

It's All About Control

Ramsey Checkweigher Systems



Analyze • Detect • Measure • Control™

Thermo
ELECTRON CORPORATION



It's All About
Market Leadership

Thermo Priority One™ Service

Thermo provides a complete service and support offering to insure that our products perform according to your requirements. From our comprehensive warranty, to customer service, to spare parts and service contracts we are committed to providing you the highest level of service for your investment.

Whenever you need service or support, factory trained and certified technicians are ready to keep your production up and running. For further information on our service and support offerings, visit our website or give us a call.

A Comprehensive Product Offering for Product Inspection

Thermo offers a complete line of packaging inspection equipment including checkweighers, metal detectors and X-ray systems. Our products protect your brand and insure safety and quality for your customers. Visit our website or give us a call—we are the experts in Product Inspection.

- Checkweighers
- X-Ray Inspection Systems
- Metal Detectors
- Moisture and Constituent Analysis



Additional Services and Benefits from Thermo Electron

Thermo Financial Services

Thermo is able to offer attractive leasing terms on its products. Leasing can be a good way to expand or upgrade your production line without straining your cash flow. Any Thermo product can be quoted as a purchase or lease.

Thermo Product Inspection Facilities

Thermo has several facilities located around the world which will inspect products for metal or solid contaminants using our X-ray systems. If you have a quantity of material or products which you suspect may be contaminated, simply give us a call to discuss the situation. Once you ship the product to one of our facilities we will inspect and segregate it, saving you time, money and rework.

It's All About Control

Creating the perfect checkweigher for your application is easy. Simply select either the AC9000 Plus or the AC4000i controller based on your wants and needs, then mate it to a weighframe based on your product and environment. Rigorously proven in thousands of installations, these controllers define the personality of your checkweigher.

Standard Features for the AC9000 Plus and AC4000i

- Basic Statistics
- Grey Zone/ZOI Test
- No-Gap Monitoring
- Auto Zero Compensation
- AutoCalc Auto-Setup
- Sample Pack Reject Mode
- Multi-Product Memory
- Adjustable Weigh-Filters
- Self Diagnostics
- Power Failure Recovery



AC9000 Plus Advanced Controller

Features

- 10-Inch VGA Color Graphic Display
- 4 Level Password Security
- 100 / 400 Product Memory
- Programmable I/O
- Status Indicators
- 700 Packages-per-minute Throughput
- On-board Oscilloscope
- Vibration Monitor
- 16 Languages Available

AC9000 Plus Options

- 21CFR11 Compliance
- European R51 Approval
- RS232 / RS422 / RS485
- Ethernet TCP / IP
- AB RIO / AB DF1
- Modbus
- Multi-Product Mode
- Moving Average Tracker
- Reject Verification
- Fail Safe
- Multi-Filler Head Monitoring
- SPC Statistics Displays
- Tare/Gross Operation
- Filler Feedback

For description of options, please see back cover.



AC4000i Basic Controller

Features

- 2 Line X 20 Character Alpha – Numeric Display
- 15 / 50 Product Memory
- 2 Level Password Security
- Multiple Consecutive Reject Alarms
- 350 Packages-per-minute Throughput
- Status Indicators

AC4000i Options

- Stainless Steel Enclosure
- Reject Verification
- Servo Feedback
- RS232 / RS422 / RS485
- Ethernet TCP / IP
- AB DF1
- Modbus
- Moving Average Tracker

It's All About Experience and Application Knowledge...

...and Industry Leadership in Checkweighing, something we've developed in over 50 years of dynamic weighing experience. Our success is based on our customer and process knowledge. We understand the applications, the environments and the requirements. This understanding is reflected in the design of our products.

AC9Rx Pharmaceutical Checkweigher

Suitable for small packages / containers requiring high accuracy in dry environments

Designed for the demanding requirements of the pharmaceutical industry, the AC9Rx offers unparalleled accuracy and stability. The AC9Rx is a world-class global pharma standard checkweigher. Available with 21CFR compliance and validation support packages, the AC9Rx is a professional—grade weighing system for high accuracy applications.

	Specification
Maximum Capacity	500 g (1.102 lb)
Maximum Speed	300 fpm / 500 ppm
Accuracy (typical)	±50 mg



- Choose AC4000i or AC9000 Plus Controller
- Powered Weigh-table for Stable Transport
- Cantilevered Sanitary Design



- AC9000 Plus Controller
- Slack Belt Transport for High Accuracy
- Sanitary Enclosed Design

Shown with optional side-belt transfer feature for small unstable products.

GP Series, General Purpose Checkweighers

Suitable for small to large packages in dry or wet environments. GP Series checkweighers provide the highest levels of weighing accuracy across a broad range of applications. The GP Series is available with your choice of either the AC4000i basic, or the AC9000 Plus advanced controller. The compact design is optimized for easy integration, operation and sanitation.

	Specification
GP-Pharma	
Maximum Capacity	500 g (1.1 lb)
Belt Width	140 mm (5.5 in)
Environmental	IP-54
Accuracy (typical)	±0.1 g
Maximum Speed	90 m/min (300 ft/min)
GP-200	
Maximum Capacity	2.5 kg (5.5 lb)
Belt Width	200 mm (8 in)
Environmental	IP-66
Accuracy (typical)	±0.2 g
Maximum Speed	90 m/min (300 ft/min)
GP-275	
Maximum Capacity	2.5 kg (5.5 lb)
Belt Width	275 mm (11 in)
Environmental	IP-66
Accuracy (typical)	±0.4 g
Maximum Speed	90 m/min (300 ft/min)

It's All About Tangible Benefits

- High Accuracy—Control Overfill and Underfill to Maximize Profit
- Application Driven—Saves Integration Costs
- Intuitive Operator Interface—Reduces Training Costs
- Sanitary and Easy to Clean—Ensures Safe Production

Checkweigher / Metal Detector Combination Units

Combine a metal detector with a checkweigher to save line space. Metal detectors may be integrated onto checkweighers to provide significant savings in line space. Combination units can be configured using any of the checkweighers. Combination Unit shown with Thermo's DSP IP Plus - IP69k rated metal detector.



- Choose AC4000i or AC9000 Plus Controller
- Added Product Inspection Capability
- Small Footprint Saves Line-Space



- Choose AC4000i or AC9000 Plus Controller
- Powered Weigh-table for Stable Transport
- Clean in Place Design

AccuStar Series Checkweigher

Suitable for cartons, bags, pouches, in dry or wet environments. When the application calls for high-capacity dynamic weighing, the Accustar is the solution. The powered weighttable drive mechanisms have plenty of torque to insure product stability. The multi-loadcell configuration insures weighing accuracy. Available in Medium Duty (MD) and Heavy Duty (HD) configurations according to product weights and accuracy requirements.

Specification

Medium Duty (MD) Configuration

Maximum Capacity	4 kg (8.8 lb)
Belt Width	275 mm (11 in)
Accuracy (typical)	±1.0 g
Maximum Speed	90 m/min (300 ft/min)

Heavy Duty (HD) Configuration

Maximum Capacity	20 kg (44.1 lb)
Belt Width	400 mm (16 in)
Accuracy (typical)	±3.0 g
Maximum Speed	90 m/min (300 ft/min)

It's All About Performance

Some people call it accuracy, some call it precision; to others it's durability or robustness. Meeting and exceeding expectations is our definition of performance. Our product performance is legendary.

- Choose AC4000i or AC9000 Plus Controller
- Chain Weigh-table Transport
- Sanitary Design for Harsh Environments



8120 Series Checkweighers

Suitable for cartons, cans, bottles, pouches in dry or wet environments.

The 8120 Series checkweighers utilize chain-transport mechanisms for optimum speed and accuracy. Either the AC4000i basic, or the AC9000 Plus advanced controller can be used with the 8120. The robust construction is designed for exceptional performance and reliability.

Specification	
Maximum Capacity	11 kg (24.2 lb)
Maximum Speed	550 fpm / 700 ppm
Accuracy (typical)	±1.0 g

44HB Checkweigher

Suitable for large and heavy products in dry or wet environments.

The 44HB is known as "The Workhorse of the Warehouse," because of its time-tested reliability. Many different sizes and degrees of environmental protection are available.

The robust construction is designed for performance and durability.

Specification	
Maximum Capacity	55 kg (110 lb)
Maximum Speed	550 fpm
Accuracy (typical)	To ±6 g (±0.015 lb)

- Choose AC4000i or AC9000 Plus Controller
- Heavy-Duty Belt Weigh-table Transport
- Sanitary Design for Harsh Environments



It's All About Capability

- Application Knowledge
- Process Improvement
- Global Solutions with Local Service and Support

- AC9000 Plus Controller
- Kinetic Weighing System
- Sanitary Design for Easy Cleaning
- High Accuracy
- No Moving Parts in Weigh Section for Low Maintenance



Teorema Can Checkweigher

Suitable for cans in dry or wet environments.

The Teorema is a special-application checkweigher designed for high velocity canning operations. The high accuracy of the Teorema is unique due to the patented load cell design. The Teorema meets the accuracy guidelines according to USA HB 44 and Europe's R51.

	Specification
Maximum Capacity	1.5 kg (3.3 lb)
Maximum Speed	660 cpm
Accuracy	± 0.5 g @ 400 cpm



Channelizer

Separate or sort products into various categories

Channelizers can solve many material handling issues when sorting or classifying is required. Thermo channelizers are designed for trouble-free operation and easy integration.

- Various control systems are available
- Divide one lane into as many as five lanes
- Various models are available according to requirements
- Heavy Duty Design for High Throughput
- Sanitary Design for Easy Cleaning

Converger *(not pictured)*

Combine or merge products into one lane

Several lanes of product can be combined into one lane for sequencing or segregation by using the converger. Smooth transfers assure product integrity and a variety of distribution patterns can be selected to suit your application.

- Various distribution patterns are selectable
- Can be used with checkweighers, case packers, wrappers and other packaging machines
- Various models are available according to requirements
- Robust Design for Durability
- Custom Sizes According to Application

Glossary of Terms

Filler Feedback

Automatic process control to adjust the filler based on weight trends detected by the checkweigher.

Moving Average Tracker

Checkweigher automatically adjusts cutpoints to track moving average due to piece weight change when product item count is important.

Multi-Product Mode

Allows for up to five different product types to be run at random across the same checkweigher at the same time.

Multi-Filler-Head Monitoring

Checkweigher tracks the weights from each filler head of a multi-head filler, maintaining separate statistics for each.

Tare/Gross Operation

Two checkweighers connect so that one weighs the empty container and provides a dynamically varying tare weight to the second that weighs the filled container.

Reject Verification

The checkweigher monitors to ensure that packs detected as out of weight are actually physically removed from the line.

21CFR Part 11

Enhanced user security and change tracking/traceability to the FDA's 'electronic signature' requirements.

SPC statistics

Displays X-Bar-R, Pie-chart and Histogram/bell curve reporting for both short and long term statistics.

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