

***National Type Evaluation Program***  
***Certificate of Conformance***  
***for Weighing and Measuring Devices***

**For:**

Indicating Element (Register) for Loading Rack Meters  
Digital Electronic  
Model: AccuLoad II-SEQ

**Submitted by:**

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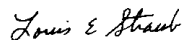
**Standard Features and Options**

This device controls loading rack meter operations to blend petroleum products at the time of truck loading  
Each device can control two loading positions  
Blends up to four product components per loading position  
May have up to 24 product recipes per position  
Two electronic preset controllers in one box  
Automatic temperature and pressure compensation and density correction (selectable on or off)  
Automatic flow control  
Up to four meter factors may be programmed for flow rates for each product  
Block valve feedback  
Three levels of security for program parameters  
Continuous monitoring of critical functions; record error codes for detected problems  
Dynamic display mode of meter parameters and values  
Clean line volume programmability  
Category 1 Method of Sealing. Event counters were made available for devices installed after October 1995

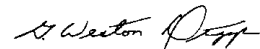
Selectable display of quantities (see "Operation" on Page 2)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: January 18, 2000



Louis E. Straub  
Chairman, NCWM, Inc.



G. Weston Diggs  
Chairman, National Type Evaluation Program Committee

Issue date: August 23, 2000

Note: The National Conference on Weights and Measures does not "approve", "recommend", or "endorse" any proprietary product or material, either as a single item or as a class or group. Results shall not be used in advertising or sales promotion to indicate explicit or implicit endorsement of the product or material by the NCWM.

This is a reissuance by the NCWM of a Certificate of Conformance already issued by the National Institute of Standards and Technology.

**FMC Smith Meter Inc.**  
**Indicating Element (Register) for Loading Rack Meters**  
**Model: AccuLoad II-SEQ**

**Application:** The device is intended for use as an indicating element and controller for loading rack meters. The device is designed to control valves for up to four products for blending at the time of loading truck tanks.

**Identification:** The identification badge is on a metal plate riveted on the right side of the device when facing the display.

**Sealing:** The AccuLoad II-SEQ may be installed in different configurations depending upon the needs of the user. In the AccuLoad II, two physical AC input terminals need to have power applied to them in order to access both the Program Mode and the Weights and Measures Mode. Metrologically significant parameters are changed through the weights and measures mode; non-metrologically significant parameters are changed through the program mode. The weights and measures and the program modes are accessed through user-programmable passwords in addition to the security described below.

In any installation, the provision for sealing consists of two parts. First, the AccuLoad II-SEQ indicator is sealed by threading two wire security seals through the ends of two bolts on the upper right and the lower right of the indicator. The second provision for sealing involves two external switches that are used to gain access to the Program Mode and Weights and Measures Mode of the set-up procedure for the device. The physical location and the type of switches to activate the set-up modes will vary from installation to installation. The Weights and Measures Mode must have provisions for sealing. When setting the operating parameters for the AccuLoad II-SEQ, the program switch must be closed to change those parameters. Both the Program Mode and the Weights and Measures Mode switches must be closed to change the parameters contained in the Weight and Measures Mode of the set-up program.

The AccuLoad II (for devices manufactured after October 1995) also is equipped with an audit trail which has an event counter for calibration parameters and for configuration parameters. To access the audit trail, the physical seal to the Program Mode must be broken (if used) and the Program Mode switch must be activated. Once in this mode you still do not have access to any sealable parameters but you can view the event counters. A password may be necessary to access the audit trail. Weights and measures inspectors must contact the loading rack management to assist in accessing the audit trail.

To access the Program Mode the sequence would be:

1. Press the enter key twice.
2. Enter the pass code and press the enter key. You are now in the Program Mode.
3. Select program code number 912 to view the calibration event counter.
4. Select program code number 913 to view the configuration event counter.

To exit the Program Mode:

1. Press the clear key twice.
2. Press the enter key twice to return to the ready mode.

**Operation:** The AccuLoad II-SEQ permits the blending of petroleum products at the loading rack by delivering up to four products sequentially through one meter to the truck tank compartment. The device provides for up to four meter factors to be programmed for each product at different flow rates. Block valves are used in the metering system to control which product is flowing at a given time. To test this type of system for accuracy it is necessary to conduct tests using each product individually through the meter. Consequently, if the meter is measuring four different products the meter must be tested four times using each product in turn.

**FMC Smith Meter Inc.  
Indicating Element (Register) for Loading Rack Meters  
Model: AccuLoad II-SEQ**

**Test Conditions:** This Certificate supersedes Certificate of Conformance Number 91-134 and is issued to add a metrological audit trail for sealable parameters. The audit trail is a sealing feature which consists of an event counter for calibration parameters and for configuration parameters. The audit trail is an additional sealing feature which is an alternative means of security or may be used in conjunction with a physical seal. The audit trail was tested at the manufacturer's facility using a product flow simulator. The emphasis of the evaluation was on device design, operation, and display of information. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 91-134:** The device was interfaced with a loading rack meter simulator and was also installed in a test facility to demonstrate the performance of the unit when interfaced with meters and the associated block valves. The emphasis of the evaluation was on the device design, operation, display of information, programmability, product control, recorded information, and metering parameters.

The results of the evaluations indicate the device complies with applicable requirements of NIST Handbook 44.

**Type Evaluation Criteria Used:** NIST Handbook 44, 2000 Edition

**Tested By:** H. Oppermann (NIST) 91-134; R. W. Wotthlie (MD) 91-134A1