NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Load Cell
Strain Gauge, Compression
Model: CBCxxK
Class III n_{max}: 3 000, multiple cell
Class III L n_{min}: 10 000, multiple cell
Capacity: 10 000 lb to 100 000 lb
Accuracy Class: III / III L

Submitted By:
Cardinal Scale Manufacturing Company
203 East Daugherty Street
Webb City, MO 64870
Tel: 417-673-4631
Fax: 417-673-5001
Contact: Stephen Langford
Email: slangford@cardet.com
Web site: www.cardet.com

Standard Features and Options

Cells are identified by the Model CBCxxK, where the xx represents the load cell capacity in thousands of pounds.

Load Cell Parameters:

Model Number	Capacity (lb)	v_{min} III/ Multiple (lb)	v_{min} III L/ Multiple (lb)	Minimum Dead Load (lb)
CBC10K	10 000	0.8	0.2	160
CBC20K	20 000	1.6	0.8	320
CBC25K*	25 000	2.0	1.0	400
CBC37K	37 500	3.5	1.5	600
CBC50K	50 000	4.0	2.0	800
CBC75K	75 000	6.0	3.0	1200
CBC100K	100 000	8.0	4.0	1600

*Two Load Cells Submitted for Evaluation

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.

Kurt Floren
Chairman, NCWM, Inc.

Tim Tyson
Chairman, National Type Evaluation Program Committee

Issued: October 5, 2011

1135 M Street, Suite 110 / Lincoln, Nebraska 68508

The National Conference on Weights and Measures (NCWM) does not approve, recommend or endorse any proprietary product or material, either as a single item or as a class or group. Results shall not be used in advertising or sales promotion to indicate explicit or implicit endorsement of the product or material by the NCWM.

Cardinal Scale Manufacturing Company

Load Cell / CBCxxK

Application: The load cells may be used in general purpose Class III and Class III L load receiving elements 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.

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, is contained in an accompanying document including the serial number of the load cell.

Test Conditions: Two Model CBC25K (25 000 lb capacity) load cells were tested by the NIST Force Group using deadweights as the reference standard. The indicating element was a Cardinal 825 weight indicator (NTEP CC 08-046). The load cells were tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F) with three separate loading cycles for each load 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 for this evaluation.

Evaluated By: K. Chestnutwood (NIST Force Group)

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

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)

Example of Device: