



evoQ₄

Electromagnetic Water Meter

Make every drop count



www.elsteramcowater.com
www.elster-evolution.com

evoQ₄ Electromagnetic water meter

Today's water meters need to be more reliable, accurate and durable with advanced flow technology that has the capability to capture revenue while reducing overall operating costs. The evoQ₄ provides a total solution for commercial water utility metering, by filling the needs of turbines, compounds, single jets and electromagnetic meters.

With advanced measurement and flow technology, the evoQ₄ battery powered mag meter delivers high accuracy through a wide range of flows and varied conditions and applications. Typical accuracy performance ranges from 99.25% to 100.75% (+/- 0.75% error) of true value through the normal flow range. The meter line can be sized to suit either predominantly high or low flow rates, and is ideal for a wide variety of bulk flow metering applications, such as network monitoring, leakage detection and commercial billing.

Reliable connectivity

With a choice of bi-directional pulse or encoded outputs, the evoQ₄ provides dependable connectivity to critical distribution management and billing systems, including AMR and data-logging devices. The evoQ₄ is compatible with evolution™ AMI and other AMR/AMI devices.

Accurate measurement

The evoQ₄ has a standard, continuous sampling rate of 0.5 second, so you can be confident of accurate and reliable measurement. It also features anticorrosive electrodes to ensure consistently accurate performance throughout its entire life.

Durability

The evoQ₄'s tough stainless steel construction ensures a long, corrosion-free working life, while its lightweight body makes storage, transportation and installation both simpler and safer. An IP68 rating provides protection for internal electronics meaning long-term reliability.

Maintenance Free

Designed without moving parts and a 10-year battery life, the evoQ₄ is maintenance free, eliminating regular battery change outs and calibration often required with mechanical and other electromagnetic meters.

Real-time data

A large, bright and easy-to-read LCD displays volume and instantaneous flow rate for reference. The evoQ₄ also has alarm functions providing real time status, to ensure no loss in measuring continuity.

Easy access

The evoQ₄'s optional remote display unit provides a clear LCD for simpler access in hard-to-read applications. The unit also includes two pulse outputs for connection to ancillary devices such as AMR or process monitoring devices.

Low pressure loss

An unrestricted flow tube ensures minimal pressure loss, even at the highest flow rates. This means that overall network system pressures can be reduced, lowering energy expenditures, reducing the occurrences of burst pipes and extending the useful life of pumping stations.



Simple installation

Installation of the evoQ₄ is simple. Just fit and go, no need for grounding rings or programming with a laptop in a vault. The evoQ₄ comes in AWWA C701 Class II Turbine meter lay lengths. The flanges are epoxy coated cast iron to reduce weight and prevent corrosion. The 1.5" and 2" comes with an oval flange and the 3" and larger meters come with a round flange. All flanges conform to ANSI B16.1 Class 125 standards.

evoQ4 AL (Alternate Length)

The evoQ4 meter is now available in alternate lengths for 1.5 and 2" meter installations. The lengths are typical of C700, C702 and C712 lay lengths to facilitate direct replacement of mechanical meters without the added expense of makeup spool pieces. Additionally, these meters feature a shorter height dimension, fitting into tight spaces. The complete suite of output modules is available to provide remote display or AMR / AMI functionality.

evoQ4 FSM (Fire Service Meter)

As an optional feature, the evoQ₄ comes with a full FM Standard 1044 approval for use as a fire service instrument. Replace those monstrous mechanical fire service assemblies with an easily fit solid state meter.



System options

Pulse or encoded output meter

As above with the addition of a plug and play pulse or encoder output transmitter for connection to ancillary devices including AMR, data-loggers or remote monitoring system.



Meter + remote display

As in option 1 with the addition of a pulse output and remote display unit (pictured right) connected electronically to the meter. The remote display features two pulse output channels.



Display only

Simple, visual read meter only with no output communications. Pulse or encoder output can be easily added through upgrade in-the-field with option 2 or remote and pulse with option 3.



Display functions

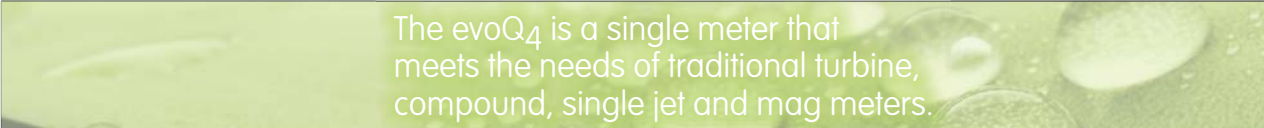
- 1 **Volume** – the net volume of water measured is displayed.
- 2 **Flow Rate** – If water is flowing in the reverse direction a minus sign is displayed to the left of the value.
- 3 **Low-Battery** – The indicator appears when the battery voltage is low and the meter should be replaced.
- 4 **No-Water** – The indicator blinks when there is an empty pipe condition in the meter.



Comparison mechanical commercial meters

		evoQ ₄	AWWA C701 Turbine	AWWA C702 Compound	AWWA C712 Single Jet
1.5"	AL Low Flow (gpm)	1/2	4	N/A	1/2
	Continuous Flow (gpm)	176	80	N/A	50
	High Flow (gpm)	220	160	N/A	10
	Weight	9.5	16	N/A	12
	Lay Length	13	13	N/A	13
	Operating PSI	150	150	N/A	150
	Warranty (years)	5	2	N/A	2
2"	Low Flow (gpm)	1/4	4	1/4	1/2
	Continuous Flow (gpm)	176	100	80	90
	High Flow (gpm)	220	160	160	160
	Weight	11	21*	51*	30*
	Lay Length	10	10	17	17
	Operating PSI	230	150	150	150
	Warranty (years)	5	2	2	2
3"	Low Flow	1/2	8	1/2	1/2
	Continuous Flow	440	350	175	160
	High Flow	550	435	350	320
	Weight	22.5	37*	92*	60*
	Lay Length	12	12	17	17
	Operating PSI	230	150	150	150
	Warranty (years)	5	2	2	2
4"	Low Flow	1.7	15	3/4	3/4
	Continuous Flow	700	650	300	250
	High Flow	880	750	600	500
	Weight	35.5	50*	134*	94*
	Lay Length	14	14	20	20
	Operating PSI	230	150	150	150
	Warranty (years)	5	2	2	2
6"	Low Flow	4	30	1 1/2	1 1/2
	Continuous Flow	1100	1400	675	500
	High Flow	1400	1600	1350	1000
	Weight	55.5	113*	165*	142*
	Lay Length	18	18	24	24
	Operating PSI	230	150	150	150
	Warranty (years)	5	2	2	2
8"	Low Flow	8	50	2	N/A
	Continuous Flow	2770	2400	900	N/A
	High Flow	3500	2800	1600	N/A
	Weight	81.5	177*	523*	N/A
	Lay Length	20	20	34.5	N/A
	Operating PSI	230	150	150	N/A
	Warranty (years)	5	2	2	N/A

* Average Weight of Each Manufacturer's Offering



The evoQ₄ is a single meter that meets the needs of traditional turbine, compound, single jet and mag meters.

evoQ₄ Data 10" - 12"

10"	Low Flow (gpm)	32
	Continuous Flow (gpm)	3800
	High Flow (gpm)	5500
	Weight	120
	Lay Length	17.75
	Operating PSI	150
	Warranty (years)	5
12"	Low Flow (gpm)	32
	Continuous Flow (gpm)	3800
	High Flow (gpm)	5500
	Weight	159
	Lay Length	19.7
	Operating PSI	150
	Warranty (years)	5



Traditional electromagnetic meter comparison

Specifications	evoQ ₄	Traditional Utility E-Mag
Power Options		
AC Only	No	Yes
AC Battery Back Up	No	Yes
Battery Only	Yes	Some
Battery Life	10 yrs	3 yrs (Maximum)
Reading Sample Rate	0.5 sec	15 sec
Reading Options		
Pulse Output	Yes	Yes
Encoder Output	Yes	Yes
4-20mA	No*	No*
Meter Accuracy		
Typical 4" meter		
Low Flow	1.7 gpm	5.9 gpm
Maximum Flow	880 gpm	704 gpm
Dimensions		
Lay Lengths	AWWA C701	Non-standard 4"
Weight	35.5 lbs	33 lbs
Approvals		
CE	Yes	Yes
NSF61	Yes	Yes
FM	Yes	Yes

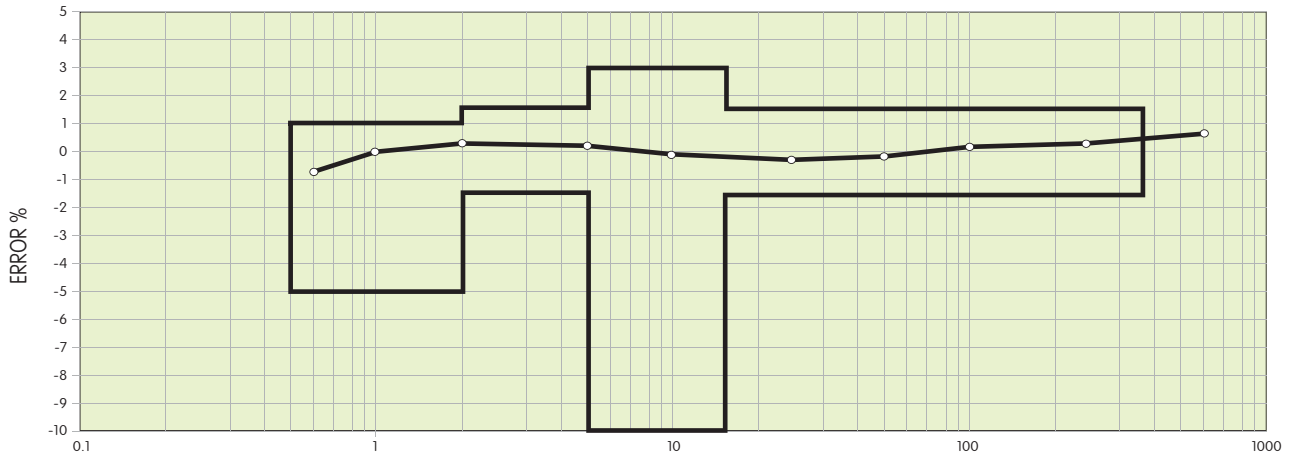
* 4-20mA output can be achieved with a converter



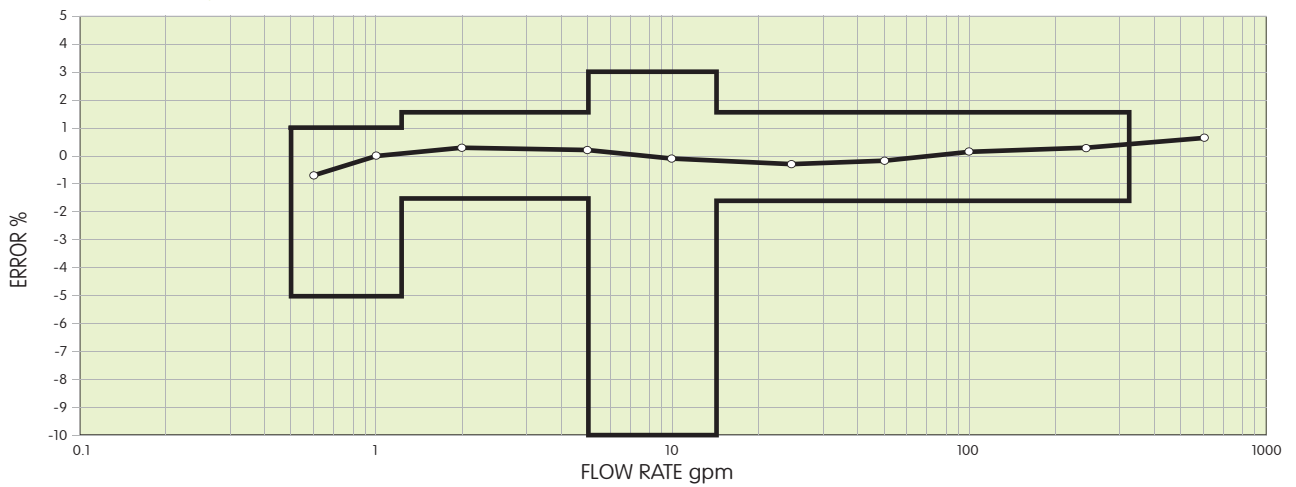
High accuracy measurement

C702 compound accuracy limits

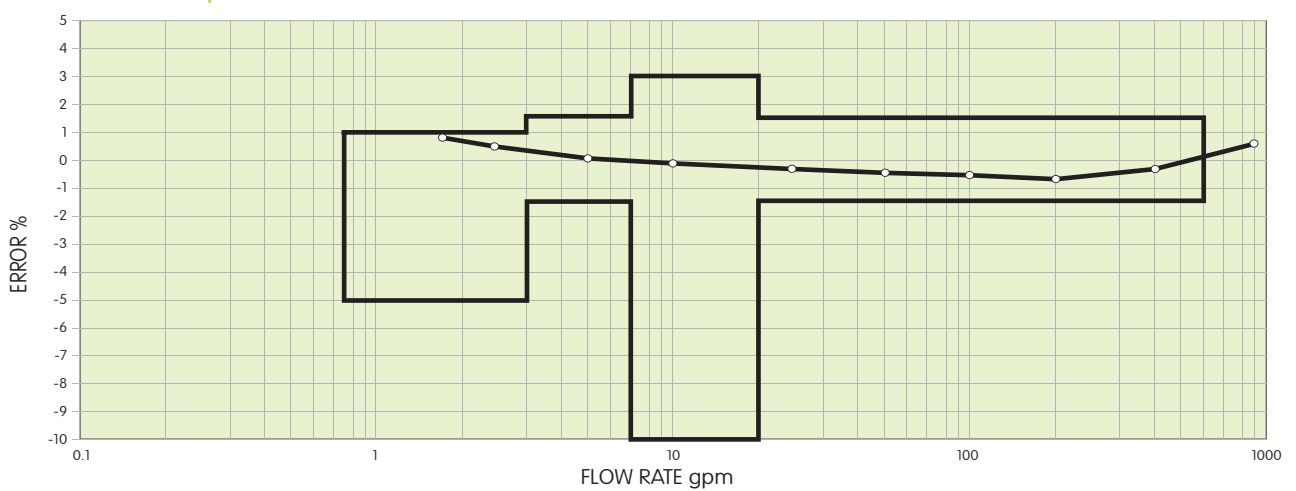
2" evoQ₄ vs C702 Accuracy Envelope



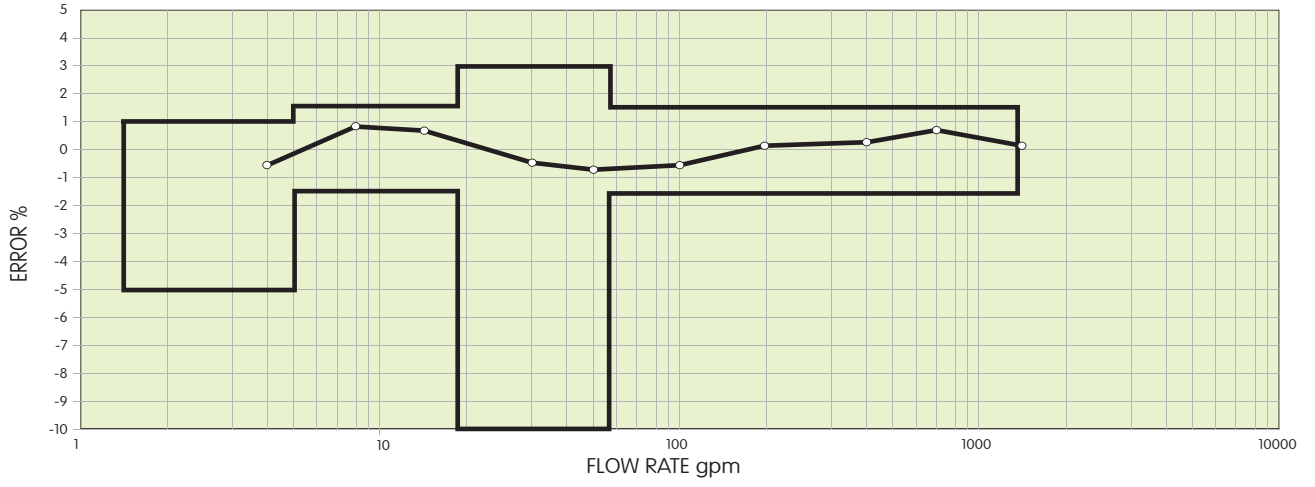
3" evoQ₄ C702 Accuracy Envelope



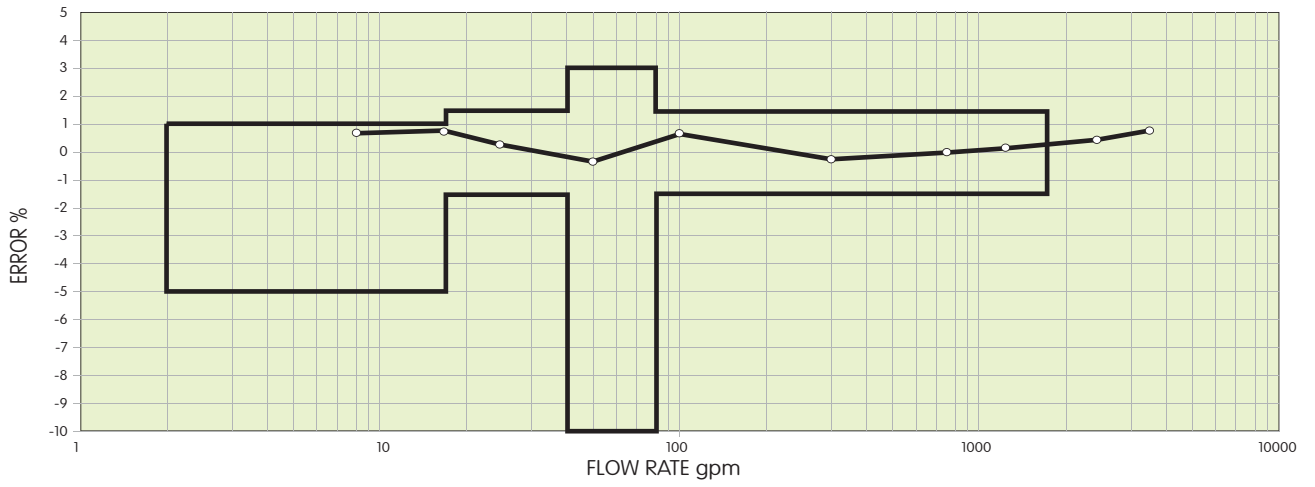
4" evoQ₄ C702 Accuracy Envelope



6" evoQ₄ C702 Accuracy Envelope



8" evoQ₄ C702 Accuracy Envelope



evoQ4 pressure loss

	Units	1.5"	2"	3"	4"	6"	8"	10"	12"
Flow Rate	gpm	220	220	550	880	1400	3500	5500	5500
Pressure Loss	PSI	4.35	4.35	3.62	3.62	2.17	5.80	5.80	6.40



About Elster AMCO Water, LLC

Located in Ocala, Florida, Elster AMCO Water is part of Elster, the world's largest metering and smart metering system solution company. Elster AMCO Water is an industry leader in the development and implementation of innovative metering and system solutions and is committed to delivering superior customer service, quality products, solutions and services to the water utility industry.

About Elster Group

Elster has delivered over 1.5 million smart metering devices worldwide with systems located in North America, Central America, Europe, Australia, New Zealand and the Caribbean. Elster smart metering systems allow utilities to implement energy conservation measures, demand response programs, smart grid initiatives, and smart home solutions as well as achieve operational efficiencies resulting in significant value creation across the utility enterprise. Elster has over 7,500 staff and operations in 38 countries, focused in North and South America, Europe, and Asia.

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