



NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Non-Computing Scale  
Bench Scale, Top Loading Balance  
Digital Electronic  
Models: EK*i* and EW*i* Series  
 $n_{max}$  and  $e_{min}$  (See Table on Page 2)  
Platform: 133 x 170 (mm)

Accuracy Class: II/III

**Submitted By:**

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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.

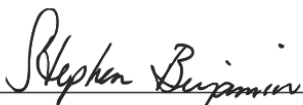
- |                                                     |                                 |
|-----------------------------------------------------|---------------------------------|
| Semi-automatic zero setting mechanism (push-button) | Net display indication          |
| Automatic zero setting mechanism (AZSM)             | Counting and percent weighing   |
| Initial zero setting mechanism (IZSM)               | RS-232 serial interface         |
| AC/DC adapter                                       | Level indicator                 |
| Motion annunciator                                  | L.C.D. (liquid crystal display) |
| Weight comparator relay output                      |                                 |


**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"

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: -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.

  
Stephen Benjamin  
Chairman, NCWM, Inc.

  
Kurt Floren  
Committee Chair, National Type Evaluation Program Committee  
Issued: March 29, 2013

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

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

**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 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 04-019 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-1200*i*, EK-12K*i*, and EW-12K*i* 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 °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

**Type Evaluation Criteria Used:** NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, 2012 Edition. NCWM Publication 14 Weighing Devices, 2012 Edition.



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

**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)

**Example of Device:**



“0/T” Key Separated

“0/T” Key Shared

