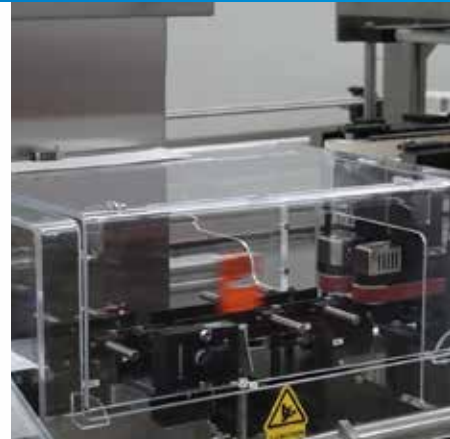


High Performance Weighing Solutions

1 Precision Weighing For Highest Accuracy



2 Process Optimization Maximizes Productivity



3 Compliance with Regulations Ensuring Brand Protection



4 Future-Proof Machines With Modular Configuration

5 Open Interfaces Enabling Industry 4.0 Integration





METTLER TOLEDO

Comprehensive Weighing Solutions

Modular, Flexible and Future-proof

In the modern production landscape, manufacturers of packaged food and pharmaceuticals have come to rely on innovative technologies which ensure compliance with state and industry regulations, facilitate critical operations and optimize their production processes.

As a part of the production process, a checkweigher should serve all four of these functions:

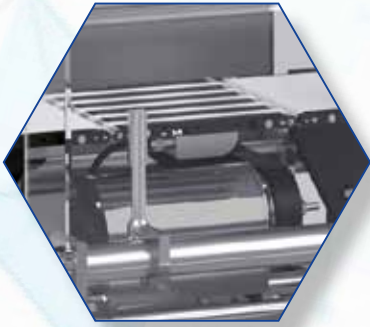
-  Keep underfilled packages from making it into the marketplace to ensure compliance with local weighing regulations
-  Help to reduce product waste caused by overfilling and verify product completeness, serving as a critical quality control function
-  Provide completeness checks for packages or verify the number of items in a larger package
-  Provide valuable production data and feedback that can be used to improve the production process



With a range of solutions from entry level to highly specialized systems, all based on a single platform, we provide manufacturers with more than just a checkweigher: it serves as a platform upon which an efficient production and quality control process can be built.

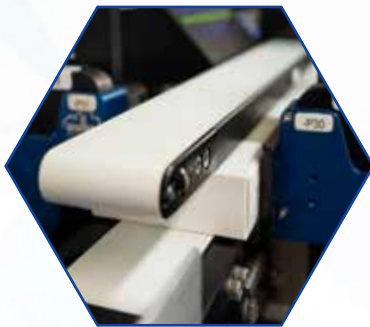


Why a Checkweigher from METTLER TOLEDO?



Precision weighing for highest accuracy

- ▶ Sophisticated monoblock electromagnetic force restoration (EMFR) load cells designed and produced in Switzerland
- ▶ Intelligent filter algorithms eliminate vibrations from the environment and calculate the mean weight
- ▶ A stable frame with optimal resonant frequency; load cell and weigh platform positioned centrally for highest weighing accuracy



Product handling

- ▶ Modular systems architecture enables a multitude of mechanical and software product handling options
- ▶ Smooth product transfer with a large selection of sophisticated product handling options increases uptime and optimizes performance
- ▶ Infeed timing and spacing options deliver flawless weighing conditions and optimize production line performance



Easy integration

- ▶ Open interfaces such as OPC UA, Pack ML and Fieldbus enable IoT / Industry 4.0 initiatives so that production data can be accessed, analyzed and controlled anytime and anywhere
- ▶ Flexible integration into production processes such as quality checks, batch changes and alarms
- ▶ ProdX, METTLER TOLEDO's sophisticated data management software enables seamless integration with all product inspection devices to enable data and process management
- ▶ A robust, configurable and multilingual user interface offers intuitive operation

Checkweigher Range Overview

Flexible Configuration for Products <10 kg

The modular portfolio of checkweighers has been designed to carry out precision weighing in different levels of complexity – from standard to highly customized and is ideally suited to meet production demands in food, pharma and industrial production environments.

The C31 StandardLine, C33 PlusLine and C35 AdvancedLine are based on a unique resonance absorbing frame. The position of the tuned load cell system and the weighing conveyor at the heart of this frame results in the highest weighing accuracy. A large selection of software, mechanical and product handling options can be combined with the base models, enabling system configurations ideally suited to the needs of the customers' production environment.



What Are the Top 3 Options for Food and Non-Food Production Environments?

1**Feedback Control**

Minimize product weight errors and product giveaway whilst optimizing filling processes by triggering automatic signals to the filler to adjust fill levels.

Benefits:

Higher and more consistent product quality, consistent filling process and compliance. The extended feedback control option offers additional automatic adjustment for higher and more consistent product quality. This function ensures a fast return on investment (ROI).

2**Due Diligence Kit**

A selection of monitoring options aids compliance with legally required process safety and quality assurance criteria, such as reject countercheck, locked catch bins, and audit trail software.

Benefits:

Complete due diligence for the manufacturing process for maximum product and process reliability, increased process safety and consumer and brand protection.

3**Statistics**

Comprehensive, valuable production details serving as a basis for process improvements and documentation for legal compliance.

Benefits:

Data-Graphic™ statistics enable a simultaneous view of production statistics and graphics for immediate information about the production quality. This support decision making with data visualization on the HMI.



New

C31 StandardLine Dependable Accuracy

- ▶ Ideal solution to replace sample spot checks
- ▶ Reliable 100% inline weight control for food and non-food applications in wet and dry environments
- ▶ Hygienic design principles such as water-protected conveyors and sloped surfaces for self-drainage
- ▶ 10 data communication protocols available
- ▶ Can integrate metal detection

- ▶ MID approved strain gauge METTLER TOLEDO load cell
- ▶ Throughput rate of up to 200 products per minute
- ▶ Weighing range from 20 g to 6 kg
- ▶ 100 performance and productivity enhancing options
- ▶ 7" multilingual touchscreen



New

C33 PlusLine Robust Performance

All the benefits of C31, plus:

- ▶ Designed for endurance and maximum reliability in dry, wet or harsh environments, the C33 can be used in food, non-food and pharmaceutical segments
- ▶ Automatic filling process readjustment helps to increase quality and profitability by avoiding underfilling, overfilling and product waste
- ▶ D15 conveyors ensure high accuracy at faster speeds for lightweight packages

- ▶ Choice of MID approved strain gauge or EMFR METTLER TOLEDO load cell
- ▶ Throughput rate of up to 300 packs per minute
- ▶ Weighing range from 7 g to 7.5 kg
- ▶ 200 performance and productivity enhancing options
- ▶ 12" multilingual touchscreen



New

C35 AdvancedLine Precision and Versatility

Additional benefits to the C33:

- ▶ Optimized performance for fastest line speeds even for lightweight products with D10 conveyors
- ▶ Exceptional weighing precision for challenging conditions in dry, wet or harsh environments
- ▶ Specialized conveyors and handling options allow for the optimal transport of unstable or open products such as bottles or jars
- ▶ The C35 is highly-adaptable and can be modified to meet almost any customer requirement
- ▶ Can integrate metal detection, x-ray and vision inspection

- ▶ Digital temperature compensating EMFR METTLER TOLEDO load cell
- ▶ Throughput rate of up to 600 packs per minute
- ▶ Weighing range from 3 g to 10 kg
- ▶ 250 performance and productivity enhancing options
- ▶ 15" multilingual touchscreen



Farmer's Snack relies on a METTLER TOLEDO checkweigher to achieve and prove compliance with weights and measures regulations.

"With a push of a button, Farmer's Snack can generate all relevant data for an external audit or spot check for the Weights and Measures body, saving time and money. At Farmer's Snack we do not compromise on quality. This applies to our final products, as well as our suppliers who help us achieve our goals. That is why we've closely worked together with METTLER TOLEDO for many years."

Boie Karstens

Technical and Development Director
Farmer's Snack GmbH; Seevetal, Germany



How Does Feedback Control Optimize Production Efficiency?

Dynamic checkweighers continuously optimize the filling process by means of fully automated feedback control. If the checkweighers detect a tendency to overfill or underfill, they automatically trigger a reduction or increase in the volume of batter at the filling station. In this way it is possible to effectively avoid costly product waste caused by overfilling as well as ensure compliance with regulations by eliminating underfill.



End-of Line Applications

For Products From 80 g up to 80 kg

Case weighers are ideally suited for end-of-line weighing completeness inspection as well as in-line weighing of heavy objects. The heavy load checkweighers can be configured to suit individual production line requirements across all industries. The C23 PlusLine is also available with integrated metal detection technology.



New

C21 StandardLine

Dependable Accuracy

- ▶ 100% weight control of single, high load products
- ▶ Suitable for dry production environments
- ▶ Up to 100 robust product handling and software options
- ▶ Sorting/reject equipment for heavy weights, e.g. 2-way roller path

- ▶ MID approved strain gauge or EMFR METTLER TOLEDO load cell
- ▶ 7" touchscreen (optionally mounted separately)
- ▶ Weighing range: from 80 g to 80 kg
- ▶ Throughput: max 90 meters / minute
- ▶ 10 data communication protocols available



New

C23 PlusLine

Robust Performance

Additional benefits to the C21:

- ▶ Suitable for wet and dry production environments
- ▶ Highly configurable for complex heavy weighing applications with 150 productivity and performance enhancing options incl. Feedback Control
- ▶ Water protected design (IP65)
- ▶ Available with integrated Metal Detection

- ▶ MID approved strain gauge or EMFR METTLER TOLEDO load cell
- ▶ 12" touchscreen (optionally mounted separately)
- ▶ Weighing range: from 80 g to 80 kg
- ▶ Throughput: max 150 meters / minute
- ▶ 10 data communication protocols available

Checkweighers for the Pharma Industry

Specialized for Pharma Applications

Pharmaceutical production processes require stringent process safety and the highest quality control. A sophisticated checkweigher delivers both.

The most important task for a pharmaceutical checkweigher is the completeness check which proves through precision weighing if a pack of medicine contains the correct amount of blisters and most importantly the instruction leaflet, protecting the consumer and manufacturer alike.

Pharmaceutical producers have to comply with stringent quality regulations. The METTLER TOLEDO EQ pack offers complete validation of the checkweigher including machine specific validation documentation. To prove that all validated parameters are observed, the software options "Local Audit Trail" and "Login Server" record all changes done with the date and time, supporting legal requirements after validation. Regular verification is greatly facilitated by the "In Process Test" function.



Orthomol now extended their production line with a new C-Series dual-lane checkweigher to perform frequent product changeovers quickly with hardly any downtime.

"A trusting relationship with our suppliers is important to us. We've found a partner in METTLER TOLEDO who meets our strict quality standards and has successfully accompanied us for very many years."

Alen Blatancic

Head of Technical Teams

Orthomol pharmazeutische Vertriebs GmbH, Langenfeld, Germany



New

C33 PlusLine Pharma

Precision and Reliability

Pre-configured with options for maximum pharmaceutical process safety, enhanced brand protection and regulatory compliance:

- ▶ FDA 21 CFR Part 11 functionality incl. audit trail
- ▶ Mechanical transfer unit with bottom belt and height adjustable upper belt for flawless and reliable product transfer
- ▶ Infeed & outfeed area reject countercheck
- ▶ Error detection mechanisms such as open flap detection and askew package detection
- ▶ D15 conveyors for lightweight products and sophisticated product handling options
- ▶ Weighing range: 7 g - 7500 g
- ▶ 12" multilingual touchscreen with emergency stop button



New

C35 AdvancedLine Pharma

Maximum Performance

The C35 Pharma encompasses all functionality of the C33 Pharma with the following additional benefits:

- ▶ Process data acquisition with an intuitive interface
- ▶ D10 conveyors for lightweight products and sophisticated product handling options
- ▶ Top and bottom belt for exact and secure product transport of lightweight products
- ▶ Process safety kit for maximum safety and quality assurance
- ▶ Transversal adjustment
- ▶ Digital positioning indicators
- ▶ Pharma statistics
- ▶ Weighing range: 3 g - 1000 g
- ▶ 15" multilingual touchscreen with emergency stop button



Integrated Pharma Systems

Efficient Track & Trace Solutions

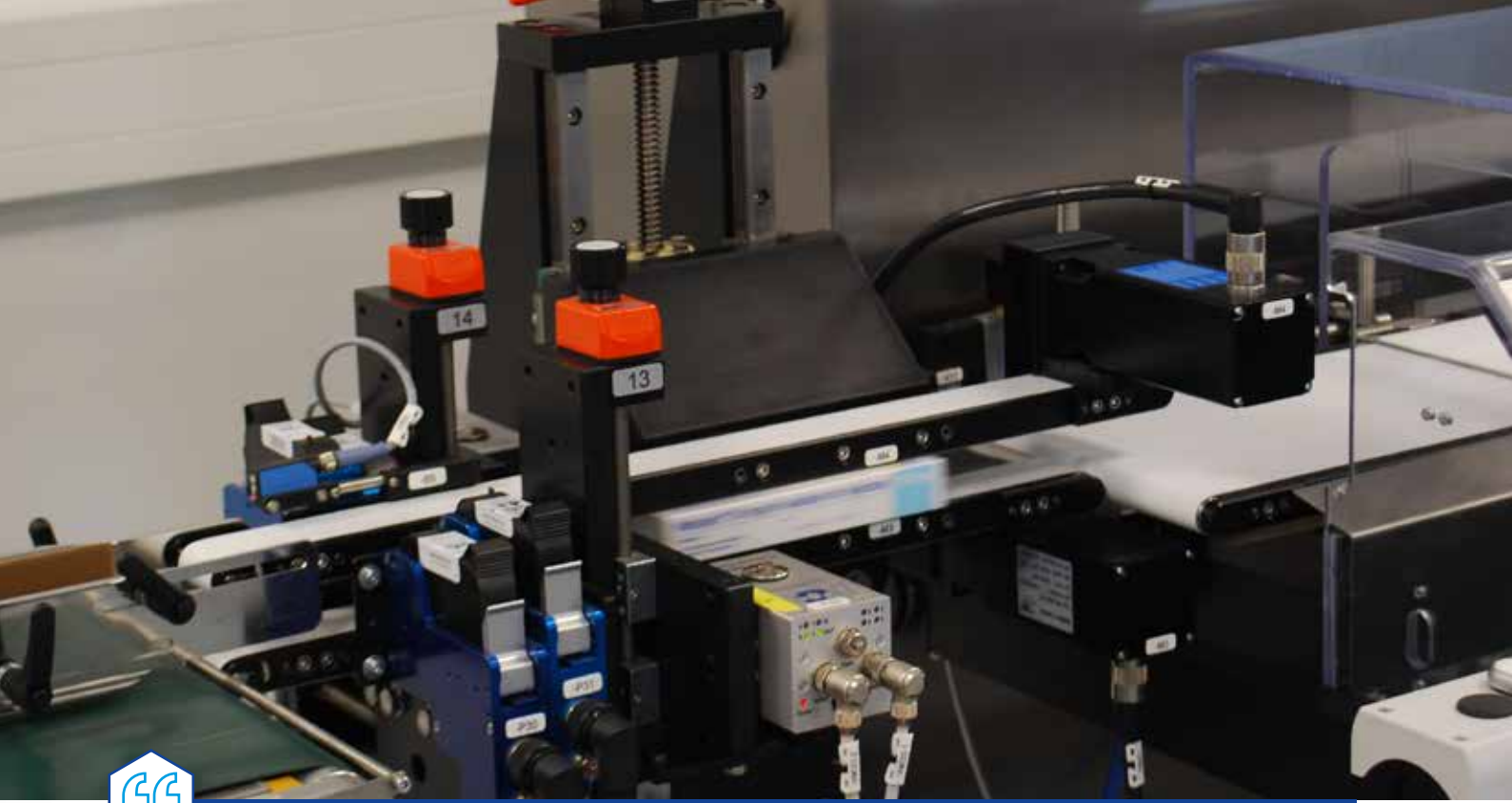
In the pharma industry regulatory compliance is non-negotiable. Besides the European Falsified Medicines Directive (FMD) or the Drug Supply Chain Security Act (DSCSA) in the US many other regulations globally demand serialization of pharmaceutical products.

METTLER TOLEDO offers a unique end-to-end portfolio of track and trace solutions, including integrated hardware, software and global service support. METTLER TOLEDO's serialization software supports regulatory compliance including FDA 21 CFR Part 11. Our hardware also fully supports serialization software from other suppliers.



XS2 MV (TE) Multiple Inspection Solution

- ▶ Inkjet printing/laser marking and vision verification with highly accurate in-motion weighing and optional tamper-evident sealing ensure global traceability and assists fraud protection for highest process safety
- ▶ The product codes printed on the boxes are verified for accuracy and legibility and serve as a key for legally required quality certificates
- ▶ Separate rejecting devices and lockable catch bins collect "no read" or "off weight" products as well as askew packages or packages with an open flap



Medac has invested in METTLER TOLEDO's dedicated integrated solution for the pharmaceutical industry, offering precision weighing, serialization and verification in one compact machine.

"The system is very compact. Everything is in one place. There are excellent product guides via the upper and lower belts. The folded boxes are fixed by this transfer unit and enter and leave in a straight line. The machine architecture is good; you can easily see all of the components. The catch bins are equipped with padding which protects the ejected products to a high level and prevents damage. The air jet is also excellent as a sorting device: it prevents the folded boxes from being touched using mechanical means, which protects them when they are being rejected."

H. Gerberding
Technical Manager
Medac, Germany



What Is Track & Trace and Why Is It Becoming Increasingly Important?

- ▶ Serialization refers to the generation and assignment of a unique identifying number to an individual product package. This number can then be checked against a database of numbers to verify authenticity
- ▶ Track & Trace refers to the larger process – bundling together individual packages into a single aggregate code and recording the movement of the package from the manufacturer to point of sale/distribution. This process allows anyone along the supply chain to verify authenticity of the goods in question, as they are traceable back to their point of origin
- ▶ While Track & Trace is currently primarily implemented in the pharmaceutical industry, other sectors such as chemicals, cosmetics and food are starting to adopt this process to reduce the risks of falsified products and achieve increased consumer safety and brand protection

Product Inspection Integrated Solutions For Compliance and Brand Protection

Production line space is becoming increasingly precious across all industries, driving the need for powerful, space-saving solutions. METTLER TOLEDO's broad portfolio of combined solutions delivers machines with the industries' smallest footprints, combining two or more inspection technologies.

A C-series checkweigher can be integrated with either metal detection, x-ray or vision inspection to offer compliance with industry and retailer standards, safeguard brand reputation and ensure the highest process safety and security whilst reducing Total Cost of Ownership (TCO).



What are the Benefits of Integrated Solutions?

- ▶ The smallest footprint in the industry with only 4 feet on the ground
- ▶ Separate rejects for off-weight and contaminated or non-conforming products
- ▶ Sophisticated product handling to smoothly transport products even through a heavy x-ray curtain
- ▶ Highest due diligence / process safety options
- ▶ Separate evaluation and data management with the optional ProdX management software
- ▶ Access to a service and support network with over 600 dedicated product inspection technicians



Checkweighing

The C-Series checkweighers serve as the base for most combination systems. The modular platform allows configurations from standard to highly complex. The systems reliably avoid underfill and ensure compliance with weighing regulations, whilst providing brand protection and reducing costly overfill.

▶ www.mt.com/checkweighing

Checkweighing + Metal Detection

The industry's broadest range of metal detection configurations is capable of detecting all metal types, including ferrous, non-ferrous and stainless steel. As a critical control point, these machines reduce the risk of recalls due to metal contamination. A wide range of aperture sizes ensures maximum detection in any environment in the food and non-food industries.

▶ www.mt.com/metaldetection



Quality assurance is one of the most important factors for Kuchenmeister, who now invested in a space saving integrated checkweighing and metal detection system.

"We recently placed a new combination system, consisting of a dynamic checkweigher and a metal detector, in the packaging line for children's croissants. With this, we combine foreign body detection and weight checking in one compact, space-saving device. Coupled with the easy to use touchscreen, the process security features protecting us from operating errors, the quality of the documentation for inspection results and the ease of analyzing these, I believe we have found an optimal solution on this line with METTLER TOLEDO."

Thomas Engel
Head of Quality Management
Kuchenmeister GmbH; Soest, Germany



Do You Want to Learn More? ► www.mt.com/pi-integrated-solutions



Checkweighing + X-ray Inspection

The C35 checkweigher can be integrated with a range of X-ray systems to provide a full range of contamination detection and quality control functions in the food and pharmaceutical industries. The X-ray systems offer outstanding detection sensitivity to detect small, hidden contaminants such as shards of glass, metal, calcified bone, high-density rubber and plastic.

► www.mt.com/xray-inspection



Checkweighing + Vision Inspection

The C35 checkweigher supports the addition of vision inspection capabilities, combining label and package integrity checks with weight inspection. Vision inspection is increasingly important for the detection of defective products and missing caps, along with verification of correct labeling and important information such as barcodes or 2D datamatrix codes.

► www.mt.com/civision

Service and Global Support Through Local Expert Teams

With a local presence in most industrialized countries, as well as selected partners in other regions, we are ready to serve you around the globe. With over 3600 technicians in 39 countries, 600 dedicated to Product Inspection, METTLER TOLEDO has the largest service team in the industry. Our global presence allows us to offer customers short response times and reliable repair services worldwide.

Our Approach to Service is Supported by the Four Key Support Areas:



Uptime

- ▶ Regular preventive maintenance to maximize equipment uptime
- ▶ Professional repairs using genuine METTLER TOLEDO spare parts and kits
- ▶ Dedicated service contracts to minimize risks and ensure equipment is always operating at peak performance



Performance

- ▶ Professional setup and configuration to meet agreed performance levels and ensure compliance
- ▶ Regular performance verification to ensure equipment continuously runs at peak performance
- ▶ Regular updates & upgrades



Compliance

- ▶ Professional documentation and certification of compliance-related service activities
- ▶ Expert startup to meet highest food and pharma standards with IPac (Food) or EQPac (Pharma)
- ▶ Regular legal verification to ensure your checkweigher meets legal tolerances



Expertise

- ▶ Training for operators, quality and maintenance staff
- ▶ Comprehensive solutions literature and technical documentation
- ▶ Expert trusted advice and solutions consultation

Enhance Production Line Performance With Digitalization and Data Management

Food and pharmaceutical manufacturers are increasingly using more intelligent systems to improve automation and traceability within their plants. Connecting manufacturing equipment across networked infrastructure improves production line efficiencies and management control.

Digitization and real-time data collection are key enablers to ensure the highest levels of regulatory compliance, accountability and governance. **ProdX** PC-based client server software monitors and manages data collected from METTLER TOLEDO product inspection systems, fully documenting the handling of suspected contamination incidents, weights, set-ups and inspection routines. It is a powerful and effective solution to:

Enhance Quality Processes:

- Meet the requirements of GFSI-approved bodies
- Fully support the fulfilment of retailer audits
- Enable faster and more targeted reaction to incidents and document corrective actions
- Automate collection of data, including logging of all alarms, warnings and activities

Improve Production Efficiencies:

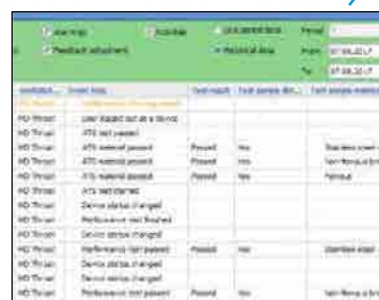
- Track and evaluate production data to maintain and improve OEE
- Provide an unparalleled volume of historical "big data"
- Simplify production line operation



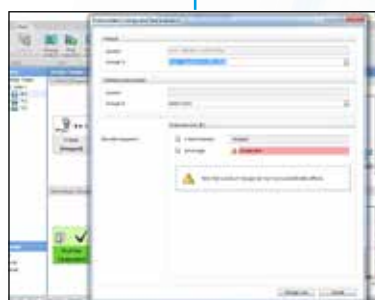
Incident monitoring allows Quality Managers to add corrective actions for continuous improvement.



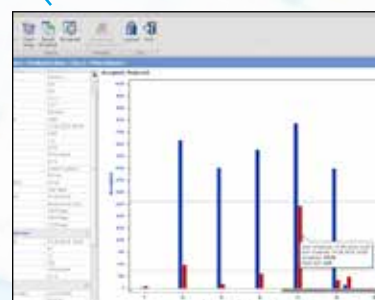
Automatic collection of counters and statistics even during network interruptions.



Performance Verification Report ensures the equipment is performing as expected.



Easy and fast product and batch changeover for all product inspection devices via the HMI or OPC UA server.



Complete log of all rejected products with time stamp. Corrective action for each incident can be entered centrally.

Product Inspection Solutions

To Improve Quality and Productivity

We go beyond checkweighing. Our Product Inspection division is a global leader in the field of automated inspection technology, providing metal detection, checkweighing, x-ray inspection, vision inspection and track and trace solutions. As part of a truly global business, we draw on a wealth of industry experience gained by working in genuine partnership with our customers worldwide. We are dedicated to serving the needs of our customers during the full lifetime of their equipment.

Each solution we offer is the result of many years' experience gained by working in close partnership with our customers in a wide variety of industries and markets, throughout the globe. We have an in-depth understanding of the challenges faced by manufacturers, and over the years have responded to the diverse requirements of our customers by developing the biggest product portfolio in our industry.



Metal Detection



Checkweighing



X-ray Inspection



Vision Inspection



Track and Trace



Integrated Systems

www.mt.com/checkweighing

For more information



METTLER TOLEDO Group
Product Inspection Division
Local contact: www.mt.com/contacts



Subject to technical changes
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