

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

**For:**

Monorail Scale, Dynamic Weighing  
Load Cell Electronic  
Model: HA-MONO-1000  
 $n_{\max}$ : 3750  
 $e_{\min}$ : 0.2 lb  
Capacity: 750 lb  
Accuracy Class: III

**Submitted by:**

Vande Berg Scales  
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**Standard Features and Options**

**Parameters:**

- Conveyor rail length: 21-inches at the top of the live rail
- Conveyor speed: Electrically controlled to be suitable for plant chain speed and to ensure proper separation of pusher and trolley during weighing cycle
- Species tested: Beef, hogs, and lamb. Test weights and weight trees were included in initial dynamic testing
- Operation Speed: 45 to 2150 weighments per hour (beef carcass limitation 1100 weighments per hour, hog and lamb limitation 2150 weighments per hour)
- Two (2) load cell construction

**Load cells used:** Tedeo-Huntleigh Model 1250 (Certificate of Conformance No. 89-054A1) or metrological equivalent

**Indicator used:** Weigh-Tronix Model WI-110 (Certificate of Conformance No. 87-066A) or metrological equivalent

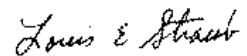
Temperature Range: -10 to 40 °C (14 to 104 °F)

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.

Effective Date: December 11, 2001



Ronald D. Murdock  
Chairman, NCWM, Inc.



Louis E. Straub  
Chairman, National Type Evaluation Program Committee

Issue date: December 11, 2001

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.

**Vande Berg Scales**  
**Monorail Scale, Dynamic Weighing**  
**Model: HA-MONO-1000**

**Application:** For dynamic weighing including full or partial carcasses of beef, hogs, or lamb.

**Identification:** The identification badge is on the back side of the live weigh assembly. The badge is visible after installation, but may require the use of a ladder.

**Sealing:** The weighing element may have individual cell adjustments in a load cell junction box. The junction box can be sealed with a pressure sensitive seal. Overall scale calibration is accomplished at the indicator and can be sealed with a physical seal.

**Operation:** The start of the weighing cycle is initiated by a sensor mounted on the conveyor that transmits a signal to the indicator to ensure that the trolley has cleared the plant chain pusher before weighing.

**Test Conditions:** This Certificate supersedes Certificate of Conformance Number 97-005 and is issued without additional testing to correct a typographical error to the  $e_{min}$  in the "FOR" box. Previous test conditions are listed below for reference.

**Certificate of Conformance 97-005:** The emphasis of the evaluation was on device design, operation, permanence, and compliance with influence factor requirements.

The Model HA-MONO-1000 scale was interfaced with a Weigh-Tronix Model WI-127 indicator (Certificate of Conformance No. 96-140) for laboratory testing. It was installed at the Ohio NTEP laboratory for influence factor testing.

For the field evaluation, the scale was interfaced with a Weigh-Tronix Model WI-110 indicator (Certificate of Conformance No. 87-066A). The scale was initially tested at the manufacturers facility according to NCWM Publication 14 procedures for in motion monorail scales with two carcasses of each species listed and test weights on weight trees. Several static increasing/decreasing load, discrimination, over capacity, and return to zero tests were conducted. Dynamic tests were conducted over the range of speeds and with the beef, hogs, and lamb carcasses in combination with test weights and test trees. The weights ranged from 110 lb to 703 lb. The scale was then installed in a plant facility where it was tested with hog carcasses. Similar tests were repeated after the requirements for time and weighments for permanence had been met.

The results of all tests indicate the device complies with the applicable requirements of NIST Handbook 44.

**Type Evaluation Criteria Used:** NIST Handbook 44, 1997 Edition

**Tested By:** R. Suiter (NE), B. West (OH) 97-005

**Updated and Reviewed By:** Linda Bernetich (NCWM) 97-005A1