Smart Output _(Includes 6' Cable)_	006S 006D 6 meter (20 ft)
	6" 06		Y[5]							015S 015D 15 meter (50 ft)
	8" 08					A1	X	_(requires single cable for output)_		030S 030D 30 meter (100 ft)
	10" 10					A2	S	_(requires single cable for output)_		045S 045D 45 meter (150 ft)
	12" 12						G[7]	_(requires single cable for output)_		060S 060D 60 meter (200 ft)

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iMAG 4700r (Remote Display)

	1	1a	1b	2	3	4	5		6	7	8
	Size	**Grounding Rings[6]**	**Electrode**	**Style**	**Gaskets[3]**	**Power[1]**	**Optional Output[2]** _The 4700r comes standard with one pulse output_ _One Option from 5 or one option from 6 can be selected_		**Options**	**DC Power/Output Cable - 6 conductor** _(Must select one)_	**Remote Display Cable - 6 conductor** _(Must select one)_
	2" 02	0	0	F1	X None	D1	X	_(requires single cable for DC power and output)_	XX None	0000 No Cable _(customer will supply)_	006 6 meter (20 ft)
	3" 03	G[8]	H[5]		R Non NSF	D2	L	_(requires single cable for DC power and output)_	01 Data Logger	**Single Dual**	015 15 meter (50 ft)
	4" 04		B[5]		P NSF		S	_(requires dual cable for DC power and output)_	02 Sensus Smart Output _(Includes 6' Cable)_	006S 006D 6 meter (20 ft)	030 30 meter (100 ft)
	6" 06		Y[5]							015S 015D 15 meter (50 ft)	045 45 meter (150 ft)
	8" 08					A1	X	_(requires single cable for output)_		030S 030D 30 meter (100 ft)	060 60 meter (200 ft)
	10" 10					A2	L	_(requires single cable for output)_		045S 045D 45 meter (150 ft)	
	12" 12						S	_(requires single cable for output)_		060S 060D 60 meter (200 ft)	

Modbus is a registered trademark of Schneider Electric.
Note: All iMAG meters are factory set for gallons per minute (GPM) rate and gallons total. If other units are required, they can be programmed in the field.
[1] AC meters come with a 1.8 meter (6 ft) AC power cable.
[2] You can choose up to one additional output on powered meters only.
[3] **If -X is selected, cutomer must provide full faced gaskets. Failure to install gaskets will void warranty.** No charge for non NSF (-R) gaskets.
[4] Battery life is shortened when using Modbus with battery powered units. Expected battery life is approximately 1 year, based on usage.
[5] Available for 4" - 12" meters only.
[6] Installed grounding rings are not available on 2" and 3" meters.
[7] Sensus Smart Output option not available with Digital output
[8] Factory installed grounding rings must be ordered with gaskets

User is responsible for reviewing end use application with their supplier for product suitability.