

iMAG 4700 Series

FLANGED MAGMETER

Seametrics



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
- NSF-61 approved
- IP68 rated

The **iMAG-Series** is the most economical flanged electromagnetic flowmeter on the market. With electrodes designed to discourage fouling, it is available in 4" to 12" pipe in municipal or industrial water, waste and reclaimed water, pump stations, and packaged plant applications. (For 3" version, see iMAG 4600-300.) 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.

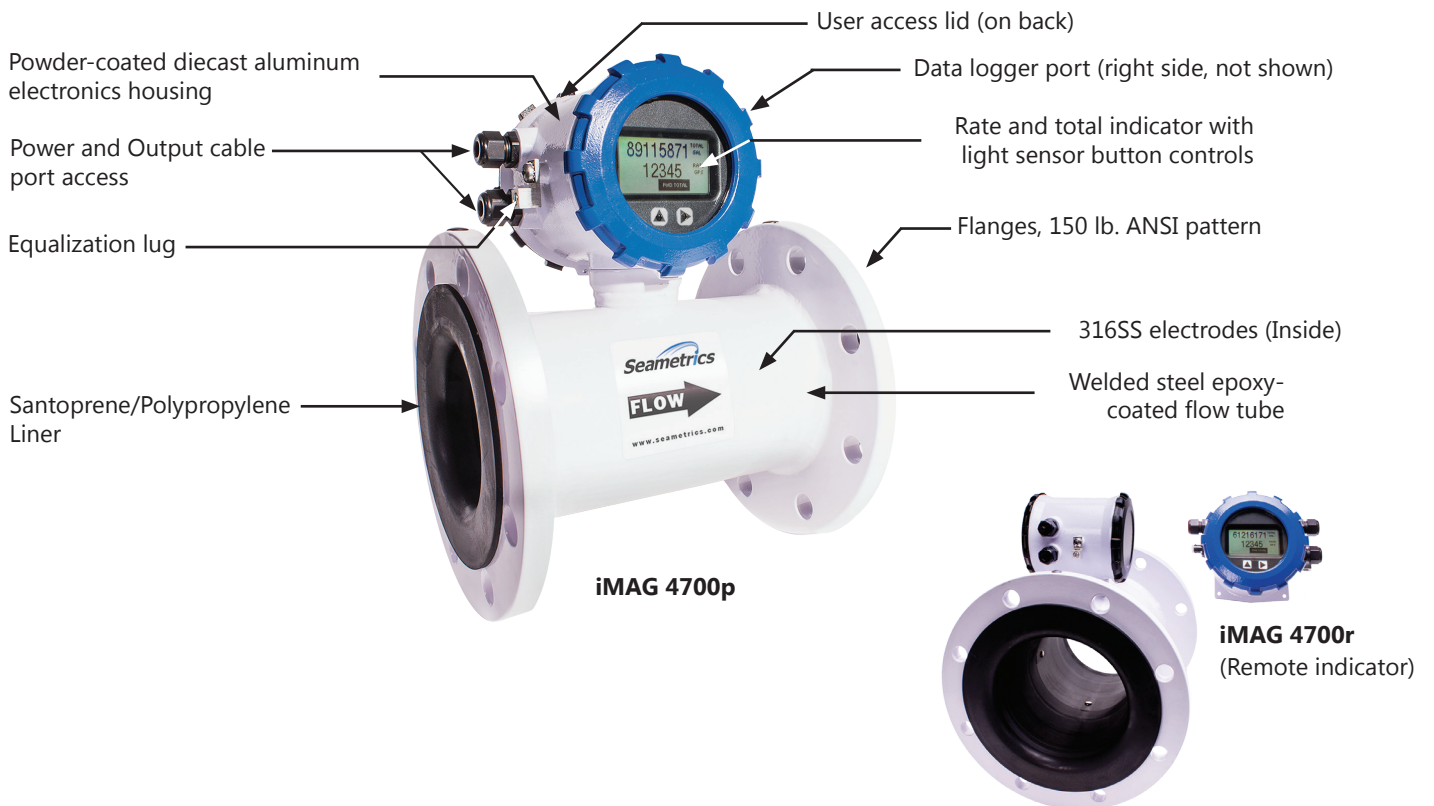
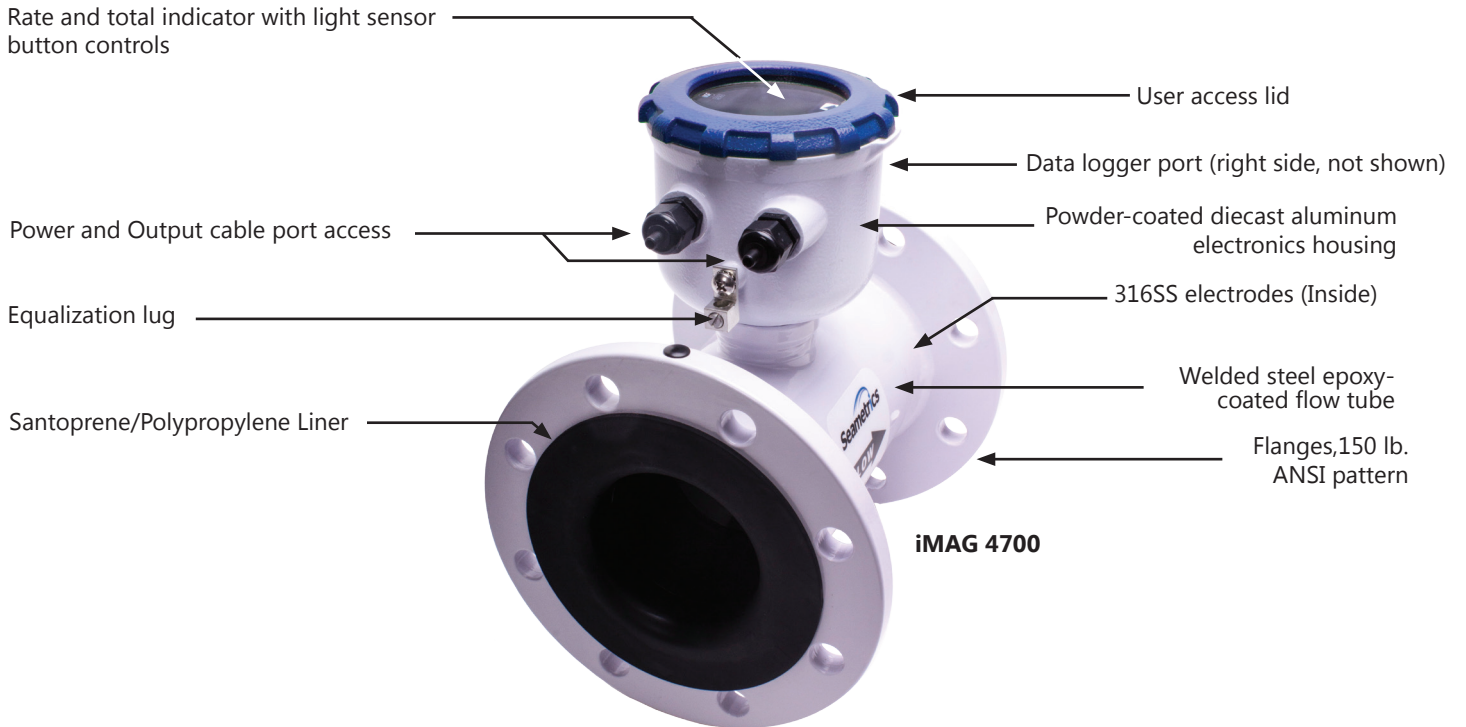
iMAG-Series meters are NSF-61 approved and are rated IP68 for applications where the meter may be operated under water to a depth of at least 10 feet (3 meters) continuously.

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 is standard with forward, reverse and net flow.

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



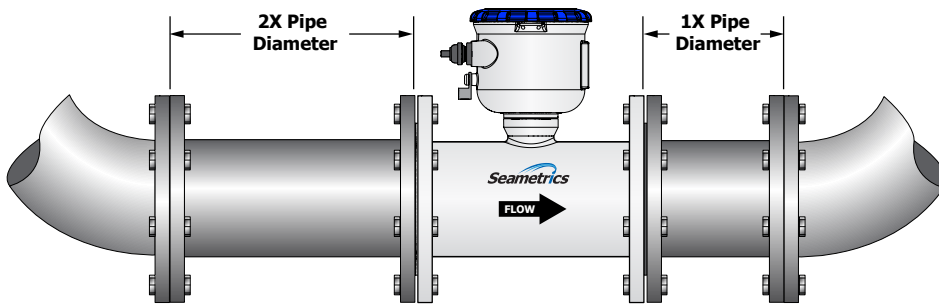
Features



- 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*)

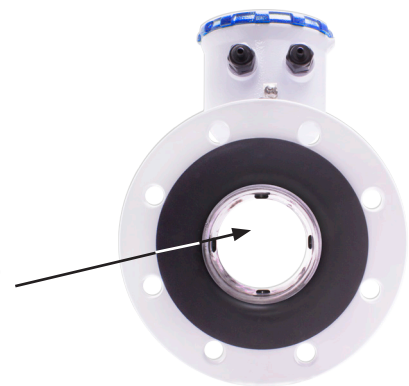
Quickly and easily change Total Volume Units, Flow Rate Units, Pulse Output Scaling, and many other settings using the two light sensor button controls on the display panel.

** 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

Pipe Sizes	4", 6", 8", 10", 12" (For 3" version, see iMAG 4600-300.)						
Flanges	150 lb. ANSI Pattern						
Pressure	150 psi (10.3 bar) line pressure						
Temperature	Operating	10° to 130° F (-12° to 54° C)					
	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 (4"-12")	Welded steel, epoxy-coated					
	Liner (4"-12")	Santoprene flange/Polypropylene liner body					
	Electronics Housing	Powder-coated diecast aluminum					
	Electrodes	316 stainless steel					
Display	Type	128x64 dot-matrix LCD					
	Digits	5 Digit Rate			8 Digit Total		
	Units	Rate Volume Units		Rate Time Units	Total Volume Units		
		<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>	Gallons Liters Barrels(42 gal) Cubic Feet Cubic Meters	Million Gallons ² Mega Liters Imperial Gallons Million Imperial Gallons ²	Second Minute Hour Day	Gallons 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 Million Cubic Feet
	Bidirectional¹	Forward Total, Reverse Total, Net Total					
Power	DC Power	9-36 Vdc @ 250 mA max, 30 mA average					
	Battery Backup	DC powered units: Two lithium 3.6V 'D' batteries, replaceable. AC powered units: One 9V alkaline battery, replaceable.					
	AC Power (iMAG 4700r and 4700p only)	85-264Vac, 50/60Hz, 0.12A					
	Battery (iMAG 4700 only)	Two lithium 3.6V 'D' batteries, replaceable.					
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, 150 pulses/sec max with battery option					
Options	4-20mA Current Loop	Isolated, passive, 24Vdc, 650 Ω maximum current loop					
	HART/4-20mA	HART protocol over 4-20mA line					
	High Speed Digital Output (iMAG 4700 & 4700p only)	Isolated, open collector, 24 Vdc					
	Serial Communications	Isolated, asynchronous serial RS485 (Reconfigurable for RS232 or 3.3V CMOS), Modbus® RTU protocol (factory selectable)					
Cable	Power/Output Cable	20ft (6m) standard length polyurethane jacketed cable—for power and outputs (lengths up to 200' available).					
	Remote Display Cable (iMAG 4700r)	20ft (6m) standard length polyurethane jacketed cable—for connection between meter and remote display (lengths up to 200' available).					
Conductivity	>20 microSiemens/cm						
Empty Pipe Detection	Hardware/software, conductivity-based						
Regulatory	CE (EN 61326) pending, NSF-61						
Environmental	IP68 (10ft (3m) depth, continuously)						

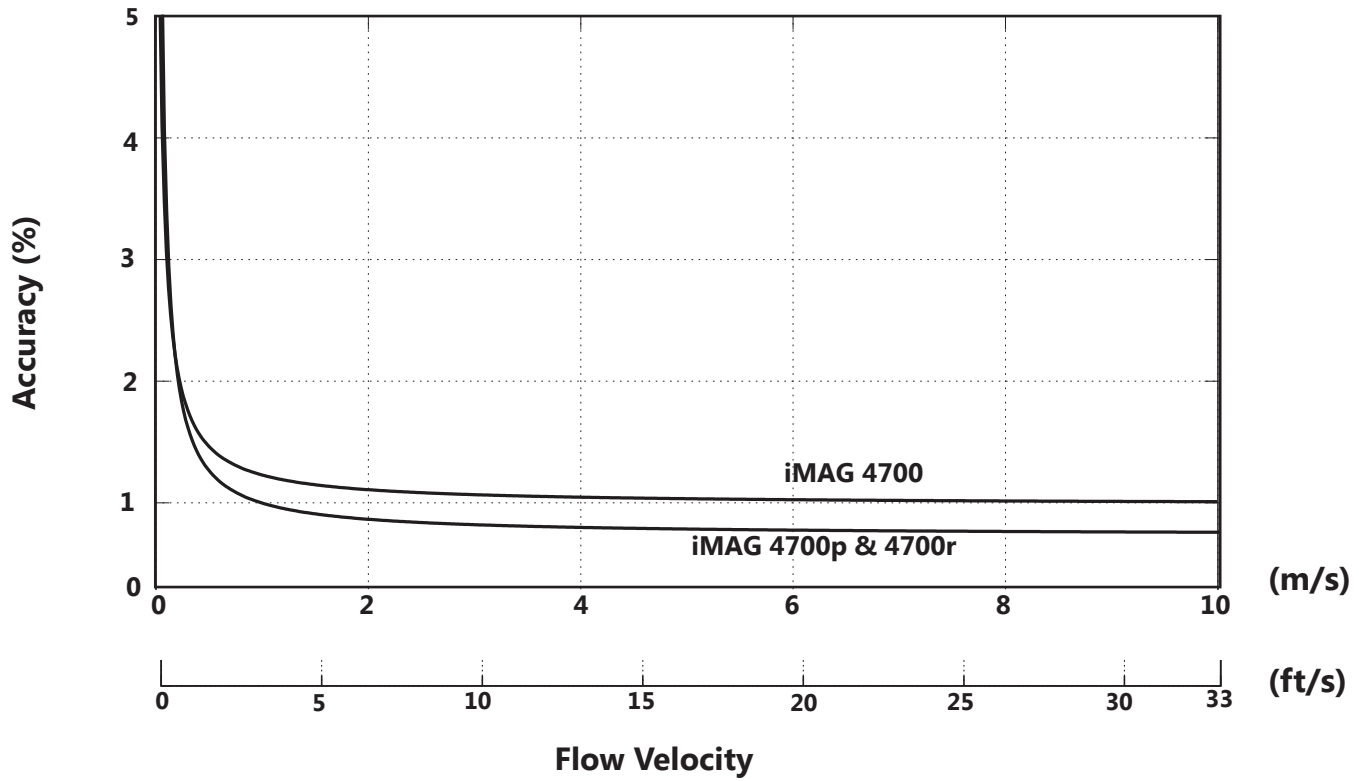
Modbus is a registered trademark of Schneider Electric.

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

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.

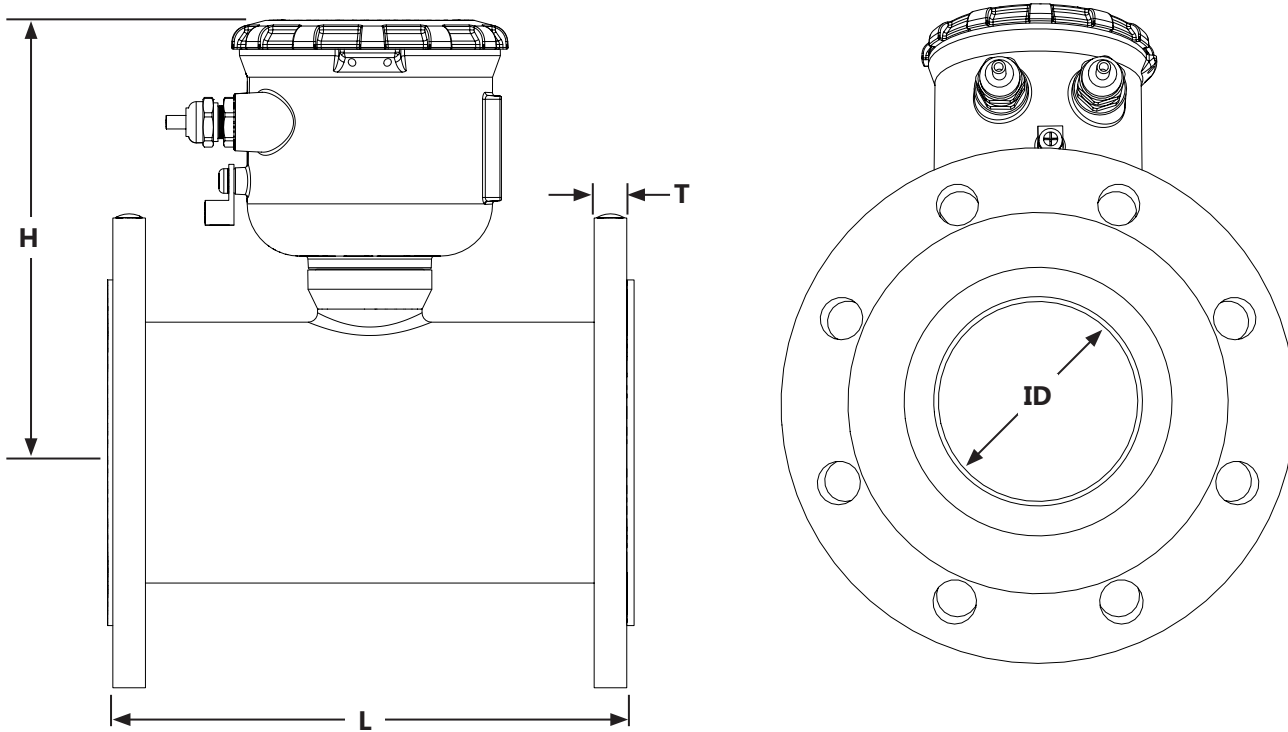
iMAG Accuracy



Flow Rate (4" - 12")

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

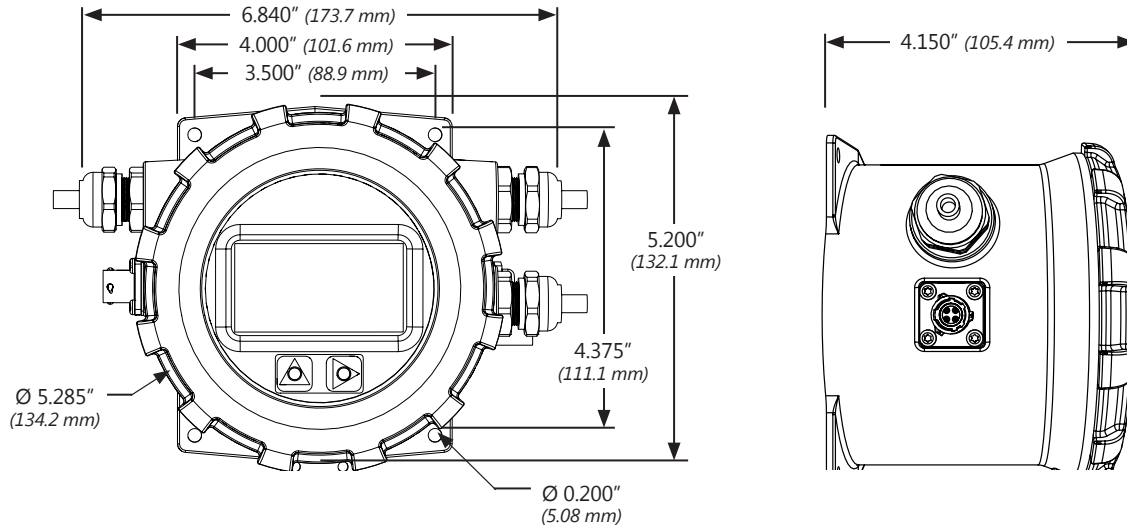
Dimensions - iMAG 4700



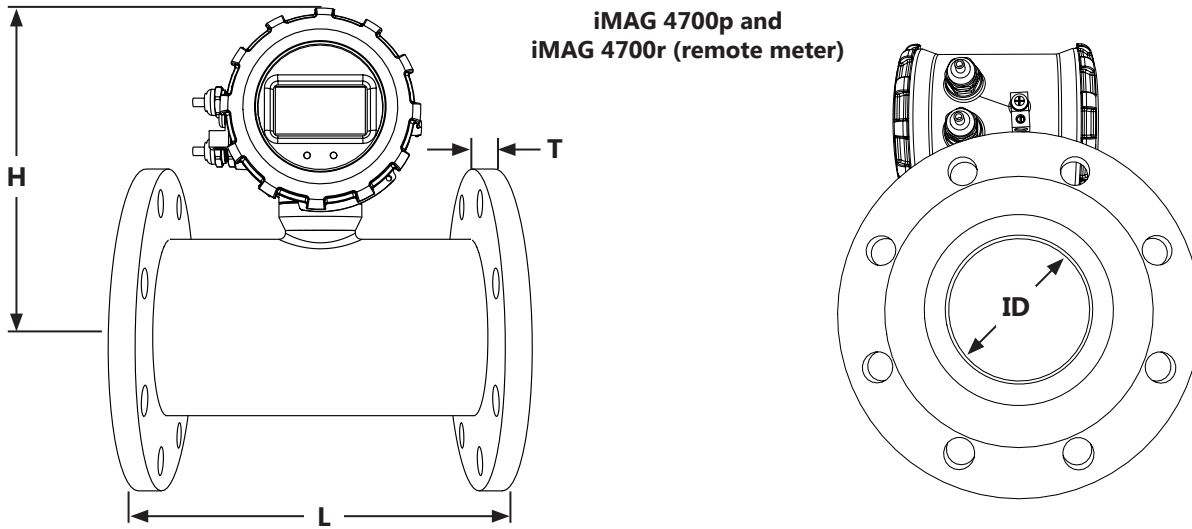
iMAG 4700 Meter Size	L		H		T		ID		Shipping Weight		Flange Bolt Torque	
	inch	mm	inch	mm	inch	mm	inch	mm	lbs	Kg	ft-lb	Nm
4"	10.24	260	8.3	211	.62	15.7	3.12	79	27	12	20	27
6"	12.27	312	9.1	231	.69	17.5	5.05	128	42	19	42	57
8"	14.24	362	10.1	257	.69	17.5	6.44	164	64	29	65	88
10"	18.18	462	11.2	284	.69	17.5	8.61	219	123	56	73	99
12"	19.68	500	12.2	310	.81	20.6	10.55	268	165	75	97	132
Flanges	Standard ANSI 150 lb. drilling								Cable 1 lb.		REPEAT CROSS-TIGHTENING PATTERN TO FINAL TORQUE VALUE	

Dimensions - iMAG 4700r and iMAG 4700p

iMAG 4700r (remote display)



iMAG 4700p and iMAG 4700r (remote meter)



iMAG 4700 Meter Size	L		H		T		ID		Shipping Weight				Flange Bolt Torque	
									iMAG 4700p		iMAG 4700r			
	inch	mm	inch	mm	inch	mm	inch	mm	lbs	Kg	lbs	Kg	ft-lb	Nm
4"	10.24	260	8.6	218	.62	15.7	3.12	79	28	13	31	14	20	27
6"	12.27	312	9.4	239	.69	17.5	5.05	128	43	19.5	46	21	42	57
8"	14.24	362	10.4	264	.69	17.5	6.44	164	65	29.5	68	31	65	88
10"	18.18	462	11.5	292	.69	17.5	8.61	219	124	56.5	127	58	73	99
12"	19.68	500	12.5	317	.81	20.6	10.55	268	166	75.5	169	77	97	132
Flanges	Standard ANSI 150 lb. drilling								Cable 1 lb.				REPEAT CROSS-TIGHT-ENING PATTERN TO FINAL TORQUE VALUE	

How to Order Worksheet

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

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

iMAG 4700p (Integrated Display)	1	2	3	4	5	6
	Size ¹	Style	Power ²	Optional Output <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>
	-0400 4"	-F1	-D1	-X <i>(requires single cable for DC power & output)</i>	-XX None	-0000 No Cable <i>(customer will supply)</i>
	-0600 6"		-D2	-H <i>(requires single cable for DC power & output)</i>	-01 Data Logger	Single Dual -006S -006D 6 meter (20 ft) -015S -015D 15 meter (50 ft) -030S -030D 30 meter (100 ft) -045S -045D 45 meter (150 ft) -060S -060D 60 meter (200 ft)
	-0800 8"		-S <i>(requires dual cable for DC power & output)</i>			
	-1000 10"		-G <i>(requires dual cable for DC power & output)</i>			
	-1200 12"		-A1	-X <i>(requires single cable for output)</i>		
	-A2		-H <i>(requires single cable for output)</i>			

iMAG 4700r (Remote Display)	1	2	3	4	5	6	7
	Size ¹	Style	Power ²	Optional Output <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>
	-0400 4"	-F1	-D1	-X <i>(requires single cable for DC power and output)</i>	-XX None	-0000 No Cable <i>(customer will supply)</i>	-006 6 meter (20 ft)
	-0600 6"		-D2	-L <i>(requires single cable for DC power and output)</i>	-01 Data Logger	Single Dual -006S -006D 6 meter (20 ft) -015S -015D 15 meter (50 ft) -030S -030D 30 meter (100 ft) -045S -045D 45 meter (150 ft) -060S -060D 60 meter (200 ft)	-015 15 meter (50 ft)
	-0800 8"		-H <i>(requires single cable for DC power and output)</i>				-030 30 meter (100 ft)
	-1000 10"		-S <i>(requires dual cable for DC power and output)</i>				-045 45 meter (150 ft)
	-1200 12"		-A1	-X <i>(requires single cable for output)</i>			
	-A2		-L <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.

¹ For 3" version see iMAG 4600-300.

² AC meters come with a 1.8 meter (6 ft) AC power cable.