



SeaMetrics

The Leader in Flow Meter Value

INSTRUCTIONS

AG2000 Irrigation Magmeter

FEATURES

Rate and Total Indicator

Cross-Drilled Screws (2)
for Tamper Evidence

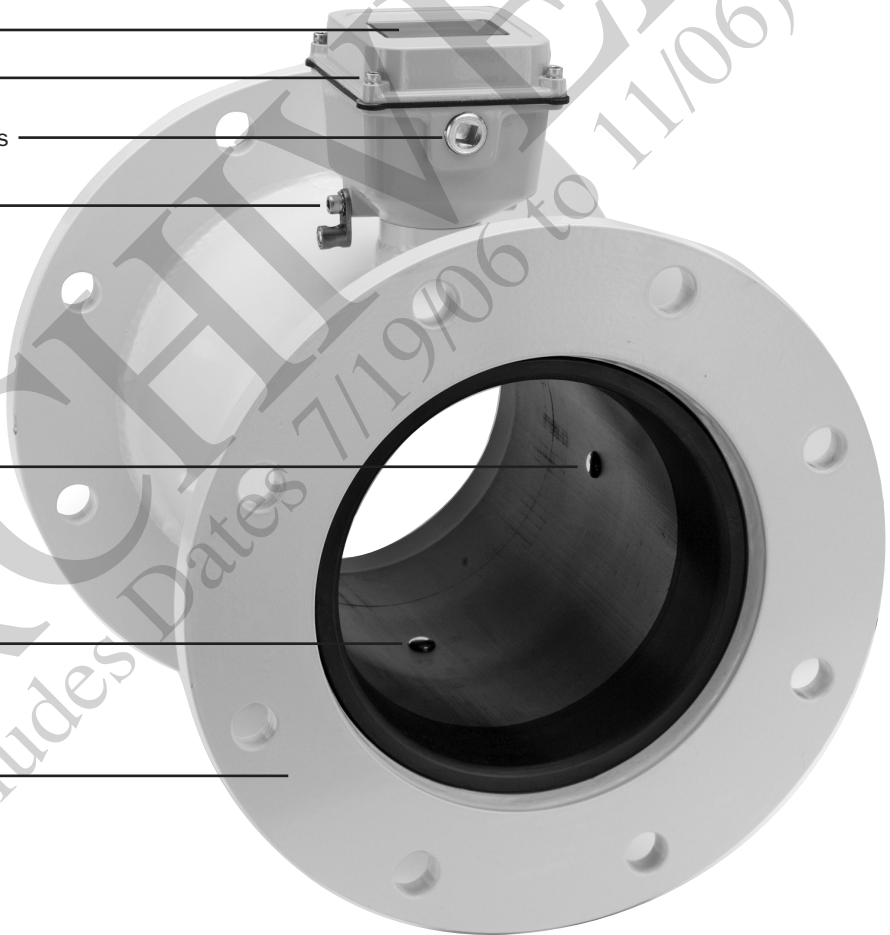
Power/Output Cable Port Access
Tamper Sealed

Grounding Lug

Grounding Electrodes (2)

Measurement Electrodes (2)

Flanges, ANSI 150 lb. Drilling



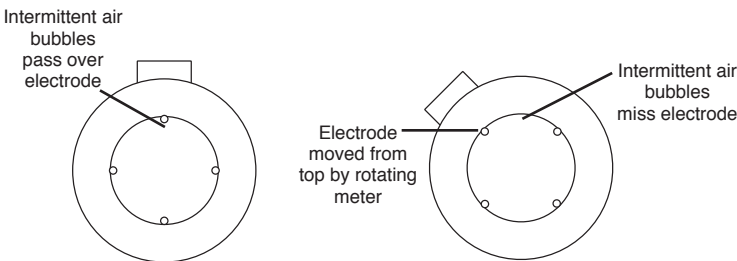
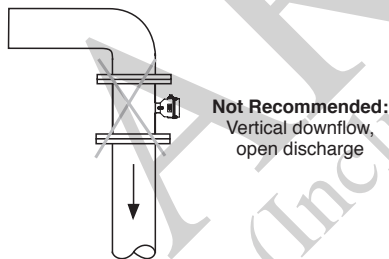
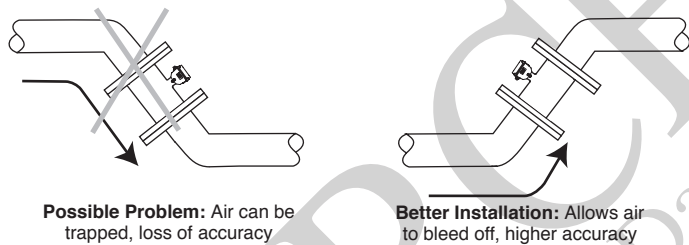
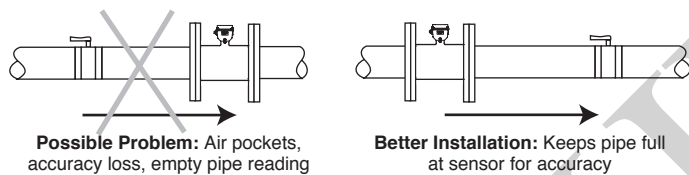
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(Includes Dates 7/19/06 to 11/06)

INSTALLATION

Tamper-Evident Seal. The battery-powered AG2000 has a seal wire to protect against unauthorized access. The seal can be broken to change units of measure, replace the battery pack, or to field-install a power/output cable. If water usage regulation is in effect, only a person authorized by your regulatory agency should break the seal wire, and replace it when finished.

Positioning the Meter. These meters can be installed horizontally, vertically, and in any radial position. If sludge accumulation is a potential problem, vertical or horizontal placement with the register angled may be preferred.

Full Pipe Recommendations. All magmeters require a method for determining that the pipe is empty, to prevent false reading. This meter is designed to go to zero reading if one or more electrodes is exposed. For highest accuracy, install the meter so that the pipe will be full when there is flow. If air bubbles may be present in the pipe, rotate the meter by one flange hole to position the control housing at a 45° angle. See Full Pipe diagrams below.



Possible Problem: If air bubbles are present, they can pass over top measurement electrode; meter reads "empty pipe"

Better Installation: If air bubbles are present they will pass between electrodes; meter reads "full pipe"

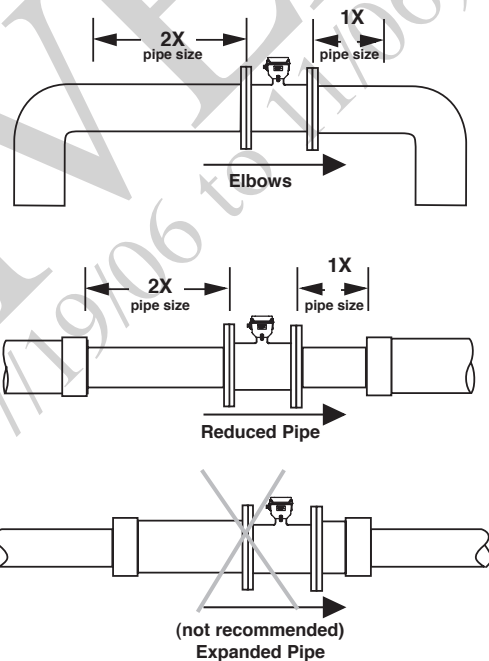
Fittings. The AG2000 flanges have standard ANSI 150 lb drilling, and should match up with any other ANSI 150 lb flange.

Temperature. These flow sensors are not recommended for installation where temperature exceeds 130° F.

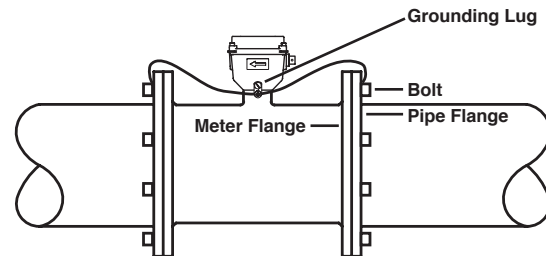
Calibration. The AG2000 is factory calibrated and should not require any form of field calibration.

Protecting the Meter. To protect the AG2000 against environmental assaults, you may wish to install a weather guard (part #31388).

Straight Pipe Recommendations. See the diagrams below for the type of installation that best matches yours.



Grounding. It is important to ground your meter. To do this, run grounding wire from the grounding lug to both pipe flanges, securing the wire to the flanges at one of the bolt holes. See diagram below.



Grounding Diagram

Run grounding wire from grounding lug to both pipe flanges; secure under bolt head.

POWER SUPPLY and OUTPUTS

Battery Power (standard). The AG2000 is powered by a non-rechargeable battery pack with an average lifespan of 3 years. Lifespan varies somewhat based on usage (less current is required during periods of empty pipe; somewhat more when the pipe is full but there is no flow; and the highest current draw occurs when the pipe is full and flowing).

The display reads “Low Batt” when there is approximately 3 days of use left in the battery (see illustration at right). Replacement instructions come with the custom battery pack available from your dealer or SeaMetrics (Part #31126).

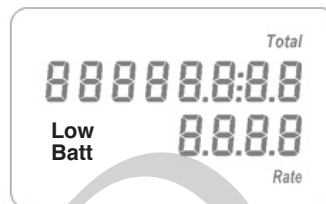
External Power (optional). Where 7-24 Vdc power is available, the life of the battery pack can be indefinitely extended by the addition of an external power input cable. When external power is used, the batteries serve as backup in case of power failure. The display reads “P” to indicate that external power is in use (see illustration at right).

When the display is reading numbers/letters but neither the “Low Batt” or “P” symbol is displayed, the meter is functioning normally under battery power (see illustration at right). When the display is completely blank, the meter is not powered (see illustration at right).

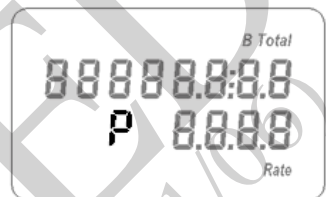
Solar Power (optional). In most areas of the US, a 12-volt, 5 watt solar power unit (panel, charge controller and battery) should suffice to operate the meter. In this case, the internal batteries will serve as backup and battery life will be conserved.

Optional Input and Outputs. An optional cable, factory-installed or field-installed by an authorized individual, provides power input, pulse output (for telemetry and data logging functions), and serial output (for technician use in custom telemetry applications). See diagram below.

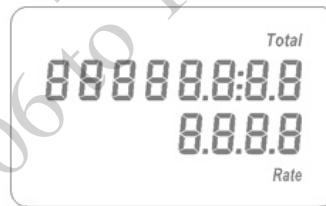
Display Reading. There are two lines to the display, the bottom line for flow rate and the top line for accumulated total. Measurement units are pre-ordered and factory-set and can be changed in the field only by an authorized individual.



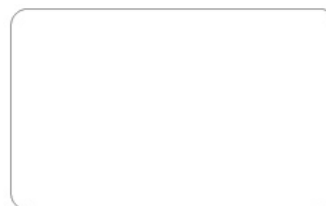
Low Battery Indicator



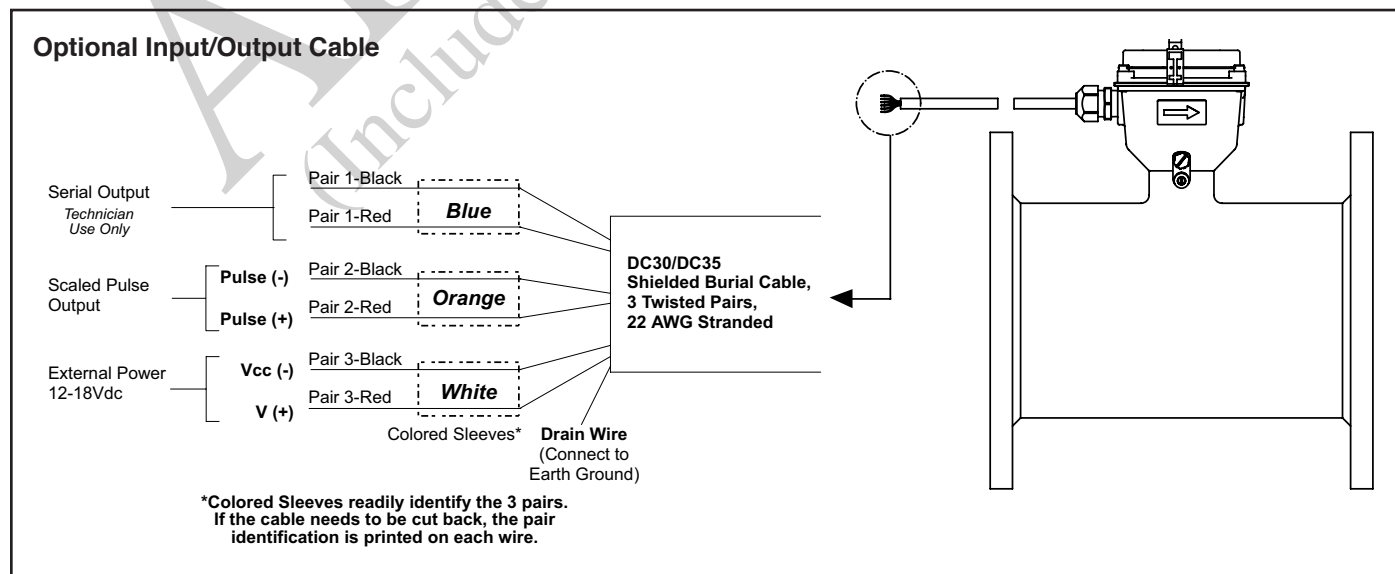
External Power Indicator



Battery Power



No Power



FLOW RANGE

| Flow Range | 4" | | 6" | | 8" | | 10" | |
|----------------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
| | Gal/Min | Liter/Sec | Gal/Min | Liter/Sec | Gal/Min | Liter/Sec | Gal/Min | Liter/Sec |
| Minimum | 12 | 45 | 32 | 120 | 60 | 230 | 95 | 360 |
| Maximum | 500 | 1,890 | 1,200 | 4,550 | 2,200 | 8,330 | 3,500 | 13,250 |

TROUBLESHOOTING

| Problem | Probable Cause | Try... |
|---|---|---|
| Blank display | Dead battery | Replace battery pack (part #31126) |
| Flow rate steadily reads zero when there is flow | Flow is below cutoff (very low) There is air in the meter Meter is installed backward | Reading will resume when flow increases Reposition meter for full pipe Note flow direction arrow, reverse meter |
| Flow rate intermittently drops when there is flow | There is air in the meter | Reposition meter for full pipe or rotate to avoid bubbles (see page 2) |
| Jumpy reading | Missing or incorrect ground wire Pulsing flow | Check for proper ground Use external power source (allows more flow averaging) |

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