



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Automatic Weighing System
Electronic Load Cell Based; Static, Dynamic Weighing-Labeler
/ Checkweigher
Model: CS-WWxLL-X (see below)
 n_{\max} : 2 000
 e_{\min} : 0.005 to 0.1 lb (0.005 to 0.05 kg)
Capacity: 10 to 200 lb (5 to 100 kg)
Platform Conveyor Sizes: width: 6 to 36 inches (15 to 92 cm)
length: 12 to 60 inches (30 to 150 cm)
Accuracy Class: III/IIIS

Submitted By:

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Standard Features and Options**Model Number Description: (In the example: CS-36x48-E)**

- CS = conveyor scale, 36 = width in inches, 48 = length in inches
- E or M = English version or Metric version (English version represents inches, Metric version represents centimeters)

Minimum Data Acquisition:

- Time 0.108 seconds
- Belt Speeds: between 0 - 380 ft/min

Typical System Components:

- Conveyor scale base attached to one of several NTEP approved indicators that have been verified to perform with the conveyor scale base (see list on page 2.)

Options:

- Computer Device
- Vande Berg Scale Weigh Label / Weigh Price Label Software Titled "Box Labeler Version 5.4.6 or Higher"
- Label Printer
- Label Applicator
- Infeed Conveyors
- Outfeed Conveyors
- Product Divert Mechanism
- Product Spacing Mechanism
- Vacuum Product Plastic Sealer

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.

Ronald Hayes
Chairman, NCWM, Inc.

John Gaccione
Chairman, National Type Evaluation Program Committee
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Automatic Weighing System / CS-WWxLL-X

Application: Designed for use as a dynamic (automatic) Class III/IIIS weigh-labeling device. May be used as a Class III weigh-labeler where NIST H44 Class III tolerances are applied, as a class IIIS device for packages and package shipping applications where NIST H44 Class IIIS tolerances are applied, and for use as dynamic (automatic) Class III checkweigher where NIST H44 automatic test tolerances are applied.

Weight Indicators Tested Dynamically:

- Vande Berg Scale SDS-xyyy-zz with software version 1.10 or higher
- Avery Weigh-Tronix ZM2,3,4,5, and 6 series
- Rice Lake 920i CC 01-088 version V1.01.02S8153 920i or higher
- Weigh-Tronix WI-127 CC 96-140A1 with software version 49816-0431 rev 3 or higher
- GSE 662 (660 series) CC 01-013 with VBS dual photo eye conveyor program version 1.0.0 or higher
- Rice Lake IQ-810 (IQ+800series) CC 92-013A3 with software E06591 010202 or higher
- Vande Berg Scale JB-874 (02-077) with software version 49816-0431 rev 3 or higher

Identification: The Identification badges are located on the side of the conveyor scale base. Weight indicator identification badges are located in the traditional locations specific to that indicator. For the optional computer software for use in weigh label and weigh price label applications, a version number is found on both the startup screen and the upper left corner of the normal operation screen. The version must be "Box Labeler 5.4.6" as tested or higher. The computer equipment that runs the "Box Labeler 5.4.6 or higher" software must have a minimum of at least a 32 bit X86-based microprocessor, Intel Pentium, or supported RISC-based microprocessor, VGA or high resolution display, one or more hard disks, with 117 MB minimum free disk space, method of program loading, and 12-MB RAM.

Sealing: The conveyor scale base consists of a single load cell with a structure supporting a conveyor belt and associated conveyor drive mechanism. All sealing is accomplished through the indicating element according to the manufacturer's instructions for the particular indicator used, and may be either a physical seal or audit trail.

Test Conditions: This certificate of conformance supersedes and replaces Certificate of Conformance Number 02-078A3. The emphasis of this evaluation was on performance and is issued to include the Avery Weigh-Tronix ZM family as well as the Vande Berg Scale model SDS indicator to the approved list of indicators that may be used in this system. Models of the Avery Weigh-Tronix ZM family were installed on a Vande Berg Scale model CS-06x12E 10 lb x 0.005 lb Automatic Weighing System. A model ZM305, ZM405 and a model ZM605 were installed and several dynamic performance tests were performed. The Vande Berg Scale model SDS indicator was also installed and several dynamic performance tests were conducted. No additional testing was required. Previous test conditions are listed below for reference.

Certificate of Conformance Number 02-078A3: This Certificate supersedes and replaces Certificate of Conformance Number 02-078A2 and is issued to clarify that the automatic weighing systems traceable to this certificate may be used as a dynamic (automatic) Class III/IIIS weigh-labeling devices. The device may be used as a Class III weigh-labeler where NIST H44 Class III tolerances are applied, or as a class IIIS device for packages and package shipping applications where NIST Handbook 44 Automatic Weighing Systems Code, Class IIIS tolerances are applied, and for use as dynamic (automatic) Class III checkweigher where NIST Handbook 44 Automatic Weighing Systems Code automatic test tolerances are applied. Laboratory evaluation data was reviewed to insure that all required testing had been completed. Corrective changes were also made to the original test conditions per certificate 02-078A2 test conditions.

Certificate of Conformance Number 02-078A2: This Certificate supersedes and replaces Certificate of Conformance Number 02-078A1 and is issued without testing to correct typographical errors in the wording and to clarify the original test conditions. The original test condition wording stated that the capacities evaluated were 100 x 0.01 lb, 150 x 0.01 lb, and 200 x 0.01 lb. It should have stated the capacities were evaluated as 100 x 0.1 lb, 150 x 0.1 lb, and 200 x 0.1 lb. The capacities, division sizes and n_{max} in the "For" box on page one were correct and did not need to be changed.

**VBS, Inc, dba: Vande Berg Scales, ASTD or ECE**

Automatic Weighing System / CS-WWxLL-X

Certificate of Conformance Number 02-078A1: A Model CS-06x12-E, 10 lb x 0.005 lb Automatic Weighing System was submitted for the purpose of this evaluation to cover the lowest capacity of the family and smallest minimum data acquisition time for the shortest scale length. Environmental testing was performed using the Rice Lake model 920i Indicating Element, with the Indicating Element outside the environmental Chamber, applying .7 tolerances to allow use of any NTEP approved and compatible weight indicator. Several static increasing/decreasing load and shift tests and dynamic tests using test pucks were conducted in the laboratory. The scales were then set up in the environmental chamber and static tests and dynamic tests were conducted over a Temperature Range of -10 °C to 40 °C (14 °F to 104 °F).

Four test loads were run sixty times for each of the dynamic tests. Minimum data acquisition time was calculated to be .108 seconds for the 10 lb capacity scale with a belt length of 12 inches. The minimum data acquisition time was calculated earlier and found to range up to 0.130 seconds for the larger scales.

Permanence testing was completed by continuously circulating multiple test pucks weighing more than 75% of capacity for the 10 lb capacity scale for 100 hrs followed by repeating the dynamic tests using four test loads each run sixty times and repeating the static tests.

Certificate of Conformance Number 02-078: A 48inch long by 36 inch wide conveyor scale was submitted for the purpose of this evaluation to cover the range of sizes as this size represents the shortest conveyor length that is capable of running the fastest conveyor speeds allowing for the minimum data acquisition time between photo eye triggers and the maximum width available. The capacities evaluated were 100 x 0.1 lb, 150 x 0.1 lb, and 200 x 0.1 lb. Environmental testing was performed using the Weigh-Tronix model WI-127 indicating element applying .7 tolerances to allow use of any NTEP approved weight indicator. Several static increasing/decreasing load and shift tests were conducted in the laboratory. The scale was then set up in the environmental chamber and static tests were conducted over a Temperature Range of -10 °C to 40 °C (14 °F to 104 °F).

The device was then tested in the field under dynamic operating conditions with a variety of weight indicators, belt speeds, and capacities to determine compliance. Four test loads were run sixty times each for every indicator tested.

Permanence testing was completed by continuously circulating four test pucks weighing more than 164 lbs for 100 hrs at 288 ft/min belt speeds followed by a follow up dynamic test using four test loads each run sixty times.

Evaluated By: W. West (OH), Arlyn Oman (IA), Michael Norris (IA) 02-078; T. Lucas (OH), W. West (OH) 02-078A1; W. West (OH) 02-078A2; E.A.Payne, Jr (MD) 02-078A4

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2014. NCWM, Publication 14: Weighing Devices, 2014.

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) 02-078, 02-078A1, 02-078A2; J. Truex (NCWM) 02-078A3, 02-078A4



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Automatic Weighing System / CS-WWxLL-X

Examples of Device:





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Automatic Weighing System / CS-WWxLL-X

