

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

For:
Shipping Scale
Load Cell Electronic
Model: PCS and AS-400 Series
 n_{\max} : 3200
Capacity: 99 lb, 15.5 oz x 0.5 oz
Platform: 18" x 18"

Accuracy Class: III

Submitted by:
Cardinal Scale Manufacturing Co.
P.O. Box 151
203 E. Daugherty
Webb City, MO 64870
Tel: (417) 673-4631
Fax: (417) 673-5001
Contact: Wm. Terry James

Standard Features and Options

Semi-automatic zero
Automatic zero setting mechanism
18" x 18" scale base
Keyboard with display
(Model Number PCS 200 M)
Two (2) dot matrix printers (manifest/labels)
(Model Number 780)

Level indication under scale base platform
Manual weight entries are identified with a
"manual weight" on the recorded
representations
UPS and USPS function keys
Customer price and weight display

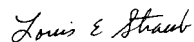
AS-400 Series: This series includes the following options:
• RS232 compatible serial interface
• Capacity: 99 lb, 15.5 oz x 0.5 oz or 50 kg x 0.02 kg (K suffix models only)

* See page 2 for specific models and descriptions.

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.

Effective Date: April 1, 1994



Louis E. Straub
Chairman, NCWM, Inc.



G. Weston Diggs
Chairman, National Type Evaluation Program Committee

Issue date: April 22, 1994

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.

This is a reissuance by the NCWM of a Certificate of Conformance already issued by the National Institute of Standards and Technology.

Cardinal Scale Manufacturing Co.
Shipping Scale
Model: PCS and AS-400 Series

Application: These devices are suitable for use where the minimum load is at least 20d.

Identification: The model number, serial number, and maximum number of divisions are on a pressure sensitive, self destructive label located on the back of the keyboard/display and on the scale base. The model number is the same on the keyboard customer display and weighing element since these components are not interchangeable with other types of devices.

Models *	Description
PCS 200 M and PCS 200 MR	Both models are for use in direct sales as shipping scales used by a shipper and retail package consolidators. Both have a customer display which carries the statement "Price Includes Service Charge." The PCS 200 MR includes a replaceable rate memory module to program multiple units to avoid the individual keyboard programming of each unit. These scales have the capability of permitting the user to program the service charge for the package consolidator into the computed cost as a fixed value or a percentage added to the carrier charges. The combined value is displayed as the "Shipping Cost" on the customer display.
PCS-RCM	This is the scale without an indicating element. It has software for interfacing with the user's computer.
PCS-AS-150	This is the scale without an indicating element or software beyond the weighing software. It does not have the manifest function. This device is intended to interface with the user's computer and software.
AS-400	Same description as the PCS-AS-150; only the model number is changed.
AS-400D	Same as the AS-400 but with a vacuum fluorescent weight display.
AS-400BT	Same as the AS-400 but with a ball-top transfer plate for locating the scale at the end of conveyors.
AS-400DBT	Same as the AS-400D but with a ball-top transfer plate for locating the scale at the end of conveyors.
AS-400K	Same as the AS-400 but with output in kilograms.
AS-400DK	Same as the AS-400D but with output in kilograms.
AS-400BTK	Same as the AS-400BT but with output in kilograms.
AS-400DBK	Same as the AS-400DBT but with output in kilograms.

*Suffixes located after the model number represent revisions to the device that do not affect metrological characteristics.

Cardinal Scale Manufacturing Company
Shipping Scale
Model: PCS and AS-400 Series

Sealing: Access to the calibration switch is located under the scale platter. Two retaining screws can have wire security seals to prevent access to the calibration switch.

Operation: All functions are controlled by the keyboard. Entries are recorded on the manifest and label printers by pressing the record data key twice, after the zip code and package identification number have been entered. A weight must be on the scale base when using any of the UPS and USPS functions. Manual weight entries are permitted only with no load on the scale. Each system will print a manifest for the shipper.

Test Conditions: This certificate supersedes Certificate of Conformance No. 90-008A1. This certificate is being issued to delete the Model PCS 200 that was previously covered under Certificate of Conformance No. 90-008A1. The original test conditions are repeated below for reference.

Certificate of Conformance No. 90-008A1: This certificate supersedes Certificate of Conformance No. 90-008 dated February 14, 1990, and is issued to add the optional AS-400 Series. The AS-400 series is identical to the model PCS-AS-150. There are no metrological changes to the device.

Certificate of Conformance No. 90-008: The emphasis of this evaluation was on the device design and operation. A load of approximately one-half capacity was applied to the PCS 200 MR scale over 107,000 times. The scale was tested for accuracy periodically during this time. Additionally, the scale was tested for accuracy over a voltage range of 100 VAC to 130 VAC and over a temperature range of -10 to 40 °C. The results of these tests were within applicable tolerances and specifications. The count function was not tested.

Type Evaluation Criteria Used: NIST Handbook 44, 1994 Edition

Tested By: S. Cook, G. Castro (CA)

Update Reviewed By: H. Oppermann, T. Grimes (NIST) (90-008A1); T. Grimes (NIST) (90-008A2)