## **National Conference on Weights and Measures**

15245 Shady Grove Road, Suite 130 • Rockville, MD 20850

Certificate Number: 94-128

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

For:

Load Cell

Single-Point Bending Beam

Stainless Steel

Model Family: RL1380-xxkg Series

n<sub>max</sub> Single Cell: 3 000 Capacity: 5 to 200 kg

Accuracy Class: III

**Submitted by:** 

Rice Lake Weighing Systems 230 West Coleman Street Rice Lake, WI 54868

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### **Standard Features and Options**

The model number for the load cells covered by this certificate is RL1380-xxkg.

The xx in the model number represents the load cell capacity. The specific load cell capacities and parameters are listed on page two.

Nominal Output: 2.0 mV/V

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

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: May 18, 1995

Louis E. Straub Chairman, NCWM, Inc.

Louis & Straut

G. Weston Diggs

Chairman, National Type Evaluation Program Committee

Issue date: May 26, 1995

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

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#### Rice Lake Weighing Systems Single Point Bending Beam Load Cell Model Family: RL1380-xxkg Series

**Application:** The load cells may be used in Class III scales for both single and multiple cell applications consistent with the model designations and parameters specified in this certificate. Load cells of a given accuracy class may be used in applications with lower accuracy class requirements provided the number of scale divisions, the  $v_{min}$  values, and temperature range are suitable for the application. The manufacturer may market load cells with fewer scale divisions  $(n_{max})$  and with larger  $v_{min}$  values than those listed on the certificate. However, the load cells must be marked with the appropriate  $n_{max}$  and  $v_{min}$  for which the load cell may be used.

#### **Load Cell Parameters:**

Capacity (kg)	V <sub>min</sub> (kg)	Minimum Dead Load (kg)
5	0.0007	0
7	0.0010	0
10	0.0014	0
15	0.0020	0
30	0.0042	0
60	0.0084	0
100	0.0140	0
150	0.0210	0
200	0.0280	0

Test Conditions: One 15-kg and one 60-kg capacity load cell were tested using dead weights as the reference standard. The data were analyzed for single load cell applications. The cells were tested over a temperature range of -10 to 40 °C. Three tests were run on each cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure. The manufacturer's laboratory was used to collect the test data.

Representatives from the National Institute of Standards and Technology evaluated the manufacturer's test facility, witnessed repeat tests on the load cell, and analyzed the data. The results of these activities indicate that the load cell complies with the applicable requirements of NIST Handbook 44.

Type Evaluation Criteria Used: NIST Handbook 44, 1995 Edition

**Tested By:** NIST Force Group, NIST Office of Weights and Measures

**Information Reviewed By:** C. V. Cotsoradis (NIST)