



## NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Non-Computing Scale  
Digital Electronic  
Model: FX Series (see table on page 2)  
 $n_{max}$ : 32 000  
 $e_{min}$ : see table on page 2  
Capacity: see table on page 2  
Platform: see table on page 2  
Accuracy Class: II

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**Standard Features and Options**

The FX Series have the following externally selectable units of measure using the "mode" push button: gram (g), ounce (oz), pound (lb), troy ounce (oz t), metric carat (ct), pennyweight (dwt).

"The counting feature is not legal for trade," is labeled on the front of the device for non-prescription models.

**Standard Features:**

- Percent Weighing
- Semi-automatic (push-button) Zero
- Semi-automatic Zero Tracking Mechanism (AZTM)
- RS-232 Serial Interface
- AC/DC Adapter
- Level Indicator
- Vacuum Fluorescent Display
- Weight Comparator Mode

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.

Brett Gurney  
Chairman, NCWM, Inc.

James Cassidy  
Chairman, National Type Evaluation Program Committee  
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## A&D Engineering

### Non-Computing Scale / FX Series

Model	Capacity (g)	$n_{max}$	e (g)	d (g)	pan diameter (mm)
FX-120iN	122 g	12 200	0.01 g	0.001 g	130
FX-120i-P	122 g	12 200	0.01 g	0.001 g	130
FX-120iWPN	122 g	12 200	0.01 g	0.001 g	130
FX-120iWP-P	122 g	12 200	0.01 g	0.001 g	130
FX-120GD	122 g	12 200	0.01 g	0.001 g	130
FX-200iN	220 g	22 000	0.01 g	0.001 g	130
FX-200i-P	220 g	22 000	0.01 g	0.001 g	130
FX-200iWPN	220 g	22 000	0.01 g	0.001 g	130
FX-200iWP-P	220 g	22 000	0.01 g	0.001 g	130
FX-200GD	220 g	22 000	0.01 g	0.001 g	130
FX-300iN	320 g	32 000	0.01 g	0.001 g	130
FX-300i-P	320 g	32 000	0.01 g	0.001 g	130
FX-300WPN	320 g	32 000	0.01 g	0.001 g	130
FX-300iWP-P *	320 g	32 000	0.01 g	0.001 g	130
FX-300GD	320 g	32 000	0.01 g	0.001 g	130
FX-1200iN	1 220 g	12 200	0.1 g	0.01 g	150
FX-1200i-P	1 220 g	12 200	0.1 g	0.01 g	150
FX-1200iWPN	1 220 g	12 200	0.1 g	0.01 g	150
FX-1200iWP-P	1 220 g	12 200	0.1 g	0.01 g	150
FX-1200iGD	1 220 g	12 200	0.1 g	0.01 g	150
FX-2000iN	2 200 g	22 000	0.1 g	0.01 g	150
FX-2000i-P	2 200 g	22 000	0.1 g	0.01 g	150
FX-2000iWPN	2 200 g	22 000	0.1 g	0.01 g	150
FX-2000iWP-P	2 200 g	22 000	0.1 g	0.01 g	150
FX-2000GD	2 200 g	22 000	0.1 g	0.01 g	150
FX-3000iN	3 200 g	32 000	0.1 g	0.01 g	150
FX-3000i-P	3 200 g	32 000	0.1 g	0.01 g	150
FX-3000iWPN*	3 200 g	32 000	0.1 g	0.01 g	150
FX-3000iWP-P	3 200 g	32 000	0.1 g	0.01 g	150
FX-3000GD	3 200 g	32 000	0.1 g	0.01 g	150
FX-300CT	62 g	32 200	0.02 g	0.002 g	90
FX-600CT	122 g	12 200	0.01 g	0.001 g	90

**\* Models Tested**

**P** = Prescription Scale with Counting Feature    **WP-P** = Moisture and Dustproof and Prescription Scale with Counting Feature, **GD** = Grams Only Feature Weighing    **CT** = Jewelry Scale with Carat and Grams Only Feature, **I, N, and WPN** = are marketing identifiers with no metrological significance

**Application:** General purpose top loading balance. The FX Series of balances are suitable for use as a jeweler's scale. The FX-xxxWP-P is suitable for prescription weighing and counting. FX-xxxCT is suitable for carat and grams weighing only.

**Identification:** The device markings are on a pressure sensitive, tamper evident label located on the right side of the scale.

**Sealing:** The device can be sealed by threading a wire security seal through two screws on the RS-232 serial interface plate and scale housing. This prevents access to the calibration switch inside the device.

**Test Conditions:** This Certificate supersedes Certificate of Conformance 08-045A2 and is issued to clarify the model designations covered by the certificate. Changes made to model designations for marketing reasons led to confusion of the model numbers stated on the certificate. The (\*) on the model FX-3000iWPN was added to this model in this amendment as the actual model description was changed since the original evaluation. No metrological changes have been made to the models stated on this certificate. Previous test conditions are listed below for reference.



## A&D Engineering

Non-Computing Scale / FX Series

**Certificate of Conformance Number 08-045A2:** This Certificate supersedes Certificate of Conformance 08-045A1 and is issued to add 12 new model designations ending with a suffix "N" or "WPN". All models were added without additional testing based on information supplied by the manufacturer indicating that this is a change of model numbers not a new design. The N and WPN suffixes have no metrological significance. Previous models remain listed on the certificate to recognize devices previously manufactured. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 08-045A1:** This Certificate supersedes Certificate of Conformance 08-045 and is issued to add 20 new models. All models were added without additional testing based on information supplied by the manufacturer.

**Certificate of Conformance Number 08-045:** A FX-300i WP-P and FX-3000iWP were submitted for evaluation. The emphasis of the evaluation was on device design, general performance, print function and compliance with influence factor requirements. Several increasing/decreasing load and shift tests were conducted. Each scale was tested over a voltage range of 100VAC to 130 VAC and at a DCV of 5 VDC to 13.2 VDC. Influence factor tests were conducted over a temperature range of 10°C to 30°C (50°F to 86°F). Additionally, a load of one-half capacity was placed on each scale more than 100 000 times. The device was tested for accuracy and functionality. Results of the evaluation indicate the devices comply with applicable requirements.

**Evaluated By:** S. Boyd (CA) 08-045; S. Muñoz (CA) 08-045A1

**Type Evaluation Criteria Used:** NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2009. NCWM, Publication 14: Weighing Devices, 2018.

**Conclusion:** The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

**Information Reviewed By:** S. Patoray, L. Bernetich (NCWM) 08-045; J. Truex (NCWM) 08-045A1, 08-045A2; D. Flocken (NCWM), 08-045A3



### A&D Engineering

Non-Computing Scale / FX Series

#### Examples of Device:



Model FX 3000iWP-P – Front View



Model FX 3000iWP-P – Rear View



Function Buttons – on/off, cal, mode, sample, print and zero



Model FX 3000iWP-P – Calibration Plate and Screws View