

Manufacturing

Industrial Weighing and Measuring

23 News

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Enable Smarter Manual Workplaces Maximize Quality and Productivity

Manufacturers can take steps toward industry 4.0 implementation by upgrading production with the latest smart technology. Equipment enabled with machine learning can improve processes and increase operator efficiency.

Equipping manual workplaces with smart step-by-step operator guidance and prompting alongside continuous parts control can lead to higher overall yield. Here's how:

Intelligent solutions for better quality

Enabling efficiency and agility in manual assembly lines can have significant competitive advantages. A scale with smart functions can not only count parts but also check different types of parts with a pre-loaded production order. Additionally, smart solutions check if the correct amount is either placed on the weighing platform or

picked from scale-controlled bins. You gain error-free handling with operator guidance and prompting throughout the process.

Machine learning for error reduction

Combine precision weighing and visual verification with machine learning to achieve 100% traceable process control. Advanced tracking and documentation ensure the highest quality and customer satisfaction.

Read on to learn how solutions from METTLER TOLEDO can boost productivity and quality.

METTLER TOLEDO

4 Solutions to Improve Manual Workplaces Achieve Higher Productivity with Smart Weighing

Implement smart weighing and advanced machine learning in manual workplaces to increase workflow capacity and individual processing speed – all while ensuring high quality with zero errors. See how solutions from METTLER TOLEDO can help you better handle a large range of products and components to pick or assemble correctly.

“ Since implementing InVision™, we have increased productivity by 30% in our manual workplaces and improved our delivery quality significantly! ”

1 Pick&Pack

Pick parts, components or product manuals with the scale-assisted Pick&Pack application. Intuitive user guidance and workflows ensure better picking quality, complete kits or packages, and avoid customer complaints and costly returns. By combining SpeedWeigh with this application, you can significantly reduce your operating time. To learn more, visit:

► www.mt.com/ind-pickandpack



2 InVision™

The combination of visual recognition, weighing and intelligent machine learning brings extra process safety for manual production and packaging processes. InVision™ ensures the completeness of assembly kits with smart operator guidance features and a second set of eyes. To learn more, visit:

► www.mt.com/InVision

New!



3 SmartShelf Inventory Control

Remotely monitor inventory levels with weighing sensors. Choose from an array of integration options to find the best solution to continuously track and analyze stock levels. To learn more, visit:

► www.mt.com/remote-inventory



4 Smart Assembly Workplace

This solution guides operators through the assembly process and weighing pads control piece counts. It can be equipped with lighted directions for easy picking. Get in contact with your manual workplace system integrator to find the best solution for your needs. For more details, visit:

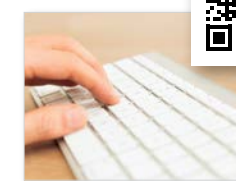
► www.mt.com/ind-smart-assembly



Competence in manufacturing

Explore METTLER TOLEDO's competencies from material receiving to shipping and find the best-fit solutions to keep process reliability under control.

► www.mt.com/manufacturing



Enhance Product Quality with Full Visibility Benefit from Vision-Based Machine Learning

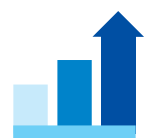
Manual weighing, counting and packaging tasks have high manual error potential. Ease order-picking efforts for operators while ensuring product completeness in production and packaging processes with the latest machine-learning vision and weighing technology: InVision™.

► www.mt.com/InVision



Achieve 100% quality kits

Zero missing parts is a reality with InVision™ as your second set of eyes on every package. When you reduce the risk of human error in manual processes you can achieve 100% quality kits and maximize customer satisfaction.



Increase productivity up to 30%

InVision™ combines guided working steps and intuitive process verification with smart work-station design, leading to increased operator efficiency. See improvements in productivity by up to 30% and get more out of your processes.



Connected work stations improve operational transparency

Benefit from automatic data and picture capture with every kit. Send this information directly to your connected ERP or MES for simplified track and trace capabilities.



New!

Breakthrough bench scale innovation:

InVision™ is able to identify parts that are very similar in weight or in appearance by using both weighing technology and camera recognition:

- The smart algorithm combines the two technologies for optimal parts identification results in milliseconds
- Two-way verification boosts process safety
- Smart operator guidance on an intuitive touchscreen display reduces errors significantly



Never Run out of Parts Again

SmartShelf Simplifies Inventory Control

Weighing sensors are the perfect tool to monitor inventory levels remotely. Integrate them into shelves, racks and industrial vending machines and have continuous visibility into stock levels for easy supply-chain optimization.

► www.mt.com/remote-inventory

Weight-based inventory control for lean operations

Weighing pads offer installation that is flexible to the needs in your operation, whether you are integrating the sensors into shelves, mobile point-of-use racks or vending machines. These solutions allow remote access and visibility to your actual inventory levels. Combined with digital connectivity for easy integration into existing ERP networks, they help you to track inventory levels, find savings potential and discover improvement opportunities for your lean efforts.

1 SmartShelf: Complete shelves offer maximum simplicity

A complete SmartShelf system offers maximum simplicity due to having the weighing pads directly integrated into your shelf. Individually query the weight per all bins for current stock levels. The setup offers:

- a shelf, the integrated weighing pads and individual A/D converters for each weighing pad
- full flexibility for weighing with a weighing range of 8 kg weighing pad to 1000 kg floor platform



2 SmartShelf: Weighing pads offer maximum flexibility

Build weighing pads into an existing shelf system, where not every bin or container in the shelf requires control by weight or build individual scales for integration into shelf systems or machines. This setup is fully equipped to ensure easy integration and maximum flexibility:

- load cell with housing for overload protection, scale board and mounting assembly
- full flexibility for weighing with a weighing range from 2 kg to 20 kg



3 Inventory management software: Track all parts in your network

Full tracking of stock levels and usage is possible with the SmartShelf and weighing pads system. Simply connect the system described in boxes 1 or 2 to a PC for data exchange and analysis. Custom inventory management software can keep track of your stock levels while saving you time and money with exact inventory numbers.



Quality Control Across Your Value Chain Find Your Ideal Solution

Weighing instruments quickly and precisely control the completeness or intactness of products and components. Flexible configurations provide in-process or end-of-line checks that keep your production processes moving.

Manufacturing competence brochure

Discover smart solutions to improve process reliability and productivity. Download the brochure:

www.mt.com/manufacturing-competence



Our solutions give you the ability to:

Check More than Samples with Bench Scales

Repetitive manual tasks in production are prone to errors. METTLER TOLEDO's ICS685 high-resolution compact scale and end-of-line checkweigher help verify correct quantities, kit and package completeness, and product intactness. Intuitive user interfaces and colored displays guide operators to ensure consistent quality.

- www.mt.com/ICS685
- www.mt.com/checkweigher

Use them for:

Manual and semi-automated
quality and completeness checks



Learn more about:



ICS685 Compact Scale



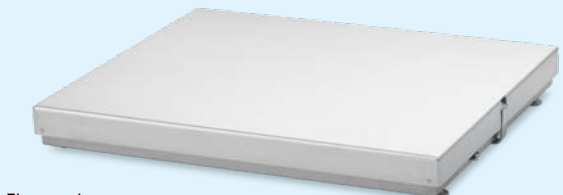
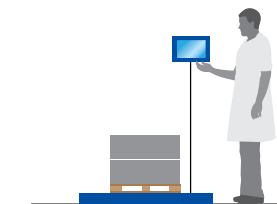
Checkweigher

Control Heavy Parts with Weighing Platforms

Ensure consistent quality when handling heavy loads. PFK9 high-precision weighing platforms are ideal for checking completeness of heavy bulk quantities in production output control.

- www.mt.com/PFK9

Accurate weighing for heavy and
bulk loads



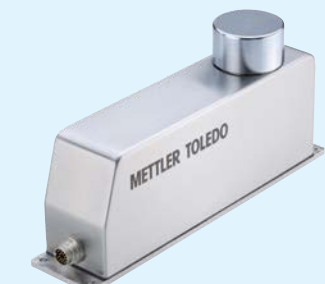
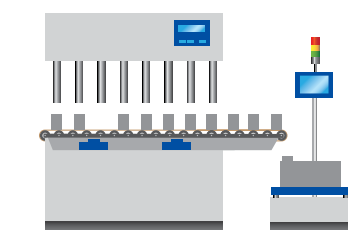
PFK9 Floorscale

Integrate High-Speed Weigh Modules into Machines

Achieve up to 100% process control with the use of in-process weigh modules to check quality by measuring weight before and after each production step. WMS weigh modules for fast in-line checkweighing ensure accurate and reliable testing during automated production. Easy integration, high resolution and proven ruggedness help to guarantee perfect process control.

- www.mt.com/WMS

In-process quality checks



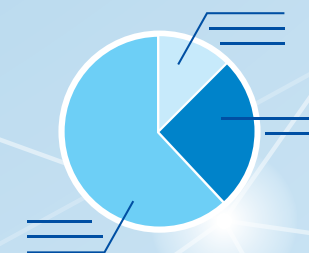
WMS Weigh Module

3 Steps to Erase Blind Spots

The primary targets in manufacturing are to increase quality and reduce costs. By using weighing equipment for quality checks you can also track the data of the processes. With METTLER TOLEDO software you are able to control your processes and respond quickly to issues. You achieve a secure data collection process and keep your customers happy at the same time.

► www.mt.com/ind-software

2



Can I work with all the data effectively?

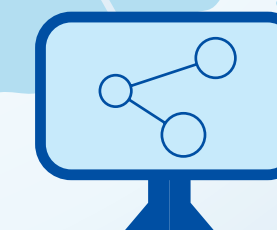
After connecting all weighing sensors in a production process to collect data, the next step focuses on data usability. Ensuring that all your data will be transferred to an oversight system using a standardized protocol can help.

METTLER TOLEDO's Collect+ software continually collects and monitors production output and quality. By providing you with these production insights on an easy-to-use dashboard, you can analyze and optimize your processes. You benefit from the unique Collect+ advantage: capturing weight and process data from every scale and sensor in your production area, including third-party devices.

Read more about Collect+ at

► www.mt.com/Collectplus

3



Do I have all the data?

This first step in increasing your quality control is key. Check your manual and semi-automated manufacturing processes for control gaps and opportunities to improve speed and productivity with more data transparency. Weighing equipment and sensors from METTLER TOLEDO will then continuously collect the data from each weighing point. The collection of all weighing data in your production process allows for more exact reporting and purpose-driven corrective measures to boost quality and productivity.

METTLER TOLEDO provides tools that can connect your processes and transfer all data to your analysis software. Whether you're working on a single project to improve your processes or you're at the starting point of taking your production to an Industry 4.0 solution – we have a solution to fit your needs.

Find more information at

► www.mt.com/ind-4-0

How can I make better decisions with the collected data?

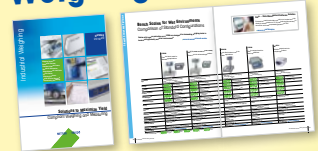
By working with steps 1 and 2, you can actively collect, track and visualize manufacturing data. You gain better insight to the status of your processes and if they are supporting productivity and quality goals. This helps you maintain process performance at a high level.

Nevertheless, you always want to improve your processes and make better decisions. Our statistical quality control software FreeWeigh.NET™ will boost quality by actively tracking, handling and even stopping or starting processes based on the data collected from your shop floor. You boost quality and increase yield by customizing the system to your needs.

Find more information at

► www.mt.com/Freeweighnet

New Industrial Weighing Catalog

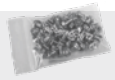


► www.mt.com/ind-catalog
Free Download

9 Checks – 1 Solution Weight-Based Quality Control

Weight-based quality control can detect invisible defects like cavities in sintered metal parts or check completeness no matter the shape or weight of the workpiece. It offers high resolution and speedy processing for a thorough quality check that does not slow down production.

1 Number of parts correct?



7 All parts assembled?



2 Every part inside?



8 Enough oil?



3 Correct length?



9 Properly counterbalanced?



4 Cavities inside?



5 Coating applied?



6 Density of sintered parts?



Download the weight-based quality control white paper:

► www.mt.com/ind-ICS5-quality

www.mt.com/ind-ma

For more information

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