

# TSC 350 16x Checkweigher

## Introduction

The TSC 350 16x Small Package In-Motion Checkweigher is a drag chain style scale designed for large quantity weighing in high production packaging lines. It is capable of weighing, classifying, and rejecting up to 16 items simultaneously for quality control in packaging. This checkweigher weighs products from 5 g to 1 kg with conveyor speeds in excess of 300 feet per minute, and production rates up to 5,600 units per minute.

The efficient design of this checkweigher addresses product handling issues and provides a solution for many production plants that push product down conveyors in multiple sets or lanes. Instead of a plant having to redesign their production line (and slow down production) to work with a standard checkweigher, the TSC 350 16x fits seamlessly into many diverse configurations. Models from one to 16 lanes are available. The benefits of such a checkweigher can be substantial as weighing higher quantities allow for a much greater production yield while still maintaining strict quality control of all items produced. Even though it offers a much greater performance, this checkweigher is nearly as simple to operate and maintain as our standard models.

The TSC 350 16x is designed to weigh rigid, discrete packaged products such as cartons, bottles, tubs, or boxes at high speeds. It 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 and environmental needs. The TSC 350 16x offers a simple to operate, easy to clean, low maintenance, yet highly accurate in-motion scale.

## Checkweigher Controller

The TSC 350 16x Checkweigher employs four quad Thompson Scale Model 4693 Checkweigher Controllers to provide an extensive feature set with the highest possible accuracy. Our advanced controllers offer many beneficial features, such as 75-product memory storage, adjustable five weight zones per product, and an individual reject output for each lane. They also provide easy to read menus with both English and Spanish in full sentences for better comprehension. The controls are housed in either a washdown rated or rugged industrial NEMA 4x/IP67 enclosure.

The modular card rack allows for easy expandability and can interface with virtually any line or management tools. This makes the TSC 350 16x Checkweigher and Controller a highly flexible and expandable solution to your quality assurance needs.



## Easy Configuration

The TSC 350 16x utilizes multi-strand, high performance Nylatron<sup>®</sup> or stainless steel flat-link chains to convey products across the weighing portion of the scale. Commonly available load cells, housed in stainless steel labyrinth sealed enclosures provide highly accurate and reliable weights each and every time.

This checkweigher also offers washdown rated bearings and offers several harsh environment options. A single robust SCR-controlled DC motor drives the conveyors. The drive system includes many commonly available parts and drive components that can be easily disassembled for quick inspection and easy maintenance.

Installation and adjustment is very easy and the variable speed conveyor drive allows for quick changeover from one product type to another. Our extensive list of options allows the TSC 350 16x to be configured for use in virtually any application.

## Quick Calibration

The TSC 350 16x Checkweigher only requires a single static calibration per scale. Unlike other systems on the market, the TSC 350 16x 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 fully 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 Flat-Link Chain
- 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.
- Conveyor Speeds up to 300 ft (91.44 m)/min
- Production Rates up to 5,600 units/min
- Capacities from 5 g to 1 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 cells

### 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
    - 3 Zone Boxes with Zone Count
- Direct interface to Eriez Metal Detectors
- One Reject Output
- Adjustable Reject Delay and Duration
- Retentive Reject Timers for up to 8 units



Cutout View of Controller

- 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

### Flexible Hardware Options

- Reject Options: air blow-off, side-pusher, diverter, or drop gate
- 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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