

# TSC 350 Checkweigher

## Introduction

The TSC 350 Small Package In-Motion Checkweigher is designed to weigh discrete packaged products such as cartons, bottles, tubs, or boxes at high speeds. This checkweigher weighs products from 5 g to 10 kg with conveyor speeds in excess of 300 feet per minute, and production rates up to 350 units per minute.

The TSC 350 is designed for rigid products, and is the only checkweigher on the market that does not require the use of photo-eyes to detect the presence of a package crossing the scale – even at high production rates. Its all stainless steel conveyor and frame are designed to meet demanding production needs. The TSC 350 offers a simple to operate, easy to clean, low maintenance, yet highly accurate in-motion scale.

A wide variety of weigh station conveyor heights and lengths are available to meet your specific application needs. Metering, pacing, reject, and material handling options are available. Its standard I/O will interface to your new or existing metal detector, offering control of up to three reject devices for low/high/metal reject outputs. For rigid products that are within the 5 g to 10 kg range, the TSC 350 is the perfect choice.

The TSC 350 Checkweigher's design allows for disassembly without the use of tools. Additional features include digital speed controls and a single standard load cell, while each unit comes with Thompson Scale's dependable long-term service. The TSC 350 is built tough enough to handle virtually any product and meet any environmental requirement, yet it is responsive in both accuracy and performance.

## Checkweigher Controller

The TSC 350 Checkweigher employs Thompson Scale's Model 4693 Checkweigher Controller to provide an extensive feature set with the highest possible accuracy. This advanced controller offers many beneficial features such as a 75-product memory storage, adjustable five weight zones per product, and up to three reject outputs. It also provides easy to read menus with both English and Spanish in full sentences for better comprehension. The controls are housed in a rugged NEMA 4x/IP67 stainless steel enclosure.

The modular card rack allows for easy expandability and can interface with virtually any line or management tools. This makes the TSC 350 Checkweigher and Controller a highly flexible and reliable solution to your checkweighing needs.



## Easy Configuration

The TSC 350 utilizes multi-strand, high performance Nylatron or stainless steel flat-link chains to convey products across the weighing portion of the scale. The conveyors are driven by a single SCR-controlled DC motor with food-grade rated drive components. The chains are interchangeable, and include many commonly available parts. A single commonly available load cell, housed in a stainless steel labyrinth sealed enclosure provides a highly accurate and reliable weight each and every time.

Installation and adjustment is very easy and the variable speed conveyor drive allows for quick changeover from one product type to another. The extensive list of optional pacing and reject systems allows the TSC 350 to be configured for use in virtually any application.

The TSC 350 offers wash-down rated bearings and comes with harsh environment options. Drive components can easily be disassembled for quick inspection and easy maintenance.

## Quick Calibration

The TSC 350 Checkweigher only requires a single static calibration. Unlike other systems on the market, the TSC 350 utilizes a single calibration to provide accurate and repeatable weights over the range of the scale's capacity. There is no need for multi-pass dynamic calibrations every time product sizes or weights are changed. Simply enter the new product parameters and go – it's that simple. Calibration is digital, with no pots to turn, and uses a single standard test weight.

## Specifications

### Standard Construction

- UL and ULc Approved electrical controls
- IP 66 (NEMA 4X) standard
- All Stainless Steel or Epoxy Powder Coat construction
- Multi-strand Nylatron or Stainless Steel Conveyor Accommodates up to two additional chains and guides for larger or unstable products
- Food-grade horizontally/vertically adjustable Delrin chain guides
- Replaceable Delrin Guide Rail End Caps for economical maintenance
- Industry Standard 56 C-face 90 VDC Drive Motor
- Conveyor Lengths from 24" to 48" overall length
- Weigh Table Lengths from 3" to 15"
- Variety of Load Cell Capacities
- Commonly Available Drive Sprockets, Belts and Bearings
- Single 110 VAC, 60 Hz Power Source
- Adjustable Leveling Feet
- Adjustable Chain Guides

### Performance Features

- English and Spanish Menus in full sentences for better comprehension. French available soon
- Conveyor Speeds up to 300 ft (91.44 m)/min
- Production Rates up to 350 units/min
- Capacities from 5 g to 10 kg
- Embedded True-Multitasking Operating System
- High Load Cell Sample Rate and A/D conversion rate
- 5 Pole Low-Pass Filter
- Hardware and Program Adjustable Filtering
- Selectable Resolution
- Selectable Display Divisions
- Accuracy as great as  $\pm 0.1\%$  @ 2 Sigma\*
- Repeatability as great as  $\pm 0.05\%$  @ 2 Sigma\*
- Calibration Audit Trail for compliance requirements
- Single-point fast-response load cell

### Scale Controller Features

- 75-Product Memory Storage
- Adjustable Five Weight Zones per product
  - Displays:
    - Last Unit Weight
    - Gross/Net
    - Weight Conversion (lb, kg, oz, g)
    - Product Name
    - Target Weight
    - Product Number
    - Total Accumulated Weight
    - Total Accumulated Units
    - Units Per Minute
    - Mean Unit Weight
    - 5 Zone Boxes with Zone Count
- Direct interface to Eriez Metal Detectors
- Up to Three Reject Outputs: High, Low, Metal
- Reject Outputs can be configured in any combination



Internal View of Controller

- Adjustable Reject Delay and Duration
- Retentive Reject Timers for up to 8 units
- Trend Alarm with adjustable reject populations
- Modular Function-Specific Card Rack
- Complete Self-Diagnostics with errors described onscreen
- 20 mA Current Loop Serial Port transmits weight data in either of 2 modes

### Powerful Statistical Options

- True SPC Closed-Loop Feedback Programs; Servo, Serial or Counter feedback available
- Established Interfaces to a variety of filling systems
- Software-Activated Statistical Analysis production reporting port
- Quad-Port Serial Card with RS-485, RS-422, RS-232, 20 mA active or passive
- STPR Statistical Production Reporting Package prints unit weights and reports on standard 8½" x 11" paper
- Trend Alarm with adjustable High/Low reject parameters and sample populations

### Flexible Hardware Options

- Reject Options: air blow-off, side-pusher, diverter, or drop gate, three or five-zone classifiers
- Reject Bins and accumulation conveyors
- Full System Electrical Controls, turn-key, PLC, and conveyor layout capabilities
- Hazardous Area Protection up to Class 1 Division 1, Groups B, C, and D (Zone1)

\*Product dependent. Contact factory for specific product accuracy.

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