



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Load Cell
Single-end, Beam
Models: OP-310
 n_{max} Multiple Cell, Class III L: 5 000
Capacity: 500 lb to 5 000 lb
Accuracy Class: III L

Optima Scale Manufacturing Inc.

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Submitted By:

Standard Features and Options

Standard Features:

- Nominal Output: 3 mV/V
- Cable: 4-wire
- Nominal Output Impedance: 350 Ohms
- Counterforce Material: Alloy Steel

Load Cell Parameters:

Capacity	V_{min}	
	Class III L Multiple Cell	Minimum Dead Load
500 lb	0.1 lb	5 lb
1 000 lb	0.2 lb	10 lb
1 500 lb	0.25 lb	15 lb
2 000 lb	0.3 lb	20 lb
2 500 lb *	0.5 lb	25 lb
4 000 lb	0.8 lb	40 lb
5 000 lb	1.0 lb	50 lb

*Two load cells tested

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.

John Gaccione
Chairman, NCWM, Inc.

Stephen Benjamin
Chairman, National Type Evaluation Program Committee
Issued: April 8, 2014

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**Optima Scale Manufacturing Inc.**

Load Cell / OP-310

Application: The load cells may be used in for the applicable Class III L scales for 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.

Identification: A pressure sensitive identification badge containing the manufacturer, model designation, serial number, capacity and NTEP certificate number is located on the load cell. All other required information, if not marked on the load cell, must be on an accompanying document including the serial number of the load cell.

Test Conditions: : This Certificate is issued based upon the following tests and upon information provided by the manufacturer. Two 2500 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 multiple load cell applications. The cells were tested over a temperature range of -10 to 40 °C. The temperature effect on zero was measured and time dependence (creep) tests were performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure. NCWM Pub 14 selection criteria was used to determine cells tested.

Evaluated By: K. Chesnutwood (NIST Force Group)

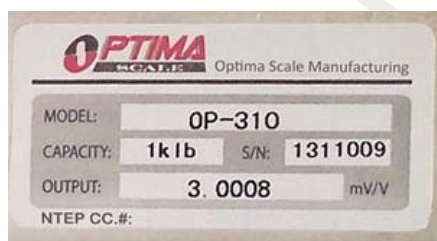
Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2014. NCWM, Publication 14: Weighing Devices, 2013.

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)

Examples of Device:

Model: OP-310



Model: OP-310 ID Label