



NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Load Cell  
S-Beam Tension  
Model: RL20000A and RL20000I  
 $n_{max}$ : 5 000, Single/Multiple Cell, Class III  
 $n_{max}$ : 10 000, Single/Multiple Cell, Class III L  
Capacity: 25 to 30 000 lb  
Accuracy Class: III/III L

**Submitted By:**

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**Standard Features and Options**

- The specific load cells covered by this Certificate are identified by the load cell capacities.
- The specific load cell parameters are listed on page 2.
- **Nominal Output:** 3 mV/V

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 *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.

Hal Prince  
Chairman, NCWM, Inc.

Craig VanBuren  
Chair, NTEP Committee  
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**Rice Lake Weighing Systems**  
Load Cell / RL20000A and RL20000I

**Load Cell Parameters:**

Capacity (lb)	n <sub>max</sub>		v <sub>min</sub>		Minimum Dead Load (lb)
	Class III	Class III L	Class III	Class III L	
25	5000	10 000	0.003	0.001	0.5
50	5000	10 000	0.005	0.002	1.0
75	5000	10 000	0.007	0.003	1.5
100	5000	10 000	0.009	0.004	2.0
105	5000	10 000	0.009	0.004	2.1
150	5000	10 000	0.015	0.006	3.0
200	5000	10 000	0.018	0.008	4.0
250	5000	10 000	0.023	0.010	5.0
300	5000	10 000	0.027	0.012	6.0
500	5000	10 000	0.050	0.020	10.0
750	5000	10 000	0.070	0.030	15.0
1000	5000	10 000	0.090	0.040	20.0
1500	5000	10 000	0.140	0.060	30.0
2000	5000	10 000	0.180	0.080	40.0
2500	5000	10 000	0.230	0.100	50.0
3000	5000	10 000	0.270	0.120	60.0
4000	5000	10 000	0.360	0.160	80.0
5000	5000	10 000	0.450	0.200	100.0
7500	5000	10 000	0.680	0.300	150.0
10 000	5000	10 000	0.900	0.400	200.0
15 000	5000	10 000	1.350	0.600	300.0
20 000	5000	10 000	1.800	0.800	400.0
25 000	5000	10 000	2.250	1.000	500.0
30 000	5000	10 000	2.700	1.200	600.0

**Application:** The load cells may be used in both Class III and III L 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<sub>min</sub> values, and temperature range are suitable for the application.

**Test Conditions:** This Certificate of Conformance supersedes Certificate of Conformance Number 90-158A2 and was issued to update example of equipment picture. No additional testing was required. Test Conditions are listed below for reference.

**Certificate of Conformance Number 90-158A2:** This certificate supersedes Certificate of Conformance 90-158A1 and is issued to make a correction in the For: box changing Single Cell to Single/Multiple Cell to be consistent with application. Changes were also made to update the contact information. No additional testing was deemed necessary. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 90-158A1:** This Certificate supersedes Certificate of Conformance number 90-158 and was issued without additional testing to recognize the change and addition of the model number (RL20000I) specified on the certificate. Previous test conditions are listed below for reference.



**Rice Lake Weighing Systems**  
Load Cell / RL20000A and RL20000I

**Certificate of Conformance Number 90-158:** This Certificate is issued based upon the following tests and upon information provided by the manufacturer. Two 100 lb, two 1000 lb and two 15 000 lb capacity load cells were tested using dead weights as the reference standard. The excitation voltage was 10 V dc. The data were analyzed for single load 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. 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, an NTEP representative witnessed repeat tests on the load cells, and NIST analyzed the data. The results indicate that the load cells comply with the applicable requirements of NIST Handbook 44.

**Evaluated By:** NIST Force Group, NIST Office of Weights and Measures, 90-158; M. Manheim (NCWM) 90-158A2, 90-158A3

**Type Evaluation Criteria Used:** *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 1991 Edition. *NCWM Publication 14 Measuring Devices*, 1991 Edition.

**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) 90-158A1; D. Flocken (NCWM) 90-158A2, 90-158A3

**Example(s) of Device:**

