NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Load Cell
Bending Beam
Models: RLHLC, RLH35 and RL30745 Series*
n_{max} Single: 3 000
n_{max} Multiple: 5 000
Capacity: 500 lb to 20 000 lb
Accuracy Class: III

Submitted By:
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Standard Features and Options

* The specific models, capacities, and v_{min} values of load cells covered by this Certificate are listed in the tables on Page 2.

The RLHLC, RLH35 and RL30745** Series model designations are identified with the alphanumeric suffixes YYYXXZZZ, where:
RLHLC Series load cells use a through thread or counter bore hole with threads for load introduction;
RL30745 Series load cells have blind hole loading;
YYY characters represent the load cell capacity;
XX characters represent the cable length; and
ZZZ characters represent customer variations, which do not affect the metrological characteristics of the load cell.

** The manufacturer's model series RL30745 designated with the suffix ZZZ, where the ZZZ characters are represented by "740" denote load cells with reoriented loading holes.

Standard Features:
- Minimum Dead Load: 0.0 lb
- Nominal Output: 2mV/V RLHLC and RL30745; 3mV/V RLH35
- 4-wire design

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.

Tim Tyson
Chairman, NCWM, Inc.

Randy Jennings
Chairman, National Type Evaluation Program Committee

Issued: September 10, 2010

Rice Lake Weighing Systems

Load Cell / RLHLC, RLH35 and RL30745 Series

Application: The load cells may be used in Class III scales for both single and multiple cell applications consistent with the model designations, number of scale divisions, 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 the load cell with fewer 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.

Identification: A pressure sensitive identification badge is on the load cell. All other required markings are found on an accompanying document.

Model Designation:

2.0 mV/V, 350 ohm Bridge Impedance

Models	Capacity (lb)	Single Cell (n_{max}: 3 000 / v_{min} (lb))	Multiple Cell (n_{max}: 5 000 / v_{min} (lb))
RL30745 or RLHLC-500	500*	0.075	0.075
RL30745 or RLHLC-1K	1 000	0.140	0.140
RL30745 or RLHLC-1.25K	1 250	0.175	0.175
RL30745-1.25K XX740	1 250	-	0.25 (n_{max}: 3 000)
RL30745-2.5K XX740	2 500	-	0.50 (n_{max}: 3 000)
RL30745 or RLHLC-2.5K	2 500*	0.350	0.350
RL30745 or RLHLC-4K	4 000	0.560	0.560
RL30745 or RLHLC-5K	5 000*	0.700	0.700
RL30745 or RLHLC-10K	10 000	1.400	1.400
RL30745 or RLHLC-20K	20 000	2.800	2.800

*Capacity of Load Cells Submitted for Evaluation

3.0 mV/V, 350 ohm Bridge Impedance

Models	Capacity (lb)	Single Cell (n_{max}: 3 000 / v_{min} (lb))	Multiple Cell (n_{max}: 5 000 / v_{min} (lb))
RLH35	500	0.05	0.05
RLH35	1 000	0.10	0.10
RLH35	2 000	0.20	0.20
RLH35	2 500	0.25	0.25
RLH35	3 000	0.30	0.30
RLH35	4 000	0.40	0.40
RLH35	5 000	0.50	0.50
RLH35	10 000	1.00	1.00

Test Conditions: This Certificate supersedes Certificate of Conformance number 06-023A1 and is issued to add V_{min} values for Model RLH35 multiple cell use, which were inadvertently omitted from the previous certificate. No additional testing was deemed necessary. Previous test conditions are listed below as reference.

Certificate of Conformance Number 06-023A1: This Certificate supersedes Certificate of Conformance number 06-023 and is issued to change the model name from RL35 to RLH35. No additional testing was deemed necessary.

Rice Lake Weighing Systems

Load Cell / RLHLC, RLH35 and RL30745 Series

Certificate of Conformance Number 06-023: This certificate is issued based upon the following tests and upon information provided by the manufacturer. Two 500-lb and two 2500-lb capacity RL30745 Model load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for multiple cell applications. The cells were tested over a temperature range of -10 °C 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. Two 5000-lb capacity RLHLC Model load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for both single and multiple cell applications. The cells were tested over a temperature range of -10 °C 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. All models on this Certificate have a welded metal cover over the sensing hole.

Evaluated By: NIST Force Group, NIST Office of Weights and Measures, 06-023

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2000. NCWM, Publication 14: Weighing Devices, 2000.

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

Information Reviewed By: S. Patoray (NCWM), L. Bernetich (NCWM) 06-023, 06-023A1; J. Truex (NCWM) 06-023A2

Examples of Device:

Model RLH35

Model RL30745