



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_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: 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.

Craig VanBuren
 Chairman, NCWM, Inc.

Stephen Benjamin
 Chair, NTEP Committee
 Issued: February 25, 2020

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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-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 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 °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.



A&D Engineering, Inc.
Non-Computing Scale / EK_i and EW_i Series

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

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

Example(s) of Device:



“0/T” Key Separated



“0/T” Key Shared



Square Platter



Under Scale Weighing “Under hook”