



## NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Non-Computing Scale  
Bench Scale, Top Loading Balance  
Digital Electronic  
Model: EK<sub>i</sub> and EW<sub>i</sub> Series  
 $n_{\max}$  and  $e_{\min}$  (See Table on Page 2)  
Platform: 133 x 170 (mm)  
Accuracy Class: II/III

**Submitted By: Contact Info. Updated November 2022**

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**Standard Features and Options**

Externally selectable units of measure using the “mode” push-button: gram (g), ounce (OZ), ounce troy (ozt), pound (lb), pennyweight (dwt), carat (ct), and grain (GN)

A label stating, “The counting feature is not legal for trade” is attached near the weight display.

Semi-automatic zero setting mechanism (push-button)

Automatic zero setting mechanism (AZSM)

Initial zero setting mechanism (IZSM)

AC/DC adapter

Motion annunciator

Weight comparator relay output

Net display indication

Counting and percent weighing

RS-232 serial interface

Level indicator

L.C.D. (liquid crystal display)

Category 1 physical seal

**Options:** Rechargeable battery pack. A low battery indication (“lb0”) replaces the weight display when the battery is below its normal operating voltage.

Models in the EW series may be configured as a multi-interval or single range device.

Combined Zero and Tare Key Marked “0/T”

Under Scale weighing, Models EK-6000i Class III and EK-12Ki Class II only.

**Load cells used:** A&D Model LC140-12K; For the EK-12Ki, EK-6000i, EW-12Ki models (non-NTEP)  
LC140-3000; For the EK-600i, EK-1200i, EW-1500i models (non-NTEP)

Temperature Range: 5 °C to 40 °C (41 °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.

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Chair, NCWM, Inc.

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**A&D Engineering, Inc.**  
Non-Computing Scale / EK<sub>i</sub> and EW<sub>i</sub> Series

Model	Capacity (g)	n <sub>max</sub>	d (g)	Class
EK-600i	600	6 000	0.1	III
EK-1200i	1 200	12 000	0.1	II
* EK-6000i	6 000	6 000	1	III
* EK-12Ki	12 000	12 000	1	II
EW-1500i	1 500	3 000	0.5	III
EW-12Ki	12 000	2 400	5	III
EW-1500i Multi-interval configuration	300	3 000	0.1	III
	600	3 000	0.2	
	1 500	3 000	0.5	
EW-12Ki Multi-interval configuration	3 000	3 000	1	III
	6 000	3 000	2	
	12 000	2 400	5	

\* Under scale/ Under hook weighing capability on bulleted models EK-12Ki Class II and EK-6000i Class III only

**Application:** General purpose top loading balances. The counting feature is not legal for trade. Devices that are manufactured after this certificate date with the combined "0/T" key must be marked adjacent to the weight display with the statement "Not for Direct Sales".

**Identification:** The manufacturer's identification, model number, and serial number are on a pressure-sensitive, self-destructive label located on the right side of the scale.

**Sealing:** The device has a category 1 physical seal and may be sealed by threading a wire security seal through a tab on the calibration switch access plate and a tab on the scale housing. The access plate is located on the back of the scale and prevents access to the calibration push-button switch inside.

**Test Conditions:** This Certificate supersedes Certificate of Conformance Number 04-019A3 and was issued without additional testing to reactivate Certificate of Conformance 04-019A3 without lapse. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 04-019A3:** This certificate supersedes Certificate of Conformance 04-019A2 and is issued to add under scale weighing capability for models: EK-6000i and EK-12Ki and update contact information. For this evaluation an A&D Model EK-12Ki was submitted for evaluation. Multiple increasing/decreasing load tests were performed on the platter and the under-scale weighing attachment to verify performance and repeatability. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 04-019A2:** This certificate supersedes Certificate of Conformance 04-019A1 and is issued to make a correction in the temperature range in the SFO box that was incorrectly stated. The correct range is 5 °C to 40 °C (41 °F to 104 °F) as shown in the test conditions below. No additional testing was deemed necessary. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 04-019A1:** This certificate supersedes Certificate of Conformance number 04-019 and is issued to add the optional 0/T (zero/tare) key optional feature. A device was submitted to an NTEP laboratory. The 0/T key feature was evaluated for compliance. Contact information has also been updated. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 04-019:** Models EK-1200i, EK-12Ki, and EW-12Ki were submitted for evaluation. The emphasis of the evaluation was on device design and performance. Each scale was tested over a voltage range of 100 VAC to 130 VAC, including from 5.8 VDC to 8.25 VDC. Influence factor tests were conducted over a temperature range of 5 °C to 40 °C (41



**A&D Engineering, Inc.**  
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°F to 104 °F). Several printing functions were tested utilizing the RS-232 serial port. Additionally, a load of one-half capacity was placed on each scale more than 100 000 times. Tests were repeated periodically per requirements.

**Evaluated By:** D. Parks (CA) 04-019; J. Morrison (OH) 04-019A1; M. Manheim (NCWM) 04-019A2; J. Gibson (OH) 04-019A3; J. Gibson (NCWM) 04-019A4 (CN 11100)

**Type Evaluation Criteria Used:** *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2020 Edition. *NCWM Publication 14 Measuring Devices*, 2019 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) 04-019, 04-019A1; D. Flocken (NCWM) 04-019A2, 04-019A3, 04-019A4

**Example(s) of Device:**



“0/T” Key Separated



“0/T” Key Shared



Square Platter



Under Scale Weighing “Under hook”