

***National Type Evaluation Program  
Certificate of Conformance  
for Weighing and Measuring Devices***

**For:**

Non-Computing Scale  
Digital Electronic  
Model: FG Series  
 $n_{\max}$ : 4000  
Capacity: See table on page 2\*  
  
Accuracy Class: III

**Submitted by:**

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**Standard Features and Options**

Semi-automatic (push button) zero setting mechanism	Battery saving feature (auto-shut off)
Initial (IZSM) zero setting mechanism	Battery power supply
Automatic (AZSM) zero setting mechanism	AC/DC adapter
Semi-automatic (push button) tare	Units (lb, kg, oz)
LCD display	

A label stating, "The counting feature is not legal for trade" is attached near the weight display.

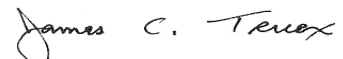
Load cell used: A&D Part number LC 150-30 kg, (non NTEP)  
A&D Part number LC 150-60 kg, (non NTEP)  
A&D Part number LC 150-150 kg (non NTEP)

Temperature range:  $-10^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $104^{\circ}\text{F}$ )

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of 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.



Don Onwiler  
Chairman, NCWM, Inc.



James C. Truex  
Chairman, National Type Evaluation Program Committee

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Note: The National Conference on Weights and Measures does not "approve", "recommend", or "endorse" any proprietary product or material, either as a single item or as a class or group. Results shall not be used in advertising or sales promotion to indicate explicit or implicit endorsement of the product or material by the NCWM.

**A & D Engineering**  
**Non-Computing Scale**  
**Model: FG Series**

**Application:** Non computing scale used for general purpose weighing applications.

**Identification:** The required information is on an adhesive badge affixed on the side of the indicating element.

**Sealing:** The device is sealed on the rear of the display by means of a wire security seal threaded through two thumb screws to prevent access to the calibration switch .

**\* Capacities, division sizes,  $n_{max}$  and pan sizes**

Model	Capacity x d in lb	Capacity x d in kg	Capacity x d in oz	$n_{max}$	Pan Size in mm	Comments
FG-30KAM	60 x 0.02	30 x 0.01	960 x 0.5	3000	300 x 380	Display on column
FG-60KAM	150 x 0.05	60 x 0.02	2400 x 1	3000	300 x 380	Display on column
FG-150KAM	300 x 0.1	150 x 0.05	4800 x 2	3000	300 x 380	Display on column
FG-200KAM	400 x 0.1	200 x 0.05	6400 x 2	4000	300 x 380	Display on column
FG-30KBM	60 x 0.02	30 x 0.01	960 x 0.5	3000	300 x 380	no column
FG-60KBM	150 x 0.05	60 x 0.02	2400 x 1	3000	300 x 380	no column
FG-150KBM	300 x 0.1	150 x 0.05	4800 x 2	3000	300 x 380	no column
FG-200KBM	400 x 0.1	200 x 0.05	6400 x 2	4000	300 x 380	no column
FG-60KAL	150 x 0.05	60 x 0.02	2400 x 1	3000	390 x 530	Large pan with column
FG-150KAL	300 x 0.1	150 x 0.05	4800 x 2	3000	390 x 530	Large pan with column
FG-200KAL	400 x 0.1	200 x 0.05	6400 x 2	4000	390 x 530	Large pan with column

**Test Conditions:** The emphasis of the evaluation was on the device design, operation, marking requirements and compliance with influence factor requirements. For the purpose of the evaluation, a model FG-200KAL, 400 lb x 0.1 lb (200 kg x 0.05 kg) and a model FG-30KAM, 60 lb x 0.02 lb (30 kg x 0.01 kg) were submitted. Several increasing/decreasing load and shift tests were conducted on each scale. The scales were tested over a temperature range of  $-10^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $104^{\circ}\text{F}$ ). A load of approximately one-half scale capacity was applied to each scale over 100 000 times. The scale was tested periodically during this time. Tests were also conducted with a power supply of 100 VAC to 120VAC, and 5.8 VDC to 10.0 VDC

**Evaluated By:** T. Lucas (OH), W. West (OH)

**Type Evaluation Criteria Used:** NIST Handbook 44, 2005 Edition; NCWM Publication 14, 2005 Edition

**Conclusion:** The results of the evaluations and information provided by the manufacturer indicate the devices comply with applicable requirements.

**Reviewed By:** S. Patoray (NCWM), L. Bernetich (NCWM)