



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Load Cell

Beam

Model: RL32018, RL32018S, RL32018S-HE, RL32019S-HE, RL32218S-HE & RL32018S-T

 $n_{\max}$: 5 000, Multiple Cell, Class III $n_{\max}$: 10 000, Multiple Cell, Class III L

Capacity: 250 kg to 5000 kg (500 lb to 10 000 lb)

Submitted By: Contact Info. Updated November 2022

Rice Lake Weighing Systems

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- Nominal Output: 2 mV/V and 3 mV/V
- 4-wire and 6-wire Design
- Material: Alloy Steel and Stainless Steel
- Minimum Dead Load: 0 kg
- Load Cell Parameters: *capacity evaluated

Model Identifier (see footnote 1)	Capacity (kg)	Capacity (lb)	Multiple Cell / Class III $n_{\max}$ 5 000 $v_{\min}$ (kg)	Multiple Cell / Class III L $n_{\max}$ 10 000 $v_{\min}$ (kg)	Multiple Cell / Class III $n_{\max}$ 5 000 $v_{\min}$ (lb)	Multiple Cell / Class III L $n_{\max}$ 10 000 $v_{\min}$ (lb)
I	250	500	0.02	0.0125	0.04	0.025
I	375	750	0.03	0.0187	0.06	0.0375
I & II	500	1000	0.04	0.025	0.08	0.050
I & II	600	1250	0.048	0.03	0.10	0.0625
I & II	750	1500	0.06	0.0375	0.12	0.075
I & II	1000	2000	0.08	0.050	0.16	0.10
I & II	1200	2500	0.096	0.060	0.20	0.125
I & II	1500*	3000	0.12	0.075	0.24	0.15
I & II	2000	4000	0.16	0.10	0.32	0.20
I & II	2500	5000	0.20	0.125	0.40	0.25
I & II	3000	6000	0.24	0.15	0.48	0.30
I & II	4000	7500	0.32	0.20	0.60	0.375
I & II	5000	10 000	0.40	0.25	0.80	0.50

Foot Note 1: Model Identifier "I" represents product model: RL32018S-T

Model Identifier "II" represents product models: RL32018, RL32018S, RL32018S-HE, RL32019S-HE, & RL32218S-HE

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.

Craig VanBuren
Chairman, NCWM, Inc.Stephen Benjamin
Committee Chair, NTEP Committee
Issued: November 17, 2019

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Rice Lake Weighing Systems
Load Cell / RL32018, RL32019 & RL32218 Series

Application: The load cells may be used in Class III and III L 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 $v_{\min}$ value, and temperature range are suitable for the application. The manufacturer may market the load cell with fewer divisions ($n_{\max}$) and with greater $v_{\min}$ 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 label located on the cell, states manufacturer name, model and serial number. Other pertinent information will be specified on the Calibration Certificate accompanying the cell.

Test Conditions: This Certificate supersedes Certificate of Conformance 18-106A3 and was issued to add additional capacities. The capacities added are 600 kg and 1200 kg, (1250 lb and 2500 lb) listed in the Standard Features and Options Section on page 1 of this certificate. No additional testing was required. Previous test conditions are listed below for reference.

Certificate of Conformance Number 18-106A3: This Certificate supersedes Certificate of Conformance 18-106A2 and was issued to add new counterforce design and corresponding capacities. The different designed are identified in the Example of Device Section and the design is indicated, by capacity, in the Standard Features and Options Section on page 1 of this certificate. No additional testing was required. Previous test conditions are listed below for reference.

Certificate of Conformance Number 18-106A2: This Certificate supersedes NTEP Certificate of Conformance 18-106A1 and was issued to recognize a revision to the model designations RL32018S, RL32018S-HE, RL32019S-HE and RL32218S-HE. The load cells are identical to all previously model designations already covered by the certificate. No additional testing was necessary. Previous test conditions are listed below for reference.

Certificate of Conformance Number 18-106A1: This Certificate supersedes NTEP Certificate of Conformance 18-106 and was issued to recognize the new model designations RL32019 and RL32218. The load cells are identical to the RL32018 already covered by the certificate except for the cable length. No additional testing was necessary. Previous test conditions are listed below for reference.

Certificate of Conformance Number 18-106: This certificate was issued based upon the following tests and upon information provided by the manufacturer. Four 1500 kg load cell was tested at NIST 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 °C to 40 °C Tests were run on the 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. NCWM Publication 14 selection criteria were used to determine cells tested.

Evaluated By: K. Chesnutwood (NIST Force Group) 18-106

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2019 Edition. *NCWM Publication 14 Measuring Devices*, 2018 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) 18-106, 18-106A1; D. Flocken (NCWM) 18-106A2, 18-106A3, 18-106A4



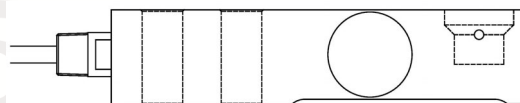
Rice Lake Weighing Systems
Load Cell / RL32018, RL32019 & RL32218 Series

Example(s) of Device:

Model Identifier I:



Model Identifier I, shown in Stainless Steel



Model Identifier I, Side View

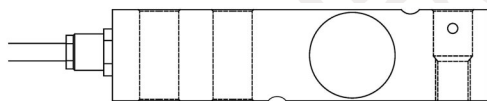
Model Identifier II:



Model Identifier II, shown in Alloy Steel



Model Identifier II, shown in Stainless Steel



Model Identifier II, Side View