

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

Certificate Number: 5270-01  
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***California Type Evaluation Program***  
***Certificate of Approval***  
***for Measuring Devices***

For:

Vehicle Tank/Wholesale Positive Displacement  
Liquid Measuring Device  
Models: CM Double Capsule Series (See Below)

Submitted by:

Carter Ground Fueling, Inc.  
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**Standard Features and Options**

<u>Model CM:</u>	<u>Flange Size</u>	<u>Flow Rate (GPM)</u>
CM 2000	3 inch	53 to 530
CM 2500	4 inch	66 to 760

Ni-resist cast iron  
Left or right hand discharge  
Rotor assembly with four carbon vanes

**Options:**

Rate of flow indicator  
Mechanical Veeder Root register with ticket printer  
Vapor eliminator

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: June 29, 2001

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Mike Cleary, Director

**Carter Ground Fueling, Inc.  
Vehicle Tank/Wholesale Positive Displacement  
Liquid Measuring Device  
Models: CM Double Capsule Series**

**Application:** These meters are used for measuring Jet A aviation fuel and can be used for vehicle mounted or stationary applications. These meters are approved for use with certified and compatible equipment.

**Identification:** The required manufacturer's identification badge is located on the side of the meter case.

**Sealing:** The calibration gear train, located in the calibration gear train housing, connects the end shaft of the meter rotor assembly to the mechanical register. A threaded plug is screwed into the calibration gear train housing and has provisions for a wire security seal. The threaded plug prevents access to the calibration adjusting screw located in the calibration gear train housing.

**Operation:** The meter rotor shaft is connected to a calibration gear train, which is connected to a mechanical register. Liquid pumped through the meter causes the meter rotor to turn and the register to record volume passed through the meter for delivery.

**Test Conditions:** A Model CM 2500 was submitted for evaluation. Emphasis of this evaluation was on accuracy, permanence and identification requirements. The meter was installed on an aircraft refueling truck. Three tests at 607 gpm, 353 gpm, and 55 gpm were conducted. After more than 1 480 000 gallons were pumped through the meter, tests were repeated at approximately the same flow rates. An air elimination test was also conducted.

The results of this evaluation indicate the meters comply with applicable requirements.

**Type Evaluation Criteria Used:** Title 4, California Code of Regulations, 2001 Edition

**Tested By:** Dan Reiswig

**Type Approval Number: 169**

**Control Number: 3217**