



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Weighing/Load Receiving Element
Livestock, Mechanical Lever System
Model: LS Series
 n_{max} : 8 000 (see below) e_{min} : 5 lb
Capacity: 10 000 lb to 40 000 lb
Section Capacity: 5 ton to 20 ton (see below)
Platform: 12 ft to 30 ft L x 8 ft to 14 ft W
[editorial correction 10/26/18]
Accuracy Class: IIII

***Submitted By: Contact Info. Updated September 2015**

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Standard Features and Options

Model Number: LSAABBCC-X

Where: AA = Sectional Capacity in tons

BB = Platform Length in feet

CC = Platform Width in feet

X = W for Wood Platform, blank for Concrete Platform

- All Models are Two-section


When used with a load cell, the following condition must be met: $V_{min} \leq d / \text{scale multiple}$

Where d = scale division (5 pounds)

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST 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. *Editorial changes, not affecting the type or metrological content, corrected this certificate.


Tim Tyson
Chairman, NCWM, Inc.


Randy Jennings
Chairman, National Type Evaluation Program Committee
Issued: October 29, 2010

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Cardinal Scale Manufacturing Co.

Weighing/Load Receiving Element / LS Series

Application: General purpose weighing/load receiving element for weighing livestock on the hoof.

Identification: The identification plate is located on the transverse lever.

Sealing: There are no metrological adjustments in the weighing/load receiving element. All adjustments take place in the indicating element.

Device Description: The weighing/load receiving element is a mechanical lever system with hardened and ground pivots and bearings. The connection between the levers and the load receiving element is a double-link suspension system. The load receiving element is a fabricated steel weighbridge. A wood or concrete deck completes this element.

The indicating element can be a mechanical weighbeam or a mechanical dial of an approved and compatible type. The indicating element is attached to the weighing element by means of a steelyard and draft-rod assembly.

A load cell can be added to the steelyard or draft-rod assembly to provide a means of connecting to an electronic indicating element. The load cell and electronic indicating element must be of approved and compatible types.

Test Conditions: This Certificate supersedes Certificate of Conformance Number 88-017 and is issued to update the previous Certificate and to provide for a general model number arrangement. The CLC reference has been changed to Section Capacity in accordance with NIST Handbook 44 requirements for livestock scales and NTEP policy. No additional testing was deemed necessary. Previous test conditions are listed below as reference.

Certificate of Conformance Number 88-017: This Certificate supersedes Certificate of Conformance Number 88-017PN and is issued without additional testing to upgrade the Certificate from a status of provisional to full. NTEP policy permits a pre-NTEP Certificate of Conformance to be upgraded from provisional to full provided no unfavorable comments are received during the comment period. Since no unfavorable comments were received on this device, this Certificate is issued as a full NTEP Certificate of Conformance. CLC's were added based on NTEP policy, which permits declaring a CLC up to 100% of the section capacity without additional testing. The test conditions for Certificate of Conformance Number 88-017PN are listed below for reference.

Certificate of Conformance Number 88-017PN: These scales have received type approval by individual states prior to the establishment of the National Type Evaluation Program. These scales have been in commercial use for many years. Since these devices use mechanical lever systems, they are believed to be unaffected by the influence factors specified under T.N.8. of the Scales Code of NIST (formerly NBS) Handbook 44. The NTEP policy and procedures permit NTEP to issue Certificates of Conformance based upon the approvals granted by pre-NTEP jurisdictions. The Certificate is issued on this basis without formal NTEP testing.

Pre-NTEP Type Approvals: CT 1967; IL 1959; NY 1961; NC 1958; PA 1959; CA 1974

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: H. Oppermann (NIST) 88-017PN; L. Sebring (NIST) 88-017; S. Patoray (NCWM) 88-017A1; J. Truex (NCWM) 10/26/18 edit