

**State of California**  
 Department of Food and Agriculture  
 Division of Measurement Standards

Certificate Number: 4987(a)-01  
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***California Type Evaluation Program***  
***Certificate of Approval***  
***for Weighing Devices***

**For:**  
 Price Computing and Bench Scale  
 Digital Electronic  
 Models: FX 220 and FX 210  
 $n_{max}$ : 6000  
 $e_{min}$ : 0.002 lb (0.001 kg)  
 Capacity: See Table Below  
 Platform: 11.75" x 8.5"  
 Accuracy Class: III

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**Standard Features and Options**

Capacities*	
6 lb x 0.002 lb	3 kg x 0.001 kg
12 lb x 0.002 lb	6 kg x 0.001 kg
15 lb x 0.005 lb	6 kg x 0.002 kg
30 lb x 0.005 lb	12 kg x 0.002 kg
30 lb x 0.01 lb	15 kg x 0.005 kg
60 lb x 0.01 lb	30 kg x 0.005 kg
* Capacities are set-up at the factory	

**FX 210 and FX 220**

Initial zero setting mechanism (IZSM)  
 Automatic zero setting mechanism (AZSM)  
 Semi-automatic zero (push-button)  
 Semi-automatic tare (push-button)  
 Center of zero annunciator  
 Liquid crystal display (LCD)  
 Sleep timer with variable time settings  
 Gross/net weight display  
 120 VAC power adapter

**FX 220 only**

Stored tare  
 Proportional tare (Canada only)  
 Multiplier keys (x2 and x4 or price per 100 g)  
 Accumulation of total price  
 Price look up (PLU)  
 Keyboard tare

**Options:** Tower weight display      Internal 9 VDC battery operation      Re-chargeable battery pack  
 Load cell: Avery Berkel T701 (Certificate of Conformance Number 98-199)

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

These devices were evaluated under the California Type Evaluation Program (CTEP) and were found to comply with the applicable requirements of California Code of Regulations for "Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: March 12, 2001

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 Mike Cleary, Director

**Avery Berkel**  
**Price Computing and Bench Scale**  
**Models: FX 220 and FX 210**

**Application:** The FX 220 is for use in direct sales, price computing, or general purpose weighing. The FX 210 is for general purpose weighing.

**Identification:** The self-destructive pressure-sensitive seal is on the right side of the scale.

**Sealing:** The scale may be sealed using two pressure-sensitive security seals. A self-destructive adhesive security seal may be placed over the programming access cover, which is located inside the battery compartment on the right-hand side of the scale. This prevents access to the main printed circuit (PC) board connector. The scale calibration mode is accessible when a connector, with a jumper pin installed, is connected to the PC board. A second adhesive seal may be placed on the underside of the scale over the base cover release clip.

**Test Conditions:** This certificate supersedes Certificate of Approval Number 4987-99 and is issued to include the Model FX 210 and to increase the capacity of both models (60 lb x 0.01 lb, 30 kg x 0.005 kg). The Model FX 210 is identical in construction to the Model FX 220 with the exception of price computing features. A Model FX 210 with a capacity of 30 kg x 0.005 kg was submitted for evaluation. Several increasing/decreasing load and shift tests were conducted. The scale was tested for width of zero, center of zero, discrimination, and zone of uncertainty requirements. The scale was tested over a voltage range of 5.4 VDC to 13.2 VDC. Influence factor tests were conducted over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Additionally, a load of one-half capacity was placed on the scales over 100 000 times. The original test conditions are listed below for reference.

**Certificate of Approval Number 4987-99:** Three models were submitted for evaluation: A 6 kg x 0.001 kg capacity scale with a tower display and battery power supply, a 15 kg x 0.005 kg capacity scale, and a 30 lb x 0.005 lb capacity scale. The emphasis of the evaluation was on device design, operation, performance, and marking requirements. Each device was tested for width of zero, center of zero, discrimination, and zone of uncertainty requirements. Several increasing/decreasing load and shift tests were conducted. Additionally, the devices were tested over a voltage range of 100 VAC to 130 VAC and 4.5 VDC to 8 VDC. Influence factor tests were conducted on each scale over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). A load of one-half capacity was applied to the scales over 100 000 times. The scales were tested periodically during this time.

Results of the evaluations indicate the devices comply with applicable requirements.

**Type Evaluation Criteria Used:** Title 4, California Code of Regulations, 2001 Edition

**Tested By:** Sam Chan (CA)

**Update Reviewed By:** Dan Parks (CA)