



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance
for Weighing and Measuring Devices

For:

Load Cell
Single Ended Beam
Model: BM8H-xxx Series and BM8D-xxx Series
 n_{max} : 3 000, Class III, Single Cell (BM8H only)
5 000, Class III, Multiple Cell
10 000, Class III, Single & Multiple Cell
Capacity: 1 000 to 10 000 lb (500 to 5 000 kg)
Accuracy Class: III / IIIIL

Submitted By:

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Standard Features and Options

- The specific load cell capacities, v_{min} values, and minimum dead loads covered by this Certificate are listed in the table on Page 2.
- The model BM8H is approved for Class III Single Cell, Class III Multiple Cell, Class IIIIL Single Cell and Class IIIIL Multiple Cell use.
- The model BM8D is approved for Class III Multiple Cell, Class IIIIL Single Cell and Class IIIIL Multiple Cell use.
- The xxx suffixes indicate non-metrological features such as paint color

Standard Features:

- Nominal Output: 2.0 mV/V
- Stainless Steel
- 4 Wire Design

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: December 6, 2010

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Zemic USA, Inc.

Load Cell / BM8H-xxx Series and BM8D-xxx Series

Model	Capacity	v_{\min} Class III [1] Single cell, n = 3 000	V_{\min} Class III Multiple cell, n = 5 000	v_{\min} Class III L Single cell, n = 10 000	Minimum Dead Load
BM8D/BM8H	1 000 lb	0.067 lb	0.04 lb	0.02 lb	0 lb
BM8D/BM8H	1 500 lb	0.100 lb	0.06 lb	0.03 lb	0 lb
BM8D/BM8H	2 000 lb	0.133 lb	0.08 lb	0.04 lb	0 lb
BM8D/BM8H	2 500 lb	0.167 lb	0.10 lb	0.05 lb	0 lb
BM8D/BM8H	4 000 lb	0.267 lb	0.17 lb	0.080 lb	0 lb
BM8D/BM8H	5 000 lb	0.333 lb	0.20 lb	0.100 lb	0 lb
BM8D/BM8H	7 500 lb	0.500 lb	0.30 lb	0.15 lb	0 lb
BM8D/BM8H	10 000 lb	0.667 lb	0.40 lb	0.20 lb	0 lb
BM8D/BM8H	15 000 lb	1.000 lb	0.60 lb	0.30 lb	0 lb
BM8D/BM8H	20 000 lb	1.333 lb	0.80 lb	0.40 lb	0 lb
BM8D/BM8H	500 kg	0.033 kg	0.02 kg	0.01 kg	0 kg
BM8D/BM8H	1 000 kg*	0.067 kg	0.04 kg	0.02 kg	0 kg
BM8D/BM8H	1 500 kg	0.100 kg	0.06 kg	0.03 kg	0 kg
BM8D/BM8H	2 000 kg*	0.133 kg	0.08 kg	0.04 kg	0 kg
BM8D/BM8H	2 500 kg	0.167 kg	0.10 kg	0.05 kg	0 kg
BM8D/BM8H	3 000 kg	0.200 kg	0.12 kg	0.06 kg	0 kg
BM8D/BM8H	5 000 kg	0.333 kg	0.20 kg	0.10 kg	0 kg
BM8D/BM8H	7 500 kg	0.500 kg	0.30 kg	0.15 kg	0 kg
BM8D/BM8H	10 000 kg	0.667 kg	0.40 kg	0.20 kg	0 kg

*load cells tested [1] Model BM8H only

Application: The load cells may be used in Class III scales for single and multiple cell applications and Class 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 number, serial number, rated capacity, rated output, V_{\min} , class, CC number and country of origin. Other pertinent information will be specified on the Calibration Certificate accompanying the cell.

Test Conditions: This certificate supersedes Certificate of Conformance Number 10-056 and was issued to add the model BM8D series load cell to the certificate. The capacity of both series was also increased. The Model BM8D (1 000 kg capacity) load cell were tested by the NIST Force Group, using deadweights as the reference standard. The load cell was tested over a temperature range of -10 °C to 40 °C with tests 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. The data were analyzed for single and multiple load cell applications. NCWM Publication 14 selection criteria were used to determine cells tested. Previous test conditions are listed below for reference.

Certificate of Conformance 10-056: Two Model BM8H (2 000 lb capacity) load cells were tested by the NIST Force Group, using deadweights as the reference standard. The load cells were tested over a temperature range of -10 °C to 40 °C with tests run on each cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The



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Load Cell / BM8H-xxx Series and BM8D-xxx Series

barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure. The data were analyzed for multiple load cell applications. NCWM Publication 14 selection criteria were used to determine cells tested.

Evaluated By: T. Bartel, NIST Force Group 10-056; Kevin Chesnutwood, NIST Force Group 10-056A1

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.

Information Reviewed By: J. Truex (NCWM) 10-056, 10-056A1

Examples of Device:



Model BM8H



Model BM8D