# National Conference on Weights and Measures

15245 Shady Grove Road, Suite 130 • Rockville, MD 20850

Certificate Number: 07-017



## *National Type Evaluation Program*

### *Certificate of Conformance for Weighing and Measuring Devices*

**For:**

Non Computing Scale, Jewelers/Prescription/Counting
Digital Electronic
Models: ZSP-150-NJ, ZSP-400-NJ, ZSP-400-NP
Capacity: 150g to 400g
$n_{max}$: 40 000 $e_{min}$: 0.01g
Platform size: 4.5" diameter

Accuracy Class: II

**Submitted by:**

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**Standard Features and Options**

L.C.D. (Liquid Crystal Display)
Semi-Automatic (Push-Button) Zero Setting Mechanism
Semi-Automatic Calibration
Remote Capability Printer
AC/DC Power Adapter
Bi-directional RS-232
Weight units: gram, milligram, carat, pennyweight, ounce, troy ounce

Temperature Range: 12º C to 30º C (53.6º F to 86º 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.

Mike Cleary
Chairman, NCWM, Inc.

Don Onwiler
Chairman, National Type Evaluation Program Committee

Issue date: February 12, 2007

**Scientech, Inc.**
**Non Computing Scale**
**Model: ZSP Series**

**Application:** For use in general purpose Class II weighing, as two gem scales (models ZSP-400-NJ, and ZSP-150-NJ) and one pharmaceutical pill counting and compounding scale (model ZSP-400-NP). All three scales in the ZSP Series are identical in mechanical design and differ only in capacity.

**Identification:** The required information appears on a tamper proof badge with a corresponding clear over-laminate located on the back panel of the scale. Units, and capacity by division per each unit, are listed on a similar badge on the front display. "Counting Feature for Prescription Weighing Only" is stated on the ZSP-400-NP prescription scale.

**Sealing:** The scale may be sealed off, thus preventing undetected access to the calibration dip switch inside, by a lead and wire seal that passes through one cross drilled screw on the back-left or back-right side of the device and wraps around that same side of the device to another cross drilled screw. A metrological seal is placed over the wire covering the top, bottom and rear panel of the device.

**Operation:** The following is a list of front panel control descriptions:

(1) The 'ON/OFF (I/O)' button will start the 'on' sequence and complete an automatic systems checkout to insure the scale is functioning properly.
(2) The 'RANGE/FUNCTION' button begins a menu cycle that includes: 'PCS' – front panel parts counting; 'HI OK LO' – checkweighing; 'T' – live animal weighing; and '%' – percent weighing.
(3) To zero the device, press one of the two 'ZERO →0←' buttons. The balance will not zero during a disturbance and if unstable when the ZERO is pressed, it will display dashes until the disturbance is gone and will then re-zero the device.
(4) The 'MODE/UNITS' button starts the unit of weight cycles as follows:
For prescription models: grams (g) and milligrams (mg) only.
For gem models: grams (g), carats (ct), pennyweights (dwt), troy ounces (oz t), and ounces (oz).
When the desired weight appears, press the 'MODE/UNITS' button again to select the weight unit.
(5) Pressing the 'SEND' button sends information on the display to an external device via the RS-232 interface.

**Test Conditions:** For the purpose of this evaluation, three models of the ZSP Series were submitted for Class II approval: ZSP-400-NJ, 400 x 0.01g; ZSP-400-NP, 400 x 0.01g; and ZSP-150-NJ, 150 x 0.01g. The emphasis of the evaluation was on the device design, marking requirements, performance, and compliance with influence factors. Several increasing/decreasing load and shift tests were conducted. The scales were tested over a temperature range of 12 °C to 30 °C (53.6 °F to 86 °F). A load of approximately one-half capacity was applied to the scales over 100 000 times each. The scales were tested periodically over this time. Tests were conducted using 100 VAC and 130 VAC power supplies.

**Evaluated By:** J. Bigrigg (OH), T. Buck (OH), W. West (OH)

**Type Evaluation Criteria Used:** NIST Handbook 44, 2007 Edition; NCWM Publication 14, 2006 Edition

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

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

**Scientech, Inc.**
**Non Computing Scale**
**Model: ZSP Series**

**Example of Model ZSP Series:**