



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Indicating Element
Digital Electronic
Model: 7400VIGOR, 7500VIGOR, 7600VIGOR &
8200REPEL
 $n_{\max}$: 10 000

Accuracy Class: III/III L

Submitted By:

Tufner Weighing Systems
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Standard Features and Options

- Semi-automatic (push-button) zero setting mechanism (SAZSM)
 - Automatic zero tracking (AZT)
 - Gross/Net display
 - Gross and net accumulation
 - Liquid crystal (LCD) display
 - AC or DC power
 - Semi-automatic (push-button) tare
 - One Bi-directional communication port
 - ABS plastic enclosure (desktop or panel mount) (Model 7400VERSA)
 - Composite plastic enclosure (desktop) (Model 8200REPEL)
 - Stainless steel (Model 7500VOGOR & 7600VIGOR)
 - Category II Audit trail capability (see page two)
 - Silicon rubber keypad (Model 7400VERSA)
 - Membrane keypad (Model 7500VERSA & 7600VERSA)
 - Capacitive keypad (Model 8200REPEL)
 - External unit selection (kg, lb, g, t)
 - Battery saving feature (auto shut off)
 - Battery saving feature (auto shut off)
 - Multi-interval capability
- Tufner software

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

James Cassidy
Chairman, NCWM, Inc.

Kristin Macey
Committee Chair, National Type Evaluation Program Committee
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Tufner Weighing Systems

Indicating Element / 7400VIGOR, 7500VIGOR, 7600VIGOR & 8200REPEL

Application: General-purpose indicator for use with certified and compatible Class III or III L weighing elements.

Identification: An adhesive identification badge is located on the front of the device (Models 7400VIGOR, 7500VIGOR and 7600VIGOR). The Model 8200REPEL identification badge is inside the enclosure and is visible through a clear plastic window.

Sealing: This device is equipped with non-resettable counters that increment every time the unit is calibrated or configured. To view the counters:

1. Press and hold the power key for 3 seconds to turn off the indicator.
2. Press the power key to turn the indicator back on.
3. The event counters will be displayed during the power up sequence for approximately two seconds.
 - a. The calibration counter will be identified by C.xxxxx (example: C.00005).
 - b. The setup configuration counter will be identified by F.xxxxx (example: F.00005).

Calibration mode by default is accessed via front panel keys protected with a 6-digit PIN code. Alternatively calibration mode can be accessed via a button marked “setup” located on the rear of the indicator which can be protected using traditional physical seals in addition to the PIN code. Enable the rear “setup” button as follows:

- Setup button is located in the lower middle. The r.entry parameter must be set to “on”.
 1. Press [POWER] + [F1] to access the setup mode ([POWER] + [GROSS/NET] on the X320).
 2. Press [ZERO] to the OPTION menu.
 3. Press [TARE] to the r.entry parameter.
 4. Press [GROSS/NET] to view the parameter.
 5. Press [PRINT] to turn on if set to off.
 6. Press [F] to accept change
 7. Press [POWER] + [F1] to save the change and exit the setup mode.
 8. Press the setup button to access the setup mode and make changes or calibrate.
 9. Press [POWER] + [F1] ([POWER] + [GROSS/NET] on the X320) to save the change and exit the setup mode. The setup mode cannot be accessed again without pressing the rear “setup” button.
 10. Place the physical seal plastic cover over the load cell and comm port connectors (R310, R323, R320 panel mount installation) and install the drill head screws.
 11. Thread the wire security seal through the drill head screws.

Test Conditions: This Certificate was issued based upon the following tests and upon information provided by the manufacturer. The emphasis of the evaluation was on the device design, operation, marking requirements and compliance with influence factor requirements. Indicators were interfaced with a load cell simulator and then tested for accuracy over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). An indicator was interfaced with a GSE Model 4700 (Certificate of Conformance 05-058) 100 lb x 0.02 lb weighing element and a printer. The devices were tested for discrimination, power interruption, zero tests, and print format. Additionally, the devices were tested with a supply voltage of 100VAC to 130VAC and 10.8VDC to 26.4VDC.

Evaluated By: A. McCoy, J. Morrison (OH)

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

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

Information Reviewed By: J. Truex (NCWM)

Examples of Device:



Tufner Weighing Systems

Indicating Element / 7400VIGOR, 7500VIGOR, 7600VIGOR & 8200REPEL



7400VIGOR



7500VIGOR



7600VIGOR



8200REPEL