

Bulk Foods

Industrial Weighing and Product Inspection



Smart Software for Efficient Data Processing



p. 4

New Tank Scale Calibration Method – RapidCal™



p. 6

Metal Detection and X-Ray Minimize Waste



p. 8

Titration Solutions for High Quality Products



p. 10

Farm-to-Table Traceability Smart Components for Bulk Production

Bulk food manufacturing companies are working to become more flexible in ingredients handling. This can be a challenge for compliance and traceability. Smart sensors and control systems deliver timely data to support traceability.

Whether it is due to contamination or incorrect package labeling, food product recalls are becoming a nightly news headline. A study by the Food Marketing Institute and Grocery Manufacturers Association indicates the average direct cost to a company per recall is \$10 million.

Sensors to increase traceability

Different traceability activities take place as bulk food moves through the supply chain from the farm to the table. Weighing equipment, which is installed at dedicated identification points in production, can significantly support such a traceability system.

Designing a traceability system

A food traceability system prepares you for such a recall by providing you with visibility and transparency in your supply chain. In the event of a contamination, you can respond quickly by knowing exactly where to search first and how to react accordingly.

Smart weighing sensors and related software solutions can deliver more than basic weighing data. They can also become the basis for qualified process optimization. Read on to see how you can optimize your traceability system.

Four Ways to Save Costs

Precision in Bulk Production

Smart devices in bulk production with built-in analytics are the basis for informed process decisions and improved operations. When carefully selected, they deliver traceable results, help to optimize material flow, and reduce waste.



Check incoming goods and prevent losses

The better the tracing system, the faster a producer can identify and resolve a quality problem. Traditional vehicle weighing systems are prone to inaccurate measurement results due to unnoticed signal deterioration. Smart load cell technology can detect these failures in advance and help your operation to work more efficiently.

▶ www.mt.com/ind-ve



Accuracy in tank weighing saves material costs

Inventory control technology for bulk producers not only provides clear data on the amount of stored goods but also impacts future profits. Accurate inventory control built on digital load cells for tanks and silos optimizes material costs, provides predictive maintenance options, and ensures safe hazardous material storage.

▶ www.mt.com/ind-powermount



Prevent the top causes of product recalls

Almost 50 percent of product recalls can be attributed to labeling errors. Value added to a product can easily be lost when fundamental labeling errors are made. Vision inspection technology can help to avoid such mistakes by checking label presence, positioning and legibility, as well as by verifying barcodes and lot numbers.

▶ www.mt.com/ci-vision



Tracking inspection records

Inspection devices can be connected via a data management solution to improve production efficiency, quality management and process control. Collected data ensures contamination incidents are logged, industry standards are met, and the risk of a product recall is avoided.

▶ www.mt.com/prodx

Smart Software Solutions

Faster Access to Process Data

The requirement to increase uptime and efficiency in the bulk foods industry continues. Integrated analysis and the use of data are key in leveraging the full potential of digitized production processes. Smart software and algorithms analyze large amounts of data to create improved visibility and support decision making.



Data Visualization for Process Insights

Collect+ software is designed to collect data from your production devices in a central repository. You can view graphical representations using an integrated, web-based dashboard tool. Benefits include:

- Collection of weighing data from measuring devices
- Integrated dashboard visualization
- Ability to view data anytime, anywhere

► www.mt.com/collectplus



Increasing Product Inspection Efficiency

ProdX data management software provides seamless integration of product inspection devices to give complete control of the entire inspection management process. Benefits of using ProdX software include:

- Live collection of product inspection data
- Remote transfer of settings for rapid equipment setup
- Standard reporting to support compliance with regulations

► www.mt.com/prodx



Ensure Uptime with Cloud/Remote Service

InTouch monitoring is a service that constantly evaluates the condition of connected devices allowing personnel to be notified of critical equipment issues. It provides:

- Real-time awareness of equipment health
- Planned service interventions
- Increased productivity

► www.mt.com/ind-intouch





RapidCal™

Calibration by the Numbers

60%
less downtime

0.1%
accuracy is attainable
with RapidCal

\$\$\$
in savings over traditional
calibration methods

Zero
risk of inner tank
contamination

32 t
capacity capability to
handle a wide variety of tanks

Stop Postponing Tank Calibration

This New Method Makes it Easier than Ever

Gone are the days of time-consuming and expensive calibration methods with unsatisfying accuracy and traceability results. The new, innovative RapidCal™ method offers economical and fast calibration without using huge amounts of test weights and liquids. This allows you to avoid extended downtime and save costs!

How does RapidCal tank scale calibration work?

Instead of using test weights or material substitution, a downward force is applied with hydraulic equipment. The loading of the tank scale during RapidCal mimics that of normal operation, taking into account piping influences.

Planning a new tank installation?
Watch the video to see it in action:

www.mt.com/ind-RapidCal



Minimum time investment

RapidCal can be performed at any time with a minimum amount of preparation. The calibration is done quickly, thanks to equipment portability. Moreover, the whole calibration process is significantly faster than calibration with test weights. This lowers the effective downtime of your production facilities dramatically over the course of a year to a few hours per calibration. High cost savings are realized by reduced downtime.

Higher accuracy and assured traceability

With RapidCal, it is possible to reach up to 0.1 percent accuracy by using the force applied to hydraulic cylinders. The reference load cells used are traceable to test-weight standards and provide accuracy and traceability comparable to calibration with physical weights.

Saves thousands of dollars

Traditional forms of tank calibration can be very expensive, from test weights which increase in price depending on scale capacity to material substitution calibration which requires a huge amount of purified water. RapidCal helps to maintain traceability at lower costs, increase the efficiency of the calibration cycle, and improve the ecological footprint of your operation.

Avoid contamination of tank contents

The tedious emptying and cleaning of tanks during substitution calibration is avoided by applying this new method. For production facilities, the risk of tank contamination is eliminated and disposal costs of contaminated water avoided.

Up to 32 ton full capacity

RapidCal is the best method up to 32 tons, where using test weights is time-consuming and cumbersome. Regular recalibration can easily be scheduled to comply with quality systems. Furthermore, for weights in excess of 32 tons, a material substitution calibration is possible using the calibration technology offered by our service team.

Minimize Waste in Bulk Foods

Choose the Right Reject Mechanism

Reducing waste is a high priority for bulk food producers. When an inspection system rejects contaminated product, 'good' product can often be rejected at the same time. Having the right reject mechanism in place can reduce product waste and lead to significant cost savings.

Bulk food inspection systems typically inspect loose product before it is packaged or added as an ingredient further along the production line. When running at high throughput rates, having the right reject mechanism is crucial. Metal detectors and x-ray inspection systems have a range of reject devices to maximize productivity whilst reducing waste.



How to choose the right reject system

Learn how to choose the right reject system on your product inspection system.

www.mt.com/pi-reject



Inspecting for metal in free-falling powders and grains



A gravity fall metal detection system is often used when inspecting free-falling powders and fine granular products. High speed, pneumatically controlled y-valve reject devices minimize the amount of good product rejected when metal is detected.

Inspecting for metal in high-value, dusty powders



For high-value powders and dusty products, a seal-tight reject mechanism within a gravity fall metal detection system is recommended. The dust-tight seal minimizes the amount of 'good' product that gets rejected, reducing product waste.

Reduce waste with x-ray multi-lane reject devices



X-ray inspection systems with multi-lane reject devices can reduce waste by rejecting a smaller amount of product instead of rejecting the full belt width. Adjustable positioning of the reject scoop provides complete flexibility to cover a range of application and line speeds.

5 Reasons to Use Bulk Inspection Systems from METTLER TOLEDO

1 Innovative technology

Metal detection and x-ray solutions offer intelligent software capable of detecting smaller contaminants.

2 High throughput capabilities

Advanced solutions accurately detect contaminants in high throughput environments, ensuring food safety whilst maximizing line efficiency.

3 Flexible solutions

Key design features such as troughed conveyors and high-speed rejects minimize product waste.

4 Quality and production data management

Advanced software ensures effective quality control and production line operations through automated device monitoring and reporting.

5 Global support through local expert teams

Equipment can be serviced and supported through its entire lifecycle, from installation to preventive maintenance and calibration to equipment repair.

Start Big, Think Small

Titration Ensures Quality During Production

From the bags of flour and sugar you receive into your facility, to the final cookie going into the package - product quality is always a top priority. Our titration solutions support your bulk food production environments throughout the entire production process, to ensure every piece is perfect.

From measuring salt content in pasta, pretzels and other dried goods, to determining water content in bulk spices, coffee, flour and many other dried bulk products, EasyPlus titrators remove the guesswork from product quality. They offer a simple interface to reduce training time and increase throughput, ensuring accurate results. Whether at-line, near-line or in the laboratory, our titrators eliminate manual calculations, decrease time to results and keep your production line moving.

► www.mt.com/EasyPlusTitration



Easy EPM

Semi-automated titrations

Increase your manual titration accuracy with precise control and automated calculations. An optional pH sensor guides you through manual titrations.



Easy pH

Acid/base titrations

A simple and compact automated acid/base titrator for any industry, this titrator features a simple design and intuitive interface that speaks your language - and 14 others.



Easy KFV

Water content the easy way

Analyze your samples for water content quickly with volumetric Karl Fischer titration. This is ideal for products with 100 ppm up to 100% water content.



Easy CI

Easily determine salt content

This system includes everything you need to determine salt (chloride) concentrations in food and other products by using a precipitation method.



Easy Ox

The redox titrator

Automate your analyses of sugars, peroxide values and vitamin C analyses with the Easy Ox automated titrator.

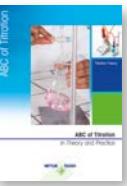


Easy Pro

Three in one titrator

The Easy Pro combines the three main types of titrations: acid/base, precipitation and redox, and determines all common parameters.

Download the free guide
Learn more about the basics of titration.
www.mt.com/easyplustitration-abc

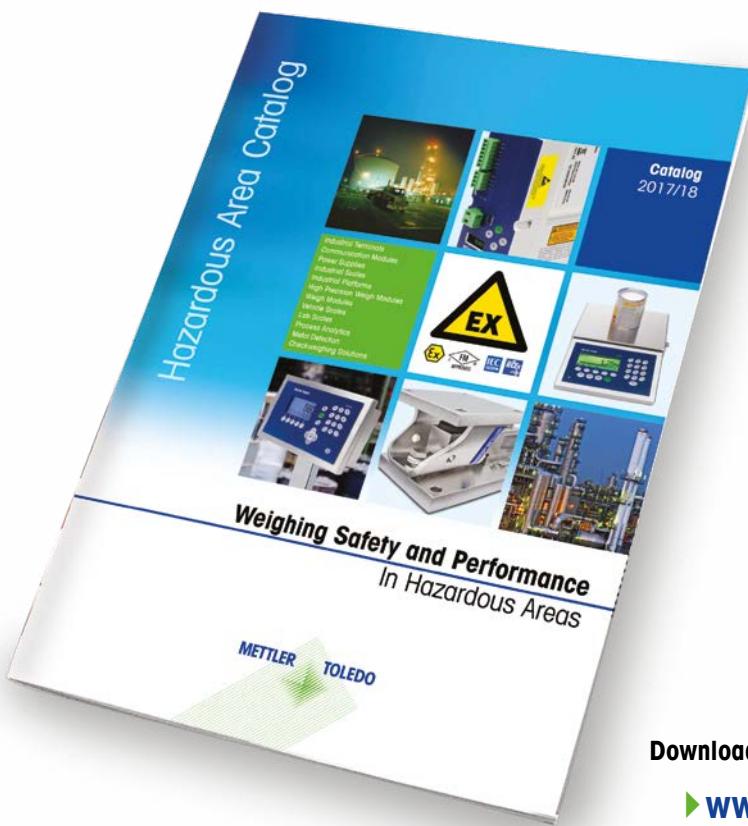




Avoid Dust Explosions In Hazardous Areas

Find the right weighing solution for your hazardous area

Safety and compliance are crucial when operating in potentially explosive environments. METTLER TOLEDO provides a broad range of weighing solutions to meet your hazardous area requirements.



Download the hazardous area catalog:

► www.mt.com/ind-hazcat

METTLER TOLEDO Group

Industrial Division

Local contact: www.mt.com/contacts

www.mt.com

For more information

Subject to technical changes
©03/2019 METTLER TOLEDO. All rights reserved
Document No. 30412957
MarCom Industrial

