

NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance for Weighing and Measuring Devices

For: Weighing/Load Receiving Element Vehicle, Railway Track Scale; Modular, Electronic Model: RSC and RSCA Series n_{max} : 10 000 e_{min} : 20 lb Capacity: 100 000 lb to 540 000 lb Platform Length: 12 to 105 ft; Platform Width: up to 12 ft CLC: 40 ton*; Section Capacity: 85 to 180 ton** Accuracy Class: III L Submitted By: Cardinal Scale Manufacturing Co. PO Box 151 203 E. Daugherty Street Webb City, MO 64870 Tel: 417-673-4631 Fax: 417-673-5001 Contact: Stephen Langford Email: slangford@cardet.com Web site: www.cardinalscale.com

Standard Features and Options

Options:

- Dump Through Deck
- This device may be used as a vehicle scale only, a railway scale only, or as both a vehicle and railway scale.

Span Lengths:

• Up to 28.5'

Load Cells Used:

- Revere Transducers CSP Series, 200k (NTEP CC Number 88-024)
- Cardinal Scale Manufacturing SCA Series, 100k or 120k (NTEP CC Number 89-042A4)

*Combination vehicle/railway track scale installations must satisfy the relationship of: Nominal capacity \leq CLC (N - 0.5) where N is the number of sections and $v_{min} \leq d/N$, where N = number of load cells.

**Combination vehicle/railway track scales must be marked with both the CLC and section capacity. The CLC and its related formula is applicable to the vehicle scale capacity, which may be different than the railway scale capacity. When these capacities are different each capacity must be marked on the device. The section capacity must be marked for the railway scale.

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.

Inning

Randy Jennings Chairman, NCWM, Inc.

Att I. Cardes

Judy Cardin Chairman, National Type Evaluation Program Committee Issued: November 25, 2009

1135 M Street, Suite 110 / Lincoln, Nebraska 68508

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Cardinal Scale Manufacturing Co.

Weighing/Load Receiving Element / RSC and RSCA Series

<u>Application</u>: For general purpose weighing of vehicles and railroad cars. This device is designed for use as a vehicle scale only, a railway scale only, or as both a vehicle and railway scale.

Identification: The identification badge is located in the pit at the point where the cable that is connected to the indicating element leaves the load receiving element.

<u>Sealing</u>: The load cell junction box can be sealed with a wire or pressure sensitive security seal for individual load cell or section adjustments. The overall scale calibration can be sealed according to the sealing provisions on the indicating element.

<u>Test Conditions</u>: This Certificate supersedes Certificate of Conformance Number 91-041A3 and is issued to clarify the appropriate application and to remove the minimum width statement. No additional testing was deemed necessary. Previous test conditions are listed below for reference.

<u>Certificate of Conformance Number 91-041A3</u>: This Certificate supersedes Certificate of Conformance Number 91-041A2 and is issued to add the notation for an optional dump through deck. Per requirements in NCWM Publication 14 Section E. Item 7, information was submitted and reviewed. No additional testing was deemed necessary.

<u>Certificate of Conformance Number 91-041A2</u>: This Certificate supersedes Certificate of Conformance Number 91-041A1 and is issued to add the notation for platform width.

<u>Certificate of Conformance Number 91-041A1</u>: This Certificate superseded Certificate of Conformance Number 91-041PN and was issued to upgrade the Certificate from Pre-NTEP to a full certificate and to include additional model capacities and sizes. The emphasis of this evaluation was on device design and performance. The Model 7080-RSCA, 70' x 10' (comprised of 2 35' x 10' sections) combination vehicle/railway track scale was tested as a vehicle scale with a capacity of 200 000 x 20 lb and a railway track scale with a capacity of 400 000 lb x 50 lb. The scale was tested initially with test weights of 100 000 lb and a test load of 212 750 lb and 44 days later with 100 000 lb of test weights and a test load of 238 500 lb.

Evaluated By: J. Decker (GIPSA), D. Wallace, D. Jones, L. Scolfield (Colorado) 91-041

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 1999. NCWM, Publication 14: Weighing Devices, 1999.

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

Information Reviewed By: G. Newrock (NIST), R. Suiter (NIST) 91-041, 91-041A1, 91-041A2; S. Patoray, L. Bernetich (NCWM) 91-041A3, J. Truex (NCWM) 91-041A4

Examples of Device:



Model RSCA Series Scale



Model RSCA Series Weighbridge