



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Non-Computing Scale
 Digital Electronic
 Model: Adventurer AXxNy Series
 n_{max} : 5200 to 220 000 (see page 2)
 e_{min} : (see page 2)
 Capacity: 220 g to 12 000 g (see page 2)
 Platform Size (see page 2)
 Accuracy Class: I, II

Submitted By:

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Standard Features and Options**Model Designation:**

- AX = Type
- x = Capacity and Readability Code (3 to 5 numeric characters)
- N = NTEP Certified
- y = Feature Code (0 to 4 alphanumeric characters), where blank = internal calibration, /E = external calibration only, and GN = Test Weight and Dockage functions for grain testing.

Features and Functions:

- Automatic Zero Tracking (AZT)
- Initial Zero Setting Mechanism (IZSM)
- Semi-Automatic Zero (Push Button)
- Semi-Automatic Tare (Push Button)
- Programmable Tare
- AC/DC Power Converter
- Gross/Net Display
- Automatic or Semi-Automatic Calibration
- Shading or Bracketing of the Display is Used to Identify "d" when it is not equal to "e" ($d < e$)
- Weight Units: carat, grain, gram, kilogram, milligram, pennyweight, pound, ounce, troy ounce.
- External Printer
- Category 1 Physical Seal
- Integral Display
- Liquid Crystal Display
- Separate Gross/Tare/Net Display
- Touch Screen Display
- RS 232/USB
- Linearity Calibration points (3)
- Weight Accumulation (Manual)
- "The Counting Feature is Not Legal for Trade" or "Counting Feature for Prescription Filling Only" is labeled on the front of the scale.
- Ethernet (optional)
- Test Weight mode (Model AX4202N/EGN, AX5202N/EGN)
- Dockage percent mode (Model AX4202N/EGN, AX5202N/EGN)

Load Cells Used: Mettler Toledo non-NTEP (see table and note page 2)

Temperature Range: 10 °C to 30 °C (50 °F to 86 °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
 Committee Chair, NTEP Committee
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Non-Computing Scale / Adventurer AXxNy

Application: For general purpose weighing, retail jewelry/precious metal weighing, prescription weighing, prescription counting, weighing of grain in commercial and UDSA/GIPSA applications.

Specific Models, Capacities and Parameters:

Model	Capacity (g)	e	d	n _{max}	Class	Platter Dimensions	Load Cell Used See Note *
AX224N	220 g	0.001 g	0.0001 g or 0.001 g	220 000	I	90 mm	NMBA
AX423N	420 g	0.01 g	0.001 g or 0.01 g	42 000	II	130 mm	AX523PC
AX223N/E	220 g	0.01 g	0.001 g or 0.01 g	22 000	II	130 mm	AX523PE
AX423N/E	420 g	0.01 g	0.001 g or 0.01 g	42 000	II	130 mm	AX523PE
AX523N/E	520 g	0.01 g	0.001 g or 0.01 g	52 000	II	130 mm	AX523PE
AX623N/E	620 g	0.01 g	0.001 g or 0.01 g	62000	II	130 mm	ODNON0600G3
AX522N/E	520 g	0.1 g	0.01 g or 0.1 g	5200	II	175 x 195 mm	AX5202PE
AX622N/E	620 g	0.1 g	0.01 g or 0.1 g	6200	II	175 x 195 mm	AX5202PE
AX822N/E	820 g	0.1 g	0.01 g or 0.1 g	8200	II	175 x 195 mm	AX5202PE
AX1502N/E	1520 g	0.1 g	0.01 g or 0.1 g	15 200	II	175 x 195 mm	AX5202PE
AX2202N/E	2200 g	0.1 g	0.01 g or 0.1 g	22 000	II	175 x 195 mm	AX5202PE
AX4202N/E	4200 g	0.1 g	0.01 g or 0.1 g	42 000	II	175 x 195 mm	AX5202PE
AX4202N/EGN	4200 g	0.1 g	0.01 g or 0.1 g	42 000	II	175 x 195 mm	AX5202PE
AX5202N/EGN	5200g	0.1g	0.01 g or 0.1 g	52000	II	175 x 195 mm	IMPDI6000G2-3C
AX6202N/E	6200 g	0.1 g	0.01 g or 0.1 g	62000	II	175 x 195 mm	ODNON6000G2
AX8201N/E	8200 g	1 g	0.1 g or 1 g	8200	II	175 x 195 mm	LSVK
AX10201N/E	10200 g	1 g	0.1 g or 1 g	10200	II	175 x 195 mm	OSOAN12000G1
AX12001N/E	12 000 g	1 g	0.1 g or 1 g	12000	II	175 x 195 mm	OSOAN12000G1

* Note: The division size (d) is selected in the device's Setup menu. The d value cannot be changed when the device is in Approved Mode and sealed.

Load cells used in all models are Mettler-Toledo refer to the table above or the following list for load cell models, ODLOI0200G4, ODNOI0600G3, ODNON0600G3, ODNON3000G2, ODNON5000G2, ODNON6000G2 and OSOAN12000G1

Identification: G.S.1 information is placed on a pressure sensitive and tamper proof identification badge located on the side of the device.

Sealing: A category 1 seal is used. To seal the device, a wire security seal may be threaded through tabs in a sliding cover and the base housing at the rear of the balance. Alternately, a destructible sealing label may be affixed to the sliding cover and the base housing. When the sliding cover is sealed in the locked position, access to the calibration switch inside the housing is prevented. Remote calibration and configuration are also blocked when the balance is sealed.

Test Conditions: This Certificate supersedes Certificate of Conformance Number 14-082A3 and is issued to increase the maximum capacity add an additional load cell option and external printing capability for all models of the AXxNy Series. The following four models were submitted for evaluation, the AX224N 220 g, AX623N/E, AX6202N/E, AX12001N/E. Multiple increasing/decreasing load and eccentricity tests were performed. The scales were tested over a temperature range of 10 °C to 30 °C (50 °F to 86 °F). Tests were also conducted with a power supply of 85 VAC and 264 VAC. A load of approximately ½ capacity was applied to the scale over 100 000 times the scale was tested during the permanence test and at the conclusion of permanence testing the eccentricity and discrimination tests were repeated. Printing functions of the external printer were verified. Previous test conditions are listed below for reference.

Certificate of Conformance Number 14-082A3: This Certificate supersedes Certificate of Conformance Number 14-082A2 and is issued to update the model description and to add alternate values for the division size “d”. No additional testing was required. Previous test conditions are listed below for reference.

Certificate of Conformance Number 14-082A2: This Certificate supersedes Certificate of Conformance Number 14-082A1. The emphasis of the evaluation was on operation, performance, permanence and compliance with influence factor requirements. A new model was submitted. Model:AX5202N/ECN with a Mettler- Toledo model IMPDI6000G2-3C load cell. Several increasing/decreasing load and shift tests were performed. The scales were tested over a temperature range of 10 °C to 30 °C (50 °F to 86 °F). Tests were also conducted with a power supply of 100VAC and 130VAC. A load of approximately ½ capacity was applied to



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the scale over 100 000 times, and the scale was tested periodically during the permanence test. Previous test conditions are listed below for reference.

Certificate of Conformance Number 14-082A1: This Certificate supersedes Certificate of Conformance Number 14-082 and is issued to clarify that d may be differentiated by shading or bracketing, clarify that model AX4202N/EGN includes the Test Weight and Dockage modes for grain testing and add the ability to set the division size to 0.01 g or 0.1 g for model AX4202N/EGN. All items were tested and verified. Previous test conditions are listed below for reference.

Certificate of Conformance Number 14-082: This device was submitted to and evaluated by Measurement Canada under the U.S. and Canadian MRA. The technical data was reviewed by the Maryland NTEP laboratory for compliance with Publication 14 and NIST Handbook 44 requirements. The emphasis of the evaluation was on device design, operation, performance, permanence and compliance with influence factor requirements. Several increasing/decreasing load and shift tests were performed. The scales were tested over a temperature range of 10 °C to 30 °C (50 °F to 86 °F). Tests were also conducted with a power supply of 100VAC and 130VAC.

Evaluated By: J. Rae (MC), E.A. Payne, Jr (MD) 14-082; M. Kelley (OH) 14-082A1, 14-082A2, J. Gibson (OH) 14-082A4

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2020 Edition. *NCWM Publication 14 Weighing Devices*, 2020 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) 14-082, 14-082A1, 14-082A2; D. Flocken (NCWM) 14-082A3, 14-082A4

Examples of Device:

