



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Non-Computing Scale
Digital Electronic
Model: HV Series*
 $n_{\max}$: 3 000
Capacity: 15 kg (30 lb), 60 kg (150 lb),
and 220 kg (500 lb)
Platform: (See Table*)
Accuracy Class: III

***Submitted By: Contact Info. Updated December 2019**

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Standard Features and Options

* See Page 2 for specific model designation, platform size, and $e_{\min}$ values.

Automatic Multiple Range Operation	Semi-automatic (push-button) Tare
Gross/Net Display	RS-232C Serial Interface
Unit Conversion (lb, kg, oz)	Initial Zero Setting Mechanism (IZSM)
Semi-automatic (push-button) Zero Setting Mechanism (SAZSM)	Automatic Zero Tracking (AZT)

Piece counting: “**The counting feature is not legal for trade**” is labeled on the indicator face.

Models HV-XXKGV/HV-XXKGL: Plastic indicator housing

Models with the V suffix have a fluorescent display, use AC line power and offer an optional built-in dot matrix printer

Models with the L suffix have a liquid crystal display and use six “D” size batteries or an AC adapter as a power source

Model HV-XXKV-WP: Stainless steel indicator housing

Models have a fluorescent display and use AC line power

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

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A&D Engineering, Inc.
Non-Computing Scale / HV Series

Application: General purpose bench and counter scale.

Identification: The manufacturer's identification, model number, and capacity by division size is located on the face of the indicator. The serial number is on a pressure sensitive self-destructive label on the left side of the plastic indicator head and on the rear of the stainless-steel indicator head.

Model Designation:

Model	Platform	Capacities with Multiple Ranges and Division Sizes		
HV-15KGV/L HV-15KV-WP	250 mm x 250 mm	0 to 3 kg x 0.001 kg 3 to 6 kg x 0.002 kg 6 to 15 kg x 0.005 kg	0 to 6 lb x 0.002 lb 6 to 15 lb x 0.005 lb 15 to 30 lb x 0.01 lb	0 to 96 oz x 0.05 oz 96 to 240 oz x 0.1 oz 240 to 480 oz x 0.2 oz
HV-60KGV/L HV-60KV-WP	330 mm x 424 mm	0 to 15 kg x 0.005 kg 15 to 30 kg x 0.01 kg 30 to 60 kg x 0.02 kg	0 to 30 lb x 0.01 lb 30 to 60 lb x 0.02 lb 60 to 150 lb x 0.05 lb	0 to 480 oz x 0.2 oz 480 to 960 oz x 0.5 oz 960 to 2400 oz x 1 oz
HV-200KGV/L HV-200KV-WP	390 mm x 530 mm	0 to 60 kg x 0.02 kg 60 to 150 kg x 0.05 kg 150 to 220 kg x 0.1 kg	0 to 150 lb x 0.05 lb 150 to 300 lb x 0.1 lb 300 to 500 lb x 0.2 lb	0 to 2400 oz x 1 oz 2400 to 4800 oz x 2 oz 4800 to 8000 oz x 5 oz

Sealing: The device can be sealed by means of a wire security seal threaded through two drilled head screws which hold the door on the rear of the indicator head, preventing access to the calibration switch.

Test Conditions: Three models were submitted for evaluation: an HV-15KGL, an HV-60KV-WP and an HV-200KGV. Several increasing/decreasing load and shift tests were performed. The devices were tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). A load of approximately one-half capacity was applied to the scale over 100 000 times with accuracy tests performed at approximately every 25 000 times. Tests were also conducted with line voltages of 102 VAC and 132 VAC on the V suffix model and 6 VDC and 9.9 VDC on the L suffix model.

Evaluated By: C. Harris (OH)

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2013 Edition. *NCWM Publication 14 Weighing Devices*, 2012 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)



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Example(s) of Device:



HV-15KGL



HV-60KV-WP



HV-200KGV

