iMAG 4700 Series
FLANGED MAGMETER

Seametrics

iMAG 4700

iMAG 4700p

iMAG 4700-300

iMAG 4700r
(Remote Display)

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.
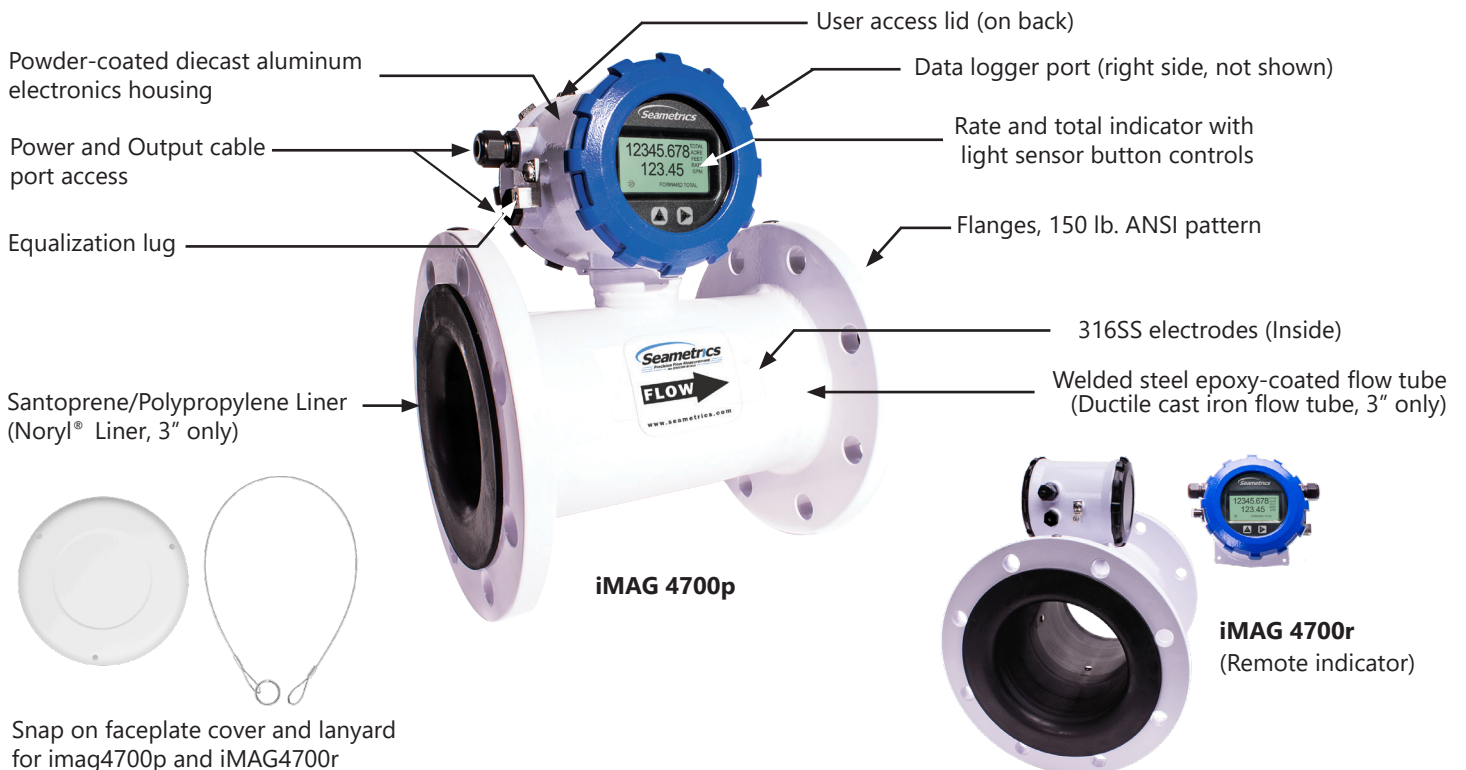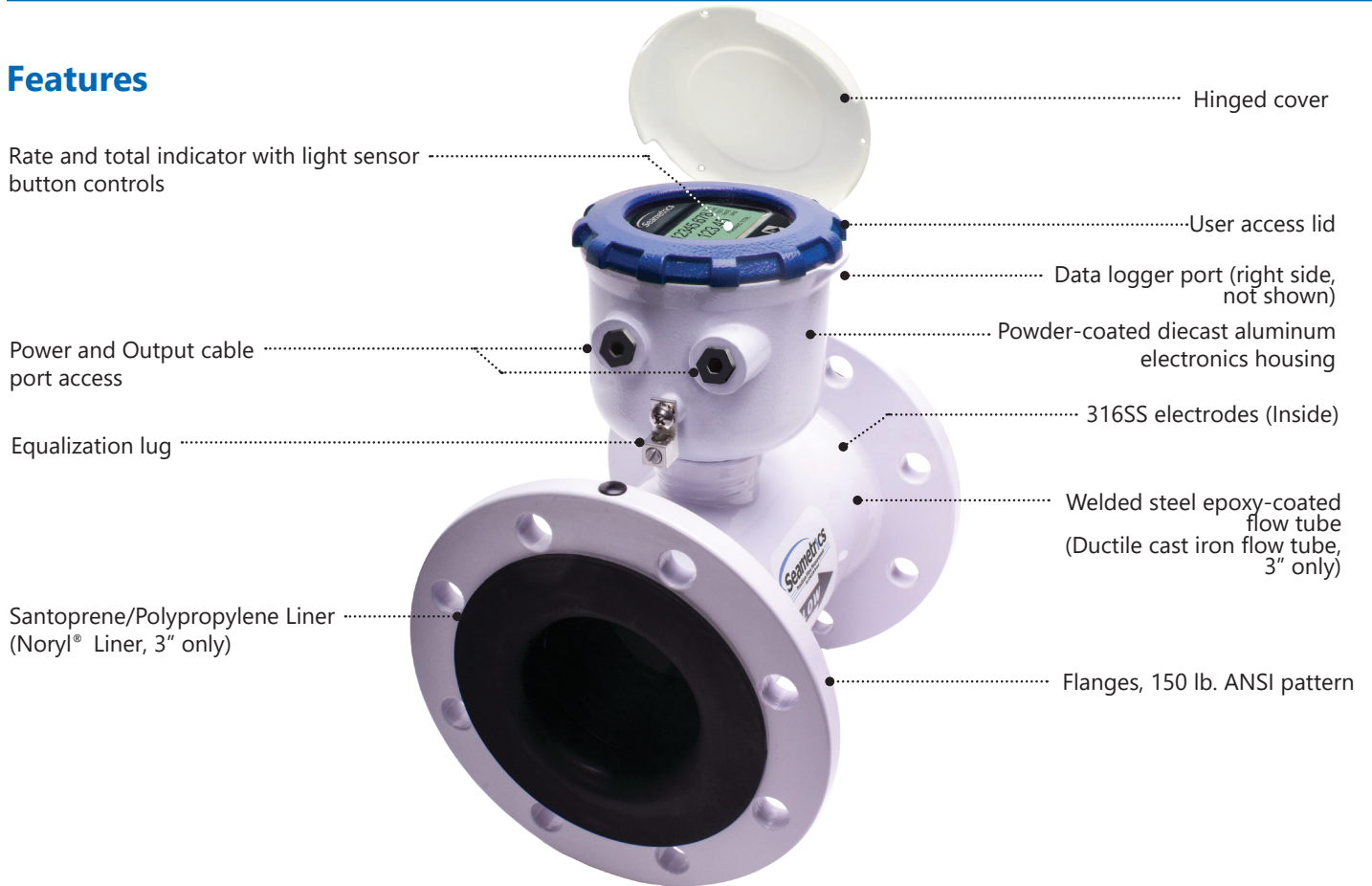
The display can be meter mounted or remote, and both rate and total indication are standard. Rate and total units and pulse scaling can be set via the front panel touch key pad by the user. Bidirectional flow reading is standard with totals available in forward, reverse, net flow, batch forward flow, 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.
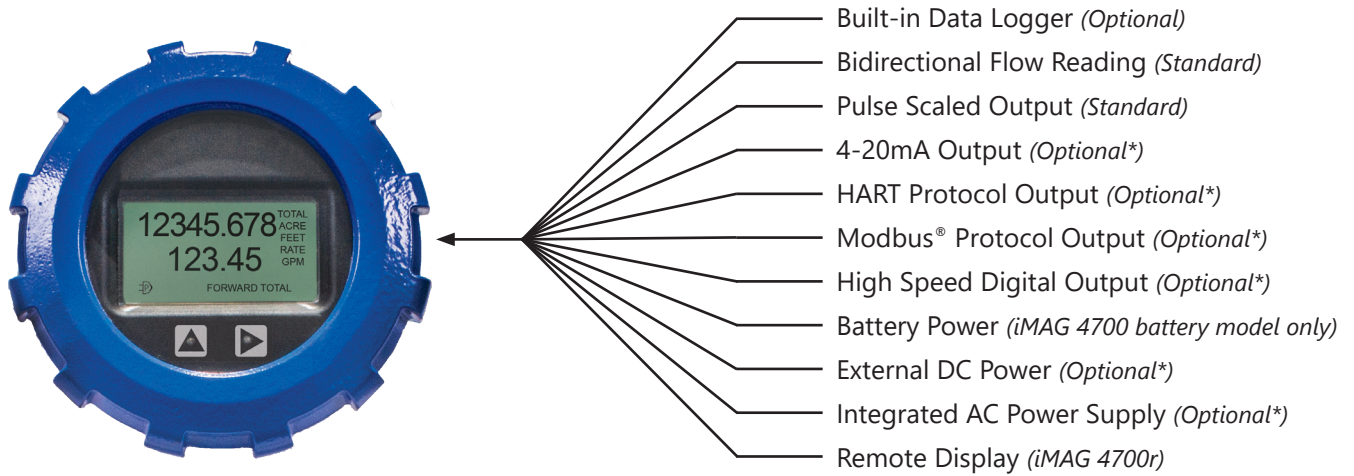
Contact Your Supplier

Features

Hinged cover

Rate and total indicator with light sensor button controls

User access lid

Data logger port (right side, not shown)

Powder-coated diecast aluminum electronics housing

Power and Output cable port access

316SS electrodes (Inside)

Equalization lug

Welded steel epoxy-coated flow tube (Ductile cast iron flow tube, 3" only)

Santoprene/Polypropylene Liner (Noryl® Liner, 3" only)

Flanges, 150 lb. ANSI pattern

User access lid (on back)

Data logger port (right side, not shown)

Powder-coated diecast aluminum electronics housing

Rate and total indicator with light sensor button controls

Power and Output cable port access

Equalization lug

Flanges, 150 lb. ANSI pattern

316SS electrodes (Inside)

Welded steel epoxy-coated flow tube (Ductile cast iron flow tube, 3" only)

Santoprene/Polypropylene Liner (Noryl® Liner, 3" only)

iMAG 4700p

Snap on faceplate cover and lanyard for imag4700p and iMAG4700r

iMAG 4700r
(Remote indicator)

Features

12345.678 TOTAL ACRE FEET
123.45 RATE GPM
FORWARD TOTAL

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*)*
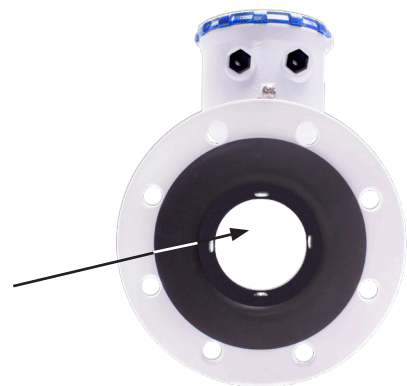
Remote Display *(iMAG 4700r)*

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.

2X Pipe Diameter

1X Pipe Diameter

Seametrics

FLOW
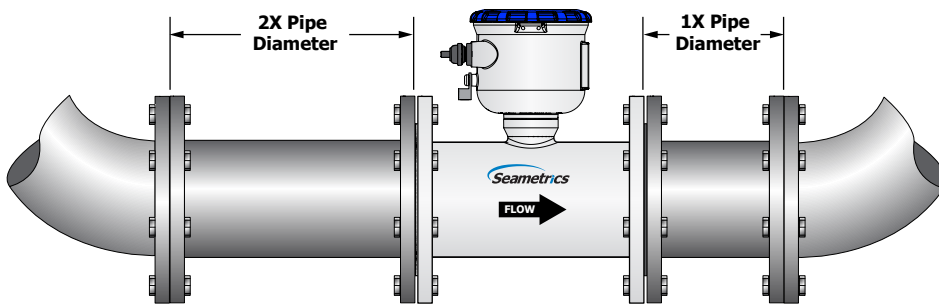
Minimal straight pipe requirements to ease installation in tight quarters.

No moving parts to break or foul!

Specifications

Pipe Sizes		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)			
	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** *(3" only)*	Ductile cast iron, powder coated			
	Body *(4"-12")*	Welded steel, epoxy-coated			
	Liner *(3" only)*	Noryl®			
	Liner *(4"-12")*	Santoprene flange/Polypropylene liner body			
	Electronics Housing	Powder-coated diecast aluminum			
	Electrodes	316 stainless steel			
	O-ring *(3" only)*	EPDM			
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 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 (Batch totals can be reset)
Power	**DC Power**	9-36 Vdc @ 250 mA max, 30 mA average
	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 *(iMAG 4700r and 4700p only)*	85-264Vac, 50/60Hz, 0.12A
	Battery *(iMAG 4700 only)*	One lithium 7.2V 'D' size battery pack, 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. 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
	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), 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)
Environmental		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).

[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
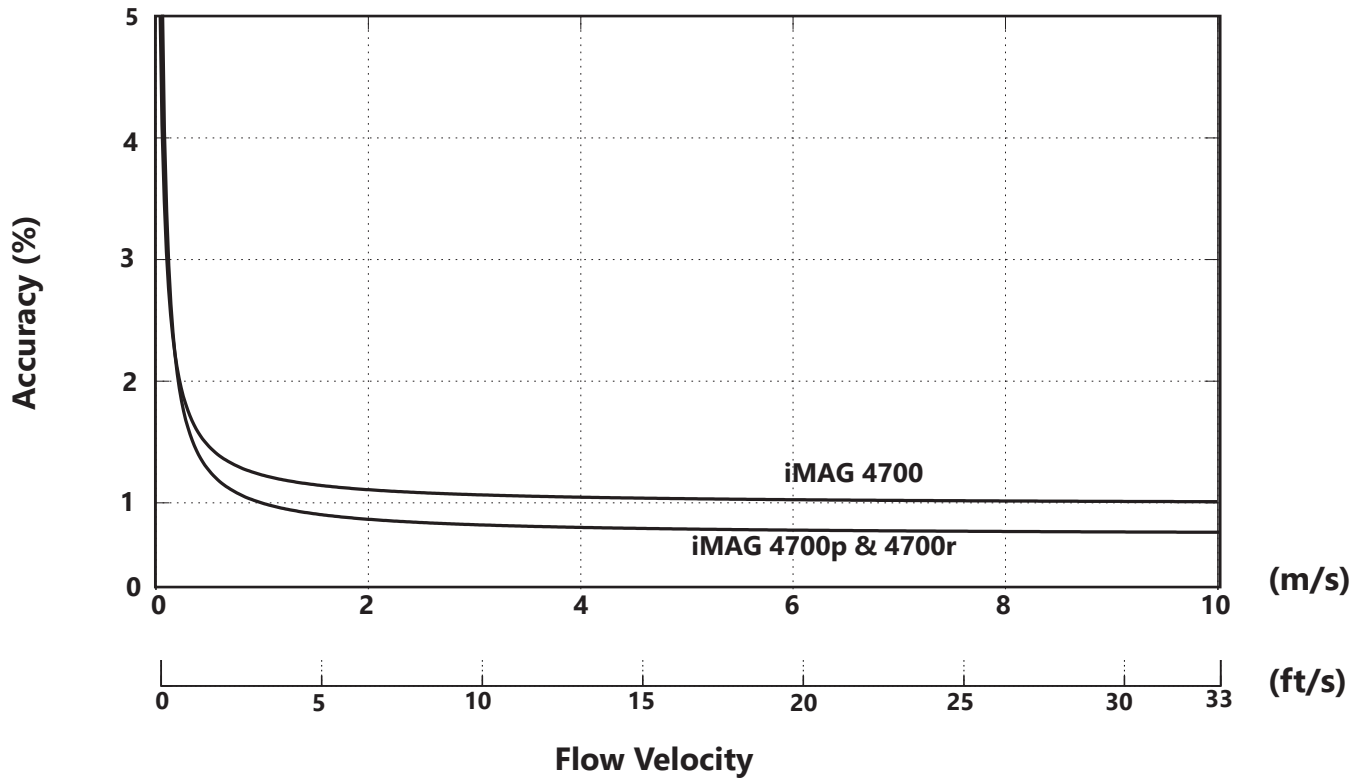
Flow Rate (3" - 12")

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

Dimensions - iMAG 4700
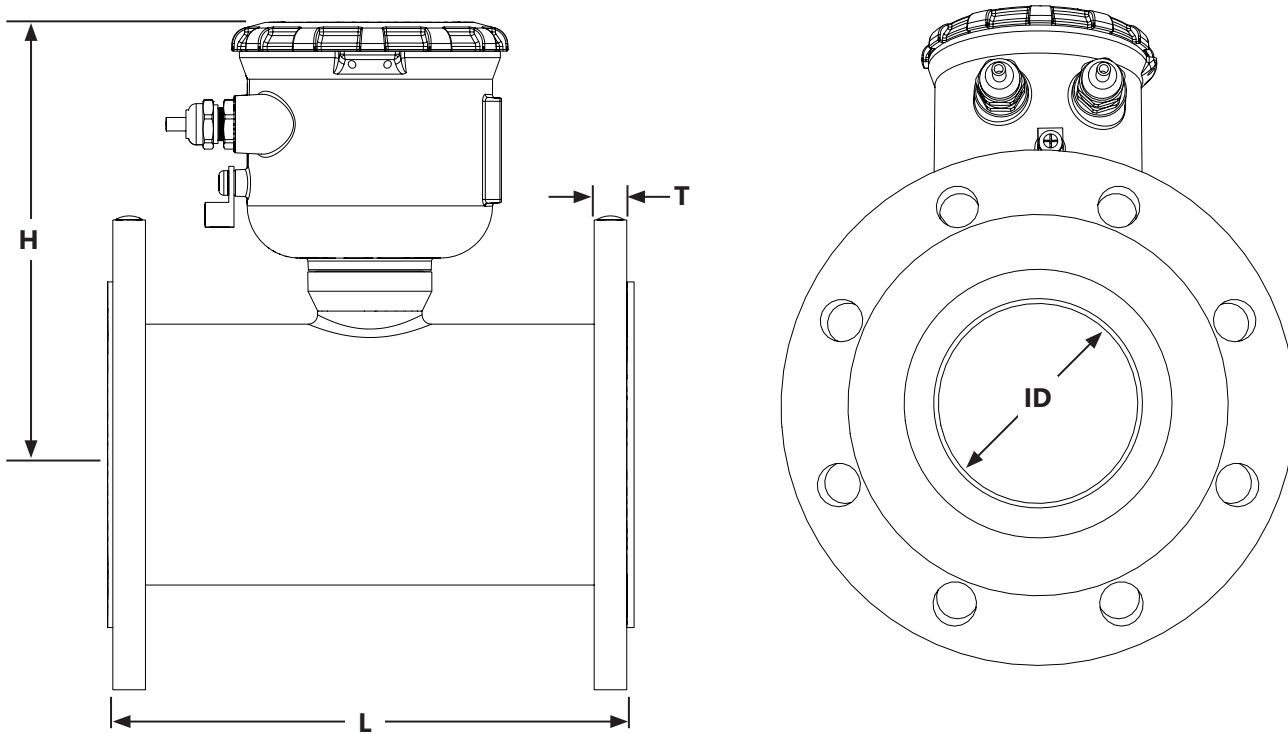
iMAG 4700 Meter Size	L		H		T		ID		Shipping Weight	
	inch	mm	inch	mm	inch	mm	inch	mm	lbs	Kg
3"	12.25	311	7.08	179.8	.68	17.25	2.6	66.04	38	17
4"	10.12	257	8.3	211	.62	15.7	3.12	79	33	15
6"	12.09	307	9.1	231	.69	17.5	5.05	128	49	22
8"	14.14	359	10.1	257	.69	17.5	6.44	164	70	32
10"	18.08	459	11.2	284	.69	17.5	8.61	219	130	59
12"	19.68	500	12.2	310	.81	20.6	10.55	268	170	77
Flanges	Standard ANSI 150 lb. drilling								Cable 1 lb.	

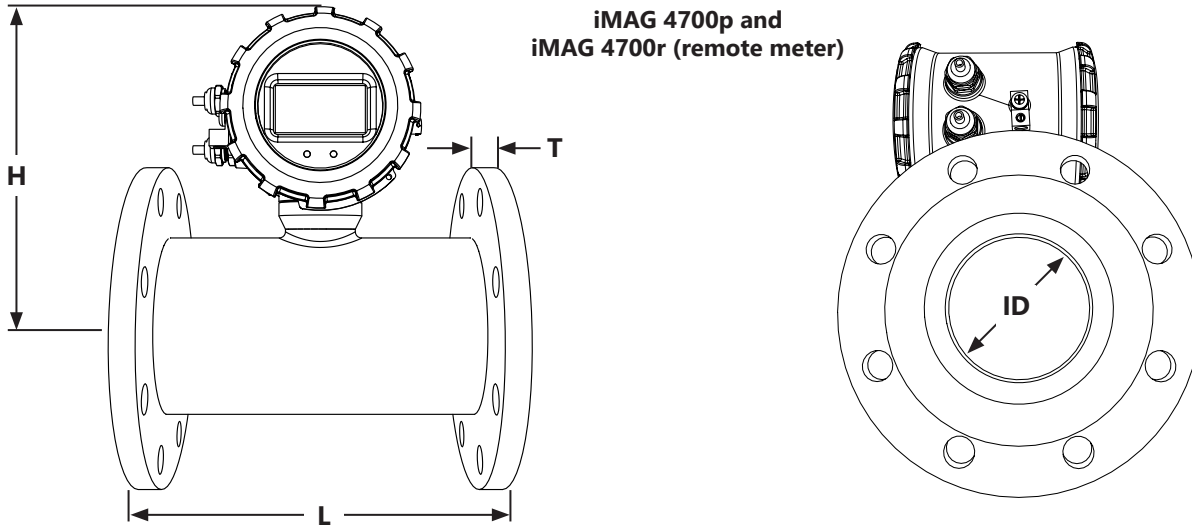Note: 'L' dimension is total from liner face to liner face

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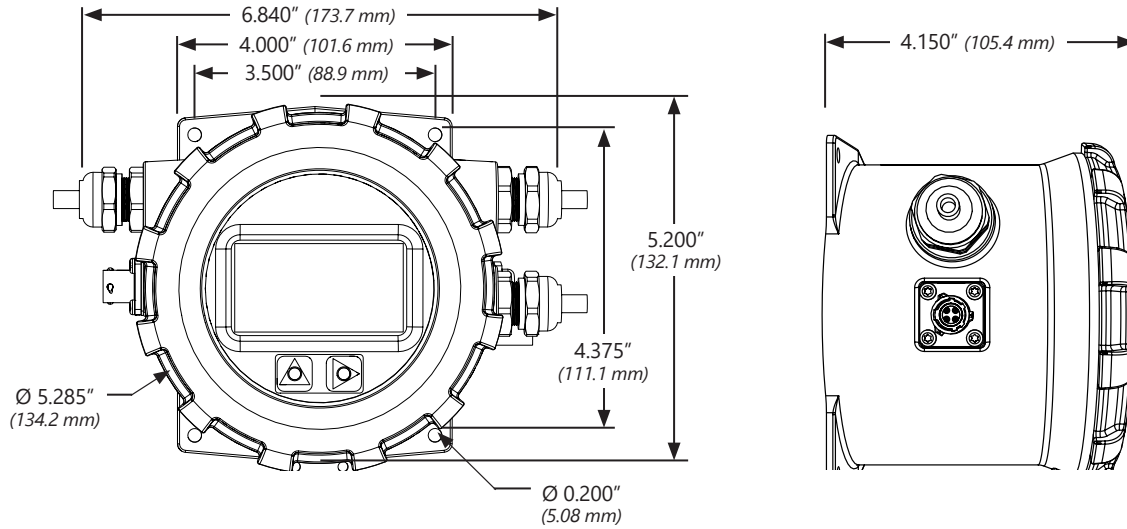
**iMAG 4700p and
iMAG 4700r (remote meter)**

H
T
L
ID

iMAG Meter Size	L		H		T		ID		Shipping Weight			
									AG3000p		AG3000r	
	inch	mm	inch	mm	inch	mm	inch	mm	lbs	Kg	lbs	Kg
3" *	12.25	311	7.95	201.9	.68	17.25	2.6	66.04	39	17.5	40	18
4"	10.12	257	8.6	218	.62	15.7	3.12	79	34	15.5	43	19.5
6"	12.09	307	9.4	239	.69	17.5	5.05	128	50	22.5	59	27
8"	14.14	359	10.4	264	.69	17.5	6.44	164	71	32	78	35
10"	18.08	459	11.5	292	.69	17.5	8.61	219	130	59	135	61
12"	19.68	500	12.5	317	.81	20.6	10.55	268	170	77	175	79
Flanges	Standard ANSI 150 lb. drilling								Cable 1 lb.			

Add 8lbs (3.5kg) for remote display. 3" Only.
Note: 'L' dimension is total from liner face to liner face

How to Order Worksheet

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

2 Style: 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® H = HART/4-20mA G = Digital

iMAG 4700 (Integrated Display)

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

iMAG 4700p (Integrated Display)

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

iMAG 4700r (Remote Display)

1 Size	2 Style	3 Gaskets	4 Power[1]	5 Optional Output[2] *(The 4700r comes standard with one pulse output)*	6 Options	7 DC Power/Output Cable - 6 conductor *(Must select one)*	8 Remote Display Cable - 6 conductor *(Must select one)*
-0300 3"	-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)
-0400 4"		-R Non NSF	-D2	-L *(requires single cable for DC power and output)*	-01 Data Logger	Single Dual	-015 15 meter (50 ft)
-0600 6"		-P NSF		-H *(requires single cable for DC power and output)*		-006S -006D 6 meter (20 ft)	-030 30 meter (100 ft)
-0800 8"				-S *(requires dual cable for DC power and output)*		-015S -015D 15 meter (50 ft)	-045 45 meter (150 ft)
-1000 10"			-A1	-X *(requires single cable for output)*		-030S -030D 30 meter (100 ft)	-060 60 meter (200 ft)
-1200 12"			-A2	-L *(requires single cable for output)*		-045S -045D 45 meter (150 ft)	
				-H *(requires single cable for output)*		-060S -060D 60 meter (200 ft)	
				-S *(requires single cable for output)*			

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] 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.**

Seametrics • 19026 72nd Avenue South • Kent, Washington 98032 • USA
(P) 253.872.0284 • (F) 253.872.0285 • 1.800.975.8153 • seametrics.com

LT-14249r4.5 20200203
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