

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

**For:**

Belt Conveyor Scale  
Load Cell Electronic  
Model: NAR-X-Y-Z  
Integrator Model: S5200  
Scale Capacity: 102 ton/hr to 10 200 ton/hr

**Submitted by:**

Thayer Scale, Hyer Industries  
91 Schoosett Street  
Pembroke, MA 02359  
Tel: (781) 826-8101  
Fax: (781) 781-7944  
Contact: Steven Zaleski

**Standard Features and Options**

Model number NAR-X-Y-Z: Where: X = Number of Idlers, Y = Belt Width, Z = Idler Spacing  
Model S5200 integrator, includes master weight totalizer, rate of flow indicator, alarms and fault indication, and status of zero tracking  
Rocking flexure approach-retreat design with isolation lever and mass counterbalance  
Calibration test weight and storage assembly  
Automatic calibration, automatic zero setting mechanism, low-flow lockout  
Isolated outputs for rate, totals, low flow indicators, and alarms

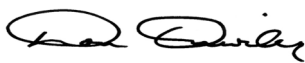
Number of Idlers	4 or 6
Belt Width	18 in to 96 in
Idler Spacing	36 in to 60 in
Belt Speed	100 ft/min to 1000 ft/min
Belt Loading	34 lb/ft to 340 lb/ft
Scale Capacity	102 ton/hr to 10200 ton/hr
Weighbridge Length	12 ft to 30 ft

Load Cell: Totalcomp Model TS-XX, Type "S" (NTEP CC 93-028)

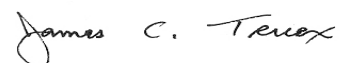
Options: Intrinsic Safety Barriers, serial and device level communications (read only), printer and recorders

Temperature Range: -10 °C to 40 °C (14 °F to 104 °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  
Issued Date: September 30, 2005

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.

**Thayer Scale, Hyer Industries**  
**Belt Conveyor Scale**  
**Model: NAR-X-Y-Z**

**Application:** In motion weighing of bulk material.

**Identification:** An identification plate containing required and additional information is permanently attached to the weighing element and is on the side of the weigh frame. An identification plate is also permanently attached to the front of the cabinet containing the 5200 integrator.

**Sealing:** All sealable parameters are located in the integrator which is housed in a metal cabinet. A "Security Release" switch allows access to the calibration and configuration adjustments and is located below the integrator. A wire security seal secures a clear plastic cover over the switch, preventing access to the integrator calibration parameters. Additionally, the cabinet may be sealed with a tamper evident paper seal over the cabinet door latching screw.

**Test Conditions: Laboratory Test:** The emphasis of the evaluation was on the system's design and operation. The system submitted for the evaluation consisted of a Thayer Series 5200 integrator and a Thayer Model NAR-4-48-36 approach-retreat weighbridge. The load cell used was a Totalcomp, Inc. Model TS-150 (NTEP CC 93-028). The weighbridge was 144 in long and the belt was 48 in wide. Belt loading was conducted at SSC max of 90.476 lb/ft and SSC min of 60.00 lb/ft. Simulated belt speed was 400 ft/min. Tests were conducted over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Power voltage tests of 100 VAC to 130 VAC were conducted at 20 °C.

**Field Tests:** The emphasis of the field evaluation was on the system's design, performance, and operation. A Thayer Series 5200 integrator and a Thayer Model NAR-6-72-48 approach-retreat weighbridge was submitted for the evaluation. The scale was installed at Duke Power located in Salisbury, North Carolina, on a 240 ft long conveyor running at 701 fpm at a 15° incline with 35° trough idlers. Tests were performed using coal as the testing material. A certified and calibrated railroad track scale was used as the reference standard. The belt-conveyor scale had a weighbridge length of 24 ft and the capacity was stated as 4800 tph maximum and 1680 tph minimum. Maximum belt loading was stated as 228.180 lb/ft. Three sets of performance tests were conducted in November of 2004 at 4600 tph, resulting in errors of 0.15%, 0.08%, and 0.09%. The system was then used for 6 months and the system was re-tested in May 2005. Three sets of performance tests were repeated at 4600 tph resulting in errors of -0.08%, 0.04%, and 0.09%.

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

**Evaluated By:** K. Jones (CA)

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

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