NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Load Cell
Double Ended Beam
Models: H9N-CCC-yyk-xxx and HM9E-CCC-yyk-xxx Series
n_{max}: 3 000, Class III, Multiple Cell (H9N Series)
5 000, Class III, Multiple Cell (HM9E Series)
10 000, Class IIIL, Multiple Cell (Both Series)
Capacity: 20 000 to 200 000 lb (H9N Series)
50 000 to 250 000 lb (HM9E Series)
Accuracy Class: III / IIIL

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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 CCC in the model designate the Class, for example A3M=III,3M; A5M = III,5M: B10M= IIIL,10M
The yy in the model designates capacity in thousands.
The xxx suffixes indicate non-metrological features such as paint color.

Nominal Output:
- 3.0 mV/V

Standard Features:
- Alloy Steel
- 4 Wire design

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.

Randy Jennings
Chairman, National Type Evaluation Program Committee
Issued: August 4, 2010

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Zemic (USA), Inc.

Load Cell / H9N-CCC-yyk-xxx and HM9E-CCC-yyk-xxx Series

Model / Series	Capacity	V_{min} Class III Multiple cell, n=3000	v_{min} Class IIIL Multiple cell, n=10 000	Minimum Dead Load
H9N	20 000 lb	0.80 lb	0.40 lb	1000 lb
H9N	25 000 lb	1.00 lb	0.50 lb	1000 lb
H9N	30 000 lb	1.20 lb	0.60 lb	1000 lb
H9N	40 000 lb	1.60 lb	0.80 lb	1000 lb
H9N	50 000 lb	2.00 lb	1.00 lb	1000 lb
H9N	60 000 lb*	2.40 lb	1.20 lb	1000 lb
H9N	65 000 lb	2.60 lb	1.30 lb	1000 lb
H9N	75 000 lb	3.00 lb	1.50 lb	1000 lb
H9N	100 000 lb	4.00 lb	2.00 lb	1000 lb
H9N	125 000 lb	5.00 lb	2.50 lb	1000 lb
H9N	150 000 lb	6.00 lb	3.00 lb	1000 lb
H9N	200 000 lb	8.00 lb	4.00 lb	1000 lb

Model / Series	Capacity	V_{min} Class III Multiple cell, n=5000	v_{min} Class IIIL Multiple cell, n=10 000	Minimum Dead Load
HM9E	50 000 lb	2.0 lb	1.0 lb	0 lb
HM9E	60 000 lb	2.4 lb	1.2 lb	0 lb
HM9E	65 000 lb**	2.6 lb	1.3 lb	0 lb
HM9E	75 000 lb	3.0 lb	1.5 lb	0 lb
HM9E	100 000 lb	4.0 lb	2.0 lb	0 lb
HM9E	125 000 lb	5.0 lb	2.5 lb	0 lb
HM9E	150 000 lb	6.0 lb	3.0 lb	0 lb
HM9E	200 000 lb	8.0 lb	4.0 lb	0 lb
HM9E	250 000 lb	10.0 lb	5.0 lb	0 lb

***2 load cells tested / ** 1 load cell tested**

Application: The load cells may be used in Class III scales for multiple cell applications and Class IIIL 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: A model HM9E-N5-65k-8B (65 000 lb capacity) load cell was tested by the NIST Force Group, using deadweights as the reference standard. The load cell was tested over a temperature range of -10 ^{o}C to 40 ^{o}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 multiple load cell applications. NCWM Publication 14 selection criteria was used to determine cells tested. Previous test conditions are listed below for reference.

Certificate of Conformance Number 10-057: wo Model H9N-N5-60k-9B (60 000 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 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 was used to determine cells tested.

Zemic (USA), Inc.

Load Cell / H9N-CCC-yyk-xxx and HM9E-CCC-yyk-xxx Series

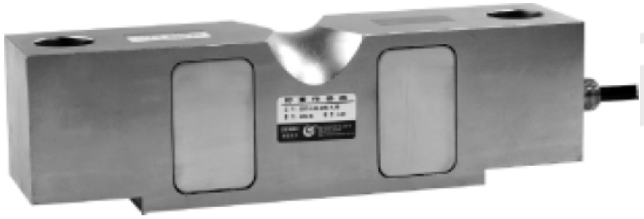
Evaluated By: T. Bartel, NIST Force Group

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)

Examples of Device:



Model H9N

Model HM9E