

The iMAG-Series flow meters are reliable flanged flow instruments available for 2 inch to 12 inch inline pipe installations. They feature electrodes that are designed to discourage fouling. iMAG meters require minimal straight pipe requirements allowing these meters to be used in configurations where there is little space between pipe bends. Available in a battery only and AC/DC option, with a remote display configuration.

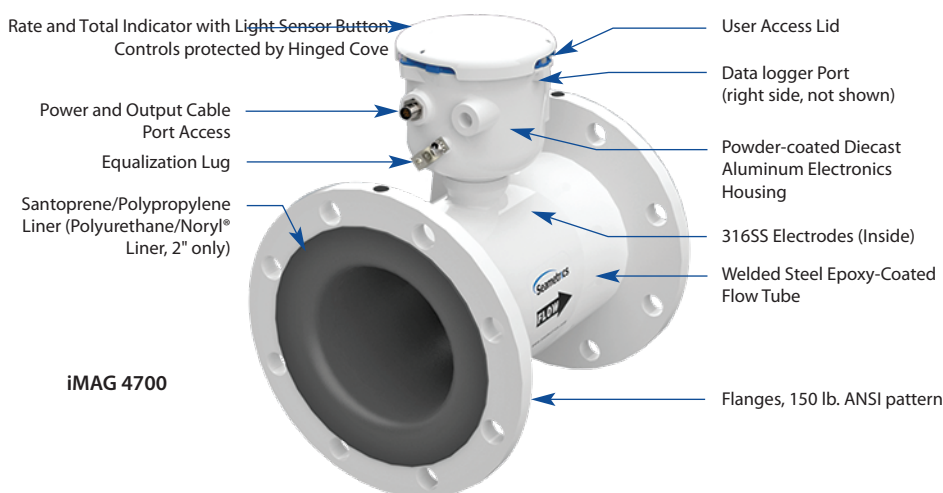
FEATURES

- Easy Setup
- Minimal straight pipe requirements
- Mounted or remote display
- Tamper-evident seal (optional)
- Certified to NSF/ANSI standard 61
- IP68 rated
- No moving parts

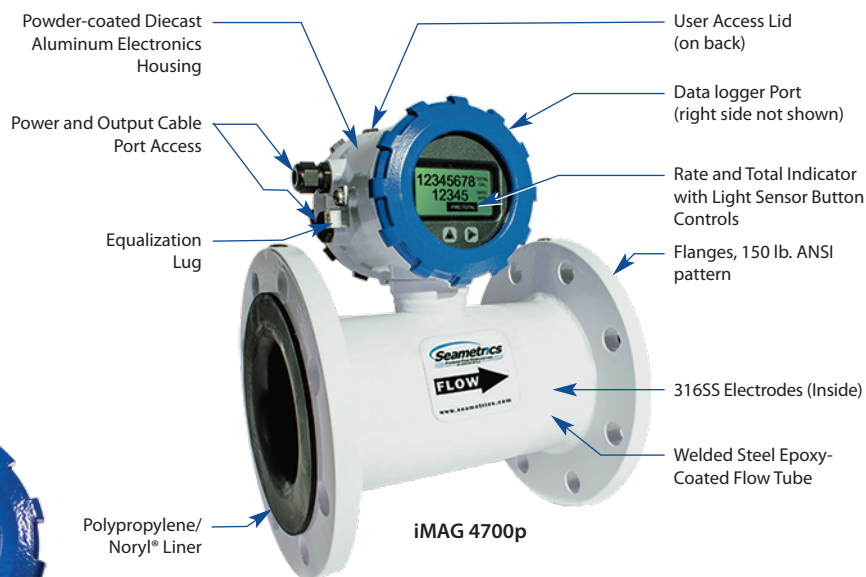
APPLICATIONS

- Water and Wastewater treatment
- Municipal
- Pump skids
- Pump stations
- Filtration systems
- Reclaimed water
- Hydraulic fracturing

COMPONENT FEATURES



iMAG 4700



iMAG 4700p

- 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)

Display Panel & Button Controls



*Some optional items only available on some configurations. See **How to Order Worksheet** for further details.

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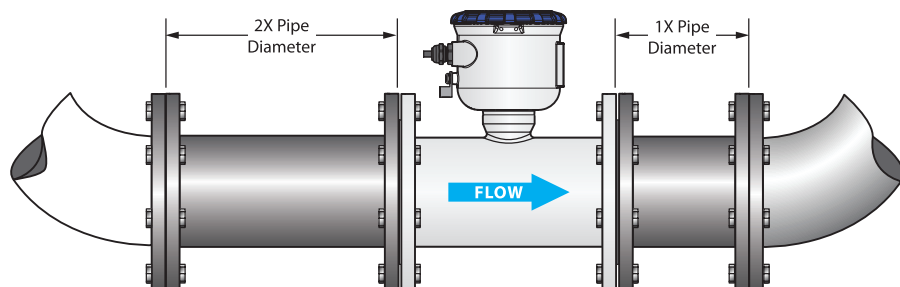
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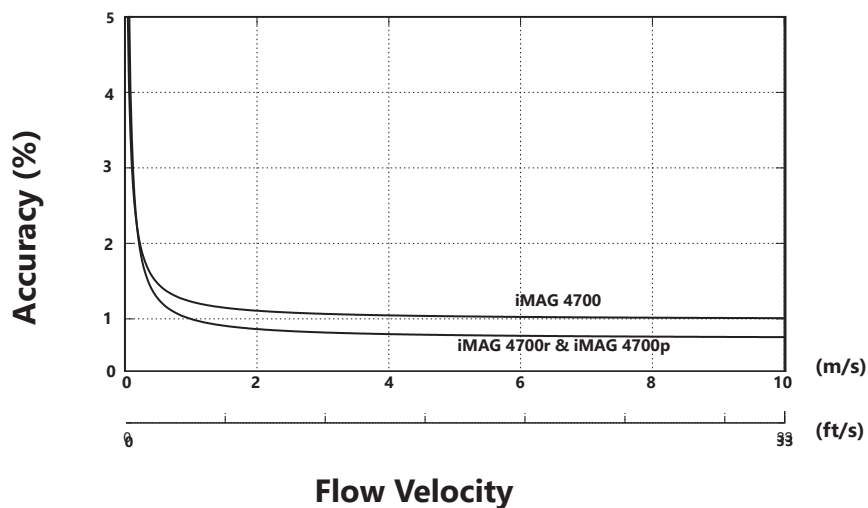
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Flow Rate (2"-12")							
Pipe Size (inches in diameter)	2"	3"	4"	6"	8"	10"	12"
Max Flow Rate (Gallons/Minute)	321	722	1,285	2,891	5,140	8,031	11,565
Cut-off (min) Flow Rate (Gallons/Minute)	2	4.0	6.43	14.46	25.70	40.15	57.82
Max Flow Rate (Liters/Second)	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						



Minimal straight pipe requirements to ease installation in tight quarters.

iMAG ACCURACY



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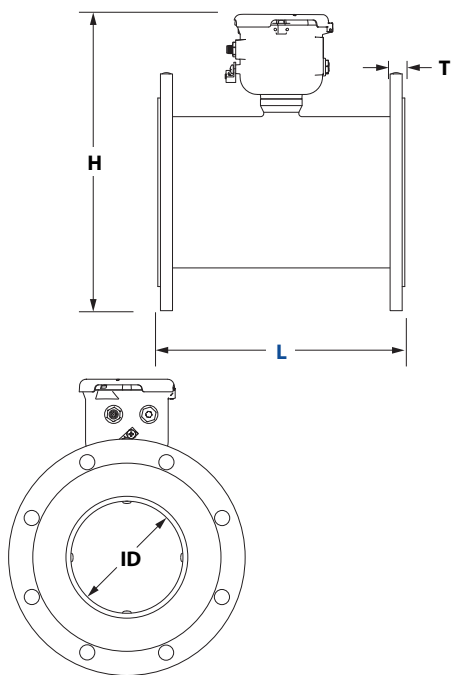
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Technical Specifications						
Pipe Sizes	2", 3", 4", 6", 8", 10", 12"					
Flanges	150 lb. ANSI Pattern					
Pressure	150 psi (10.3 bar) line pressure					
Temperature	Operating Storage10° to 140°F (-12° to 60°C) -40° to 158°F (-40° to 70°C)					
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 maximum flow rate of 10 m/sec					
Low Flow Cutoff	0.5% of maximum flow rate					
Materials	Body (2"-12") Liner (2" & 3") Liner (4"-12") Electronics Housing ElectrodesWelded steel, epoxy-coated Polyurethane/Noryl® Santoprene flang/Polypropylene liner body Powder-coated die-cast aluminum 316 stainless steel					
Display	Type128 x 64 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 min. (GPM) rate and gallons total. If other units are required, they can be set in the field.	Gallons	Million Gallons ²	Second	Gallons	Mega Liters	Million Cubic feet
	Liters	Mega Liters ²	Minute	Gallons x 10	Barrels (42 gal.)	Acre Feet
	Barrels (42 gal.)	Imperial Gallons	Hour	Gallons x 100	Cubic Meters	Acre Inches
	Cubic Feet	Million Imperial Gallons ²	Day	Gallons x 1000	Cubic Meters x 1000	Imperial Gallons
	Cubic Meters			Million Gallons	Cubic Feet	Imperial Gallons x 1000
				Liters	Cubic Fett x 1000	Million Imperial Gallons
				Kilo Liters	Second Foot Day	Fluid Ounces
Bidirectional ¹	Forward Total, Reverse Total, Net Total, Batch Forward Total, Batch Reverse Total (Batch totals can be reset)					
Power	DC Power9-36 VDC @ 250 mA maximum, 30 mA average Battery Backup (not for use as primary power)DC powered units: One lithium 7.2V 'D' size battery pack, replaceable. AC Power85-264 VAC, 50/60Hz, 0.12A (iMAG 4700r and 4700p only) Battery (iMAG 4700 only)One lithium 7.2V 'D' size battery pack, replaceable.					
Scaled Pulse Power	SignalCurrent sinking pulse, isolated, 36 VDC at 10 mA max. Pulse RatesUser-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 LoopIsolated, passive, 24VDC, 650 Ω maximum current loop HART/4-20mA HART protocol over 4-20mA line (iMAG 4700p and 4700r only) High Speed DigitalIsolated, open collector, 24 VDC (iMAG 4700p only) Serial CommunicationsIsolated, asynchronous serial RS485, Modbus® RTU protocol					
Cable	Power/Output Cable20 ft. (6m) standard length polyurethane jacketed cable — for power and outputs (lengths up to 200' available). Remote Display Cable20 ft. (6m) standard length polyurethane jacketed cable — for connection between meter and remote display (lengths up to 200' available). (iMAG 4700r)					
Conductivity	>20 microSiemens/cm			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.		
Empty Pipe Detection	Hardware/software, conductivity-based					
Regulatory	Regulatory (EN 61326), 2"-12" certified to NSF/ANSI Standard 61 60°C (140°F)					
Environmental	NEMA 6P, IP68 (10 ft. (3m) depth, continuously)					

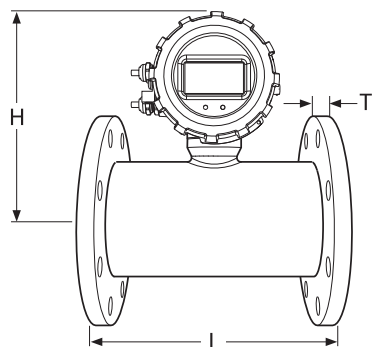
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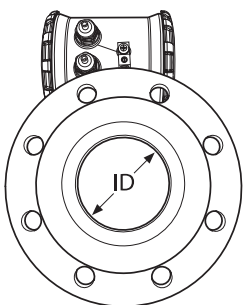
Dimensions - iMAG 4700										
iMAG Meter Size	L		H		T		ID		Shipping weight	
	inch	mm	inch	mm	inch	mm	inch	mm	lbs.	Kg
2"	7.9	200	7.6	193	.62	15.7	1.76*	45*	25	11.3
3"	12.25	311	7.08	179.8	.68	17.25	2.6	66.04	38	17
4"	10.12	257	8.3	211	.62	15.7	3.12	79	33	15
6"	12.09	307	9.1	231	.69	17.5	5.05	128	49	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
*Average ID

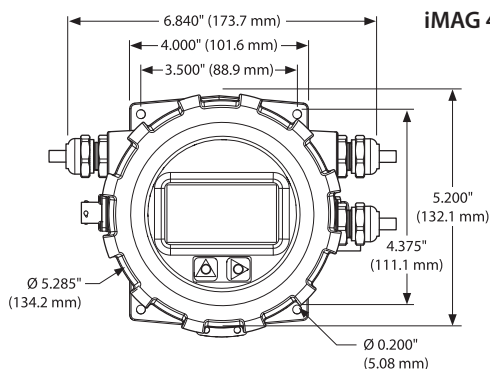


Dimensions - iMAG 4700p and iMAG 4700r												
iMAG Meter Size	L		H		T		ID		Shipping Weight			
	inch	mm	inch	mm	inch	mm	inch	mm	AG3000p		AG3000r	
									lbs.	Kg	lbs.	Kg
2"	7.9	200	7.6	193	.62	15.75	1.76*	45*	26	12	35	15.9
3"	12.25	311	7.08	179.8	.68	17.25	2.6	66.04	39	17.5	40	18
4"	10.12	257	8.6	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.			

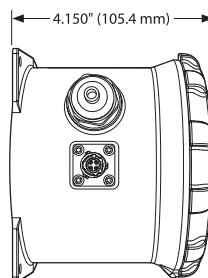
Note: 'L' dimension is total from liner face to liner face
*Average ID



iMAG 4700p



iMAG 4700r (remote display)



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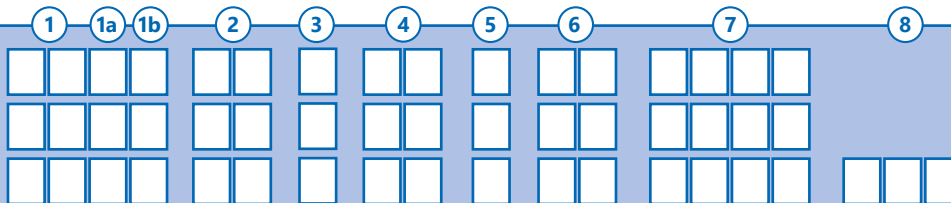
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iMAG 4700 iMAG 4700p iMAG 4700r



- 1a Ground Rings:** 0 = User Installed Grounding Rings
G = Factory Installed Grounding Rings
- 2 Flange:** F1 = 150 lb ANSI Pattern
- 5 Outputs:** X = No optional output
L = 4-20mA
S = Modbus®
G = Digital
- 1b Electrode:** 0 = SS Button
H = Hastelloy Button
Y = Hastelloy Bullet
- 4 Power:** D1 = DC 60Hz
A1 = AC 60Hz
BX = Battery
D2 = DC 50Hz
A2 = AC 50Hz

	1	1a	1b	2	3	4	5	6	7
iMAG 4700 (Integrated Display)	Size	Grounding Rings ⁶	Electrode	Flange	Gaskets ³	Power	Optional Output ² <i>The 4700 comes standard with one pulse output</i>	Options	DC Power/Output Cable <i>(Must select one)</i>
	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		

	1	1a	1b	2	3	4	5	6	7
iMAG 4700p (Integrated Display)	Size	Grounding Rings ⁶	Electrode	Style	Gaskets ³	Power ¹	Optional Output ² <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>
	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								030S 030D 30 meter (100 ft)
	10" 10					A1	X (requires single cable for output)		045S 045D 45 meter (150 ft)
	12" 12					A2	S (requires single cable for output)		060S 060D 60 meter (200 ft)
							G ⁷ (requires single cable for output)		

	1	1a	1b	2	3	4	5	6	7	8
iMAG 4700r (Remote Display)	Size	Grounding Rings ⁶	Electrode	Style	Gaskets ³	Power ¹	Optional Output ² <i>The 4700r comes standard with one pulse output One Option from 5 or one option from 6 can be selected</i>	Options	DC Power/Output Cable - 6 conduc or <i>(Must select one)</i>	Remote Display Cable - 6 conductor <i>(Must select one)</i>
	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								030S 030D 30 meter (100 ft)	060 60 meter (200 ft)
	10" 10					A1	X (requires single cable for output)		045S 045D 45 meter (150 ft)	
	12" 12					A2	L (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.

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, customer 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

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