



NATIONAL TYPE EVALUATION PROGRAM

*Certificate of Conformance*  
*for Weighing and Measuring Devices*

**For:**

Load Cell  
Double End Shear Beam  
Model: H9C and B9C Series  
 $n_{max}$  Class III Multiple Cell: 5 000  
 $n_{max}$  Class III L Multiple Cell: 10 000  
Capacity: 5 000 lb to 250 000 lb  
Accuracy Class: III / IIIL

**Submitted By:**

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**Standard Features and Options**

The H9C Series is identified by the Model Number H9C-XX and B9C Series is identified by the Model Number B9C-XX, where the XX suffix represents the load cell capacity in thousands of pounds.

**Standard Features:**

- Nominal Output: 3mV/V
- Cable: 4-wire design
- Material: Alloy Steel (H9C Series); Stainless Steel (B9C Series)
- Nominal Input Impedance: 700 ohms

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.

Tim Tyson  
Chairman, NCWM, Inc.

Randy Jennings  
Chairman, National Type Evaluation Program Committee  
Issued: October 22, 2010

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**Zemic (USA), Inc.**

Load Cell / H9C and B9C Series

**Application:** The load cells may be used in Class III or 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. 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.

**Load Cell Parameters:**

Model Number	Capacity (lb)	Multiple Cell Class III $v_{min}$ (lb)	No. of Inc. $n_{max}$	Multiple Cell, Class III L $v_{min}$ (lb)	No. of Inc. $n_{max}$	Minimum Dead Load (lb)
H9C/B9C-5K	5 000	0.33	5 000	0.17	10 000	200
H9C/B9C-10K*	10 000	0.66	5 000	0.33	10 000	200
H9C/B9C-15K	15 000	0.99	5 000	0.50	10 000	200
H9C/B9C -20K	20 000	1.32	5 000	0.67	10 000	200
H9C/B9C -25K	25 000	1.65	5 000	0.83	10 000	500
H9C/B9C -30K	30 000	1.98	5 000	1.00	10 000	500
H9C/B9C -40K	40 000	2.64	5 000	1.33	10 000	500
H9C/B9C -50K	50 000	3.30	5 000	1.67	10 000	1000
H9C/B9C -60K	60 000	3.96	5 000	2.00	10 000	1000
H9C/B9C -75K*	75 000	4.95	5 000	2.50	10 000	1500
H9C/B9C -100K*	100 000	6.60	5 000	3.33	10 000	2000
H9C/B9C -125K	125 000	8.25	5 000	4.16	10 000	2000
H9C/B9C -150K	150 000	9.90	5 000	5.00	10 000	3000
H9C/B9C-175K	175 000	11.55	5 000	5.78	10 000	3 000
H9C/B9C -200K	200 000	13.20	5 000	6.66	10 000	4000
H9C-B9C-250K	250 000	16.50	5 000	8.25	10 000	4 000

\* Load cells submitted for evaluation.

**Identification:** A pressure sensitive identification badge containing the manufacturer, model designation, and serial 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 supersedes Certificate of Conformance 07-018 and is issued to add additional capacities and the Model B9C, stainless steel series. Model B9C load cells (10 000 lb and 100 000 lb capacities) were tested at NIST using dead weights as the reference standard. The data were analyzed for multiple 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.

**Certificate of Conformance 07-018:** Two Model H9C 75k (75 000 lb capacity) load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for multiple 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.

**Evaluated By:** T. Bartel (NIST Force Group, NIST Office of Weights and Measures) 07-018, 07-018A1

**Type Evaluation Criteria Used:** NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2010. NCWM, Publication 14: Weighing Devices, 2010.

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



**Zemic (USA), Inc.**

Load Cell / H9C and B9C Series

**Information Reviewed By:** S. Patoray (NCWM), L. Bernetch (NCWM) 07-018; J. Truex (NCWM) 07-018A1

**Example of Device:**



Model H9C / B9C Series

