



## NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Non-Computing Scale  
 Digital Electronic  
 Model: APS Series  
 $n_{max}$ : 1500 to 3500 (see below)  
 $e_{min}$ : 0.1 oz, 0.01 lb, 0.005 kg (see below)  
 Capacity: 160 oz, 250 lb, 125 kg (see below)  
 Platform: 6 in x 10 in to 18 in x 18 in (see below)  
 Accuracy Class: III

**Submitted By:**

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**Standard Features and Options**

Model	Platform Size (in)	Capacity	$e_{min}$	$n_{max}$
APS160	10 x 10	160 oz	0.1 oz	1600
APS15	10 x 10	15 lb / 7.5 kg	0.01 lb / 0.005 kg	1500
APS8	6 x 10	15 lb / 7.5 kg	0.01 lb / 0.005 kg	1500
APS12	6 x 10	160 oz	0.1 oz	1600
APS30	12 x 14	30 lb / 15 kg	0.01 lb / 0.005 kg	3000
APS10	6 x 10	30 lb / 15 kg	0.01 lb / 0.005 kg	3000
APS70	12 x 14	70 lb / 31 kg	0.02 lb / 0.01 kg	3500
APS20	10 x 10	30 lb / 15 kg	0.01 lb / 0.005 kg	3000
APS150	12 x 14	150 lb / 60 kg	0.05 lb / 0.02 kg	3000
APS250	18 x 18	250 lb / 125 kg	0.1 lb / 0.05 kg	2500

**Load Cell used:** Cardinal TSP Series Single Point Load Cell (NTEP Certificate 97-136) or a NTEP certified and compatible load cell.

- Pushbutton Zero and Units Key, Serial Output - Integral Backlit LCD Display, Optional Wireless Interface, Optional Remote Display, USB Communication Port, Stainless Steel Platter

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  
 Committee Chair, National Type Evaluation Program Committee  
 Issued: September 11, 2014

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**Cardinal Scale Manufacturing Co.**  
Non-Computing Scale/ APS Series

**Application:** A general purpose Non-Computing scale.

**Identification:** A self-destructive adhesive identification label is located on the bottom of the device.

**Sealing:** A category 1 physical seal consisting of a self-destructive adhesive label placed over a calibration switch on the bottom of the device. The seal will cover a threaded hole with a plug that is installed making a flush mounting surface. The seal would need to be removed as well as the flush mounted plug to gain access to the calibration switch.

**Test Conditions:** This certificate supersedes Certificate of Conformance 14-057 and is issued to add three new models (APS8, APS12 & APS20). The parameters of the three added models are all within the allowable parameters of the previously evaluated models. Per NTEP Publication 14 Technical Policy no additional testing was deemed necessary. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 14-057:** The emphasis of this evaluation was on device design, operation, marking requirements, performance, and compliance with influence factor requirements. Three model APS Series scales (APS 160, APS 70, and APS 250) were submitted for this evaluation. Several increasing/decreasing and return to zero tests, shift, warm up, power interruption, discrimination zone of uncertainty, suitability of level indicator, and wireless tests were conducted. The devices were tested with a power supply of 100 VAC to 240 VAC. The scales were tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). A load of approximately one half scale capacity was applied to the scale over 100 000 times. The scale was tested periodically over this period. A shift test and discrimination zone of uncertainty tests were repeated after permanence testing.

**Evaluated By:** T. Buck (OH) 14-057

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

**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) 14-057, 14-057A1

**Example of Device:**



**APS Series Non-Computing Scale**