NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Weighing/Load Receiving Element
Vehicle, Modular Load Cell
Model: XXXYY-CYZZ-AABB
n_{max}: 10 000
e_{min}: 20 lb
Capacity: 150 ton
Platform: See Below
CLC: 70 ton
Accuracy Class: III L

Submitted By:
Cardinal Scale Manufacturing Company
203 East 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

- The "XXX" in the model designation indicates nominal capacity in tons for single platform models. For multi-platform models it designates the length of the first platform.
- The "YY" in the model designation indicates the platform length for the scale for single platform models. For multi-platform models it designates the length of the second platform. Platform lengths for the third and fourth platforms follow if so equipped.
- The "CY" in the model designation indicates the CY series of modular vehicle load receiving element.
- The "ZZ" in the model designation indicates the platform width in feet.
- If a "C" follows the "ZZ" in the model designation, it indicates a concrete platform. The absence of the "C" indicates a steel platform.
- The "AA" in the model designation indicates a single platform "SP" or a multi-platform "MP."
- The "BB" in the model designation indicates the Concentrated Load Capacity in tons.
- A "H" prefix to the model designation indicates the use of SST series hydraulic compression load cell.

Installations Must Satisfy the Relationships of:
Nominal capacity ≤ CLC x (N-0.5), where N=number of sections in the scale and the actual platform area shall not be less than 50% of the smallest two section (four load cell) module of the device tested. The length of the scale is unrestricted provided that $V_{MIN} \leq e \div \sqrt{N}$ (Where N is the number of load cells in the scale.)

- Minimum Module Length: 12.5 feet
- Maximum Distance Between Sections: 30 feet
- Module Widths: 10 feet – 16.8 feet
- Deck Material: Concrete or Steel
- Load Cells: Cardinal Scale Mfg Co SST Series Hydraulic Compression Load Cells (NTEP CC 05-076) or Cardinal SCA Series Compression Load Cells (NTEP CC 89-042) or Metrologically Equivalent and Compatible Load Cells with an Active NTEP Certificate of Conformance

Temperature Range: -10 ºC to 40 ºC (14 ºF to 104 ºF)

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.

Randy Jennings
Chairman, NCWM, Inc.

Jack Kane
Chairman, National Type Evaluation Program Committee
Issued: August 5, 2009

Cardinal Scale Manufacturing Company

Weighing/Load Receiving Element / XXXYY-CYZZ-AABB

Application: General purpose vehicle weighing applications when connected to an NTEP certified and compatible indicating element.

Identification: The identification information is stamped on a metal badge that is riveted to the side of the weighbridge.

Sealing: Load cell adjustments are made in the load cell or totalizer junction box(es) that are secured with a wire security seal. Overall calibration adjustments are sealed per the sealing method found on the approved indicating element's Certificate of Conformance.

Operation: The device is to be used with the vehicle in a static (stopped) condition.

Test Conditions: The emphasis of the evaluation was on the design, marking, and performance of the weighing element and load receiving element. A Model H15050-CY14C-SP70 was submitted for evaluation (200 000 lb x 20 lb / 300 000 lb x 50 lb) three sections 50 ft x 14 ft, 70 ton CLC). The scale was interfaced with a Cardinal Model 788 (Certificate of Conformance Number 97-077). The scale was initially tested using 126 000 lb of known test weights to perform increasing / decreasing load and shift tests. The 126 000 lb load was also used to perform mid-span tests. A strain load test was conducted using 126 000 lb of known test weights to a maximum of 240 000 lb. The scale was subjected to the minimum use criteria required by NTEP and retested. The increasing / decreasing load, shift, and mid-span tests were repeated using 126 000 lb of known test weights. A strain load test was again conducted to a maximum load of 240 000 lb.

Evaluated By: T. Davis (KS)

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2009. NCWM, Publication 14: Weighing Devices, 2009.

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

Information Reviewed By: J. Truex (NCWM)

Example of Device:

Load Cell Mounting

CY Series Scale