

# C700 POSITIVE DISPLACEMENT METER

Size 5/8" x 1/2" & 5/8" x 3/4"

C700

Low-Lead Bronze,  
Magnetic Drive External  
Threaded Spuds

## REGISTER TYPE

Permanently sealed direct reading registers.

## MATERIALS

Main Case – Low Lead Bronze

Bottom Plate Options – Bronze, Cast Iron  
or Polymer

Bottom Gasket-Liner – EPDM

Body Bolts – Stainless Steel

Measuring Chamber – Compounded Polymer

Division Plate – Loaded Nylon

Piston – High Impact Polymer

Thrust Bearing Insert – Loaded Nylon

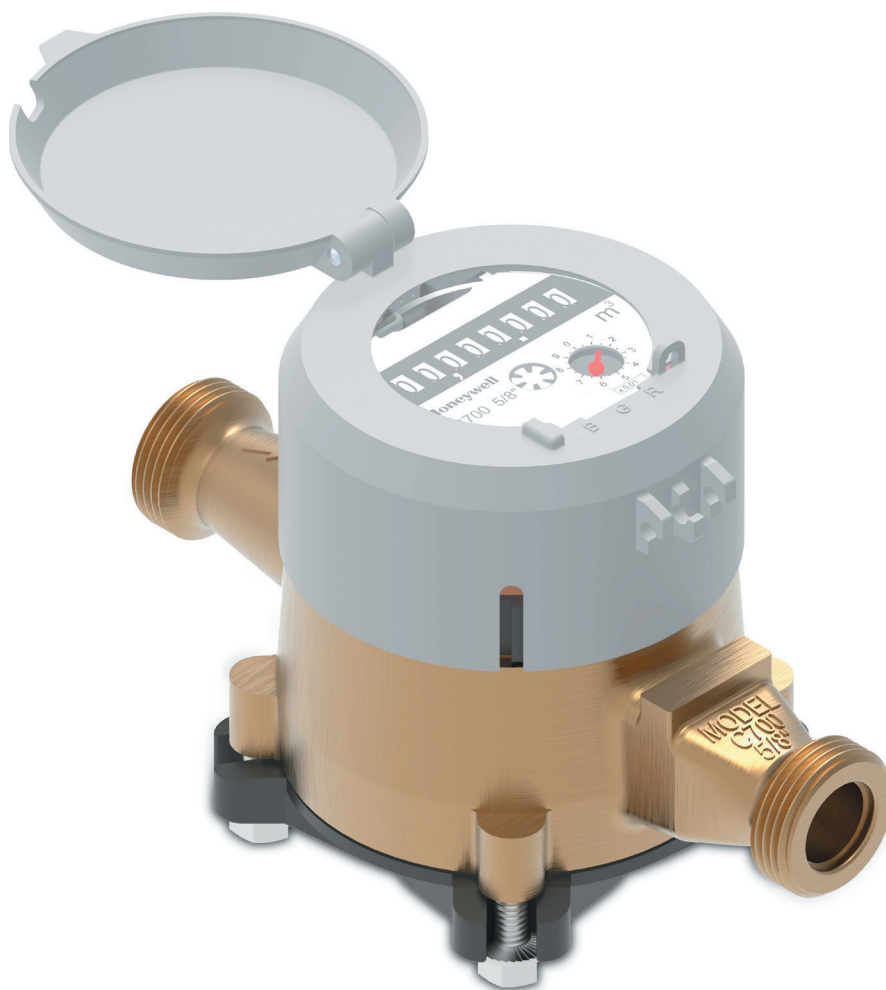
Driving Bar – Loaded Nylon

Strainer – Polypropylene

Register Can – 90% Copper Alloy

Register Lens – Tempered Glass

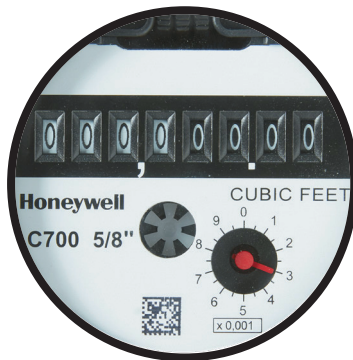
Register Housing and Lid – Polymer



SIZE		5/8" x 1/2" 5/8" x 3/4"	(DN 15mm) (DN 20mm)
95%-101.5% Accuracy	GPM (m <sup>3</sup> /h)	1/8	(0.03)
97%-101.5% Accuracy	GPM (m <sup>3</sup> /h)	1/4	(0.06)
98.5%-101.5% Accuracy	GPM (m <sup>3</sup> /h)	1-20	(.2-4.5)
Continuous Flow	GPM (m <sup>3</sup> /h)	15	(3.4)
Maximum Flow	GPM (m <sup>3</sup> /h)	20	(4.5)
Head Loss at 20 GPM	psi (kPa)	8.5	(59)
Operating Pressure	psi (kPa)	150	(1050)
Operating Temperature	°F (°C)	120	(50)

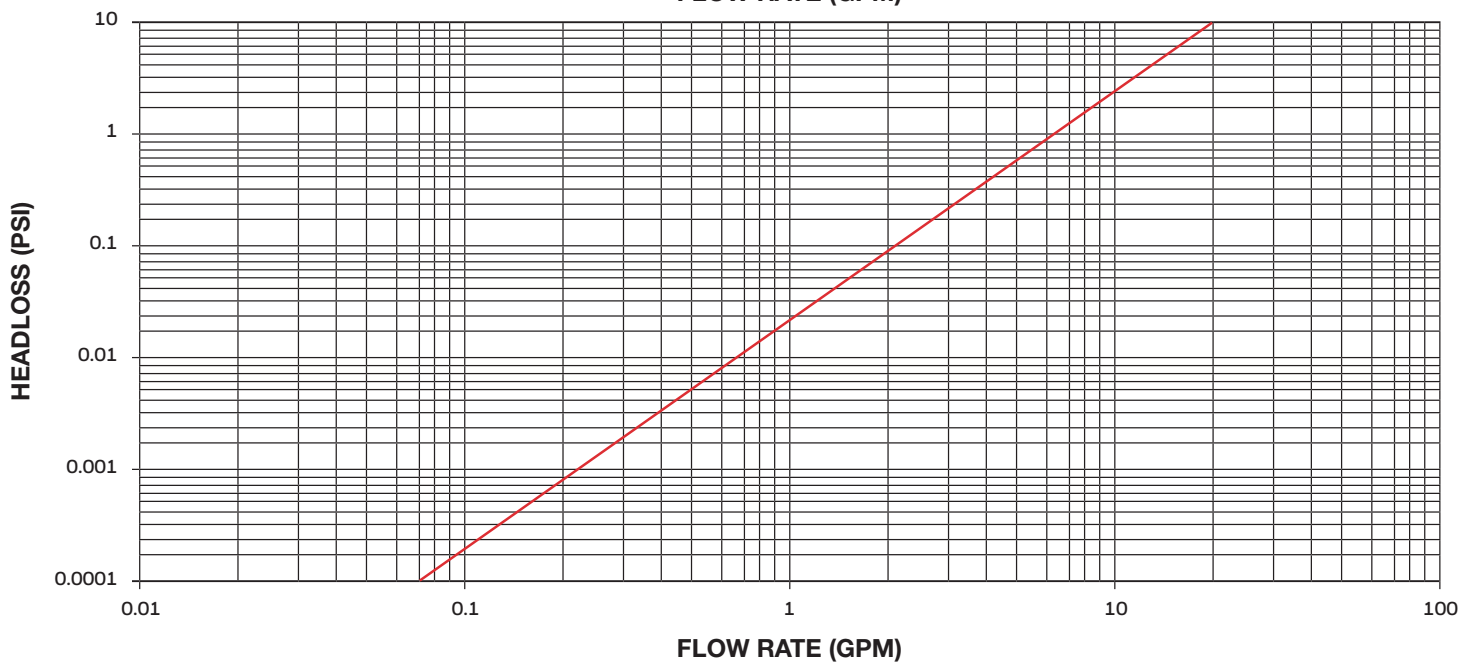
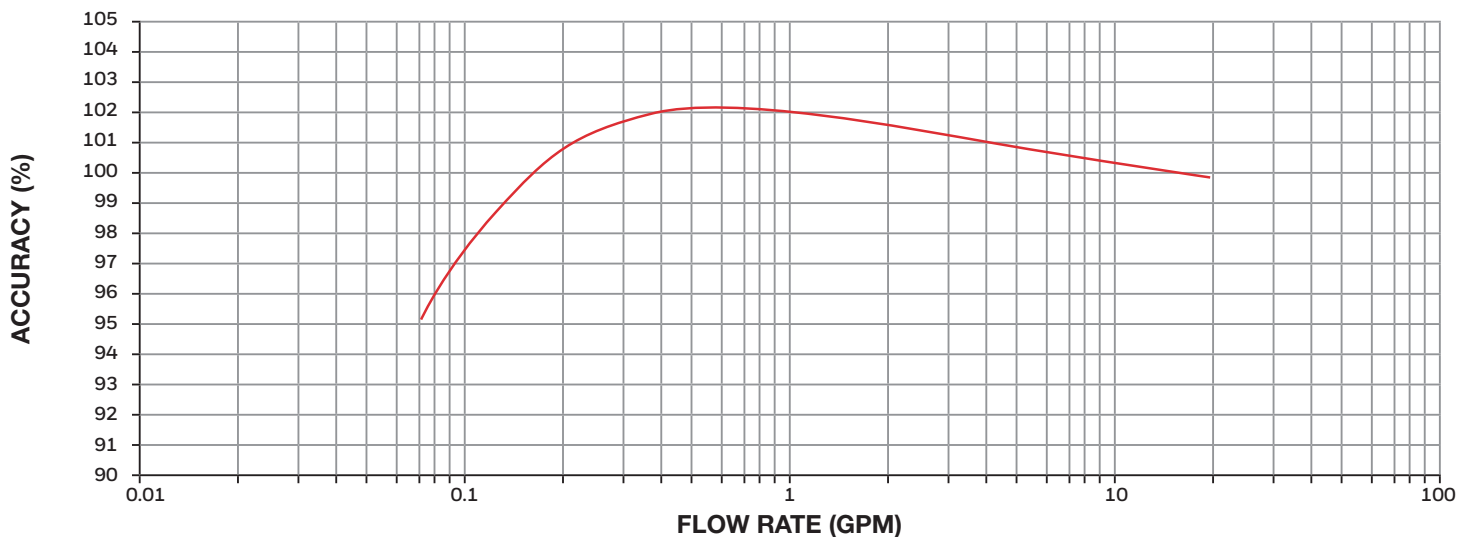
**Honeywell**

## REGISTER DIAL FACE



UNITS	CAPACITY OF REGISTERS (MILLIONS)	TEST DIAL RESOLUTION
US Gallons	10	0.1
Cubic Feet	1	0.01
Cubic Metres	$\frac{1}{10}$	0.001

## TYPICAL ACCURACY AND PRESSURE LOSS



## OPERATION

The C700 is an oscillating piston style, positive displacement water meter. A piston is located inside the meter chamber, which rotates with water flow and each piston revolution is 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 complies with American Water Works Association Standard C700, latest revision. C700 low-lead bronze models are NSF-61 certified (including Annex G) and complies with California Proposition 65.

## INSTALLATION

The meter must be installed in a clean pipeline, 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, vertical or inclined lines. Refer to instruction sheet. Maintenance and installation Manual 03/2020.

## 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 97% and 101.5% 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 straight through-flow main case, dual inlet measuring chamber, vertically grooved oscillating piston, high capacity strainer, removable bottom plate, full rubber liner, body bolts with integral washers and a magnetically driven register. The main case is cast in low-lead bronze with raised characters designating model, size and direction of flow. Main case bottom plates are available in a choice of polymer, bronze or, if frost protection is desired, in cast iron. The

2-piece snap-fit measuring chamber is made of a top and bottom inlet, side output design and features a unique self-flushing sediment well.

Other features include a removable, contoured division plate, captive drive bar and high torque magnet complete with a nylon bushing. The flow-stream balanced piston has a unique thrust bearing insert and features a Turbulence Seal™ system which passes debris while sustaining the most linear accuracy curve in the industry. Each register is secured to the main case with a tamper proof plug to prevent unauthorized removal.

## READING OPTIONS

C700 meters are available with Absolute Encoder 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 03/2020

## DRIVE

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

## CONNECTIONS

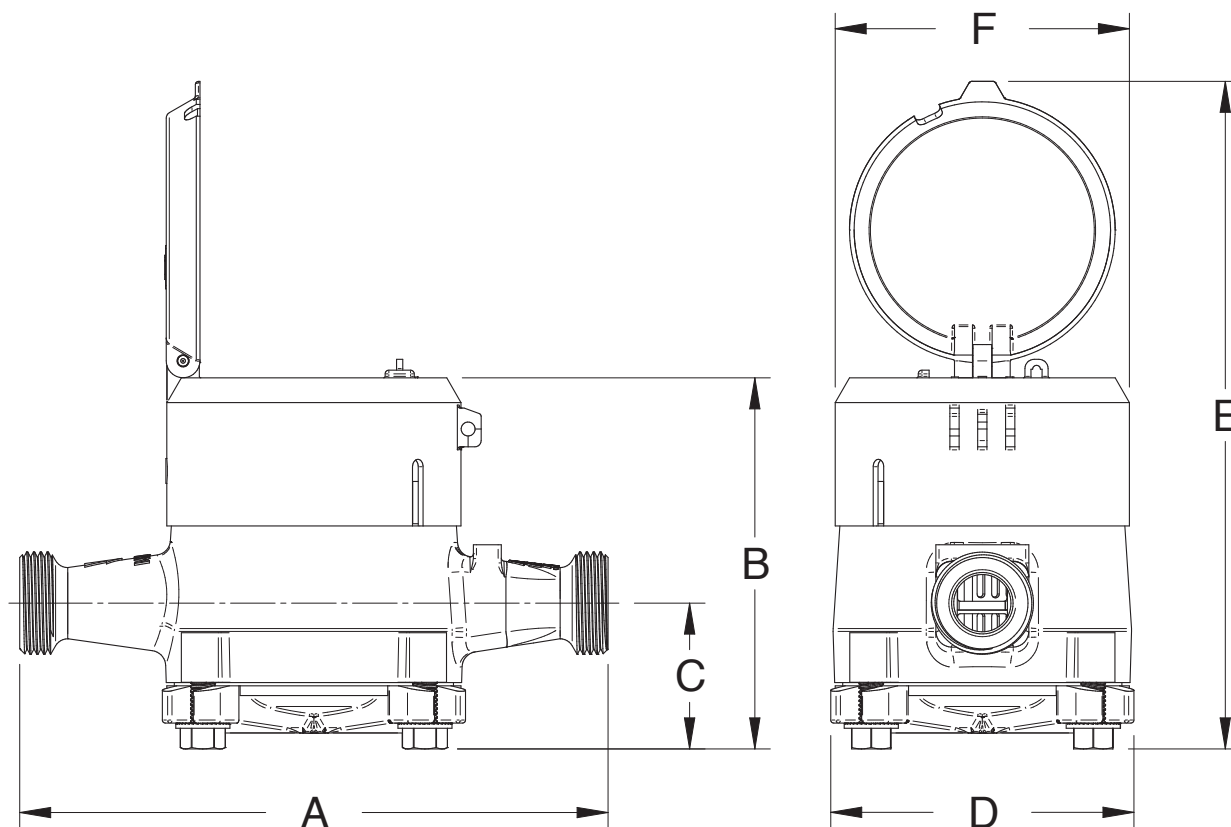
Meter casing spuds have external straight threads conforming to ANSI B.1.20. Low-lead bronze coupling nuts and tailpieces are available. Tailpieces have external taper pipe threads conforming to ANSI B.1.20.1. Their lengths and thread sizes are as specified by AWWA Standards.

## MAINTENANCE

The measuring chamber assembly can be removed for cleaning or replacement. Pretested measuring unit assemblies are available for exchange or purchase, and spare parts are available from our warehouse or designated regional locations. Honeywell Smart Energy staffs and operates a repair facility at its U.S. manufacturing plant in Ocala, FL.

## REGISTER

The register is contained within a 90% copper seamless can which is oven cured at 194°F for 4 hours to eliminate condensation. The 5mm tempered flat 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 color coded. The applicable size and registration are printed on the dial face. Moving counter-clockwise during operation, the separate telltale does not interfere with meter reading, and gives visual indication of plumbing leaks. For accurate meter testing, the 8-dial odometer is enhanced by a small test dial to provide clear and improved resolution for testing over that of the traditional center sweep type registers.



## DIMENSIONS AND NET WEIGHT

DIMENSIONS												WEIGHT		
Meter	A		B		C		D		E		F			
Size	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs.	(kg.)
5/8" x 1/2"	7 1/2	(190.5)	4 3/4	(120)	1 7/8	(47)	3 7/8	(98)	8 1/2	(215.5)	3 3/4	(95)	3 1/4	(1.5)
5/8" x 3/4"	7 1/2	(190.5)	4 3/4	(120)	1 7/8	(47)	3 7/8	(98)	8 1/2	(215.5)	3 3/4	(95)	3 1/4	(1.5)

### Find Out More

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C700 5/8" Specification Sheet 03/2020  
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