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OIML Certificate No
R117/2007-GB1-16.06

OIML CERTIFICATE OF CONFORMITY

Issuing authority: **NMO**
Person responsible: **Max Linnemann – Head of Certification Body**
Applicant: **Liquid Controls, LLC**
105 Albrecht Drive
Lake Bluff, IL 60044
USA
Manufacturer: **The applicant**
Identification of the certified pattern: **Electronic calculator and indicator model Masterload III**

This certificate attests the conformity of the above-mentioned pattern (represented by the samples identified in the associated test report) with the requirements of the following Recommendation of the International Organisation of Legal Metrology (OIML):

OIML R117 - Edition 2007(E) for accuracy class: 0.5

This certificate relates only to the metrological and technical characteristics of the pattern of the instrument concerned, as covered by the relevant OIML International Recommendation.

This certificate does not bestow any form of legal international approval.

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Issue Date: **02 November 2016**
NMO Reference: **P02003**



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For and on behalf of the Head of Certification Body

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0135

The conformity was established by testing and examinations described in the associated Evaluation Report P02003/1 which includes 18 pages.

1 INTRODUCTION

The Masterload III is an electronic calculator with indicator for use on road tanker systems and aviation hydrant carts for measurement of liquids other than water.

2 CONSTRUCTION

2.1 Prime Parts with Metrological Function

Description	Manufacturer	Part Number
CPUTRK board (main processing board)	Liquid Controls	32022018XX
LKITRK (display / keypad)	Liquid Controls	S0050-Y
XX and Y – denotes non-metrological customer-specific hardware configurations		

2.2 Pulser

The electronic calculating/indicating device counts the number of pulses received from a connected measurement transducer (Level B as per ISO6551, double channel, 90° phase shift) and subsequently uses a stored value (pulse per volume) to calculate the equivalent volume of the liquid.

Figure 4 shows examples of pulsers compatible with Masterload III: GIE, POD, Eltomatic.

2.3 Software

The legally relevant software version is: 1-TRK

The software version number is held within the memory and is available for viewing by use of the menu command.

The software is stored in the EPROM and cannot be changed without changing the EPROM. Once the housing is sealed, EPROM cannot be removed. The legally relevant software version indicated above is a unique identification of the software. To ensure the software loaded on the EPROM contains uncorrupted version, software checksum is verified using SHA-1 or MD5 algorithm at the time the software is written to the EPROM at the factory.

The full software version format is: aa – 1 – TRK – cc – dd – ee

Where:

- (aa) represents examples of the family version
AK: advanced
BK: base
EK: entry
GK: lpg
XX
- (b) represents the legally relevant software changes
(common to all family versions)
0 .. ZZ
- TRK represents the product identification (Masterload III)
- (cc) represents the non-metrological software main changes
00 .. ZZ

- (dd) represents the non-metrological software minor changes
00 .. ZZ
- (ee) represents the non-metrological software build number
00 .. ZZ

2.4 Software version

Software version is displayed when the system boots up, alternatively it can be also checked on demand through the hardware test main page.

2.5 Programming and Electronic Calibration

Programming procedures are described in the user manual TP0033.

2.6 Temperature Compensation

The Masterload III may implement temperature compensation in accordance with Evaluation Report - P01196.

3 SEALING

Access to the Weights and Measures switch in the indicator enclosure is secured by sealing the right hand bolt as shown in Figure 1. The Processor enclosure is secured by sealing wire on one of the bolts as shown in Figures 2 and 3. Pulsers enclosures are secured by sealing wire to prevent pulser removal/replacement and tampering, as shown on Figure 4.

4 SUPPORTING DOCUMENTATION AND TESTS

Evaluation Report - P01196 (SAMPI S.p.A)

5 ILLUSTRATIONS

- Figure 1 Masterload III indicator with sealing
- Figure 2 Masterload III Processor enclosures for Safe Area with sealing
- Figure 3 Masterload III Processor enclosures for Ex Area with sealing
- Figure 4 Example of pulsers with sealing

CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
R117/2007-GB1-16.06	02 November 2016	Certificate first issued.
-	-	No revisions have been issued.



Figure 1: Masterload III Indicator Unit with sealing

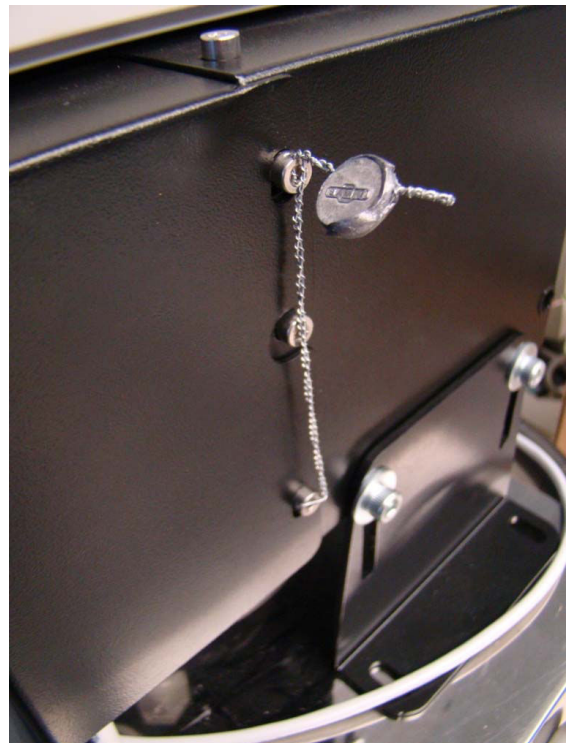


Figure 2: Masterload III Processor board enclosure for Safe Area with sealing (shown with optional printer)



**Figure 3: Masterload III Processor enclosure for Ex Area with sealing
(through any one of the cover bolts)**



Figure 4: Example of pulsers with sealing