



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.

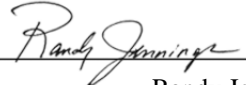
Standard Features:

- 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. Bernetich (NCWM) 07-018; J. Truex (NCWM) 07-018A1

Example of Device:



Model H9C / B9C Series

