

# iMAG 4700 Series FLANGED MAGMETER



## RIGHT METER FOR

Water & Wastewater Treatment  
Municipal  
Pump skids  
Pump stations  
Packaged plants  
Filtration systems  
Reclaimed water  
Hydraulic fracturing

## Features

- Easy setup
- Minimal straight pipe
- Mounted or remote rate & total
- Tamper-evident seal
- Certified to NSF/ANSI standard 61
- IP68 rated
- No moving parts

The **iMAG-Series** is the most economical flanged electromagnetic flowmeter on the market. With electrodes designed to discourage fouling, it is available in 3" to 12" pipe in municipal or industrial water, waste and reclaimed water, pump stations, and packaged plant applications. 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.

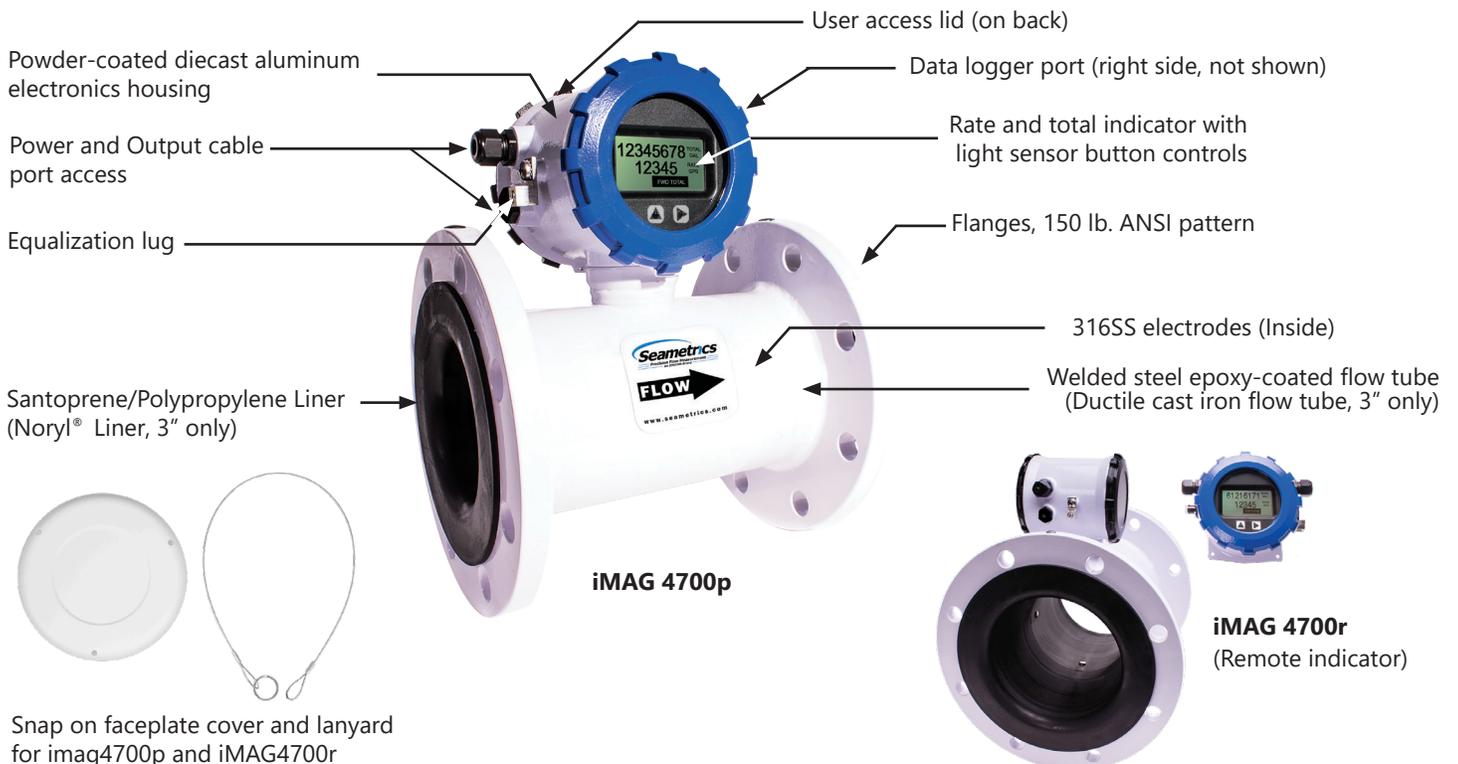
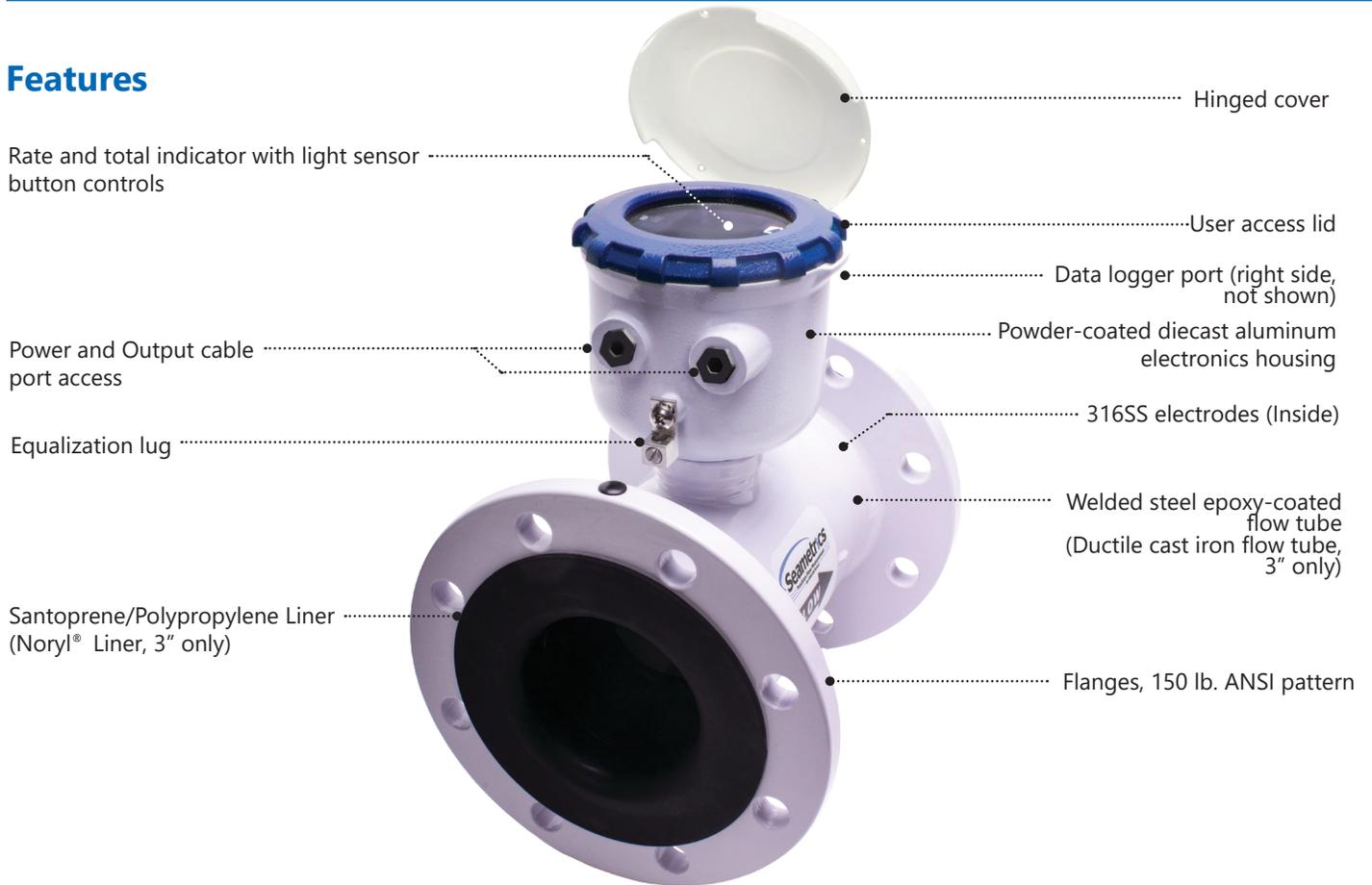
iMAG-Series meters are CE certified, certified to NSF/ANSI standard 61 and are rated IP68 for applications where the meter may be operated under water to a depth of at least 10 feet (3 meters) continuously.

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, reverse, net flow, batch forward flow, and batch reverse flow. Batch totals can be reset.

A power/output cable allows outputs for use with a variety of Seametrics and other displays and controls for remote reading and telemetry applications. Pulse output is standard on all models and 4-20mA passive current loop is standard on the iMAG 4700p. In addition, 4-20mA loop, HART protocol, high speed digital, and Modbus® protocol outputs are optional on the externally powered units, depending on model.

## Contact Your Supplier

**Features**



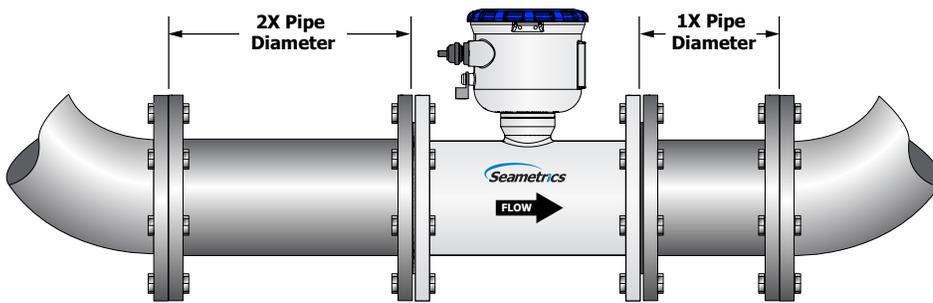
**Features**



- Built-in Data Logger (*Optional*)
- Bidirectional Flow Reading (*Standard*)
- Pulse Scaled Output (*Standard*)
- 4-20mA Output (*Optional\**)
- HART Protocol Output (*Optional\**)
- Modbus® Protocol 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.*



Minimal straight pipe requirements to ease installation in tight quarters.

No moving parts to break or foul!



## Specifications

<b>Pipe Sizes</b>	3", 4", 6", 8", 10", 12"					
<b>Flanges</b>	150 lb. ANSI Pattern					
<b>Pressure</b>	150 psi (10.3 bar) line pressure					
<b>Temperature</b>	<b>Operating</b>	10° to 140° F (-12° to 60° C)				
	<b>Storage</b>	-40° to 158° F (-40° to 70° C)				
<b>Accuracy</b>	±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					
<b>Low Flow Cutoff</b>	0.5% of maximum flow rate					
<b>Material</b>	<b>Body (3" only)</b>	Ductile cast iron, powder coated				
	<b>Body (4"-12")</b>	Welded steel, epoxy-coated				
	<b>Liner (3" only)</b>	Noryl®				
	<b>Liner (4"-12")</b>	Santoprene flange/Polypropylene liner body				
	<b>Electronics Housing</b>	Powder-coated diecast aluminum				
	<b>Electrodes</b>	316 stainless steel				
	<b>O-ring (3" only)</b>	EPDM				
<b>Display</b>	<b>Type</b>	128x64 dot-matrix LCD				
	<b>Digits</b>	5 Digit Rate		8 Digit Total		
	<b>Units</b>	Rate Volume Units		Rate Time Units	Total Volume Units	
		Gallons Liters Barrels(42 gal) Cubic Feet Cubic Meters	Million Gallons <sup>2</sup> Mega Liters <sup>2</sup> Imperial Gallons Million Imperial Gallons <sup>2</sup>	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 1000 Second Foot Day Million Cubic Feet
	<i>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.</i>					
<b>Bidirectional<sup>1</sup></b>	Forward Total, Reverse Total, Net Total, Batch Forward Total, Batch Reverse Total (Batch totals can be reset)					
<b>Power</b>	<b>DC Power</b>	9-36 Vdc @ 250 mA max, 30 mA average				
	<b>Battery Backup</b> <i>(Not for use as primary power)</i>	DC powered units: Two lithium 3.6V 'D' batteries, replaceable. AC powered units: One 9V alkaline battery, replaceable.				
	<b>AC Power</b> <i>(iMAG 4700r and 4700p only)</i>	85-264Vac, 50/60Hz, 0.12A				
	<b>Battery</b> <i>(iMAG 4700 only)</i>	One lithium 7.2V 'D' size battery pack, replaceable.				
<b>Scaled Pulse Output</b>	<b>Signal</b>	Current sinking pulse, isolated, 36 Vdc at 10 mA max				
	<b>Pulse Rates</b>	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.				
<b>Options</b>	<b>4-20mA Current Loop</b>	Isolated, passive, 24Vdc, 650 Ω maximum current loop				
	<b>HART/4-20mA</b>	HART protocol over 4-20mA line				
	<b>High Speed Digital Output</b> <i>(iMAG 4700 &amp; 4700p only)</i>	Isolated, open collector, 24 Vdc				
	<b>Serial Communications</b>	Isolated, asynchronous serial RS485 (Reconfigurable for RS232 or 3.3V CMOS), Modbus® RTU protocol (factory selectable)				
<b>Cable</b>	<b>Power/Output Cable</b>	20ft (6m) standard length polyurethane jacketed cable—for power and outputs (lengths up to 200' available).				
	<b>Remote Display Cable</b> <i>(iMAG 4700r)</i>	20ft (6m) standard length polyurethane jacketed cable—for connection between meter and remote display (lengths up to 200' available).				
<b>Conductivity</b>	>20 microSiemens/cm					
<b>Empty Pipe Detection</b>	Hardware/software, conductivity-based					
<b>Regulatory</b>	C € (EN 61326), 4"-12" certified to NSF/ANSI standard 61 60°C (140°F); 3" certified to NSF/ANSI standard 61 Cold Water 23°C (73.4°F)					
<b>Environmental</b>	NEMA 6P, IP68 (10ft (3m) depth, continuously)					

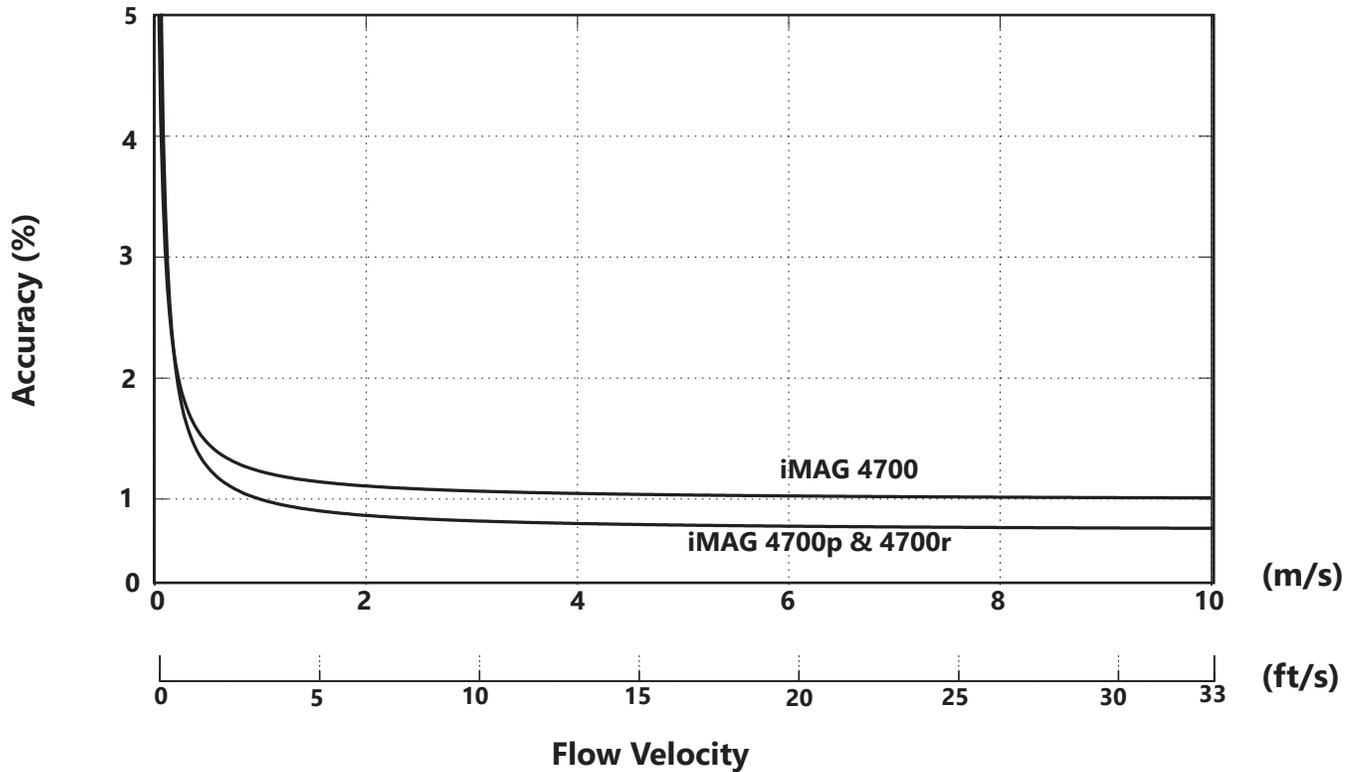
Modbus is a registered trademark of Schneider Electric.

\* Specifications subject to change. Please consult our website for the most current data ([www.seametrics.com](http://www.seametrics.com)).

<sup>1</sup> If forward and reverse flow data needs to be sent to another device, either the Digital or Modbus output is required.

<sup>2</sup> Rate Time Unit is available in Day only.

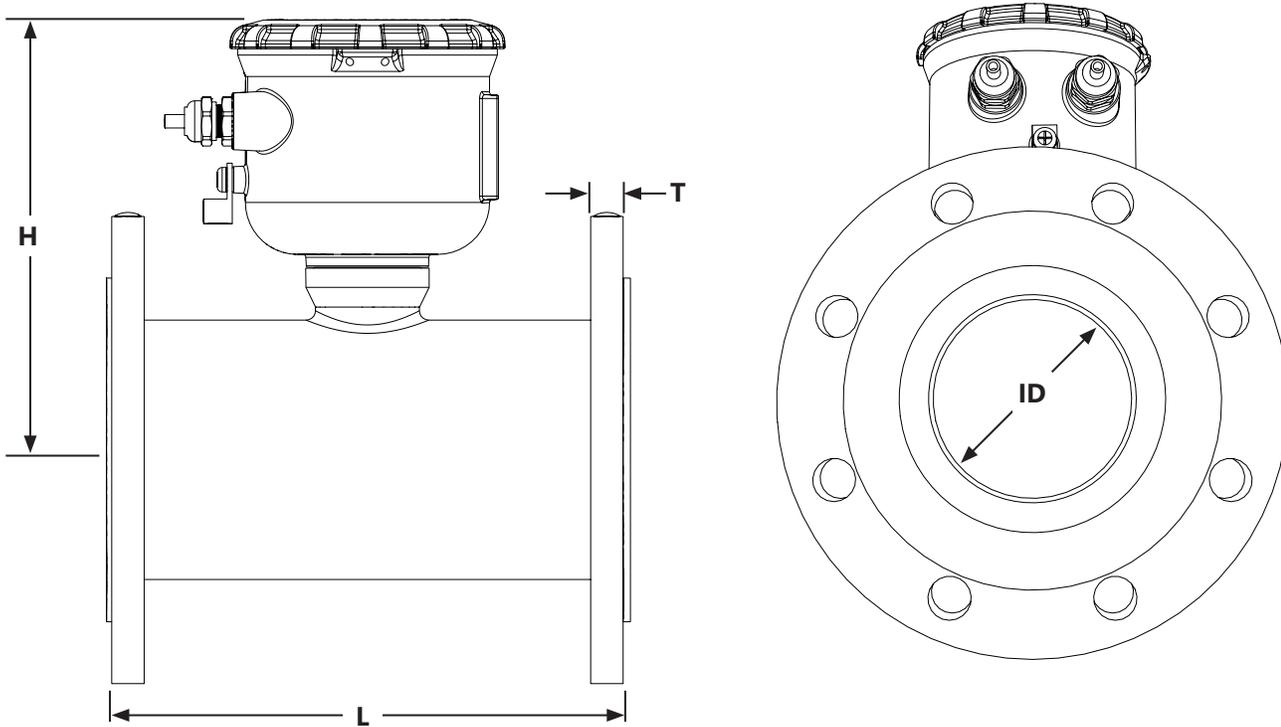
## iMAG Accuracy



## Flow Rate (3" - 12")

Pipe Size (Inches in diameter)	3"	4"	6"	8"	10"	12"
<b>Max Flow Rate</b> (Gallons/Minute)	723	1285	2891	5140	8031	11565
<b>Cut-off (min) Flow Rate</b> (Gallons/Minute)	3.62	6.43	14.46	25.70	40.15	57.82
<b>Max Flow Rate</b> (Liters/Second)	46	81	182	324	507	730
<b>Cut-off (min) Flow Rate</b> (Liters/Second)	0.23	0.41	0.91	1.62	2.54	3.65
<b>Max Flow Velocity</b> (Meters/Second)	10	10	10	10	10	10

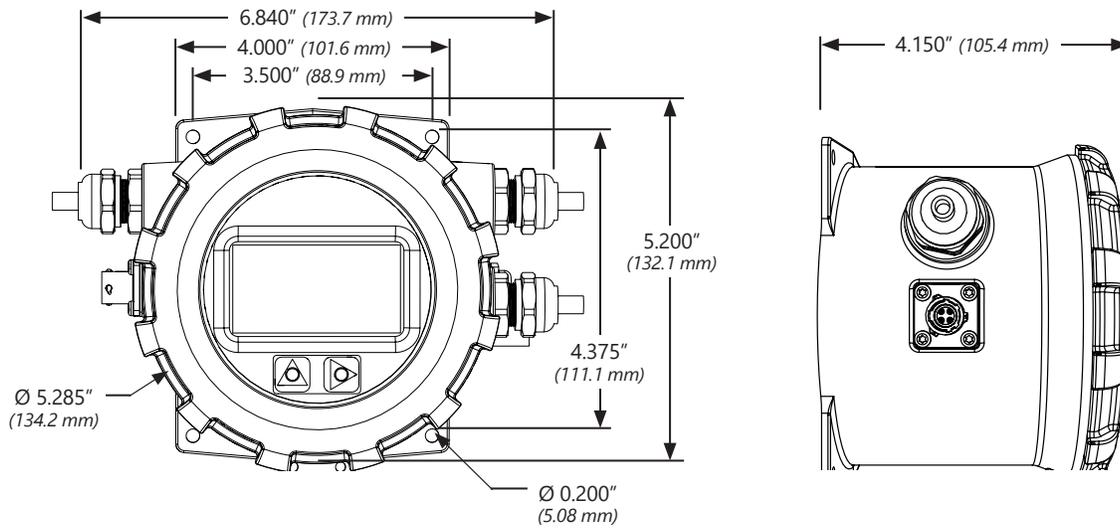
**Dimensions - iMAG 4700**



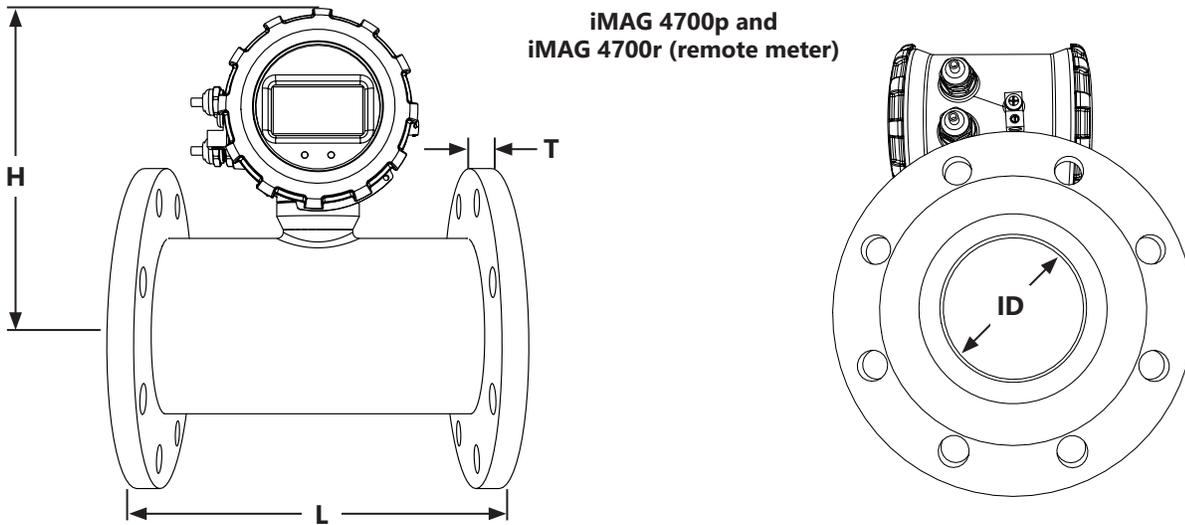
iMAG 4700 Meter Size	L		H		T		ID		Shipping Weight	
	inch	mm	inch	mm	inch	mm	inch	mm	lbs	Kg
3"	12.25	311.15	7.08	179.8	.68	17.25	2.6	66.04	38	17
4"	10.24	260	8.3	211	.62	15.7	3.12	79	33	15
6"	12.27	312	9.1	231	.69	17.5	5.05	128	49	22
8"	14.24	362	10.1	257	.69	17.5	6.44	164	70	32
10"	18.18	462	11.2	284	.69	17.5	8.61	219	130	59
12"	19.68	500	12.2	310	.81	20.6	10.55	268	170	77
<b>Flanges</b>	Standard ANSI 150 lb. drilling								Cable 1 lb.	

**Dimensions - iMAG 4700r and iMAG 4700p**

**iMAG 4700r (remote display)**



**iMAG 4700p and iMAG 4700r (remote meter)**



iMAG Meter Size	L		H		T		ID		Shipping Weight			
	inch	mm	inch	mm	inch	mm	inch	mm	AG3000p		AG3000r	
									lbs	Kg	lbs	Kg
<b>3" *</b>	12.25	311.15	7.95	201.9	.68	17.25	2.6	66.04	39	17.5	40	18
<b>4"</b>	10.24	260	8.6	218	.62	15.7	3.12	79	34	15.5	43	19.5
<b>6"</b>	12.27	312	9.4	239	.69	17.5	5.05	128	50	22.5	59	27
<b>8"</b>	14.24	362	10.4	264	.69	17.5	6.44	164	71	32	78	35
<b>10"</b>	18.18	462	11.5	292	.69	17.5	8.61	219	130	59	135	61
<b>12"</b>	19.68	500	12.5	317	.81	20.6	10.55	268	170	77	175	79
<b>Flanges</b>	Standard ANSI 150 lb. drilling								Cable 1 lb.			

\*Add 8lbs (3.5kg) for remote display. 3" Only.

## How to Order Worksheet

<p><b>iMAG 4700</b></p> <p><b>iMAG 4700p</b></p> <p><b>iMAG 4700r</b></p>	①	②	③	④	⑤	⑥	⑦	⑧
<p>② <b>Style:</b> F1 = 150 lb ANSI Pattern</p>		<p>④ <b>Power:</b> D1 = DC 60Hz, D2 = DC 50Hz A1 = AC 60Hz, A2 = AC 50Hz BX = Battery</p>			<p>⑤ <b>Outputs:</b> X = No optional output L = 4-20mA S = Modbus® H = HART/4-20mA G = Digital</p>			

iMAG 4700 (Integrated Display)	①	②	③	④	⑤	⑥	⑦
	Size	Style	Gaskets <sup>3</sup>	Power	Optional Output <sup>2</sup> <i>(The 4700 comes standard with one pulse output)</i>	Options	DC Power/Output Cable - 6 conductor <i>(Must select one)</i>
-0300 3"	-F1	-X None -R Non NSF -P NSF		-D1	-X <i>(requires single cable for DC power &amp; output)</i>	-XX None -01 Data Logger	-0000 No Cable <i>(customer will supply)</i>
-0400 4"				-D2	-L <i>(requires single cable for DC power &amp; output)</i>		Single Dual
-0600 6"					-H <i>(requires single cable for DC power &amp; output)</i>		-006S -006D 6 meter (20 ft)
-0800 8"					-S <i>(requires dual cable for DC power &amp; output)</i>		-015S -015D 15 meter (50 ft)
-1000 10"					-G <i>(requires dual cable for DC power &amp; output)</i>		-030S -030D 30 meter (100 ft)
-1200 12"				-BX	-X <i>(requires single cable for pulse output)</i>		-045S -045D 45 meter (150 ft)
							-060S -060D 60 meter (200 ft)

iMAG 4700p (Integrated Display)	①	②	③	④	⑤	⑥	⑦
	Size	Style	Gaskets	Power <sup>1</sup>	Optional Output <sup>2</sup> <i>(The 4700p comes standard with 4-20mA and one pulse output)</i>	Options	DC Power/Output Cable - 8 conductor <i>(Must select one)</i>
-0300 3"	-F1	-X None -R Non NSF -P NSF		-D1	-X <i>(requires single cable for DC power &amp; output)</i>	-XX None -01 Data Logger	-0000 No Cable <i>(customer will supply)</i>
-0400 4"				-D2	-H <i>(requires single cable for DC power &amp; output)</i>		Single Dual
-0600 6"					-S <i>(requires dual cable for DC power &amp; output)</i>		-006S -006D 6 meter (20 ft)
-0800 8"					-G <i>(requires dual cable for DC power &amp; output)</i>		-015S -015D 15 meter (50 ft)
-1000 10"							-030S -030D 30 meter (100 ft)
-1200 12"				-A1	-X <i>(requires single cable for output)</i>		-045S -045D 45 meter (150 ft)
	-A2	-H <i>(requires single cable for output)</i>	-060S -060D 60 meter (200 ft)				
		-S <i>(requires single cable for output)</i>					
		-G <i>(requires single cable for output)</i>					

iMAG 4700r (Remote Display)	①	②	③	④	⑤	⑥	⑦	⑧
	Size	Style	Gaskets	Power <sup>1</sup>	Optional Output <sup>2</sup> <i>(The 4700r comes standard with one pulse output)</i>	Options	DC Power/Output Cable - 6 conductor <i>(Must select one)</i>	Remote Display Cable - 6 conductor <i>(Must select one)</i>
-0300 3"	-F1	-X None -R Non NSF -P NSF		-D1	-X <i>(requires single cable for DC power and output)</i>	-XX None -01 Data Logger	-0000 No Cable <i>(customer will supply)</i>	-006 6 meter (20 ft)
-0400 4"				-D2	-L <i>(requires single cable for DC power and output)</i>		-015 15 meter (50 ft)	
-0600 6"					-H <i>(requires single cable for DC power and output)</i>		-030 30 meter (100 ft)	
-0800 8"					-S <i>(requires dual cable for DC power and output)</i>		-045 45 meter (150 ft)	
-1000 10"							-060 60 meter (200 ft)	
-1200 12"				-A1	-X <i>(requires single cable for output)</i>			
	-A2	-L <i>(requires single cable for output)</i>						
		-H <i>(requires single cable for output)</i>						
		-S <i>(requires single cable for output)</i>						

Modbus is a registered trademark of Schneider Electric. Viton is a registered trademark of DuPont Corporation.

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.

<sup>1</sup> AC meters come with a 1.8 meter (6 ft) AC power cable.

<sup>2</sup> You can choose up to one additional output on powered meters only.

<sup>3</sup> If -X is selected, customer must provide full faced gaskets. Failure to install gaskets will void warranty. No charge for non NSF (-R) gaskets.