NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Load Cell
Z-Beam Tension
Models: B3G, H3G, H3F, H3 and BM3 Series
n_{max} Single Cell, Class III: 5 000
n_{max} Single Cell, Class III L: 10 000
Capacity: 50 lb to 15 000 lb (50 kg to 7 500 kg)
Accuracy Class: III / III L

Submitted By:
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Standard Features and Options

- The specific load cells covered by this Certificate are identified by the load cell capacities (see page 2).
- The specific load cell parameters are listed on page 2.

Standard Features:

- Nominal Output: 2 mV/V or 3 mV/V
- Cable: 4-wire
- Nominal Input Impedance: 350 Ohms
- Counterforce Material: Stainless Steel and Alloy Steel

Capacity Range:

- B3G: 50 lb to 15,000 lb (50 kg to 7500 kg); RO: 3 mV/V Nom.; Material: SST
- H3G: 50 lb to 15,000 lb (50 kg to 7500 kg); RO: 3 mV/V Nom.; Material: Alloy
- H3F: 50 lb to 15,000 lb (50 kg to 7500 kg); RO: 3 mV/V Nom.; Material: Alloy
- H3: 50 lb to 15,000 lb (50 kg to 7500 kg); RO: 2 mV/V or 3 mV/V Nom.; Material: Alloy
- BM3: 500 kg to 7500 kg; RO: 2 mV/V Nom.; Material: SST; Hermetically Sealed

See last page for pictures.

Temperature Range: -10 ºC to 40 ºC (14 ºF to 104 ºF)

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.

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Chairman, National Type Evaluation Program Committee

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Zemic (USA), Inc.

Load Cell / B3G, H3G, H3F, H3 and BM3 Series

Load Cell Parameters:

Model	Capacity	n_{max}		v_{min}		Minimum Dead Load
		Class III Single	Class III L Single	Class III Single	Class III L Single	
B3G,H3G,H3F,H3, BM3	50 lb	5000	10 000	0.002 lb	0.001 lb	2 lb
B3G,H3G,H3F,H3, BM3	75 lb	5000	10 000	0.003 lb	0.002 lb	2 lb
B3G,H3G,H3F,H3, BM3	100 lb	5000	10 000	0.004 lb	0.002 lb	2 lb
B3G,H3G,H3F,H3, BM3	150 lb	5000	10 000	0.006 lb	0.003 lb	2 lb
B3G,H3G*, H3F,H3, BM3	200 lb	5000	10 000	0.008 lb	0.004 lb	2 lb
B3G,H3G,H3F,H3, BM3	250 lb	5000	10 000	0.010 lb	0.005 lb	2 lb
B3G*,H3G, H3F,H3, BM3	300 lb	5000	10 000	0.012 lb	0.006 lb	2 lb
B3G,H3G,H3F,H3, BM3	500 lb	5000	10 000	0.020 lb	0.010 lb	5 lb
B3G,H3G,H3F,H3, BM3	750 lb	5000	10 000	0.030 lb	0.015 lb	5 lb
B3G,H3G, H3F*,H3, BM3	1 000 lb	5000	10 000	0.040 lb	0.020 lb	10 lb
B3G,H3G,H3F,H3, BM3	1 500 lb	5000	10 000	0.060 lb	0.030 lb	10 lb
B3G,H3G,H3F,H3, BM3	2 000 lb	5000	10 000	0.080 lb	0.040 lb	10 lb
B3G,H3G,H3F,H3, BM3	2 500 lb	5000	10 000	0.100 lb	0.050 lb	10 lb
B3G,H3G,H3F,H3, BM3	3 000 lb	5000	10 000	0.120 lb	0.060 lb	10 lb
B3G*,H3G, H3F,H3, BM3	5 000 lb	5000	10 000	0.200 lb	0.100 lb	10 lb
B3G,H3G,H3F,H3, BM3	10 000 lb	5000	10 000	0.400 lb	0.200 lb	10 lb
B3G,H3G,H3F,H3, BM3	15 000 lb	5000	10 000	0.600 lb	0.300 lb	15 lb
B3G,H3G,H3F,H3, BM3	50 kg	5000	10 000	0.002 kg	0.001 kg	0.9 kg
B3G,H3G,H3F,H3, BM3	100 kg	5000	10 000	0.004 kg	0.002 kg	0.9 kg
B3G,H3G,H3F,H3, BM3	250 kg	5000	10 000	0.010 kg	0.005 kg	2.3 kg
B3G,H3G,H3F,H3, BM3	500 kg	5000	10 000	0.020 kg	0.010 kg	4.5 kg
B3G,H3G,H3F,H3, BM3	750 kg	5000	10 000	0.030 kg	0.015 kg	4.5 kg
B3G,H3G,H3F,H3, BM3	1 000 kg	5000	10 000	0.040 kg	0.020 kg	4.5 kg
B3G,H3G,H3F,H3, BM3	1 500 kg	5000	10 000	0.060 kg	0.030 kg	4.5 kg
B3G,H3G,H3F,H3, BM3	2 000 kg	5000	10 000	0.080 kg	0.040 kg	4.5 kg
B3G,H3G,H3F,H3, BM3	2 500 kg	5000	10 000	0.100 kg	0.050 kg	4.5 kg
B3G,H3G,H3F,H3, BM3	5 000 kg	5000	10 000	0.200 kg	0.100 kg	4.5 kg
B3G,H3G,H3F,H3, BM3	7 500 kg	5000	10 000	0.300 kg	0.150 kg	10 kg

*Transducers Evaluated: B3G-300 lb (2 ea), B3G-5 k-lb (2 ea), H3G-200 lb (1 ea), H3F-1t (1 ea), BM3-2t (2 ea)

Application: The load cells may be used in for the applicable Class III and III L scales for both single and 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, 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 06-099 and is issued to add additional models. A 1000 kg capacity load cell (H3F-1t), a 200 lb capacity (H3G-200 lb) and two 2000 kg capacity (BM3-2t) load cells were tested using dead weights as the reference standard. The excitation voltage was 10 V dc. The data were analyzed for single and 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 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. Previous test conditions are listed below for reference.

Zemic (USA), Inc.

Load Cell / B3G, H3G, H3F, H3 and BM3 Series

Certificate of Conformance Number 06-099: Two 300 lb (B3G-300 lb), and two 5000 lb (B3G-5k-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 single load cell applications. The cells were tested over a temperature range of -10 to 40 °C. Three tests were run on the 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.

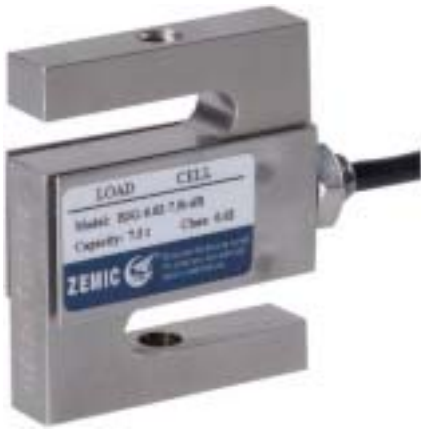
Evaluated By: T. Bartel & K. Chesnutwood (NIST Force Group) 06-099, 06-099A1

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2011. NCWM, Publication 14: Weighing Devices, 2010.

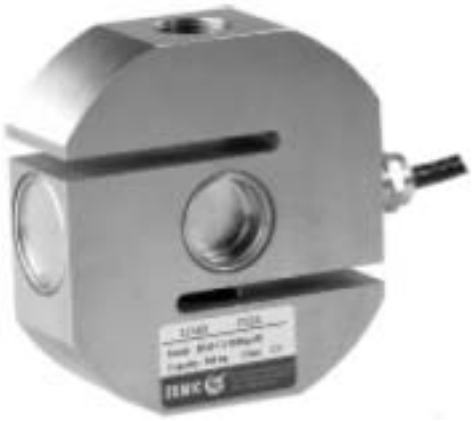
Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: S. Patoray (NCWM); L. Bernetich (NCWM) 06-099; J. Truex (NCWM) 06-099A1

Examples of Device:



Models B3G, H3G, H3F and H3



Model BM3