

State of California
 Department of Food and Agriculture
 Division of Measurement Standards

Certificate Number: 5100(d)-11
 Page 1 of 3

California Type Evaluation Program
Certificate of Approval
for Weighing and Measuring Devices

For:
 Water Meter
 Positive Displacement
 Model: C-700 Series
 Size: See Table Below
 Maximum Flow Rate: See Table Below
 Minimum Flow Rate: See Table Below

Submitted by:
 Elster
 dba Elster AMCO Water Inc.
 1100 S.W. 38th Avenue
 Ocala, FL 34474
 Tel: (352) 369-6529
 Fax: (352) 368-4649
 Contact: Steve Bartram
 Email: Steve.Bartram@us.elster.com

Standard Features and Options

Unit of measure: Gallons or cubic feet	Bronze main case
Magnetic drive	External threaded spuds
Electronic pulse output (not evaluated)*	Polymer main case

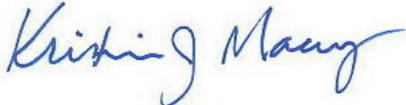
Meter Description:

Model	Description	Flow Rate (gpm)
C-700	5/8" x 1/2" Bronze and Polymer Case	1/4 - 25
	5/8" x 3/4" Bronze and Polymer Case	1/4 - 25
	3/4" x 3/4" Bronze and Polymer Case	1/2 - 30
	1" Bronze Case	3/4 - 50

* **Register Model:** Inside R InVision Direct Read (base model no markings)
 Digital B Pulser
 Scancoder RS Pulser

NOTE: Approved for use when installed in **"ANY ORIENTATION"** according to the manufacturer's instructions.
 These devices are to be installed where they are protected from excessive heat and freezing conditions.

These devices were evaluated under the California Type Evaluation Program (CTEP) and were found to comply with the applicable requirements of California Code of Regulations for "Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.



Effective Date: August 2, 2011

 Kristin J. Macey, Director

**Elster (Trademark Elster AMCO Water Inc.)
Water Meter, Positive Displacement
Model: C-700 Series**

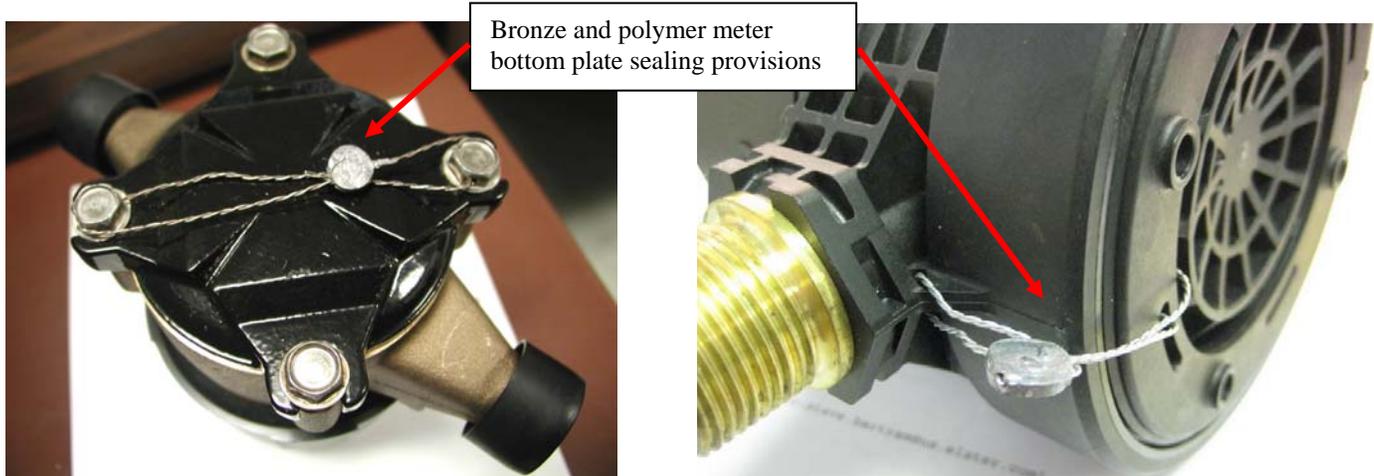
Application: Approved for use as a domestic cold-water meter and may be installed in “**ANY ORIENTATION**”. The flow direction indications are cast into the single pipe connector, main case.

NOTE: Written installation instructions shall be included with each meter. Additionally, field installations should be verified according to the manufacturer’s installation requirements.

Identification: The manufacturer’s name and register designation are silk-screened on the register indicating face on all meters. The serial number prefaced with “s/n” is engraved on the outlet of the meter body on both meters. The model number on the bronze meter is prefaced with “MODEL” stamped on the inlet of the meter body. The model number on the polymer meter is prefaced with “Model” raised molded lettering on the side meter body.

Sealing: Registers on all meters have a tamper evident plug that can only be used once before it is evident that it has been tampered with. Although not required for registers, on polymer meters, the water meter can be sealed with a security seal threaded tightly through the register lid hinge pin hole in a polymer clamp and another pin hole on the measuring chamber or around the threaded pipe. Bronze meters can be sealed with a security seal threaded tightly through the register lid hinge pin hole in a polymer clamp and around the threaded pipe.

Additionally, on the bronze meter only, the bottom frost protection plate can be sealed with a wire security seal threaded through a hole in the bottom bolts. The polymer meter also may have a frost protection plate, that can be sealed with a wire security seal through the retaining screw ring and a pin-hole in a web under the threaded in/outlets.



Operation: The Model C-700 is a revolving piston style, positive displacement water meter. The water meter utilizes a revolving piston which is rotated by the water in a measuring chamber. Each disk revolution is the equivalent of a known volume of water. The disk movement is transferred by a magnetic drive to a straight reading sealed register.

Test Conditions: This certificate supersedes Certificates of Approval Number 5100(c)-07 and is issued to allow “**ANY ORIENTATION**” according to the manufacturer’s installation requirements for a new design of the model C-700 meter. Six Model C-700 5/8”x 1/2” with different registers and six 5/8”x 3/4” meters with cubic feet and gallon registers were submitted for evaluation and tested in different orientations including upside down and combinations of vertical and horizontal. The emphasis of the examination was on device performance using basement re-setters to place the meters in any desired position for testing and a manufacturer’s company name change. Three tests each at minimum, intermediate, and normal flow rates and repeatability were conducted. Previous test conditions are listed below for reference.

**Elster (Trademark Elster AMCO Water Inc.)
Water Meter, Positive Displacement
Model: C-700 Series**

Certificate of Approval Number 5100(c)-07: This certificate was issued allow “ANY ORIENTATION” according to the manufacturer’s installation requirements. Two Model C-700 5/8" x 3/4", two 3/4" and two 1" meters with cubic feet and gallon registers were submitted for evaluation and tested in different orientations including upside down and combinations of vertical and horizontal. The emphasis of the examination was on device performance using basement resetters to place the meters in any desired position for testing and a manufacturer’s company name change. Three tests each at minimum, intermediate, and normal flow rates and repeatability were conducted. Previous test conditions are listed below for reference.

Certificate of Approval Number 5100(b)-03: This Certificate was issued to change the name of the company from ABB Water Meters, Inc. to AMCO Water Metering Systems. The AMCO Model C-700 was evaluated on the marking requirements and the provisions for sealing. Evaluation of the device design, performance, and installation requirements is based on previous testing conducted. Testing was conducted on the previous two certificates and listed below for reference.

Certificate of Approval Number 5100(a)-01: The Model C-700 InsideR in gallon units, C-700 Scancoder in cubic feet units, and C-700 RS pulser in gallon units were submitted for evaluation. The emphasis of the examination was on device design, operation, marking requirements, and performance. Three tests each at 15 gpm, 3 gpm, and 1/4 gpm were conducted on the register designs listed.

Certificate of Approval Number 5100-00: This Certificate was issued to change the name of the company from Kent to ABB Water Meters, Inc. The ABB Model C-700 was evaluated on the marking requirements and the provision for sealing. Evaluation of the device design, performance, and installation requirements is based on previous testing conducted for Certificate of Approval Number 2148-82.

Results of the evaluations and information provided by the manufacturer indicate the devices comply with applicable requirements.

Type Evaluation Criteria Used: Title 4, California Code of Regulations, 2011 Edition.

Tested By: Thomas Michel 2148-82, Samuel Chan 5100-00, J. Raspino and Dan Reisswig 5100(a)-01, John Roach 5100(b)-03 (updated only), John Roach 5100(c)-07 and 5100(d)-11.

