

AG3000 SERIES FLANGED MAGMETER



AG3000



AG3000p



AG3000-200/300



AG3000r


(Remote Display)



RIGHT METER FOR

Irrigation
Chemigation
Agricultural automation
Well usage monitoring
Dairy lagoons
Aquaculture

Features

- Easy setup
- Minimal straight pipe
- Mounted or remote display
- Tamper-evident seal
- IP68 rated
- No moving parts
- Five year battery life
- Data logging (Optional)
- Sensus smart output (Optional)
- Telemetry ready for wireless meter reading. Solutions available now by our sister company 

The **AG3000** Series is a spool-type electromagnetic flowmeter for use in irrigation applications in 2" to 12" pipe. With no moving parts, these meters provide unobstructed flow and are resistant to wear from debris found in ground or surface water. Little maintenance is required because there are no bearings to wear out or propellers to stop turning. Minimal straight pipe requirements allow AG3000 meters to be used in piping configurations where there is little space between the meter and an elbow.

The standard AG3000 is battery powered with an available pulse output. Both rate and total indication are displayed. Bidirectional flow reading is standard with totals available in forward, reverse, net flow, batch forward flow, and batch reverse flow.

The AG3000 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 AG3000p. 4-20mA loop is optional on the AG3000 and AG3000r 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.

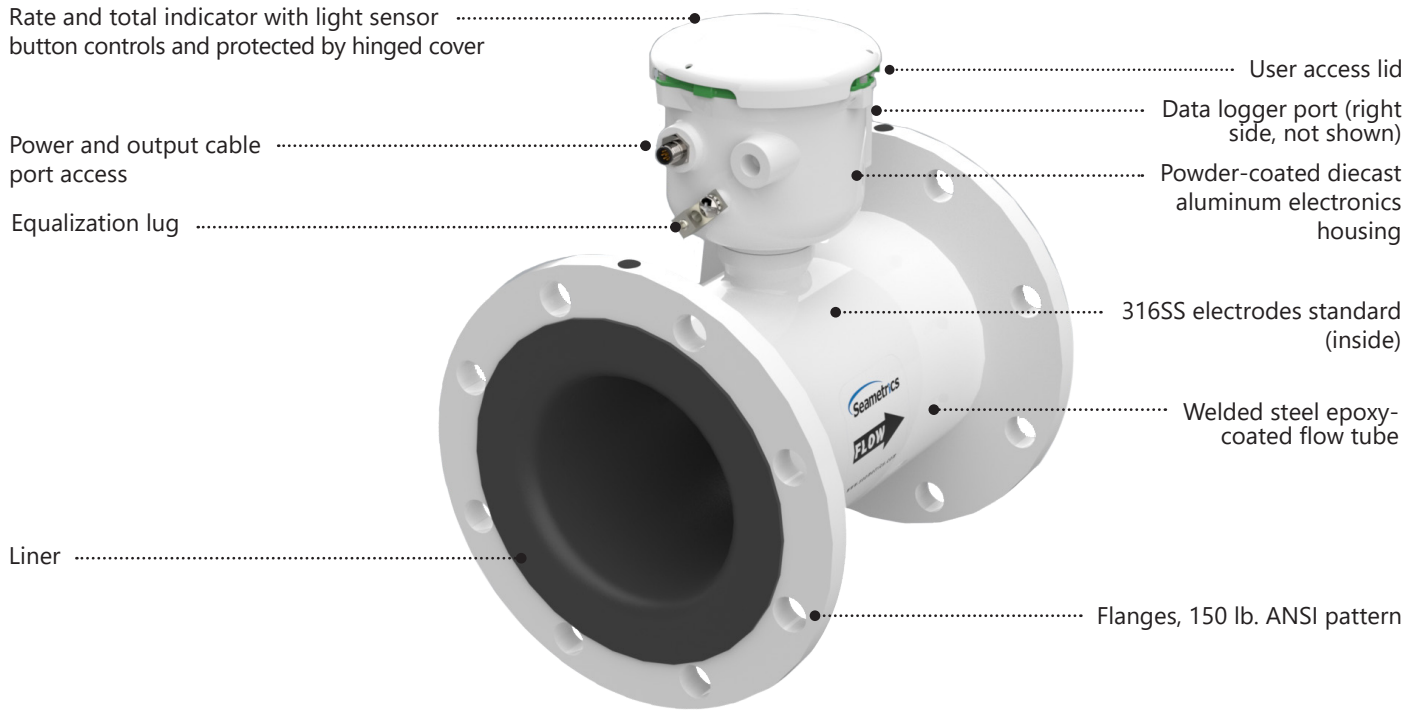
The AG3000 Series is CE certified and IP68 for burial, or applications where the meter may be under water for prolonged periods of time. All meters are provided with a security seal to protect against unauthorized access. The seal can be broken by an authorized agent, to change units of measure, pulse rate or replace the battery pack. The cable is field installed where external power is available and/or an output is needed.

Contact Your Supplier

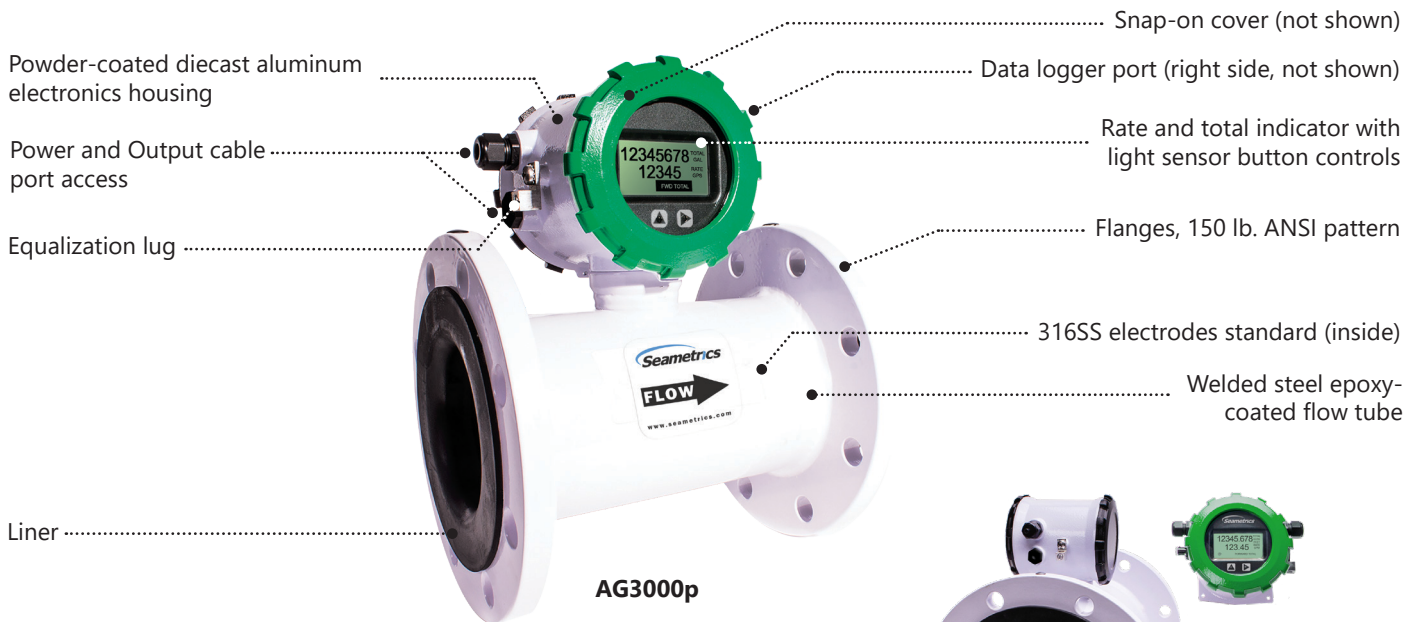


Your first replacement battery is on us. Just register your meter & call when needed!

Features



AG3000



AG3000p



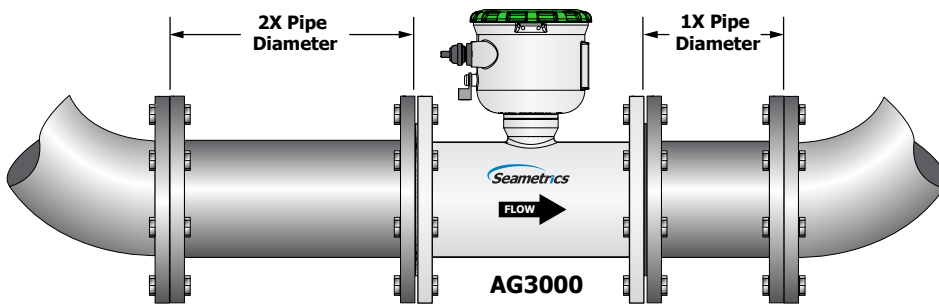
Features



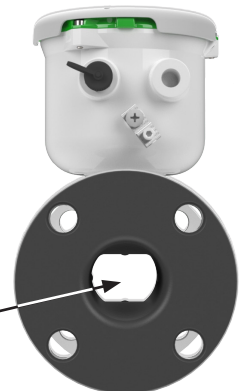
- Built-in Data Logger (Optional)
- Bidirectional Flow Reading (Standard)
- Pulse Scaled Output (Standard)
- 4-20mA Output (Optional*)
- Modbus® Protocol Output (Optional*)
- Sensus Smart Output (Optional*)
- High Speed Digital Output (Optional*)
- Battery Power (AG3000 battery model only)
- External DC Power (Optional*)
- Integrated AC Power Supply (Optional*)
- Remote Display (AG3000r)

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, in most cases, to ease installation in tight quarters.



No moving parts to break or foul!

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)					
	Storage -40° to 158° F (-40° to 70° C)					
Accuracy	±0.75% of reading on AG3000p and AG3000r (±1.0% AG3000), ±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					
Material	Body (2"-12")	Welded steel, epoxy-coated				
	Liner (2", 3", 4", 6" & 8")	Polyurethane/Noryl®				
	Liner (10" & 12")	Santoprene flange/Polypropylene liner body				
	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	
	<i>Please Note: All AG3000 meters are factory set for gallons per minute (GPM) rate and acre feet 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 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
	Bidirectional ¹	Forward Total, Reverse Total, Net Total, Batch Forward Total, Batch Reverse Total ³				
Power	DC Power	9-36 Vdc @ 250 mA max, 30 mA average				
	Battery Backup <i>(Not for use as primary power)</i>	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 (AG3000p and AG3000r only)				
	Battery	One lithium 7.2V 'D' size battery pack, replaceable. (AG3000 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 (AG3000p 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	CE (EN 61326), CSA/CUS 					
Environmental	NEMA 6P, IP68 (10ft (3m) depth, continuously)					

Modbus is a registered trademark of Schneider Electric.

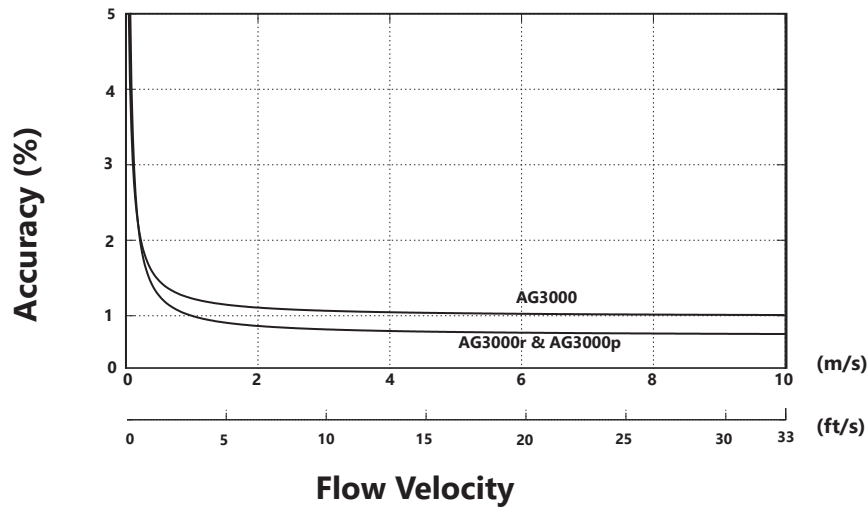
* Specifications subject to change. Please consult our website for the most current data (www.seametrics.com).

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

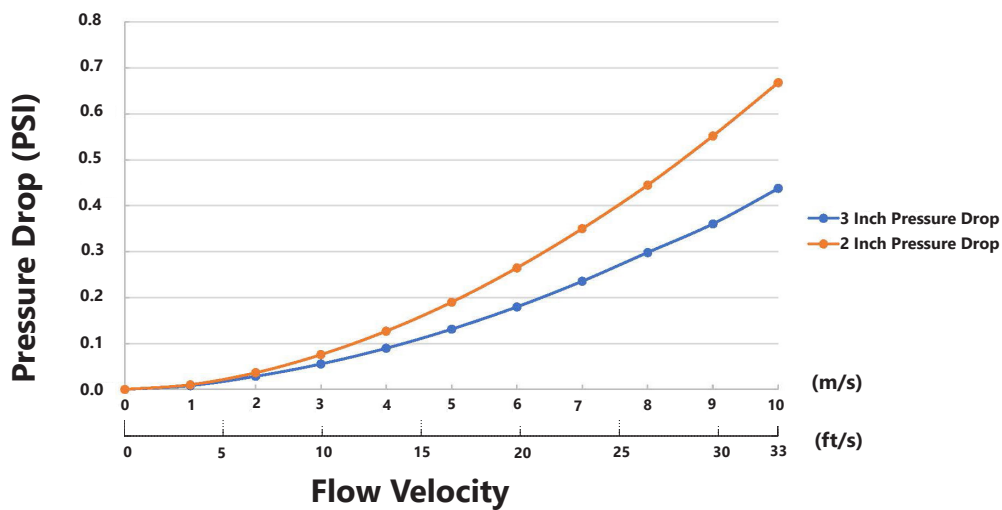
² Rate Time Unit is available in Day only.

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

AG3000 Accuracy



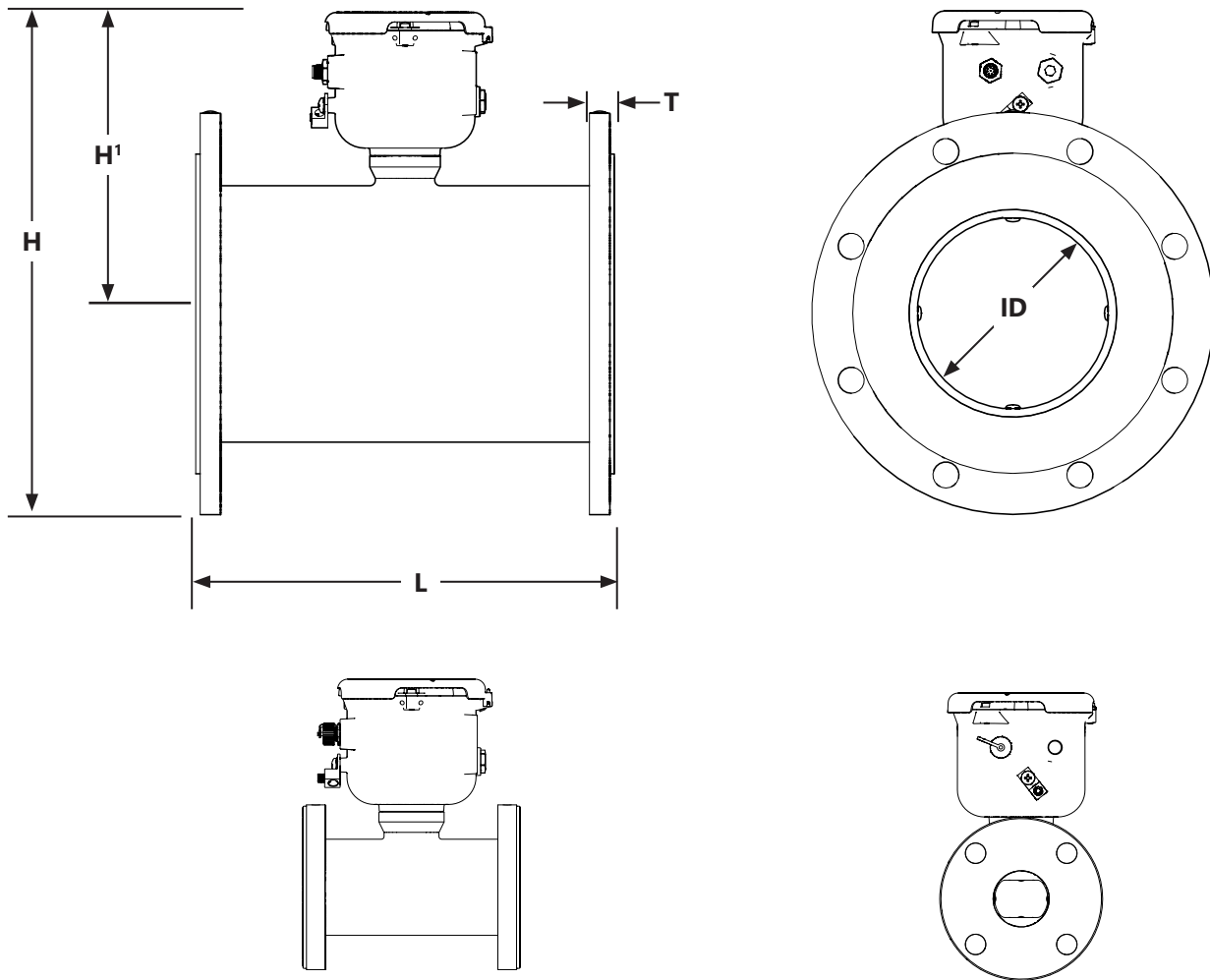
2" & 3" Pressure Drop Curve (No Pressure Drop 4"-12")



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

Dimensions - AG3000



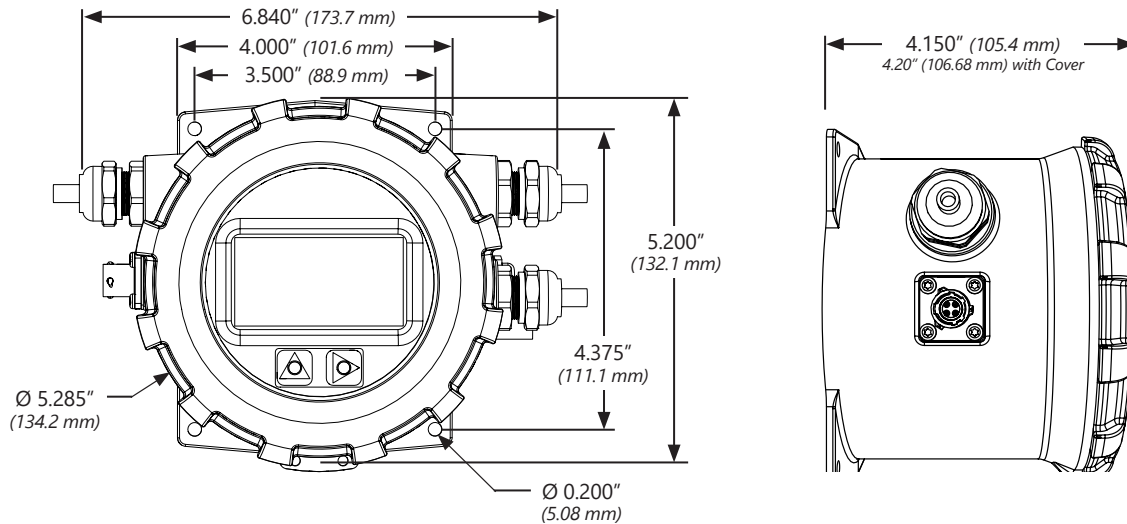
AG3000 Meter Size	L		H'		H		T		ID		Bolt Holes #	Shipping Weight	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		lbs	Kg
2"	7.9	200	7.58	193	10.58	268.73	.62	15.7	1.76*	45*	4	20	9
3"	7.9	200	8.08	206	11.83	300.48	.62	15.7	2.68*	68*	4	26	11.8
4"	10.12	257	8.33	211	12.83	325.88	.62	15.7	3.12	79	8	33	15
6"	12.09	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. Factory installed grounding rings (not available for 2" & 3" meters) add 0.25" to each flange for a total lay length increase of 0.50"

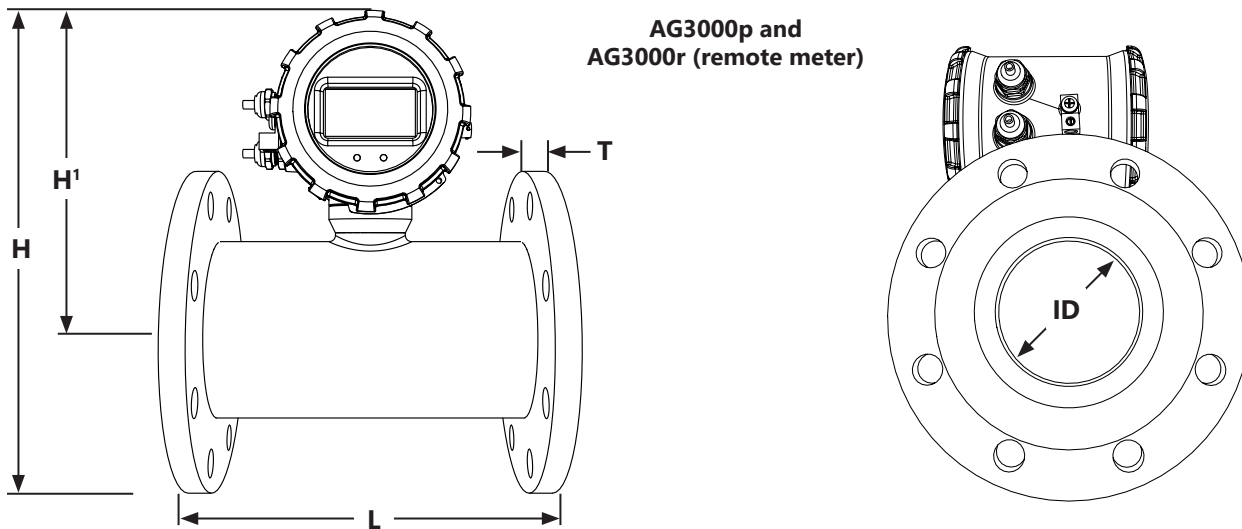
*Average ID

Dimensions - AG3000r and AG3000p

AG3000r (remote display)



AG3000p and AG3000r (remote meter)



AG3000 Meter Size	L		H'		H		T		ID		Bolt Holes	Shipping Weight			
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		AG3000p		AG3000r	
												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

How to Order Worksheet

<p>AG3000 AG3000p AG3000r</p>	1	1a	1b	2	3	4	5	6	7
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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

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

	1	1a	1b	2	3	4	5	6
AG3000 4700 (Integrated Display)	Size	Grounding Rings	Electrode	Flange	Power	Optional Output ² <i>The AG3000 comes standard with one pulse output</i>	Options	DC Power/Output Cable <i>(Must select one)</i>
	2" 02	0	0	F1	D1	X (requires 4 conductor cable for DC power & output) L (requires 8 conductor cable for DC power & output) S (requires 8 conductor cable for DC power & output)	XX None 01 Data Logger 02 Sensus Smart Output (Includes 6' Cable)	0000 No Cable (Cable required for power/output) <u>4 Conductor</u> <u>8 Conductor</u> 0064 0068 6 meter (20 ft) 0154 0158 15 meter (50 ft) 0304 0308 30 meter (100 ft) 0454 0458 45 meter (150 ft) 0604 0608 60 meter (200 ft)
	3" 03	G ⁵	H ⁴		D2			
	4" 04		B ⁴					
	6" 06		Y ⁴					
	8" 08							
	10" 10							
	12" 12			BX	X (requires 4 conductor cable for pulse output) S (requires 8 conductor cable for output) ³			

	1	1a	1b	2	3	4	5	6
AG3000p (Integrated Display)	Size	Grounding Rings	Electrode	Flange	Power ¹	Optional Output ² <i>The AG3000p comes standard with 4-20mA and one pulse output</i>	Options	DC Power/Output Cable <i>8 conductor (Must select one)</i>
	2" 02	0	0	F1	D1	X (requires single cable for DC power & output) S (requires dual cable for DC power & output) G ⁶ (requires dual cable for DC power & output)	XX None 01 Data Logger 02 Sensus Smart Output (Includes 6' Cable)	-0000 No Cable (customer will supply) <u>Single</u> <u>Dual</u> 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)
	3" 03	G ⁵	H ⁴		D2			
	4" 04		B ⁴					
	6" 06		Y ⁴					
	8" 08							
	10" 10							
	12" 12			A1	X (requires single cable for output)			
				A2	S (requires single cable for output) G ⁶ (requires single cable for output)			

	1	1a	1b	2	3	4	5	6	7
AG3000r (Remote Display)	Size	Grounding Rings	Electrode	Flange	Power ¹	Optional Output ² <i>The AG3000r comes standard with one pulse output One Option from 4 or one option from 5 can be selected</i>	Options	DC Power/Output Cable <i>6 conductor (Must select one)</i>	Remote Display Cable <i>6 conductor (Must select one)</i>
	2" 02	0	0	F1	D1	X (requires single cable for DC power and output) L (requires single cable for DC power and output) S (requires dual cable for DC power and output)	XX None 01 Data Logger 02 Sensus Smart Output (Includes 6' Cable)	0000 No Cable (customer will supply) <u>Single</u> <u>Dual</u> 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)	006 6 meter (20 ft) 015 15 meter (50 ft) 030 30 meter (100 ft) 045 45 meter (150 ft) 060 60 meter (200 ft)
	3" 03	G ⁵	H ⁴		D2				
	4" 04		B ⁴						
	6" 06		Y ⁴						
	8" 08								
	10" 10								
	12" 12			A1	X (requires single cable for output)				
				A2	L (requires single cable for output) S (requires single cable for output)				

Modbus is a registered trademark of Schneider Electric.

Note: All AG3000 meters are factory set for gallons per minute (GPM) rate and acre feet 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.

³ Battery life is shortened when using Modbus with battery powered units. Expected battery life is approximately 1 year, based on usage.

⁴ Available for 4" - 12" meters only.

⁵ Installed grounding rings are not available on 2" and 3" meters. Factory installed grounding rings includes installed gaskets. Installed grounding rings add 0.25" to each flange for a total lay length increase of 0.50"

⁶ Sensus Smart Output option not available with Digital output

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