

Rate of Flow

The rate of flow is factory programmed for either gallons per minute or meters cubed per hour, depending on the unit of measure selected. The LCD displays both the unit of measure and rate of flow. The rate of flow display also serves as the flow finder indicator. The rate of flow display is shown without leading zeros. When rate of flow is displayed it is updated every two seconds.

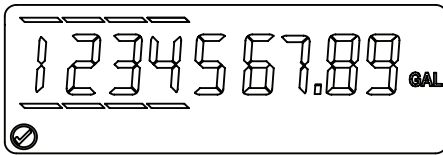
Flow Direction

The direction of water flow is noted on the face of the electronics housing and cast into the meter housing.

Consumption

The consumption display includes all nine digits, including leading zeroes and a decimal point. The displayed value is the sum of the forward flow minus the reverse flow. This display also includes indicator lines above and below the digits to provide the electronic equivalent of white and black number wheels on mechanical registers. The following examples show typical displays for three different units of measure:

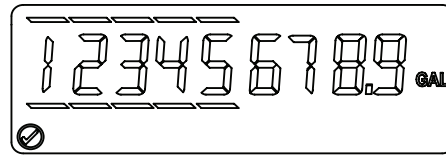
5/8 in., 3/4 in. and 1 in. Meters



Meter reading to the nearest?

100th gallon =	1234567.89
10th gallon =	1234567.8
1 gallon =	1234567
10 gallons =	123456
100 gallons =	12345
Typical Billing Units →	1000 gallons = 1234

1-1/2 in. and 2 in. Meters

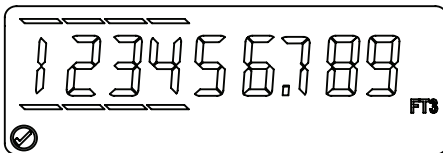


Meter reading to the nearest?

10th gallon =	12345678.9
1 gallon =	12345678
10 gallons =	1234567
100 gallons =	123456
Typical Billing Units →	1000 gallons = 12345

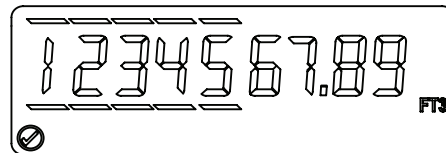
Gallons

Cubic Feet



Meter reading to the nearest?

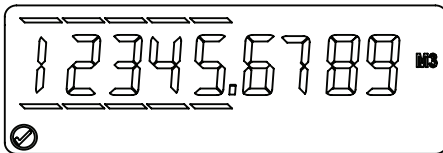
1000th ft³ =	123456.789
100th ft³ =	123456.78
10th ft³ =	123456.7
1 ft³ =	123456
10 ft³ =	12345
Typical Billing Units →	100 ft³ = 1234



Meter reading to the nearest?

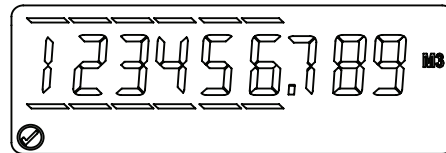
100th ft³ =	1234567.89
10th ft³ =	1234567.8
1 ft³ =	1234567
10 ft³ =	123456
Typical Billing Units →	100 ft³ = 12345

Cubic Meters



Meter reading to the nearest?

10000th m³ =	12345.6789
1000th m³ =	12345.678
100th m³ =	12345.67
10th m³ =	12345.6
Typical Billing Units →	1 m³ = 12345
	10 m³ = 1234









Meter reading to the nearest?

1000th m³ =	1234567.89
100th m³ =	1234567.8
10th m³ =	1234567
Typical Billing Units →	1 m³ = 123456
	10 m³ = 12345

The following chart lists the possible E-Series Ultrasonic meter conditions when connected to Badger Meter ORION Cellular and Fixed/Migratable (SE/ME) AMR/AMI endpoints.

The chart does *not* apply to ORION Classic (CE) or GALAXY endpoints. The E-Series will display the status indicators, but *Reverse Flow*, *Suspected Leak* and *30 Day No Usage* alarms are determined by the endpoint radio and are not obtained from the Ultrasonic meter.

Status Indicator	Icon	Alarm Description	High Resolution with ORION Cellular, Fixed Network (SE) or Migratable (ME)	Encoder Protocol with ORION Cellular, Fixed Network (SE) or Migratable (ME)	RTR with ORION Fixed Network (SE) or Migratable (ME)
Meter functioning correctly		Meter operating correctly.	Normal operation. Indicator not sent to endpoint.		
Meter alarm		Several potential conditions may exist, including: <ul style="list-style-type: none"> • Empty pipe: "err" displays on LCD. Last known good read is displayed. Alarm clears when pipe is filled. • Temperature limits exceeded: meter continues to operate but outside specified accuracy range. Alarm clears after 60 days unless alarm condition continues. • Maximum flow rate is exceeded. No consumption is displayed until back within specified flow range. Both the meter functioning correctly and the meter alarm are active. Alarms clear after 60 days unless alarm condition continues. • Other meter or sensor issue: interference of ultrasonic signal. Meter continues to operate unless sensors are damaged. Alarm clears after 60 days unless alarm condition continues. 	Consumption is sent to the endpoint. Meter alarm is also sent.	Meter alarm is sent to the endpoint. NOTE: No consumption is sent to endpoint when the alarm is active.	Consumption is sent to the endpoint, except when Exceeding Max Flow alarm is set.
Reverse flow		The meter detects reverse flow and triggers the reverse flow alarm icon on the E-Series display. The alarm remains active for 60 days. The alarm automatically clears after 60 days if the condition has not recurred.	Meter detects reverse flow and sends alarm message to the endpoint.	Meter does not send the alarm. The endpoint detects and reports the reverse flow and will report the read exactly how it is received.	No alarm condition reported by the endpoint will only record positive, forward flow.
Suspected leak		Meter detects 24 hours without one 15-minute interval of no flow. The alarm clears automatically when a 15-minute no-flow interval occurs.	Meter detects suspected leak and sends alarm message to the endpoint.	Meter does not send the alarm. The endpoint detects continuous consumption over a 24-hour period and reports suspected leak.	
30 day no usage		No measured flow in past 30 days. The alarm automatically clears once flow occurs.	Meter detects 30 day no usage and sends alarm to the endpoint.	Meter does not send the alarm. The endpoint detects no change in consumption over a 30-day period and reports 30 day no usage.	
End of life battery indicator		Indicated battery life based on pre-calculated consumption. Alarm is activated after 19 years and does not clear.	Meter sends alarm to the endpoint.	Meter does not send the alarm.	

NOTE: For meters manufactured prior to 5/2017, the meter alarms and reverse flow alarm were set to 35 days.