

# C700 Positive Displacement Meter

*Waterworks or Low-lead Bronze, Magnetic Drive, Flanged or NPT Ends*

**Sizes 1 1/2" and 2"**



<b>Sizes:</b>	<b>1 1/2"</b>	<b>2"</b>
<u>Accuracy (GPM):</u>		
95% - 101%	1 1/2	2
98.5%-101.5%	5-100	8-160
Continuous Flow GPM	50	80
Maximum Flow GPM	100	160
Operating Pressure psi	150	150
Operating Temperature °F	120	120

<u>Sweep Hand Registers:</u>		
US Gallons	100	100
Cubic Feet	10	10
Cubic Meters (Canada)	1/10	1
Cubic Meters (Intl.)	1/10	1/10

<u>Capacity of Register (millions):</u>		
US Gallons	100	100
Cubic Feet	10	10
Cubic Meters (Canada)	1/10	1
Cubic Meters (Intl.)	1	1

Register Type: Permanently sealed direct reading

<u>Materials:</u>	
Main Case	Standard waterworks or optional low-lead Bronze
Top Cover	Standard waterworks or optional low-lead Bronze
Body O-ring	Neoprene Rubber
Body Bolts	Stainless Steel
Measuring Chamber	Thermoplastic
Division Plate	Loaded Nylon
Piston	High Impact Polymer
Thrust Bearing Insert	Loaded Nylon
Driving Bar	Glass Bead Loaded Nylon
1 1/2" Strainer	Polypropylene
2" Strainer	Stainless Steel
Register Can	90% Copper Alloy
Register Lens	Tempered Glass
Register Housing and Lid	Polymer or Bronze
Test Plugs	1" NPT test plug

**Operation.** The C700 is an oscillating piston style, positive displacement water meter. The product utilizes a piston that water use rotates in a measuring chamber, each piston revolution being equivalent to a known volume of water. The piston movement is transferred by a magnetic drive to a straight reading sealed register which contains the appropriate reduction gearing.

**Compliance to Standards.** The C700 fully complies with American Water Works Association Standard C700, latest revision, and is California Department of Weights and Measures approved. C700 low-lead bronze models are NSF-61 certified and comply with California Proposition 65.

**Installation.** The meter must be installed in a clean pipe line, free from any foreign materials. Install the meter with direction of flow as indicated by the arrow cast in the meter case. The meter may be installed in horizontal or inclined lines.

**Application.** The meter is for use only with POTABLE COLD WATER up to 120°F (50°C) and working pressures up to 150 psi. The meter



will register between 98.5% and 101.5% at normal and high flows and between 95% and 101% at the AWWA specified low flow. Accuracy tests are made before shipment, so no adjustments need to be made before installation.

**Construction.** The meter consists of a main case, an oscillating piston measuring chamber, a strainer, a bolted top plate and O-ring, and a magnetically driven register assembly. The main case is cast in bronze with raised characters showing model, size and direction of flow. The measuring chamber is a bottom-in and side-out design and consists of the measuring chamber with division plate and thrust roller insert, the piston, and chamber top assembly with drive bar and magnet. The main case and the bronze top plate are assembled with an O-ring gasket and bolts threaded into the body. A test port is available as an option. The test-port hole is threaded 1" NPT, fitted with a 1" NPT plug. Each register assembly is secured to the meter with a tamperproof plug, is protected by a hinged lid and is positioned over the inlet throat.

**Register.** The register is contained within a 90% copper seamless can which is oven-cured at 150°F for 90 minutes to eliminate condensation. The 5 mm true tempered glass lens is secured with an "L" shaped gasket, then roll sealed to produce a permanently sealed design. To assure easy reading, the totalizer wheels are large and color coded. The applicable size,

model, registration, part number and date code are printed on the calibrated dial face. Moving clockwise during operation, the extra-thin center sweep hand does not interfere with meter reading, and the 1:1 piston ratio low-flow indicator gives visual indication of plumbing leaks. For accurate meter testing, 100 clear graduations appear at the register's circumference.

**Maintenance.** The measuring chamber assembly can be removed, repaired or replaced without removing the main case from the service line. Pretested measuring chamber assemblies are available for exchange or purchase, and spare parts are available from our central warehouse or designated regional locations. Elster AMCO Water Metering Systems staffs and operates a repair facility at its U.S. manufacturing plant in Ocala, Florida.

**Register Reading Options.** C700 meters are available with Absolute Encoder, Generator and Digital register options to provide water usage output to the entire spectrum of meter reading systems, giving flexibility to utilities

implementing or upgrading reading technologies. Refer to the following documents for more information:

Absolute Encoder Register	EC-700
Generator Register	RR-C7-810
Digital Register	DR-C700

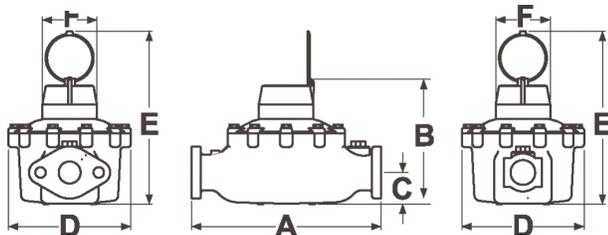
**Magnetic Drive.** The magnetic drive design facilitates coupling between the measuring chamber and the external register. The coupling is absolute at all rated flows.

**Connections.** The meter is available with two-bolt oval, internal threaded end connections. Both bronze and cast iron oval companion flanges are available. The companion flanges are faced, drilled and tapped, 1 1/2" or 2" as required, with ANSI B.1.20.1 internal taper pipe thread. Also available are bronze coupling nuts and tailpieces for threaded end meters. Both coupling nuts and tailpieces have external taper pipe threads conforming to ANSI B.1.20.1. Their lengths and thread sizes are as specified by AWWA Standards.

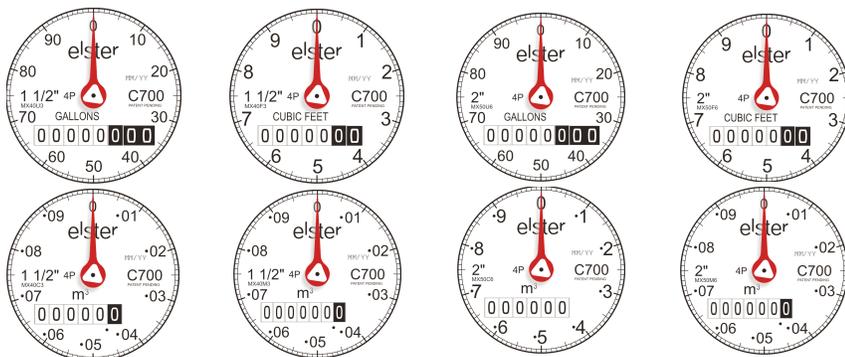
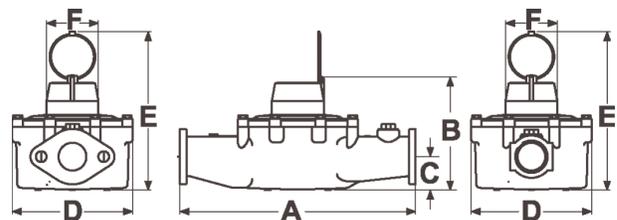
**Dimensions & Net Weights**

Meter Size	Dimensions (Inches)						Weight (lbs.)	Bolt Hole Dia.
	A	B	C	D	E	F		
1 1/2" Oval (Flanged)	13	8 7/8	2 1/8	8 1/2	11 3/8	3 3/4	23.7	3/4"
1 1/2" Threaded	12 5/8	8 7/8	2 1/8	7 1/2	11 3/8	3 3/4	21.7	
2" Oval (Flanged)	17	8 1/8	1 3/4	8 3/4	1	3 3/4	38.7	3/4"
2" Threaded	15 1/4	8 1/8	2 15/16	8 3/4	11	3 3/4	36.7	

C700 1 1/2":



C700 2":



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The company's policy is one of continuous product improvement and the right is reserved to modify the specifications contained herein without notice. These products have been manufactured with current technology and in accordance with applicable AWWA Standards.

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