

National Conference on Weights and Measures

1135 M Street, Suite 110 • Lincoln, Nebraska 68508

Certificate Number: 03-096A2

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National Type Evaluation Program Certificate of Conformance for Weighing and Measuring Devices

For:

Weighing/Load Receiving Element
Vehicle Scale/Modular Design/Load Cell Electronic
Models: BT-xxxxx-yyy-FESD-SL-Z or
BT-xxxxx-yyy-FECD-SL-Z
 $n_{\max}$: 10,000; $e_{\min}$: 10 lb
Capacity: 100 000 lb to 270 000 lb (See Below)
Platform: (See Below)
CLC: 120 000 lb
Accuracy Class: III L

Submitted by:

B-TEK Scales, LLC
1510 Metric Avenue SW
Canton, OH 44706
Tel: (330) 471-8900
Fax: (330) 471-8909
Contact: L. Edward Luthy
E-mail: sales@bscales.com

Standard Features and Options

Platform width: 7.7 feet to 14.0 feet
Platform material: Steel / Concrete
Maximum length of span: 28.8 feet
Minimum length of span: 11.0 feet

Installations must satisfy the relationships of $v_{\min} \leq d/\sqrt{N}$, where N = number of load cells and d = the scale division; and nominal capacity $\leq \text{CLC} \times (N - 0.5)$ where N is the number of sections in the scale.

Family Name: Centurion

Models: BT-xxxxx-yyy-FESD-SL-z or BT-xxxxx-yyy-FECD-SL-Z, where XXXXX is the length and width of the platform in feet; yyy is the capacity in thousands of pounds, and z is (A) for analog or (D) for digital. CD is for Concrete deck. SD is for Steel Deck.

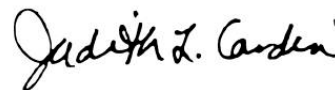
Load cells used: B-TEK Scales, model CPD-M, 35000 kg, ($v_{\min}$: 1.167 kg) NTEP Certificate of Conformance Number 03-072, or NTEP Certified equivalent.

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of 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.



Jack Kane
Chairman, NCWM, Inc.



Judith L. Cardin
Chairman, National Type Evaluation Program Committee
Issued Date: March 20, 2009

Note: The National Conference on Weights and Measures 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.

B-TEK Scales, LLC
Weighing/Load Receiving Element
Model: BT-xxxxx-yyy-FESD-SL-Z or
BT-xxxxx-yyy-FECD-SL-Z

Application: General purpose vehicle weighing when connected to an NTEP Certified indicating element.

Identification: The required information is on an identification plate riveted to the outside of the center module and on the center module under the cover plate on the wall for pit installations.

Sealing: The load cells and sections can be adjusted in the load cell junction boxes and can be sealed with a wire security seal threaded through two drilled nuts that secure the cover of the load cell junction box. Sealing may be necessary on more than one load cell junction box for scales with several modules. The digital module junction boxes have no adjustments that require the use of a security seal. The overall scale calibration can be sealed at the approved indicating element according to its provisions for sealing.

Test Conditions: This Certificate supersedes Certificate of Conformance Number 03-096A1 and is issued to increase the maximum platform width to 14 feet and to lower the e_{min} to 10 lb. The emphasis of the evaluation was on the design, marking, and performance of the weighing element. A Model BT-4814-200-FESD/CD-SL-D [Three sections, 48' x 14' (100 ton capacity with a 110 000 lb CLC)] was submitted for evaluation. Steel and concrete was used for the deck material. The weighing element capacity and CLC were adjusted and evaluated to 100 000 lb by 10 lb with a CLC of 100 000 lb to evaluate the 10 lb e_{min} . The weighing element was interfaced with a B-TEK Model D410 indicator (Certificate of Conformance Number 03-066). The load cells used were B-TEK Model CPD-M, 35 000 kg capacity (Certificate of Conformance Number 03-072). The scale was initially tested using 110 000 lb of known test weights to perform increasing/decreasing load, shift and mid-span tests. Strain load tests were conducted using 110 000 lb of known test weights to a maximum load of 180 500 lb. Previous test conditions are listed below for reference.

Certificate of Conformance Number 03-096A1: This Certificate supersedes Certificate of Conformance Number 03-096 and is issued to add Concrete to the deck material and add 5 ton to the CLC. The emphasis of the evaluation was on the design, marking, and performance of the weighing element. A Model BT-4811-200-FESD/CD-SL-D [Three section, 48' x 11' (100 ton capacity with a 110 000 lb CLC)] was submitted for evaluation. Steel and concrete was used for the deck material. Additionally, the scale was interfaced with a B-TEK Model D410 indicator (Certificate of Conformance Number 03-066). The load cells used were 35 000 kg capacity B-TEK Model CPD-M (Certificate of Conformance Number 03-072). The scale was initially tested using 110 000 lb of known test weights to perform increasing/decreasing load, shift and mid-span tests. Strain load tests were conducted using 110 000 lb of known test weights to a maximum load of 170 956 lb.

Certificate of Conformance Number 03-096: The emphasis of the evaluation was on the design, marking, and performance of the weighing element. A Model BT-7011-200-FESD-SL-D [four section, 70' x 11' (100 ton capacity with a 100 000 lb CLC)] was submitted for evaluation. Steel was used for the deck material. Additionally, the scale was interfaced with a B-TEK Model D410 indicator (Certificate of Conformance Number 03-066). The load cells used were 35 000 kg capacity B-TEK Model CPD-M (Certificate of Conformance Number 03-072). The scale was initially tested using 90 000 lb of known test weights to perform increasing/decreasing load, shift and mid-span tests. Strain load tests were conducted using 90 000 lb of known test weights to a maximum load of 197 132 lb. The scale was used for more than one month with the minimum use criteria requirement being met, then tested again. The increasing/decreasing load, shift, and mid-span tests were repeated using 90 000 lb of known test weights. Strain load tests were again conducted to a maximum load of 192 060 lb.

Type Evaluation Criteria Used: NIST Handbook 44, 2008 Edition; NCWM Publication 14, 2008 Edition

Evaluated By: T. Lucas (OH) 03-096, 03-096A1, 03-096A2; J. Morrison (OH) 03-096A2

Conclusion: The results of the evaluations and information provided by the manufacturer indicate the devices comply with applicable requirements.

B-TEK Scales, LLC
Weighing/Load Receiving Element
Model: BT-xxxxx-yyy-FESD-SL-Z or
BT-xxxxx-yyy-FECD-SL-Z

Information Reviewed By: S. Patoray (NCWM), L. Bernetich (NCWM) 03-096, 03-096A1; J. Truex (NCWM) 03-096A2

Examples of Device:

