

# evoQ<sub>4</sub> RB Electromagnetic Meter with Replaceable Battery

Size 1½" to 12"

## Operation

The evoQ<sub>4</sub> is a battery powered electromagnetic water meter that is suitable for a wide range of metering applications. Using Faraday's law of electromagnetic induction, two magnets provide a magnetic field within the pipe; two electrodes measure the induced voltage that is proportional to the flow of conductive water through the field in the pipe. Every 0.5 seconds the measurement is taken and the totalized volume is calculated and updated on the LCD display. The meter allows replacement battery pack exchanges.

## Application

The meter is for use only with potable cold water up to 120°F. The meter will typically register at +/-0.75% accuracy at normal and high flows and better than 95% accuracy at extended low flows. The evoQ<sub>4</sub> product line is suited for metering utility customer services for potable water. With the addition of outputs described below, the meter can fulfill a number of distribution management roles as well.

## Pulse or encoder output

The meter can be fitted with a pulse output device that can be attached to a radio transceiver module or a data logger. The pulse output can be programmed in the factory to meet the needs of the utility. For utilities preferring encoded output technologies, an encoder module is available for interface with AMR or AMI systems.

## Remote display

The meter can be fitted with a remote display. A two channeled output can provide both forward and reverse pulses.

## Connections

The evoQ<sub>4</sub> comes in AWWA C701 Class II Turbine meter lay lengths. The flanges are epoxy coated cast iron to reduce weight and prevent corrosion. The 1½" and 2" come with oval flanges and the 3"- 12" come with a round flange. All flanges conform to ANSI B16.1 Class 125 standards. Allow for 5 pipe diameters of straight pipe upstream and 3 pipe diameters of straight pipe downstream for optimum performance.



*The evoQ<sub>4</sub> is a single meter that meets the needs of traditional turbine, compound, single jet and magnetic meters. The meter allows replacement battery pack exchanges.*

## FEATURES AND BENEFITS

**3 cell battery pack:** Extends meter functional life  
**No moving parts:** Maintenance free.  
**0.5 second sampling rate:** Highest accuracy.  
**Wide measuring range:** Suitable for all commercial applications.  
**Simple installation:** No additional training required.

**Pulse or encoder connectivity:** Pre-equipped or retrofitted for your AMR and telemetry needs.  
**AWWA lay lengths:** Simple changeout.  
**IP68 sealed:** Provides long, trouble-free life.  
**NSF61 Annex G listed:** Zero lead contaminants.

## LCD

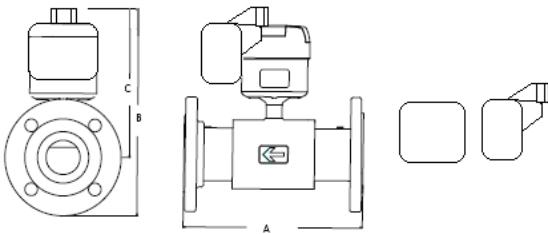
Bright, large and easy-to-read LCD incorporating totalized volume and a reference flow-rate indicator. Alarm functions provide in-situ status ensuring no loss in measuring continuity. An IP68 seal ensures the meter electronics are safely protected providing long term reliability.

## Materials

- Body:** Stainless steel grade 304
- Flow tube:** Stainless steel grade 316
- Liner:** Polyethylene epoxy
- Electrodes:** Stainless steel grade 316
- Flanges:** Epoxy coated cast iron
- Register:** Stainless steel with glass lens
- Register housing/lid:** UV-resistant plastic
- Environmental class:** IP68 hermetically sealed unit waterproof to 30 ft depth

## Dimensions and net weight

Meter Size	A		B		C		Weight	
	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
1.5"	13	(330)	10.8	(274.3)	8.2	(203.3)	10.5	(4.8)
2"	10	(254.0)	11.24	(285.5)	8.12	(206.2)	11.0	(5)
3"	12	(304.8)	12.27	(311.7)	8.52	(216.3)	22.5	(10)
4"	14	(355.6)	13.22	(335.8)	8.72	(221.5)	35.5	(16)
6"	18	(457.2)	15.32	(389.1)	9.82	(249.4)	55.5	(25)
8"	20	(508.0)	17.16	(435.9)	10.71	(272.0)	81.5	(37)
10"	17.75	(450)	19.50	(495.3)	11.50	(292.1)	120.0	(55)
12"	19.7	(500)	21.00	(533.4)	11.50	(292.1)	159.0	(72)



### Find Out More

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Performance	Inches	1.5	2	3	4	6	8	10	12
	mm	40	50	80	100	150	200	250	300
> 95% Accuracy	GPM	0.25	0.25	0.6	1.7	4	8	32	32
	m <sup>3</sup> /h	0.06	0.06	0.14	0.4	0.9	1.8	7.3	7.3
98.5% - 101.5% Accuracy	GPM	1-130	1-220	2-550	4-880	8-1400	16-3500	50-5500	65-5500
	m <sup>3</sup> /h	0.23-30	0.23-50	0.5-125	0.9-200	1.8-318	3.6-795	11.4-1249	14.8-1249
Maximum flow	GPM	130	220	550	880	1400	3500	5500	5500
	m <sup>3</sup> /h	30	50	125	200	318	795	1249	1249
Max. operating pressure	psi	175	230	230	230	230	230	150	150
	Bar	12	16	16	16	16	16	10	10

- Low-Battery:** The indicator will blink when the meter has approximately 3 months working life remaining.
- End of Life Battery:** Measurement stopped. The display will go blank. The last recorded value is retained in memory. When the battery is replaced, the meter and display will operate normally. Typical life per replaceable battery pack: 1 1/2" to 4" - Ten years; 6" - Seven years; 8" to 12" - Five years.
- No-Water:** The indicator will blink when there is an empty pipe condition or no water in the meter.
- Flow Rate:** If water is flowing in the reverse direction a minus sign is displayed to the left of the value.
- Net Volume:** Any reverse flow is subtracted from the volume display. The top line displays billable units with the multiplier shown in upper right corner. Measurement resolution is provided in the lower right for testing.

1 1/2" - 4" USG  
USG x1000  
888888  
8888 gpm / 8888

1 1/2" - 4" Cuft  
CuFt x100  
888888  
8888 gpm / 8888

1 1/2" - 4" M<sup>3</sup>  
888888  
8888 m<sup>3</sup>/h / .888

6" - 12" USG  
USG x1000  
888888  
8888 gpm / 8888

6" - 12" Cuft  
CuFt x100  
888888  
8888 gpm / 8888

6" - 12" M<sup>3</sup>  
888888  
8888 m<sup>3</sup>/h / .88



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