Industrial Weighing

2024

Scale Indicators
Software and Services
Compact and Special Scales
Weights and Accessories
Weigh Modules and Load Cells
Vehicle Scales
Weighing Platforms
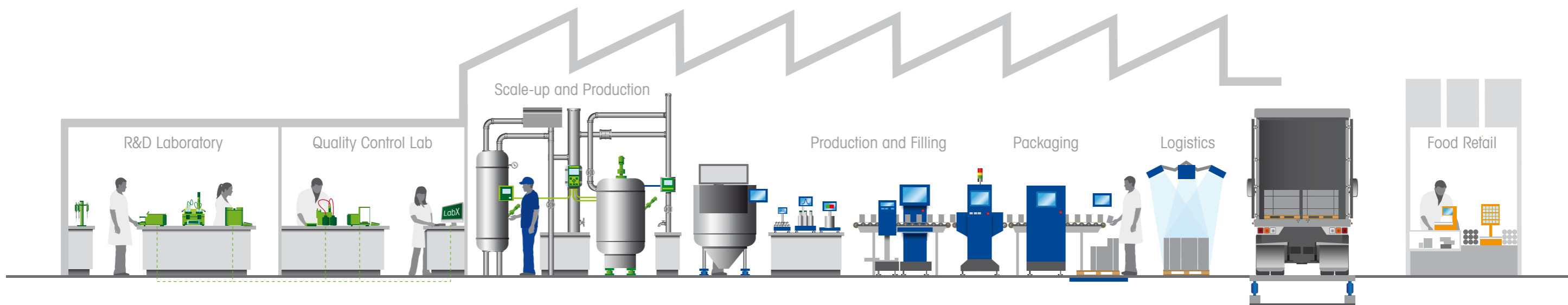Parcel and Pallet Weighing
Dimensioning and Scanning

Solutions to Maximize Yield
Compliant Weighing and Measuring

METTLER TOLEDO

Providing Solutions
Across Our Customers' Value Chains

Scale-up and Production

R&D Laboratory | Quality Control Lab | Production and Filling | Packaging | Logistics | Food Retail

R&D Laboratory

Our precise instruments are the foundation of research and quality control labs all over the world. High-performance weighing solutions offer a basis for solid R&D results. Pipettes are an essential tool for life science research. Thermal analysis instruments help to improve materials and their thermal behavior. Automated chemistry solutions accelerate the development of new chemicals.

Quality Control Lab

Quality control relies on fast and precise analytical measurement as well as good data management. Our analytical balances, titrators, pH meters, density meters, refractometers, melting point meters, pipettes, and UV/VIS spectrophotometers can be tailored to each customer's application and provide a fully documented workflow for every quality control lab.

Scale-Up and Production

Our sensors for measuring critical liquid analytical parameters, such as pH and oxygen levels and water conductivity and resistivity as well as total organic carbon, enable pharmaceutical, biotech, and other companies to continuously ensure product quality and meet regulatory standards. Our transmitters and connectivity solutions make data collection and integration into control systems efficient and flexible.

Production and Filling

We offer highly robust and durable industrial scales and scale indicators in all sizes, formats, and capabilities to monitor and control various manufacturing processes including applications for counting, formulation, and weight-based quality control. Software programs help increase productivity, improve product quality, and enhance the yield of manufacturing processes.

Packaging

Product inspection solutions help to safeguard product quality, safety, and integrity, inside and out. Our systems for metal detection, checkweighing, x-ray, and vision inspection provide confidence that product quality is maintained, compliance with industry standards is achieved, and consumers and brands are protected.

Logistics

Our vehicle scale systems offer the highest level of accuracy and can prevent unexpected downtime thanks to the unique design and remote diagnostic capabilities. For express and freight carriers, in-motion weighing and dimensioning solutions provide revenue recovery opportunities at the highest throughputs and read rates.

Food Retail

From retailers' receiving docks to their checkout counters, we enhance efficient handling of fresh goods with weighing, packaging, pricing, wrapping, and labeling solutions. Connected scales greatly facilitate in-store marketing, fresh item management, promotions, and more.

Check our solutions:
▶ **www.mt.com**

Find Your Solution
Maximize Your Yield

> Since partnering with METTLER TOLEDO, we have seen an increase in our yield, which has led to a boost in our operating profits.

Production Manager, Manufacturing Plant

What Do We Mean When We Say, "Maximize Your Yield?"

No matter what you manufacture, formulate or fill, your goal is to get the most out of your production processes while still delivering quality to your customers.

Accurate weighing helps – but we deliver more than just weighing equipment. We offer total system solutions with value-added features that help boost your productivity, ensure product quality, enable high uptime, and more.

Discover your ideal solutions:
▶ **www.mt.com/Industrial**

6 Key Factors That Enhance Yield – Get the Most Out of Your Process

Increase Productivity
Enable efficiency in production, whether manual or automatic, and ensure every step has a purpose.

Ensure Quality
Eliminate bad batches and waste by ensuring high quality is achieved every time.

Maximize Uptime
Boost equipment uptime with solutions that don't fail and actively alert to maintenance needs.

Enhance Visibility
End-to-end connected weighing solutions offer visibility for informed decision-making and traceable results.

Achieve Accuracy
Reduce giveaway, ensure quality, and maintain process insights with truly accurate solutions.

Guarantee Compliance
Right-the-first-time processes and proper documentation help you to ensure regulatory compliance.

Maximize Machine Performance
Simplify Your Job

What Do We Mean When We Say, "Simplify Your Job?"

For multinational companies or machine builders serving customers worldwide, we offer global and local partnership, no matter where you do business.

Our comprehensive consulting and extensive weighing portfolio are available to help you simplify your job. Globally approved weighing devices enable you to standardize your weighing solutions and deliver a reliable value to your customers or production facilities around the world.
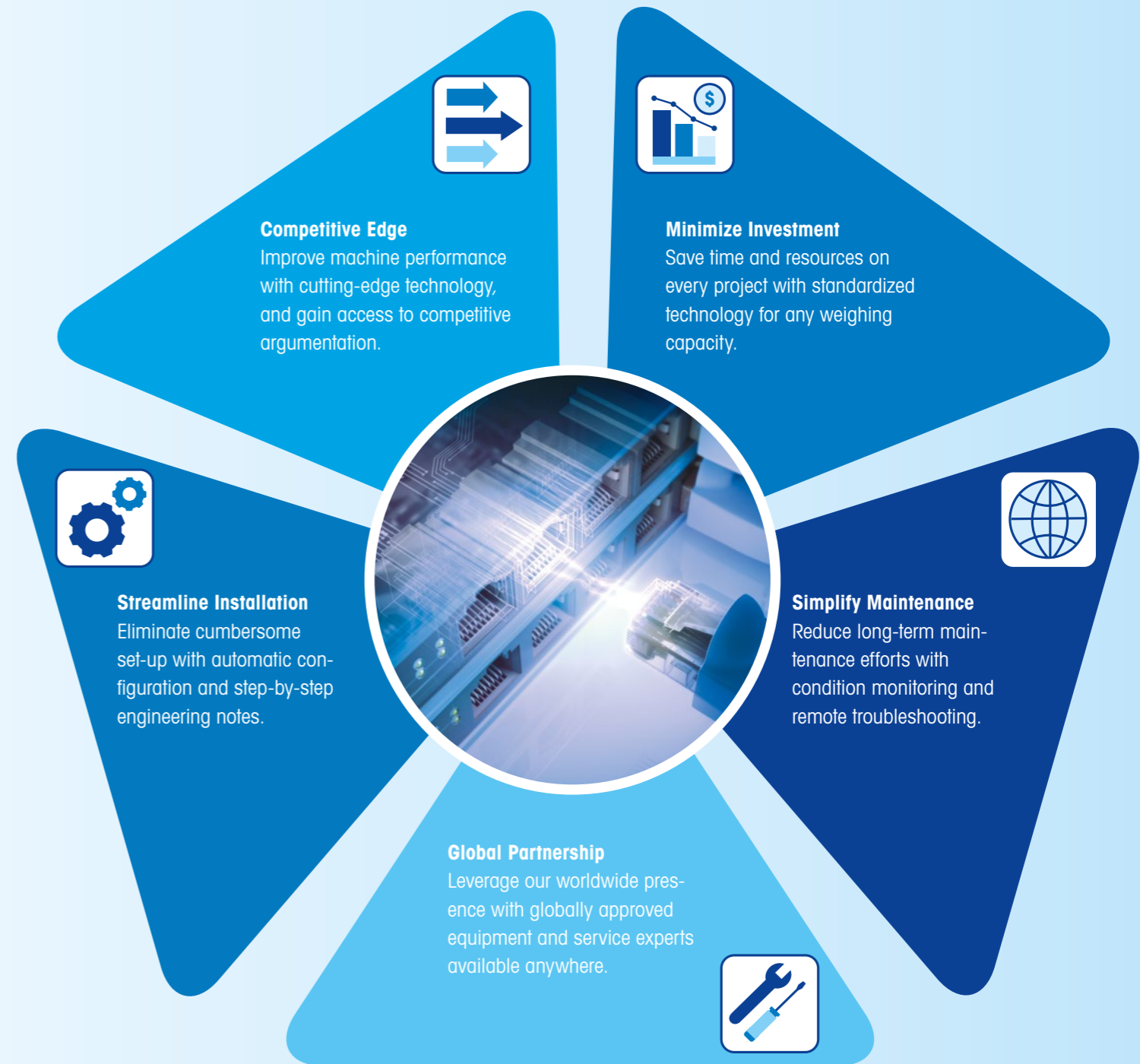
Discover your ideal solutions:
▶ **www.mt.com/Industrial**

" Our engineers, service technicians and sales team are all seeing benefits from the METTLER TOLEDO solutions. "

Project Managers, EPC Company

5 Ways We Can Simplify Your Job – Optimize Resources on Every Project

Competitive Edge
Improve machine performance with cutting-edge technology, and gain access to competitive argumentation.

Minimize Investment
Save time and resources on every project with standardized technology for any weighing capacity.

Streamline Installation
Eliminate cumbersome set-up with automatic configuration and step-by-step engineering notes.

Simplify Maintenance
Reduce long-term maintenance efforts with condition monitoring and remote troubleshooting.

Global Partnership
Leverage our worldwide presence with globally approved equipment and service experts available anywhere.
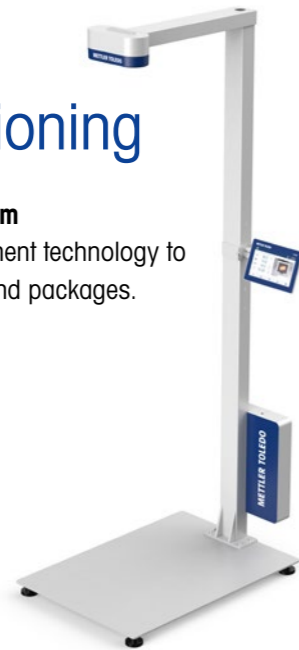
Parcel Dimensioning

TLD250 Static Dimensioning System
Leverage camera-based measurement technology to automatically dimension parcels and packages.
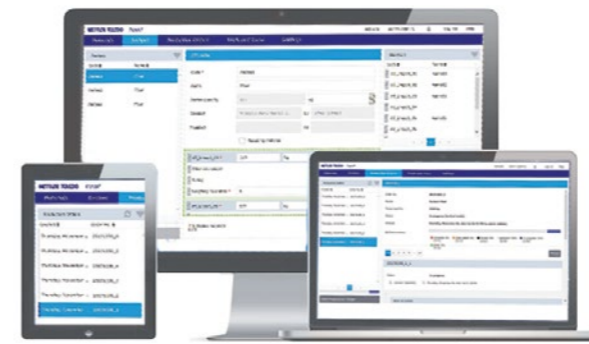
Page 260

Page 54

IIoT Edge Device

ACI400 IIoT Edge Gateway Device
Connect new and existing scales to OPC UA and MQTT networks.

Bench Platforms

PBD659 Hygienic Bench Scale Platform
Streamline cleaning and ensure compliance with an optimized hygienic platform design.

Page 62

Software

Form⁺
This Formulation and Recipe Management System helps to get the most out of your product manufacturing processes.

Page 100

Scale Indicators

IND360 Compact Automation Scale Indicator
Ultra-fast, modular scale indicator designed to boost automated weighing processes and productivity.

Tank Scale Calibration

RapidCal™
Simplify the tank scale calibration process, reduce downtime and eliminate contamination risk.

Page 282

3.600 kg

Page 48

A Choice of New Products
For Industrial Applications

Pallet Weighing

PJA Pallet Truck Scales
Fully customizable mobile weighing solution for maximum process efficiency.

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Page 178

500.00

EX

Page 40

Inventory Management

SmartShelf Weighing Pads
Integrate weighing sensors directly into shelves or racks to check stock and analyze usage trends for easy supply-chain optimization.

Hazardous Area Weighing

IND500x Weighing Indicators
Optimize your manual, automatic or semi-automatic processes in hazardous areas with an advanced, intrinsically safe indicator.

Competence for Safe Manufacturing
Solutions for Hazardous Areas

Explosive areas require special considerations, but performance doesn't need to be compromised. Our complete range of solutions for weighing in hazardous areas helps optimize operations, accelerate processes, improve product quality and comply easily with the latest regulations.

▶ **www.mt.com/hazardous**

EX

Throughout the catalog, hazardous-area-approved equipment is accompanied with the yellow Ex triangle.
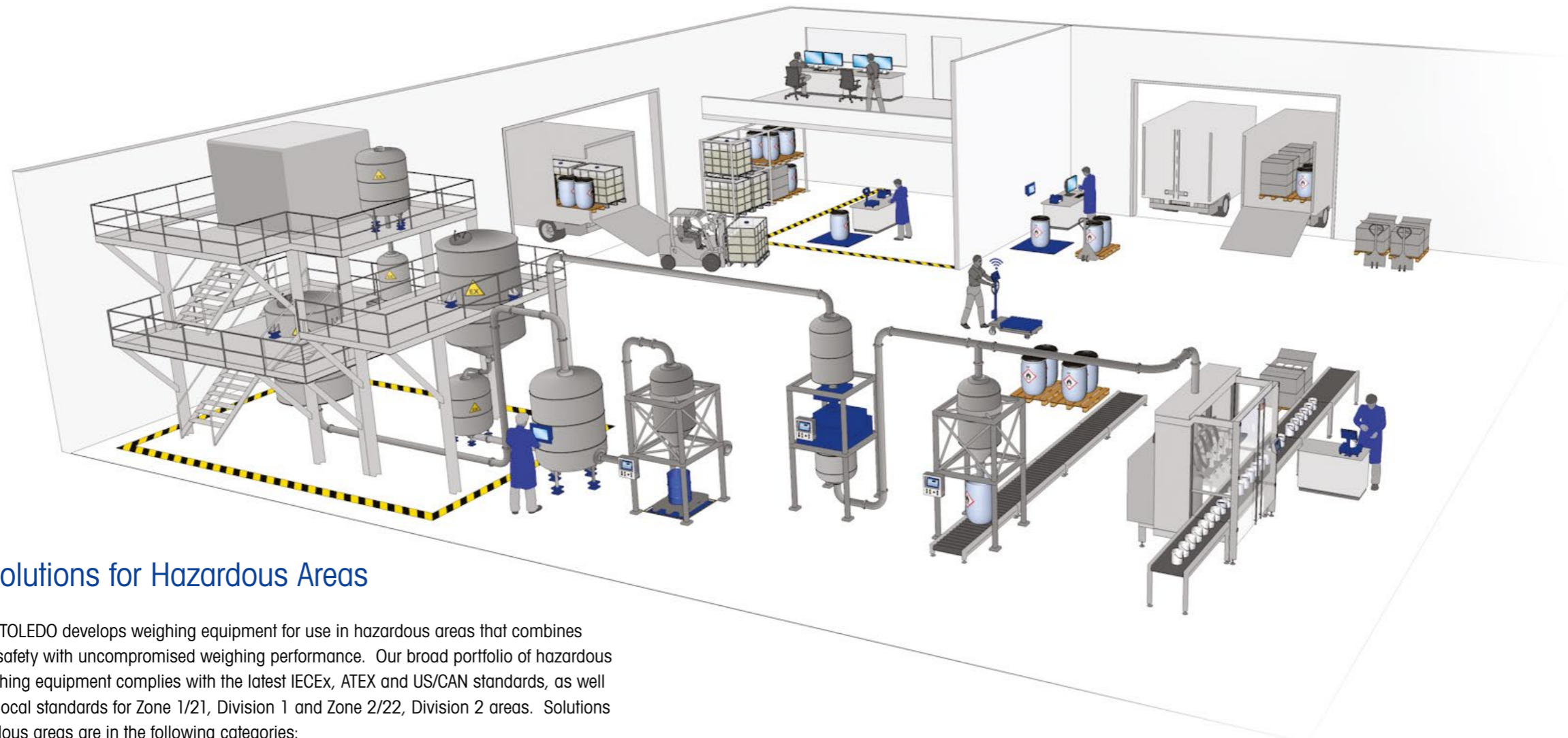
Our Solutions for Hazardous Areas

METTLER TOLEDO develops weighing equipment for use in hazardous areas that combines excellent safety with uncompromised weighing performance. Our broad portfolio of hazardous area weighing equipment complies with the latest IECEx, ATEX and US/CAN standards, as well as many local standards for Zone 1/21, Division 1 and Zone 2/22, Division 2 areas. Solutions for hazardous areas are in the following categories:

- Weighing Modules and Load Cells
- Weighing Platforms (Bench and Floor)
- Weighing Transmitters, Scale Indicators
- Communication Modules, Barriers
- Vehicle Scales
- Services
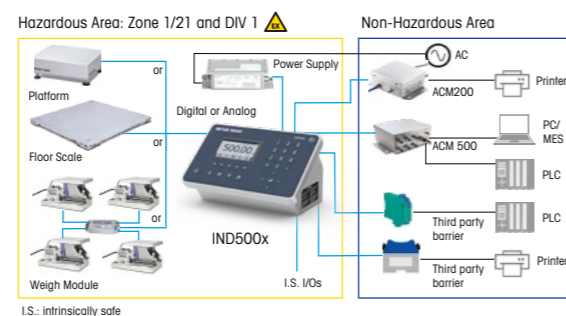
Our Competence in Hazardous Areas

For more information about how to stay compliant and efficient in classified hazardous areas, check out our Hazardous Area Resource Portal. It offers a range of tools, such as white papers, guides, posters, and webinars that help you to comply more easily and efficiently with global hazardous area regulations and standards.

▶ **www.mt.com/ind-hazardous-compliance**

Industrial Scale Indicators, Indicator Software and Transmitters

Our Solutions
For Your Production

Scale Indicators for Bench and Floor Scales
Flexible and Accurate

To maximize overall equipment effectiveness, it is critical to use a scale indicator with application flexibility that allows the weighing system to be easily integrated into your overall manufacturing operation. Our scale indicators are designed for use with bench and floor scales so you get a maximum return on your weighing-equipment investment.

▸ **www.mt.com/ind-bench-floor**

Many bench scales are used in manual working environments in which equipment ergonomics and ease of use impact operational productivity and quality. The scale indicators' vivid color HMI, multilingual operator messages, configuration menu and responsive tactile keys maximize operator efficiency.

Compact Design
For weighing various-sized items on a compact bench scale, a scale indicator mounted to the front of the scale platform provides good visibility of weight values.
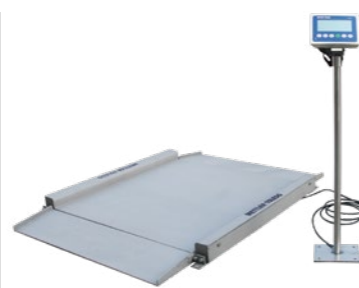
Analog or Digital Scale Bases
Our scale indicators provide an interface to both analog and digital bases, allowing for flexibility based on accuracy or other performance requirements.

Operational Insight
Asset management and weighing performance is recorded and can be exported for analysis and mitigation actions.
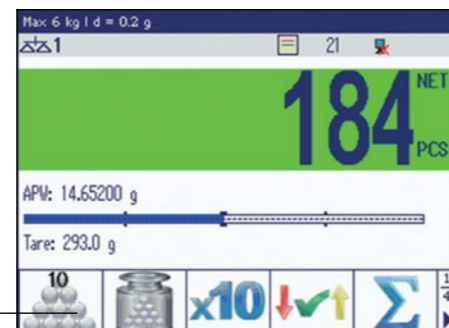
Added Capabilities with Peripheral Devices and Systems

For many weighing applications, the process involves capturing data and integrating it into the weighing record, plus sending transaction information to a PC or printer. The scale indicator software and communication interface must be capable of connecting to barcode scanners, external keyboards, remote displays and other devices. Our family of scale indicators helps you create a well-integrated weighing system within your manufacturing operation.

Barcode Scanner
• Scan orders and recall articles
• Identify operators
• Start weighing with a scan

Printer
• PC not necessary at every weighing station
• Immediately create labels using the scale

Collect+ Software
• Visualize weighing and production data
• Monitor production output
• See counting efficiency, filling accuracy and giveaway

Data Transfer
• Use USB as alternative data-transfer method
• Alternatively, use Ethernet or USB as data transfer method

Scale Indicators for Bench and Floor Scales
Provide Enhanced Weighing Productivity

The scale indicator is an important part of a complete weighing solution. These scale indicators are operator-friendly and designed for a variety of bench, compact and floor-scale applications.

▶ **www.mt.com/indicators**

Metal Keypad Option for ICS429 and ICS689

Watch the video to learn more about our full stainless steel keyboard ensuring hygienic weighing in demanding environments. Easy to clean, easy to operate and very responsive.

▶ **www.mt.com/ICS689**

	IND930/970	ICS6__	ICS4__	IND246	IND231/236
	Benefit from applications designed specifically for your process.	Premium scale indicator for sophisticated applications.	Advanced scale indicator for challenging applications.	Basic weighing plus multiple application software apps included.	Cost-effective scale indicator with no compromise in performance.
Applications	• Wide array of MT software solutions: Formulation, Statistical Quality Control • Workflow and workplace-specific programming to support custom filling, formulation, counting, checkweighing, and more	• Intuitive counting, totalizing and manual formulation • Smart checkweighing and portioning • Fast classifying and average weighing	• Accurate counting and totalizing • Advanced checkweighing and portioning • Fast average weighing	• Basic weighing • Simple over/under checkweighing • Simple counting	• Basic weighing • Simple over/under checkweighing • Simple counting
Versatility	★★★★ Multi-scale with flexible configuration per scale	★★★★ Multiple advanced applications software included	★★★☆ Multiple application software included	★★☆☆ Multiple application software included	★★☆☆ Multiple application software included
Integration	★★★☆ Serial, Ethernet TCP/IP, USB, Digital I/O, Profibus	★★★★ Serial, Ethernet TCP/IP, USB, Digital I/O	★★★☆ Serial, Ethernet TCP/IP, USB, Digital I/O	★★☆☆ Serial, Ethernet TCP/IP, USB, Digital I/O	★☆☆☆ Serial, USB, Digital I/O
Data Management	★★★★ Database stores tare, delta trac, fix text values	★★★☆ Database stores up to 5,000 articles, csv transaction and table file export	★★★☆ Database stores up to 100 articles, csv transaction and table file export	★★☆☆ .csv transaction and table file export	★☆☆☆ 5 pre-defined print templates
Compliance Support	★★★★ Alibi memory, user management	★★★☆ Alibi memory and user management functionality	★★☆☆ Alibi memory and user prompting functionality	★★☆☆ Scale statistics, logs, password	★☆☆☆ Password protection
Performance Optimization	★★★★ Reproducible working steps aligned to SOPs	★★★★ Versatile HMI with softkeys, templates and transaction memory	★★★☆ Versatile HMI with softkeys and templates	★★☆☆ Quick navigation, pre-configured templates, SD memory card	★★☆☆ Simple navigation
Display	10", 15", or 19" LED	Graphic LCD display with 3 display layouts, colorWeight® functionality	Color TFT (320x240) with 3 display layouts, colorWeight® functionality	240 x 96 backlit transflective graphic LCD	Bright, 40 mm height weight display
Keypad	Resistive touchscreen, function keys on 15" HMI	Tactile membrane keypad with 4 x assignable softkeys, scale function keys, and alphanumeric keys; Optional metal keypad available on ICS689 for unmatched ruggedness and hygienic performance	Tactile membrane keypad with 4 x assignable softkeys, scale function keys and numeric keys Optional metal keypad available on ICS429 for unmatched ruggedness and hygienic performance	Tactile with 1 x assignable function key and alphanumeric keys	Tactile with 2 x assignable function keys
Scale Interface	Up to 4 scales: analog, SICSpro digital, or SICS lab balance and APW interface, 2 PowerDeck, max. 8 POWERCELLS	4 x analog or SICSpro digital	2 x analog or SICSpro digital	1 x analog or 1 PowerDeck	1 x analog scale, up to 4 x 350 ohm
Communication Interface	Ethernet TCP/IP, optional USB host/device, RS232/422/485, Digital I/O, Profibus	1 x RS232 standard and 3 optional, RS232, RS422/485, USB device, USB host, Ethernet, Digital I/O	1 x RS232 standard and 1 optional RS232, RS422/485, USB device, USB host, Ethernet, Digital I/O	1 x standard RS232/422/485, optional USB device, RS232/485, Ethernet TCP/IP, Digital I/O	1 x RS232 standard, optional USB device, RS232/422/485, Digital I/O
Housing	Stainless steel, wall/desk or panel version	Stainless steel or aluminium die-cast	Stainless steel or aluminium die-cast	Stainless steel	Polymer or stainless steel
IP Protection	IP69k	IP54, IP65, IP67, IP69k	IP54; IP65, IP67, IP69k	IP66	IP54 (polymer) or IP66/67 (stainless steel)
Power	100 – 240 VAC	90 – 240 AC or rechargeable battery	90 – 240 AC or rechargeable battery	100 – 240 VAC or rechargeable battery	100 – 240 VAC or rechargeable battery
Software Applications	ProWorks V1.0, FreeWeigh.NET®, FormWeigh.NET®, SQC, Windows 10 IoT Enterprise based indicator supporting custom application programming	Counting, checkweighing, totalizing, average weighing, Pick and Pack, Speedweigh, CableFree weighing	Counting, checkweighing, totalizing, average weighing	Animal weighing, counting, peak weight, checkweighing, vehicle, accumulation	Animal weighing, counting, checkweighing, accumulation, remote display mode
More Information	**www.mt.com/IND930** or **www.mt.com/IND970**	**www.mt.com/ICS6**	**www.mt.com/ICS4**	**www.mt.com/IND246**	**www.mt.com/IND231-236**

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

Tank and Hopper Scale Indicators
Simple Integration and Monitoring

Tank, silo and machine-builder weighing applications require the ability to reliably and accurately interface scale indicators with automation, material-requirements planning and manufacturing execution systems. Applications range from simple weight-data communication with condition monitoring to complete control over a part of the manufacturing process via the scale indicator. Select from a broad range of indicators that exactly matches your automation and operator requirements.

▶ **www.mt.com/ind-tank-silo-hopper**

Typical applications include filling, dosing, Rate Control, Dynamic Parcel Weighing, Weight Based Quality Control or blending of liquids and solids, batching or formulation of multiple ingredients and management of raw-material inventory levels. Automation Indicators deliver fast, deterministic weight, free of vibration from outside sources that significantly improves machine throughput.

Easy Integration
Support for multiple certified automation networks, with drivers and sample code that speeds up integration.

Condition Monitoring and Alarms
The POWERCELL® load-cell network helps pinpoint and communicate locally or remotely any weighing-system disturbances that could compromise weighing accuracy.

Operational Insight
Asset management and weighing performance are recorded and can be exported for analysis and mitigation actions.

Many Styles, Approvals and Technologies

Advanced Indicators allow you to easily connect to strain gauge sensors as well as smart sensors such as POWERCELL®, High Precision EMFR , mass comparators and lab balances for any weighing application. Global approvals include electrical, hazardous areas and weights-and-measures. Indicators support condition monitoring, web configuration, backup, restore, and multi-language human machine interfaces.

Our family of scale indicators provides capabilities that help you create a well-integrated weighing system within your manufacturing operation.

Tank and Hopper Scale Indicators
From Small to Large, Simple to Complex

A variety of scale solutions for tanks, silos, bins, hoppers and conveyors provide accurate, reliable and flexible integration into your manufacturing process.

▶ **www.mt.com/ind-tank-silo-hopper**

Tank Weighing Made Easy

Whatch the video to learn how IND360 supports tank weighing applications.

▶ **www.mt.com/IND360-TankVessel-Video**

	IND780		IND570		IND360	
	Power and performance for advanced weighing applications.		Performance and versatility, delivered.		Ultra fast for automation	
Applications	• Basic weighing • Filling, dosing • Batching and formulation		• Basic weighing • Filling, dosing, blending • Bulk-material handling		• Very High Speed Weighing • Simple material transfer, filling, dosing • Tank/Vessel control	
Versatility	★★★☆	Multi-scale with flexible configuration	★★★☆	Powerful application software	★★★★	Multiple housing styles
Integration	★★★★	Industrial Ethernet, serial, Ethernet TCP/IP	★★★☆	Industrial Ethernet, serial, Ethernet TCP/IP, Legacy Automation buses	★★★★	Industrial Ethernet, Modbus RTU, 4-20mA, 0-10VDC
Data Management	★★★★	Barcode data integration, tables, SQL interface	★★★☆	Barcode data integration, multiple tables, reports	★★★★	Best weight and condition monitoring, ePrint
Compliance Support	★★★☆	Hazardous area approved, track and trace capabilities, logs	★★★☆	Hazardous area approved, track and trace capabilities, logs	★★★★	Metrology, Hazardous approvals, three report logs
Performance Optimization	★★★★	Advanced calibration, predictive diagnostics	★★★★	Advanced calibration, diagnostics, GWP	★★★★	CalFREE, CalFree Plus, FACT
Display	Graphic QVGA backlit color TFT		High-contrast, high-resolution graphic LCD 25 mm-high		Color TFT or Graphic OLED	
Scale Interface	4 scales, analog or digital, sum scale, pulse counter		1 scale, up to 12 x 350 ohm load cells, up to 14 POWERCELLs® or 1 PowerDeck® or other high-precision platform		1 Scale, up to 8x 350 ohm Load Cells, up to 8x POWERCELL, 1x Precision Sensor, or scale, lab balance, mass comparator	
Communication Interface	2 x Standard RS232/422/485, USB host, Ethernet TCP/IP, 2 x Optional RS232485, EtherNet/IP, Profibus DP, PROFINET, Modbus TCP, DeviceNet, Analog Output, Digital I/O		1 x Standard RS232/422/485, USB host, 2 x Optional RS232485, Ethernet TCP/IP Ether-Net/IP, Profibus DP, PROFINET, Modbus TCP, Analog Output, Digital I/O, WLAN, CableFree weighing		1x TCP/IP (service), 1x Optional PROFINET, Profibus DP, EtherNet/IP, Modbus RTU & TCP, EtherCAT, CC Link IE field Basic, Analog Out, Digital I/O, Supports DLR and MRP ring networks.	
Housing	Panel or wall/column/desk mount		Panel or wall/column/desk mount		DIN, panel or wall/column (IP69K)	
Power	85 – 264 VAC		85 – 264 VAC or 24 VDC		12-24VDC, Option AC 100-240VDC	
Software Applications	Filling, formulation, Task Expert programming		Filling, dosing, blending, Task Expert programming		Tank/Vessel, filling, dosing	
Hazardous Area Approvals	IECEx/ATEX, NEC (Div. 2)		IECEx/ATEX/NEC (Zone 2/22), NEC (Div. 2)		IECEx; ATEX; UKCA; FM; cFM; NEPSI (Zone 2/22), (Div. 2)	
More Information	**www.mt.com/IND780**		**www.mt.com/IND570**		**www.mt.com/IND360**	

Requirement fulfillment scoring: ★★★★ very good ★★★☆ good ★★☆☆ fair ★☆☆☆ limited ☆☆☆☆ none
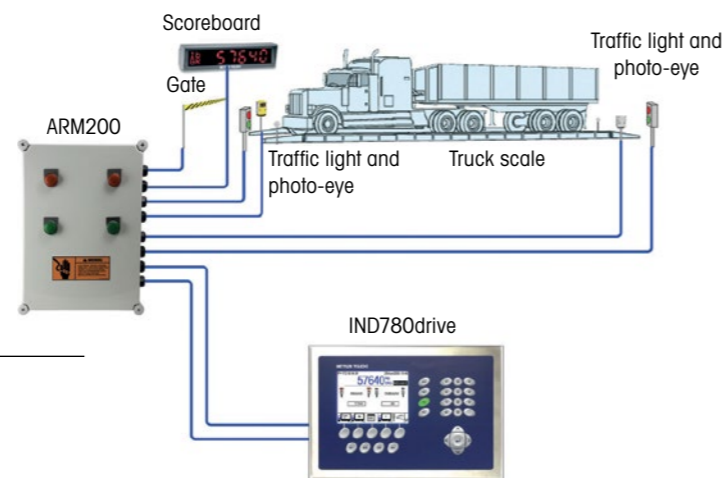
Vehicle-Weighing Indicators
Control Your Weighing Process

Maximizing your operational performance requires a weighing system that provides accurate, reliable and easy-to-understand information from your vehicle scale. While the vehicle scale itself is the foundation of your weighing system, without a high-performance scale indicator, you cannot maximize efficiency in your operations that depend on vehicle-weight data.

▶ **www.mt.com/ind-vehicle**

Vehicle-management software with databases of stored truck information and control over gates and loops provides increased productivity and improves the utilization of a vehicle scale. On-board data storage makes reporting easy. Efficient file export and flexible communication simplify data export to higher-level operations and software applications.

Scoreboard
Gate
ARM200
Traffic light and photo-eye
Truck scale
Traffic light and photo-eye
IND780drive

Protection from Environmental Influences
Lightning-strike resistant electronics and an EMI-protected digital signal to all load cells ensure reliability.

Advanced Diagnostics and Alarms
The POWERCELL® load-cell network helps pinpoint and communicate (locally or remotely) weighing-system disturbances that could compromise weighing accuracy.

Operational Insight
Asset management and weighing performance is recorded and can be exported for analysis and mitigation actions.

Interface with POWERCELL® PDX®

The power and flexibility of METTLER TOLEDO scale indicators enable them to be successful in the most demanding vehicle-weighing applications. The latest-generation POWERCELL® PDX® load cell provides protection beyond traditional analog load cells, securing both the integrity of your process and your profits. Accurate vehicle scale weights are ensured, day in and day out, under the most severe operating conditions, with predictive diagnostics constantly monitoring your scale and minimizing downtime costs.

POWERCELL PDX networks guard against failure by monitoring, logging and proactively notifying users on a variety of factors that can affect system integrity.

Vehicle-Weighing Indicators
Drive Your Business

The scale indicator is an important part of a complete truck-scale solution. Our range of scale indicators provides you with a variety of solutions to perfectly fit your application needs.

▶ **www.mt.com/ind-vehicle**

IND780
Power and performance for advanced weighing applications.

IND570
High performance, versatility, and easy configurability for vehicle applications.

IND246
Reliable operation with easy-to-learn functionality for vehicle weighing.

	IND780		IND570		IND246	
Applications	• Advanced vehicle software with gate and loop control • Advanced database functions • Multi-scale applications		• Simple vehicle management; inbound/outbound control • Advanced vehicle filling functions • Advanced asset management		• Simple inbound/outbound weighing • Transaction data export via PC utility • Interface to PC-based truck-scale software	
Versatility	★★★★	Multi-scale with flexible configuration per scale	★★★★	Basic vehicle software, filling software, programmable	★★☆☆	Analog or POWERCELL® models, vehicle software
Process Integration	★★★★	Industrial Ethernet, serial, Ethernet TCP/IP, Digital I/O	★★★★	Industrial Ethernet, serial, Ethernet TCP/IP, Digital I/O	★★☆☆	Serial, Ethernet TCP/IP, Digital I/O
Data Management	★★★★	Barcode data integration tables, SQL interface	★★★☆	Barcode input, ftp and USB file import/export, tables, reports	★★☆☆	.csv transaction and table file export
Compliance Support	★★★☆	Hazardous area approved, track-and-trace capabilities, logs	★★★☆	Hazardous area approved, track-and-trace capabilities, logs	★☆☆☆	Basic track-and-trace logs
Performance Optimization	★★★☆	Lightning protection, basic diagnostics, unattended applications	★★★☆	Lightning protection, local and remote diagnostics, unattended applications	★★☆☆	Lightning protection, basic diagnostics
Display	Graphic QVGA backlit color TFT		High-contrast, high-resolution graphic, LCD 25 mm-high		240 x 96 backlit graphic LCD	
External QWERTY Keyboard Interface	Yes		Yes		No	
Scale Interface®	POWERCELL® PDX or MTX or analog		POWERCELL® PDX or analog		POWERCELL® or analog	
Max. Number of Load Cells	350 ohm analog: 16 (8 per channel), POWERCELL PDX and MTX: 14 (24 with optional external power supply)		350 ohm analog: 12, POWERCELL PDX: 14		350 ohm analog: 10, POWERCELL PDX or GDD: 12	
Max. Number of Scale Channels	4 and a sum scale		1		1	
Communication Interface	2 x Standard RS232/422/485, USB host, Ethernet TCP/IP, 2 x Optional RS232/485, EtherNet/IP, Profibus DP, PROFINET, Modbus TCP, DeviceNet, Analog Output, Digital I/O		2 x Standard RS232/422/485 USB host, 2 x Optional RS232/422/485, Ethernet TCP/IP, EtherNet/IP, Profibus DP, PROFINET, Modbus TCP, DeviceNet, Analog Output, Digital I/O, WLAN		1 x Standard RS232/422/485 and optional USB device, 1 x optional RS232/485, Ethernet TCP/IP, Digital I/O	
Power	85 – 264 VAC		85 – 264 VAC, 24 VDC available in panel-mount models		85 – 264 VAC	
Hazardous Area Approvals ⚠EX	IECEx/ATEX (Zone 2/22), NEC (Div. 2)		IECEx/ATEX/FM (Zone 2/22), NEC (Div. 2)		n/a	
More Information	**www.mt.com/IND780**		**www.mt.com/IND570**		**www.mt.com/IND246**	

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

Programmable Scale Indicators
A Tailored Solution

METTLER TOLEDO channel partners have the weighing expertise and local support capabilities to provide a complete weighing solution. Depending on your process, it can be beneficial to customize the application software running on the scale indicator. Several of our scale indicators have the ability to run customized software, optimizing your manufacturing operations.

▶ **www.mt.com/ind-programmable**

The right software architecture ensures that weighing functionality is not affected when custom programs are used with our programmable scale indicators. Our scale indicators also provide powerful standard software functionality so the customized solutions benefit from the many core functions that exist in the scale indicator.

Powerful Data Interface
SQL data replication functions are supported, allowing for syncing between scale indicator and external databases.

HMI Customization
Touch and non-touch color HMI with a broad variety of intuitive icons provide a rich canvas on the user interface.

Flexible Connectivity
Data interface to peripheral devices, automation and plant networks can be managed via a variety of serial and Ethernet-based connections.

Integrate with PC or PLC-Based Applications

While standard scale indicator software manages data interfaces in a flexible way, there are many applications that could benefit from modifying the scale indicator HMI information layout and database format. The ability to export to an external database or guide an operator through a complex operation via a sequence of manual and automated actions is also desirable.

The secure, stable, documented and supported METTLER TOLEDO scale indicator software customization tools, such as Visual Studio, provide programmers with a solid toolset from which to create their applications. Additionally, program files can be backed up, archived or shared via standard methods.
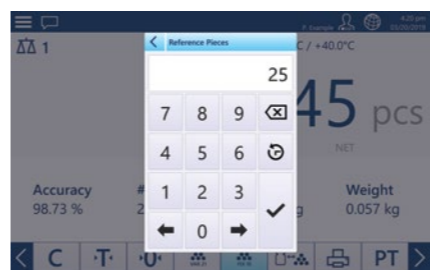
Custom Programmable Scale Indicators
A Perfect Fit within Your Process

Advanced weighing applications often can be made more efficient with a custom-programmed scale indicator that provides a tightly integrated and powerful system. We offer a range of programmable scale indicators from which to select the most suitable solution.

▶ **www.mt.com/ind-programmable**

Programmable Scale Indicators

Programmable scale indicators make unique applications easily customizable.
For more information, visit:

▶ **www.mt.com/IND930**   ▶ **www.mt.com/IND970**

	IND930/IND970	**IND780**	**IND570**
	Benefit from applications designed specifically for your process.	Multi-scale connectivity with outstanding connectivity to automation equipment.	Flexible scale indicator with many advanced weighing features.
Applications	• Wide array of MT software solutions: Formulation, Statistical Quality Control • Workflow and workplace specific programming to support custom filling, formulation, counting, checkweighing, and more	• Custom filling, dosing or blending • Custom vehicle weighing • Custom workflow	• Custom filling, dosing or blending • Custom vehicle weighing • Custom workflow
Versatility	★★★★ Multi-scale with flexible configuration per scale	★★★★ Multiple fonts, colors and program objects to choose from via the programming tool	★★★☆ Multiple fonts, and program objects to choose from via the programming tool
Process Integration	★★★☆ Serial, Ethernet TCP/IP, USB, Digital I/O, Profibus	★★★★ Serial, Ethernet TCP/IP, USB, Digital I/O, pulse counter, clustering of multiple scale indicators	★★★☆ Serial, Ethernet TCP/IP, USB, Digital I/O
Data Management	★★★★ Database stores tare, delta trac, fix text values	★★★★ Ethernet, FTP and email functions; file replication, PC app call-backs, table management	★★★☆ Ethernet, FTP and email functions; file replication, PC app call-backs, table management
Compliance Support	★★★★ Alibi memory, user management	★★★☆ Asset identification, multi level password protection, track-and-trace logs, hazardous area approved	★★★☆ Asset identification, multi level password protection, track-and-trace logs, hazardous area approved
Performance Optimization	★★★★ Reproducible working steps aligned to SOPs	★★★★ Integration with external SQL databases via remote data access	★★★☆ Customization of HMI, control Digital I/O, create custom workflow with prompting
Display	10", 15", or 19" LED	320 x 240 pixel backlit, active TFT, color LCD	256 x 128 dot monochrome graphic LCD
Keypad	Resistive touchscreen, function keys on 15" HMI	Alphanumeric with tactile response, 4 application keys, and 15 assignable softkeys	Alphanumeric with tactile response and 15 assignable softkeys, navigation keys
Scale Interface	Up to 4 scales: analog, SICSpro digital, or SICS lab balance and APW interface, 2 PowerDeck, max. 8 POWERCELLS	Up to 4 x analog scale, POWERCELL®, SICS lab balance, or SICSpro digital scales	1 x analog scale, 1x SICSpro scale, or 1 x POWERCELL® network or 1 x PowerDeck
Programming	Programming: .NET SDK with NuGet package for Visual Studio and on-PC simulation environment. Operating System: Win10 IoT Enterprise (LTB)	Programming: Task Expert SDK Operating System: Windows CE	Programming: Task Expert Operating System: embedded
Communication Interface	Ethernet TCP/IP, optional USB host/device, RS232/422/485, Digital I/O, Profibus DP	Standard Ethernet TCP/IP, USB host, 2 x standard RS232/422/485 and 2 x optional RS232/485, Digital I/O, Industrial Ethernet	1 x standard RS232/422/485, USB and 2 x optional RS232/485, Ethernet TCP/IP, Digital I/O, Industrial Ethernet
Housing	Stainless steel, wall/desk or panel version	Stainless steel, wall/desk or panel	Stainless steel, wall/desk or panel
IP Protection	IP69k	IP69k, IP65 (panel version)	IP69k, IP65 Type4x/12 (panel version)
Power	100 – 240 VAC	85 – 264 VAC	85 – 264 VAC, 24 VDC available in panel-mount models
Programming Environment and OS	MS Visual Studio, WIN10 IoT Enterprise	METTLER TOLEDO TaskExpert or MS Visual Studio	METTLER TOLEDO TaskExpert
Hazardous Area Approvals ⚠EX	n/a	IECEx/ATEX (Zone 2/22), NEC (Div. 2)	IECEx/ATEX/NEC (Zone 2/22), NEC (Div. 2)
More Information	**www.mt.com/IND930** or **www.mt.com/IND970**	**www.mt.com/IND780**	**www.mt.com/IND570**

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

Scale Indicators for Hazardous Areas
Compliance and Safety

Protection and safety without compromise are requirements for working in hazardous areas. These scale indicators have been certified to the latest global standards, helping to ensure that your weighing system is suitable for such production environments. Additionally, they provide enhanced capabilities for the safe communication of weighing data to the hazardous area via a variety of interfaces.

▶ **www.mt.com/ind-hazardous**

METTLER TOLEDO offers hazardous area approvals in most major markets. Obtaining required approvals, such as ATEX, IECEx, NEPSI, US/Canada NEC/CEC and other local standards, helps to ensure that equipment meets local regulatory requirements.

Easy Integration
Support for multiple fieldbus protocols, sample PLC interface code and extensive product documentation speed up and simplify integration.

Filling, Dosing and Blending
Powerful application software and I/O suitable for use in hazardous areas automates the material transfer process.
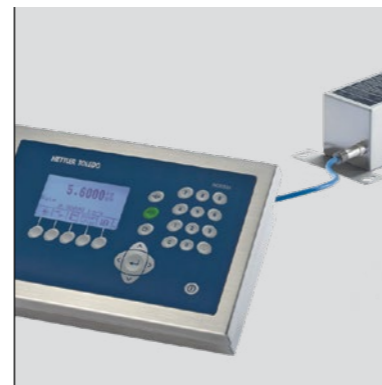
AC or Battery Powered
Scale indicators can be powered either via a fixed AC power supply or a compact rechargeable battery to enable mobile-weighing applications.

Safety and Connectivity in Explosive Environments

To increase safety while improving production efficiency, intrinsically safe equipment is the protection method of choice. Intrinsically safe weighing systems for hazardous areas consist of several components, such as weighing platforms, scale indicators, power supplies, communication modules and safety barriers. Typically, they can also incorporate a wide range of peripherals, such as PCs, printers or data communication systems. METTLER TOLEDO 's intrinsically safe scale indicators provide the benefits of modularity and flexibility to allow a variety of communication interfaces, such as serial interfaces, WiFi, Ethernet TCP/IP and a wide range of automation fieldbus types.

Scale Indicators for Hazardous Areas
Deliver Safety and Connectivity

Intrinsically safe technology provides protection without difficult-to-maintain and bulky cast flame-proof enclosures. Our range of intrinsically safe scale indicators for use in Zone 1/21 and Division 1 areas provides safe basic weighing or, for more advanced applications, connectivity to peripheral devices in non-hazardous or hazardous areas.

▶ **www.mt.com/ind-hazardous**

Intrinsically Safe Solutions

Intrinsic safety makes weighing in classified areas safe. Download our white paper on intrinsic safety:

▶ **www.mt.com/ind-intrinsic_safety**

	IND560x	IND500x	ICS466x	IND256x
	Flexible and powerful scale indicator that provides connectivity to a broad variety of automation equipment.	Process control and versatility to enable the perfect balance of safety and maximum productivity.	Fits perfectly with compact bench scales, for simple filling or advanced checkweighing.	Versatile scale indicator supporting standalone weighing applications and multiple communication interfaces.
Applications	• Basic weighing • Filling, dosing, blending • Bulk material handling	• Basic Weighing • Manual Formulation • Filling and Dosing	• Basic weighing • Custom filling, checkweighing, dosing and blending • Custom workflow	• Basic weighing • Simple checkweighing • Mobile weighing
Versatility	★★★☆ Battery or AC power versions, wall/desk or panel mounting, remote display mode	★★★☆ AC power, wall/desk or column mounting, remote display mode	★★☆☆ Connection to both an analog and a digital scale with one scale indicator	★★☆☆ Battery, AC, DC power versions, remote display mode
Process Integration	★★★☆ Serial, Ethernet TCP/IP, Digital I/O, PLC	★★★☆ Serial, Ethernet TCP/IP, Digital I/O, PLC	★☆☆☆ Serial data interface to the non-hazardous area	★★☆☆ Serial data interface to non-hazardous area, WiFi, 4-20mA AO
Data Management	★★★☆ Stored targets, multiple tables and reports	★★★☆ Stored targets, multiple tables and reports	★★★☆ Store up to 100 targets with the internal database	★★☆☆ Store up to 25 targets with the internal database
Compliance Support	★★★☆ Hazardous area approved	★★★★ Hazardous area approved	★★★☆ Hazardous area approved, alibi memory, user prompting.	★★★☆ Hazardous area approved, alibi memory, passwords.
Performance Optimization	★★★☆ Ability to automate filling and dosing processes with standard and advanced Fill-560 software	★★★★ Ability to automate filling and dosing processes with standard and advanced Fill software	★★★☆ colorWeight® indication of weight status	★★☆☆ Easy to use
Display	128 x 64 dot matrix LCD graphical display with backlight	4.3" TFT color display (480 x 272), with 20 mm high weight display	240 x 96 graphic display with colored backlight	240 x 96 pixel white backlit LCD display
Keypad	Tactile with 5 x assignable softkeys, scale function keys and alphanumeric keys	Tactile with 5 x assignable softkeys, scale function keys and alphanumeric keys; Electro-Static Discharge protected	Tactile with 5 x assignable softkeys, scale function keys and alphanumeric keys	5 x assignable softkeys, scale function keys and alpha-numeric keys
Scale Interface	1 x analog scale up to 4 x 350 ohm load cells or 1 x Kx IDNet base or 1 x PBKx/PFKx SICSpro scale	1 x analog scale up to 4 x 350 ohm load cells or 1 x IDNet base or 1 x SICSpro scale	Up to 1 x analog and 1 x IDNet, or 2 x IDNet Kx base, or 2 x PBKx/PFKx SICSpro scales	1 x analog scale up to 4 x 350 ohm load cells
Communication Interface	1 x standard RS232 and optional 1 x RS232, RS422/485, Ethernet TCP/IP, USB, or PLC via current loop or fiber option connection to ACM500 communication module in the non-hazardous area	1 x standard RS232 and optional 1 x RS232, RS422/485, standard discrete I/O with 3 active inputs and 3 passive outputs, optional 4-20mA analog output; Ethernet TCP/IP or PLC via current loop or fiber option connection to ACM500	1 x standard RS232 and optional 1 x RS232, RS422/485, via current loop connection to ACM200 communication module in the non-hazardous area	1 x standard RS232, 1 x optional WiFi, 1 x optional 4 – 20 mA AO, and optional 1 x RS232, RS422/485, via current loop connection to ACM200 communication module in the non-hazardous area
Housing	Stainless steel, wall/desk or panel	Stainless steel	Stainless steel, wall/desk	Stainless steel, wall/desk
IP Protection	IP69k, IP65 (panel version)	IP65	IP65	IP66
Power	Connection to METTLER TOLEDO AC power supply or external battery installed in the hazardous area	Connection to METTLER TOLEDO AC power supply installed in the hazardous area	Connection to METTLER TOLEDO AC power installed in the hazardous area	Internal AC/DC (ATEX/IECEx only) or connection to METTLER TOLEDO AC power supply or an external battery installed in the hazardous area (for FM version)
Hazardous Area Approvals	IECEx/ATEX (Zone 1/21), NEC (Div. 1 and Zone 1)	IECEx/ATEX (Zone 1/21), NEC (Div. 1 and Zone 1)	IECEx/ATEX (Zone 1/21), NEC (Div. 1 and Zone 1)	IECEx/ATEX/NEC (Zone 1/21), NEC (Div. 1)
More Information	**www.mt.com/IND560x**	**www.mt.com/IND500x**	**www.mt.com/ICS466x**	**www.mt.com/IND256x**

Requirement fulfillment scoring: ★★★★ very good ★★★☆ good ★★☆☆ fair ★☆☆☆ limited ☆☆☆☆ none

Hazardous Area Indicator Accessories
Modern Communication and Energy Supply

Power supplies and communication modules are a critical part of a hazardous-area scale indicator system. These accessories are designed and approved for seamless use with METTLER TOLEDO hazardous-area scale indicators.

▶ **www.mt.com/ind-hazardous**

Hazardous Area Scales and Solutions

The right power supplies and communications accessories ensure the safe performance of scale indicators located in hazardous areas. Learn more at:

▶ **www.mt.com/ind-hazguide**

	APS768x	APS500/501	64060627/64060625	30538111	ACM200	ACM500
	120V or 230VAC external power supply for use in the Zone 1/21 and Division 1 areas.	120V or 240VAC external power supply for use in the Zone 1/21 and Division 1 areas.	8AH NiMH external battery for use in the Zone 1/21 and Division 1 areas.	8AH NiMH external battery for use in Zone 1/21 and Division 1 areas.	Non-hazarous area communication module.	Non-hazarous area communication module.
	• **Robust Design** Suitable for washdown and corrosive environments. • **Versatile Connectivity** Provides connection of digital bases to the non-hazardous area with ACM200 communication module.	• **Compact Design** Suitable for mounting via screws to a flat surface.	• **Robust Design** Suitable for washdown and corrosive environments. • **Easy Mounting** Can mount to any flat surface via fastening screws. • Must be charged in the non-hazardous area via 64060217 or 64060490 battery charger.	• **Robust Design** Suitable for washdown and corrosive environments. • **Easy Mounting** Can mount to any flat surface via fastening screws. • Must be charged in the non-hazardous area via country specific battery charger. • Country specific battery, charger, and scale indicator cable installation kits available.	• **Non-hazardous area Communication** Sends serial data via a CL interface from weighing scale indicator to a PC, printer or other device. • **Flexible Interface** 1 x RS232, RS422/485 or to connect to IDNet, SICSpro scale indicator in non-hazardous area • **Scale Commands** Can be used to send scale commands, such as zero, tare, or print, from the area; supports SICS commands for scale status and weighing commands.	• **Non-hazardous area Communication** Communicate via serial and Ethernet TCP in the non-hazardous area. • **Flexible Interface** Support current loop or fiber-optic connection to the non-hazardous area. • **Expanded Functionality** Provides PLC fieldbus and remote I/O connectivity.
Interface to Scale Indicator Models	ICS466x, IND500x, IND560x	IND256x	IND560x	IND256x	IND256x, ICS466x, IND500x, IND560x	IND500x, IND560x
Input Voltage	120VAC and 230VAC versions	120VAC and 240VAC versions			100 – 240 V AC, 50/60 Hz or 24VDC	100 – 240 V AC, 50/60 Hz
Dimensions	320 x 172 x 80 mm	170 x 153 x 108 mm	133 x 236 x 76 mm	133 x 236 x 76 mm	69.5 x 175 x 160 mm	208 x 263 x 116 mm
Housing Material	Stainless steel	Cast aluminum	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Protection Rating	IP66	IP66	IP66	IP66	IP66	IP66
Cable Length	5 m cable to scale indicator	3 m cable to scale indicator	3 m cable to scale indicator	3 m cable to scale indicator	Up to 300 m CL (ordered separately)	Up to 300 m CL or fiber optic
Hazardous Area Approval	IECEx/ATEX (Zone 1/21), NEC (Div. 1 and Zone 1)	IECEx/ATEX (Zone 1/21), NEC (Div. 1)	IECEx/ATEX (Zone 1/21), NEC (Div. 1 and 2; Zone 1)	IECEx/ATEX/NEC (Zone 1/21), NEC (Div. 1)	IECEx/ATEX (Zone 1/21), NEC (Div. 1)	IECEx/ATEX (Zone 1/21), NEC (Div. 1)

IND500x Weighing Indicator
Optimize Safety and Productivity

In hazardous production areas, safety is critical. For Zone 1/21 and Division 1 classified areas, the intrinsically safe IND500x weighing indicator delivers process control and versatility to enable the perfect balance of safety and maximum productivity. Optimize your manual, automatic or semi-automatic applications with IND500x.

▶ **www.mt.com/IND500x**

You require easy-to-access information on your processes to make proactive and informed decisions. Valuable and actionable real-time data is only a few button pushes away with IND500x

Enable Full Connectivity
With flexible communication options, you gain the ultimate flexibility. Connect the IND500x with the ACM500 for easy integration with your existing PLC or DCS to enhance your process management.

Simplify Formula Management
Integrated formula management provides process control in a compact package. Create formulations, recipes and article databases directly on the indicator or a PC. Critical data can also be stored for easy operator recall.

Optimize Filling Processes
The IND500x excels in manual, semi-automatic or automatic filling of single materials. Seamlessly switch between materials in manual processes without reprogramming or have peace of mind in your process accuracy for fully automated applications.

Easy Integration

IND500x offers support for multiple automation networks.

Interface Type	
Standard Interfaces	One intrinsically safe RS-232 serial port Discrete I/O with 3 active inputs and 3 passive outputs
Optional Interfaces	Discrete I/O interface with 5 inputs and 8 outputs Intrinsically safe RS-232 serial port Intrinsically safe 4-20mA analog output interface
Data and PLC Interfaces	RS-232, RS-422/RS-485 provided by ACM200 located in the non-hazardous area
	Ethernet TCP/IP, RS-232, RS-422/RS-485 and PROFINET, Profibus DP, EtherNet/IP, Modbus TCP provided by ACM500 located in the non-hazardous area

Indicator IND570 with Fill-570 Software
For Filling, Dosing and Blending

Modular, multi-functional and easy-to-program, IND570fill supports quick adaptation of material-delivery processes to changing business needs. Whether integrated into an existing control system or functioning as a stand-alone process controller, IND570fill provides flexibility to deploy workforce and manufacturing resources for maximum productivity.

▶ **www.mt.com/IND570**

Fill-570 offers easy-to-program filling, blending and dosing sequences, together with fast-updating discrete I/O. These capabilities combine to create a reliable and accurate stand-alone process controller offering real potential for savings.

Performance Monitoring
The Pac Statistics function calculates performance statistics. It provides data to help identify system adjustments that can shorten cycle times, reduce waste and improve margins.

Integrated Data Storage
Fill-570 includes libraries for materials, formulas and containers. Recall stored data for use in production with an easy barcode scan to improve process efficiency and avoid errors.

Expandable Solution
The IND570 scale indicator offers multiple PLC interfaces and a broad command set that eases integration into existing control structures so you can capitalize on existing investments.

Supported Material Transfer Cycles
Enhanced Material Handling Capability for IND570

The following pre-programmed material transfer cycles and features are included:
- Fill
- Blend (up to 6 materials)
- Dump
- Dose
- Cycle Combinations
- Learn Mode
- Auto Tolerance Check
- Auto Spill Adjustment

Automation Transmitters
Connectivity Made Easy

Due to high speed update rates up to 800Hz, a PLC can control the weighing process without any supporting transmitter function. Maximum flexibility is guaranteed with state-of-the-art PLC communication – includes condition monitoring.

▶ **www.mt.com/Indicators**

State-of-the-art PLC communication with floating-point weight values and condition monitoring that ensures continued good measurements.

Onboard Web Interface

Each ACT weight transmitter provides a web Interface for setup and maintenance. This eases installation and allows for remote service.
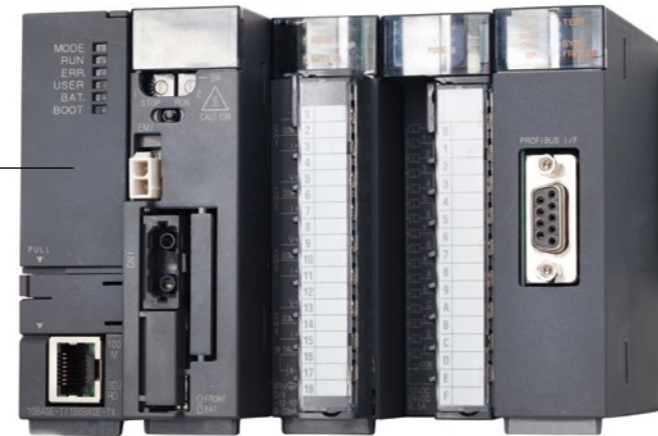
High Speed
800Hz PLC update rate and 1,200Hz I/O update rate allow for wide application in packaging, sorting and checkweighing.

Digital I/O
Achieve maximum process control via ultra-fast digital inputs and outputs.

Run Flat
Monitors POWERCELL® load cells online, alarms in case of failure and provides RunFlat function to ensure that manufacturing can continue.
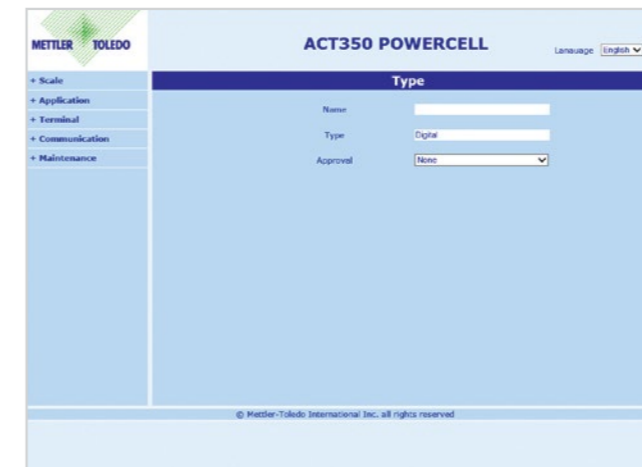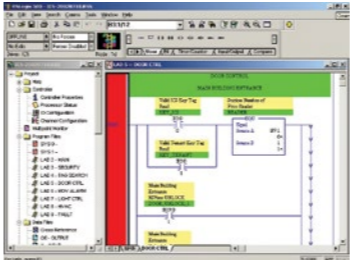
Automation Transmitters
Process More, Faster

Automation transmitters convert the load-cell signal into a scale signal that is PLC-compliant and digital or analog-output ready for post-processing. They are typically installed in control cabinets.

▶ **www.mt.com/ind-ACT-weight-transmitters**

ACT350 PLC Sample Code

Download the sample code for easy PLC integration:

▶ **www.mt.com/ind-ACT350-downloads**

|	ACT350	ACT350 Dual Port, DIO	ACT350 POWERCELL®	ACT350 Precision	ACT100
	• **Automation Connectivity** Direct certified automation connection to leading networks • **Fast and Accurate** High-speed PLC communication for full system control via PLC software	• **Ethernet Switch** Built in switch for Ring Networks (DLR and MRP) • **Fast and Accurate** High-speed PLC communication for full system control via PLC software	• **Ethernet Switch** Built in switch for Ring Networks (DLR and MRP) • **POWERCELL® Diagnosis** Monitors POWERCELL load cells and alarms in terms of failure; RunFlat simulates defective load cells	• **Ethernet Switch** Built in switch for Ring Networks (DLR and MRP) • **Precision Weighing** Connect MT precision weigh modules and scales to modern control systems	• **4–20mA, 0–10V output** Basic connectivity to PLC or DCS • **Onboard Web Server** For easy setup, maintenance and remote service
Applications	Filling, batching, general weighing	Filling, batching, general weighing	High-performance weighing	High precision weighing	Basic control connectivity
Interface	Profibus DP, PROFINET, EtherNet/IP, Ethernet TCP/IP	Profibus DP, PROFINET, 2x EtherNet/IP, EtherNet TCP/IP	Profibus DP, PROFINET, 2x EtherNet,	PROFINET, EtherNet/IP	4 – 20 mA, 0 – 20 mA, 0 – 24 mA, 0 – 5 V, 0 – 10 V; 16 bit resolution
Control System Update Rate	800Hz	800Hz	up to 100 Hz	92 Hz	200 Hz
Web Interface (Chrome, Edge)	Yes	Yes	Yes	Yes	Yes
Digital I/O	no	3 x In, 5 x Out, 1,200Hz update	3 x In, 5 x Out	3 x In, 5 x Out	3 x In, 2 x Out
Power	12 – 30VDC	12 – 30VDC	24VDC, 12VDC hazardous	24VDC	12 – 30VDC
Load Cell	8 x 350 Ohm analog	8 x 350 Ohm analog	14x POWERCELL, 4x POWERCELL hazardous	Precision Scales and mass comparators	4 x 350 Ohm analog
Accuracy	OIML C6, NTEP 10,000	OIML C6, NTEP 10,000	OIML C10, NTEP 10,000	See weigh module/scale	16bit Resolution
Hazardous Area Approvals	n/a	ATEX and IECEx (Zone 2), NEC (Div. 2)	ATEX and IECEx (Zone 2), NEC (Div. 2)	n/a	ATEX and IECEx (Zone 2), NEC (Div. 2)
Housing, Protection	DIN Rail, plastic, IP20	DIN Rail, plastic, IP20	DIN Rail, plastic, IP20	DIN Rail, plastic, IP20	DIN Rail, plastic, IP20
More Information	**www.mt.com/ACT350**	**www.mt.com/ACT350**	**www.mt.com/ACT350-powercell**	**www.mt.com/ACT350-precision**	**www.mt.com/ACT100**

Modular Family Concept
Fastest Automation Made Easy

The IND360 automation weight indicators offer ultra-fast processing connected to the world's most widely used PLCs and DCSs to increase productivity and operational uptime. Condition monitoring and Smart5™ alarming provide instant visibility to the system status so that you are confident in your machine performance and avoid out-of-spec products.

▶ **www.mt.com/IND360**

Bright Color Display
Bright color display provides instantaneous access to weight information, a visualization of the application status and Smart5™.
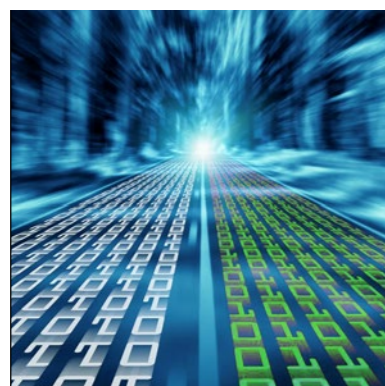
High speed communication
IND360 communicates cyclically at up to 960Hz via industrial Ethernet and acyclically to facilitate one-time control functions.
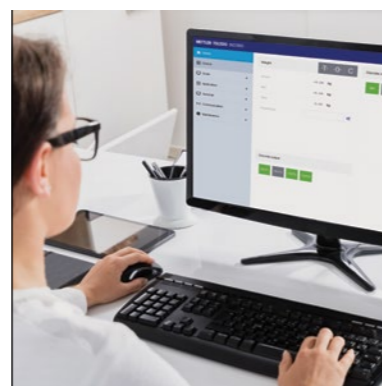
Configure, Monitor, and Backup
A web interface is available for parameter configuration, status reading, diagnostics, data cloning, backup, and restore.
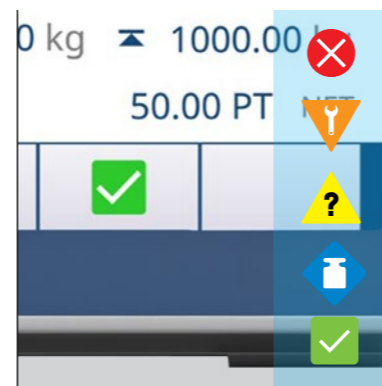
"Smart5"
The display indicates alarm status according to NAMUR NE107, including operator instructions.

Configurable Applications

IND360 transmitters/scale indicators provide a variety of applications that can be quickly integrated into control systems. All weighing and the time critical operations are executed on IND360 whereas the PLC or DCS only needs to send control commands and monitors operation. When using IND360 in smart factories, the additional IIoT communication such as OPC UA and JSON API allows ERP / MES to directly collect data for analysis and process improvement.

- Filling/Dosing
- Tank Weighing
- Dynamic Weighing
- Rate Control*

* Application for continuous material feeding in preparation.

Modular Family Concept
Easy Integration and Startup

The IND360 family offers three modules based on the same core technology with global approvals to minimize complexity for machine builders, integrators and end-users when designing customized solutions. The scale indicator family allows you to reuse existing PLC software no matter what sensor technology, size or accuracy – even connects mass comparators for highest accuracy. The integrated OPC UA and REST API connectivity allows users to collect data for their ERP or MES system for analysis and process optimization.

▶ **www.mt.com/IND360**

Learn more about IND360

Download IND360 product brochure.

▶ **www.mt.com/IND360-br**

	IND360 Base DIN	**IND360 Base Panel**	**IIND360 Base Harsh**
	For installation in control cabinet.	Bright graphical Color TFT display	IP69K for tough environment
	• **Ultra fast, easy PLC connectivity** 960Hz update rate for efficient PLC control • Full remote setup and control via Web Interface and PLC	• **Full visual scale control** Weight, status and alert quickly visible • Full remote setup and control via Webserver and PLC	• **Full visual scale control** Weight, status and alert quickly visible • Full remote setup and control via Webserver and PLC
Applications	Basic weighing, fast PLC/DCS control	Basic weighing, fast PLC control, clear scale status visibility	Basic weighing in harsh areas, fast PLC control, clear scale status visibility
Display	OLED, Status LEDs	Color TFT	Color TFT
Interface Options	PROFINET, Profibus DP, EtherNet/IP, EtherCAT, CC-Link IE Field Basic, Modbus RTU, Modbus TCP, Ethernet TCP/IP, OPC UA, REST API (JSON), 4-20mA, DIO	PROFINET, Profibus DP, EtherNet/IP, EtherCAT, CC-Link IE Field Basic, Modbus RTU, Modbus TCP, Ethernet TCP/IP, OPC UA, REST API (JSON), 4-20mA, DIO	PROFINET, Profibus DP, EtherNet/IP, EtherCAT, CC-Link IE Field Basic, Modbus RTU, Modbus TCP, Ethernet TCP/IP, OPC UA, REST API (JSON), 4-20mA, DIO
Smart5 Alarming	NAMUR NE107 prioritized alarm status	NAMUR NE107 prioritized alarm status	NAMUR NE107 prioritized alarm status
PLC Update Rate	960Hz, up to 7 cyclic floating point variables	960Hz, up to 7 cyclic floating point variables	960Hz, up to 7 cyclic floating point variables
Web Interface	Yes, via separate TCP/IP connection, various security levels	Yes, via separate TCP/IP connection, various security levels	Yes, via separate TCP/IP connection, various security levels
Power	24VDC nominal	24VDC nominal, 100-240VAC option	24VDC nominal, or 100-240VAC according to configuration
Load Cell/Scale/WeighModule	Analog, POWERCELL, High precision scale	Analog, POWERCELL, High precision scales	Analog, POWERCELL, High precision scales
Approvals and Certificates	OIML, NTEP, UL, cUL, CE, FCC, CB	OIML, NTEP, UL, cUL, CE, FCC, CB	OIML, NTEP, UL, cUL, CE, FCC, CB
Hazardous Area Approvals	IECEx/ATEX/UKCA (Zone 2), NEC (Div. 2)	IECEx/ATEX/UKCA (Zone 2/22), NEC (Div. 2), in preparation	IECEx/ATEX/UKCA (Zone 2/22), NEC (Div. 2)
Housing, Protection	DIN Rail, plastic, IP20	Panel IP65, housing plastic IP20	IP69K, stainless steel
More information	**www.mt.com/IND360**	**www.mt.com/IND360**	**www.mt.com/IND360**

Multitude of Applications
Distributed Control Offloads Critical Tasks

Preprogrammed applications encapsulate core functionalities allowing you to quickly create a reliable, high-performance system even when you use a cost effective, entry-level PLC. Turnkey software packages save you valuable engineering time because they include state-of-the art control algorithms, a powerful automation interface, discrete I/O and are accompanied by domain specific approvals.

▶ **www.mt.com/IND360**

Application Screen
All relevant information at a glance with the application HMI.

IT Network
Interface IND360 fitted with a dedicated network port for IT connectivity and web access.

Dynamic
Checkweighing and Catchweighing for in-motion goods and static loads. Web-based visualization of triggers and weighing graph for quick setup and system tuning. OIML R51 Legal for Trade approved (MID).

Fill/Dose
IND360's advanced filling application continuously optimizes accuracy and speed, provides automatic jog, a state machine and is Legal for Trade approved according to OIML R61 (MID).

Tank/Vessel
Built for tank and silo inventory control, this application monitors the filling level and raises warnings and alarms when critical levels are reached. Includes automatic refill.

Perfect Connectivity
IND360 delivers an extensive set of application specific data points with high update rate through Industrial Ethernet. This allows customizing and optimizing your workflow where needed using the PLC.

From Semi-Automatic to Automation
When integrated into an automation system, IND360 handles time-critical tasks freeing the PLC up for other important work improving overall system speed. For cost optimized systems (e.g. for a bag-filler), IND360 also supports stand-alone operation.

Learn more at:
▶ **www.mt.com/IND360-apps**

Cloud, ERP and MES Connectivity
Comply with Future Data Management

OPC UA and MQTT are the new communication standards for non-time critical data exchange with ERP or cloud-based services. METTLER TOLEDO offers edge-computing gateways with these communication technologies to connect new products and to update existing brownfield installations to extend their profitable life.

▶ **www.mt.com/ind-iiot-gateway**

The ACI400 IIoT Edge device includes state-of-the-art security functionality. The robust device includes two 1GB LAN ports to provide separation between the IT network (MES, ERP, Cloud) and the process network (weighing devices).
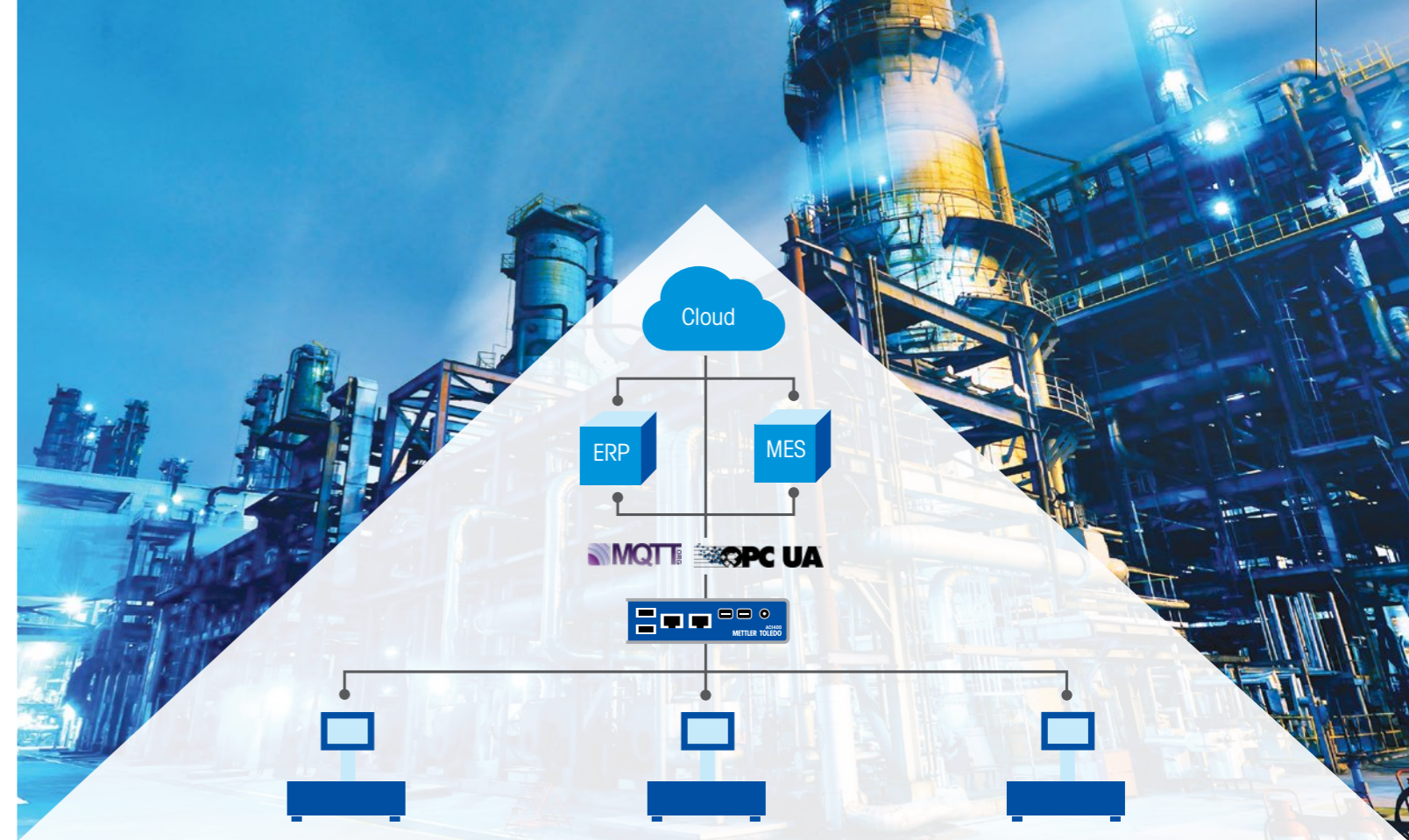
Designed for Weighing
The comprehensive parameter set is suitable for all common weighing applications and weight capacities. It provides you essential information for further processing in MES, ERP and Clouds.

Essential Data Security
The MQTT clients and OPC UA server both provide methods to implement certificate based authentication and encryption to provide secure connections.

Efficient Configuration
Web Interface is available for on-site and remote configuration, as well as for updating the ACI400 IIoT Edge firmware as new IoT capabilities evolve.

Smart IIoT Connectivity

The ACI400 IIoT Edge from METTLER TOLEDO includes an OPC UA server and MQTT clients for Microsoft Azure, AWS (Amazon Web Services), IBM and others. These are the most common Industrial communication technologies for Enterprise Resource Planning (ERP), Manufacturing Execution Systems (MES), and Industrial Internet of Things communication (IIoT) for Industry 4.0 applications. The ACI400 IIoT Edge device helps ensure seamless and secure data integration with your IT ecosystem.

Each ACI400 IIoT Edge can connect up to four weighing devices. Building on weighing device communication protocols that have been in use by METTLER TOLEDO for decades, the ACI400 IIoT Edge can also connect to older weighing devices, extending their life cycle and saving existing investments from early write-off.

Software

Our Solutions
To Manage Your Production

Scale-up and Production

R&D Laboratory   Quality Control Lab   Production and Filling   Packaging   Logistics
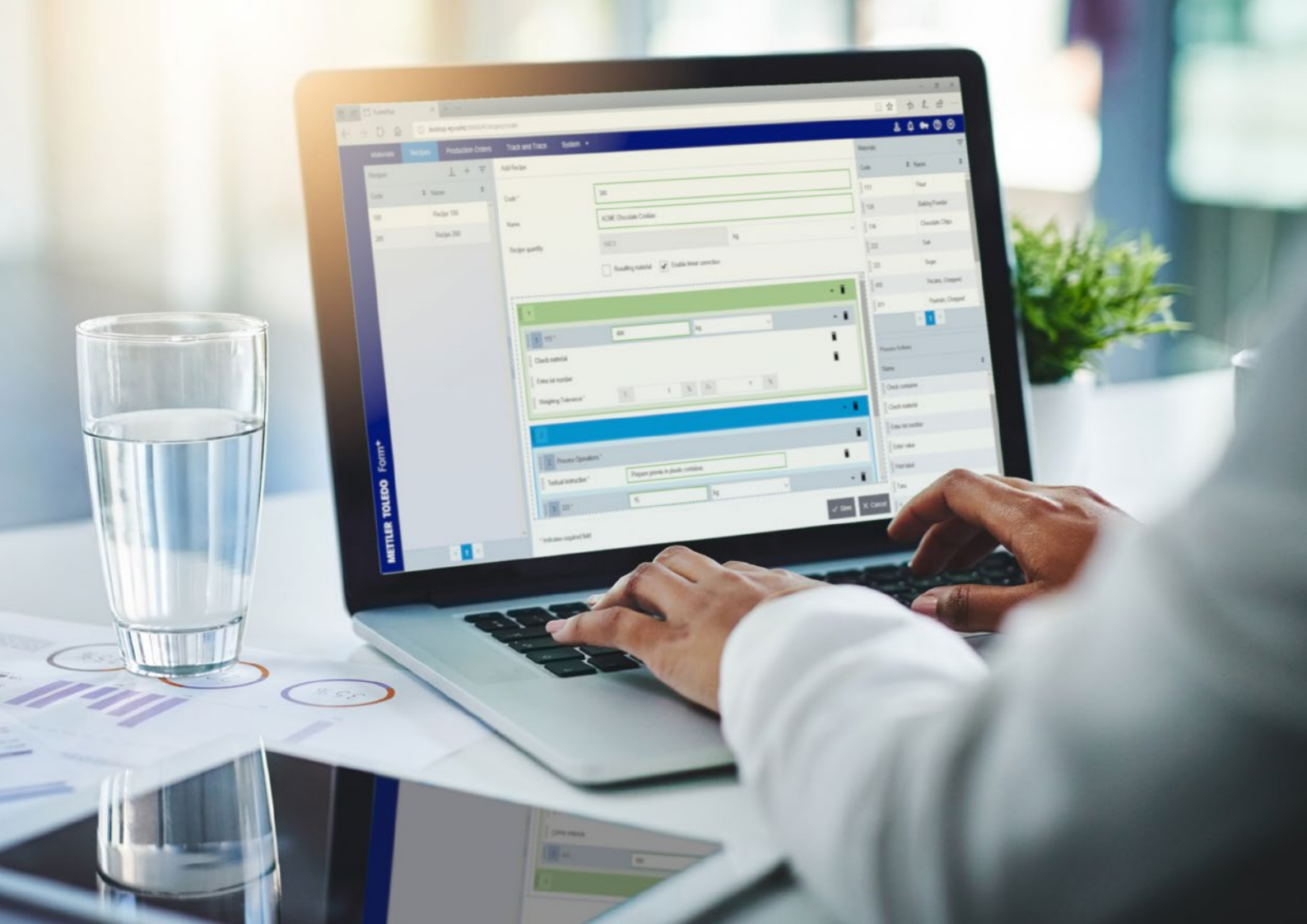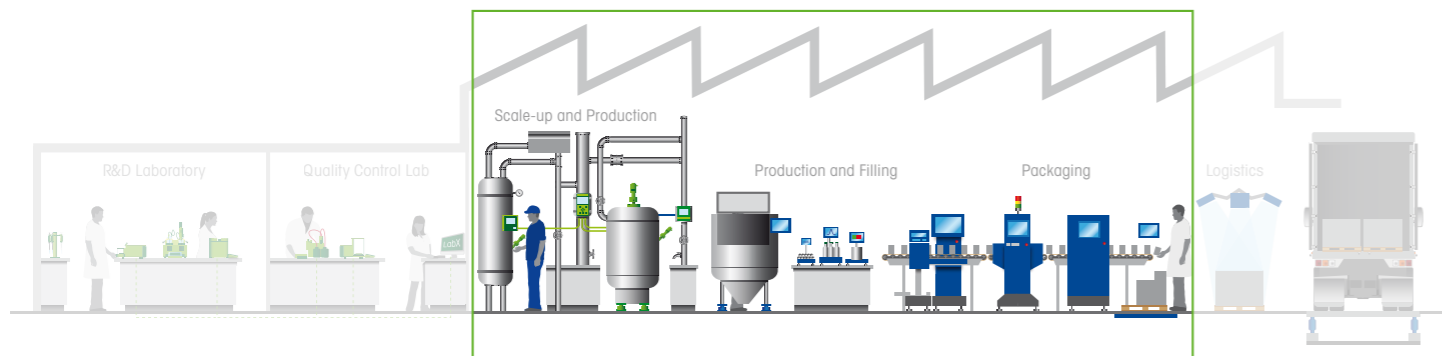
Software Solutions for Data Management
Operational Excellence through Analysis

When operational excellence is your goal, data is everything. Our software solutions automatically and securely collect production data from the shop floor through to your entire value chain. Analyzing that data allows you to make informed decisions that can ultimately impact business results.

▶ www.mt.com/ind-software

Data Storage and Representation

Collected data must be archived in a central location. Our software allows you to retrieve the data for analysis. Use dashboards, standard software reporting tools or Excel to get insight into your production process. Drill-down functionalities are available to provide you with detailed information.
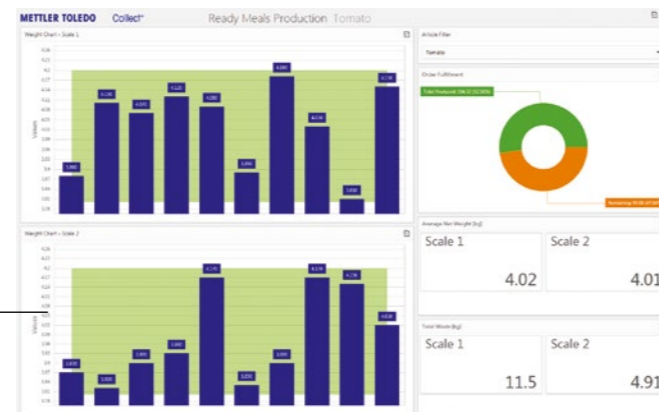
Formulation Recipe Management
Eliminate operator error and material waste for greater predictability and profitability. Ensure consistency and high-quality process results with proper data handling.

Statistical Quality and Process Control
Comply with legal requirements by archiving sample-based production parameters in a centralized database. Create and analyze statistics for productivity improvements.

A New Perspective
Create a graphical perspective of your process data. View data in multiple ways to see your results in an easy-to-understand way allowing you to make make fully aware decisions.

The Power of Integrated Software Solutions
Achieve High-Quality Results and Productivity Improvements!

Make use of various production data sources while complying with legal demands and international standards.

Data Management	Collect, archive, maintain and manage data in a central location.
Data Integration	Use process-data information in multiple departments and for different roles to better understand and improve your value chain.
Production Process Analysis	Understand production process deviations and make relevant changes by analyzing data to build key performance indicators.
Plant-Wide Optimization	Compare results with other divisions and sites to improve the entire business.
Documentation	Automatically collect data and avoid costly manual collection. Store data electronically to ensure consistent documentation of all production process data.
Audit	Use current and historical data to deliver evidence of proper production according to international standards and legislations.
21 CFR Part 11	Software solutions also can be introduced into validated environments that comply with international standards.
More Information	www.mt.com/ind-software

Data+ Data Management Software
Streamline Your Data

Don't let software limit your capabilities, streamline your data management with a single software that can store, control and amend up to 30,000 records from your desk. Data+ allows you to spend your time on more valuable workflows instead of wasting time on manual tasks.

▶ **www.mt.com/DataPlus**

Up to 20X Faster Processing
Eliminate the need to enter data manually on a scale indicator and directly enter data on a PC. By streamlining this process, you reduce effort and increase processing speed up to 20X.

Up to 15% Faster Reporting
React faster with a user-friendly reporting structure, reducing your time spent generating reports and allowing for faster reaction time.
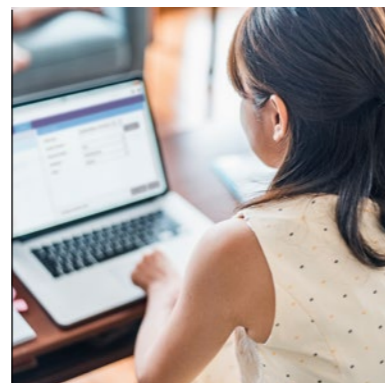
Up to 50% Faster Workflows
Increase process efficiency by downloading scale indicator parameters, article databases and other important metrics to your scale directly from your PC. This centralized setup helps to eliminate redundancies in your process.
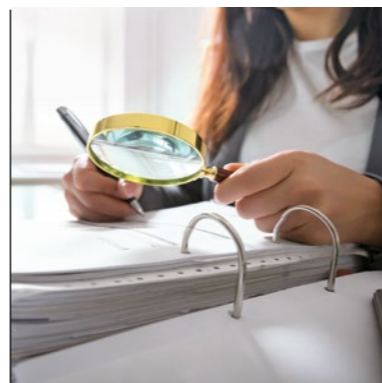
Trouble-Free Audits
Use Data+ across multiple machines to improve consistency in processing and reporting. Achieve consistent quality that is reliable and easily traceable, especially during an audit.
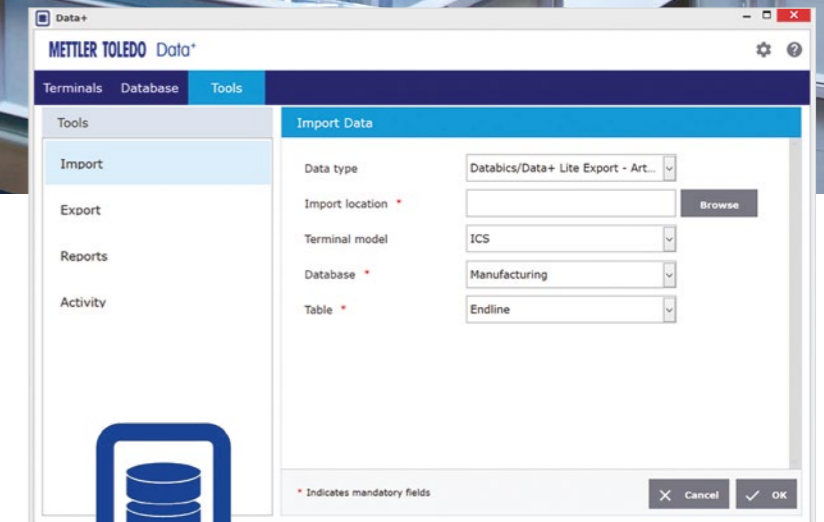
Streamline Your Data Management
Support Both Your IND and ICS Devices

Benefit from one tool that supports data management for all of your applications on IND and ICS scale indicators. This includes checkweighing, counting, material transfer, filling, formulation, drive and packing bill of materials.

Number of Defined Scale Indicators	Unlimited
Backup and Restore Scale Indicator Configuration	Uptime and cloning
Retrieve Alibi Transaction Logs	Export for traceability
Article Material Table Records	Over 30,000
Remote Host Article Database	Up to 99 ICS68_
Import Export Table Records	Host ERP/MES data exchange
SQL Database Local or Remote	Enterprise enabled

Formulation and Recipe Management
Perfect Batches Every Time

Form+ Formulation and Recipe Management System helps you get the most out of your product manufacturing processes. This smart solution has the power that you demand with the simplicity and ease of use that you appreciate.

▶ **www.mt.com/FormPlus**

Prevent Human Errors
Clear operator guidance and intelligent workflows tailored specifically to the production process help to minimize errors and reduce the need for retraining operators.

Protect company secrets
Confidential Mode protects producers against losing their competitive advantage by keeping recipes a secret, so operators can't see product ingredients nor their amount.

Multiple Workstations Maximize Production
Keep the weighing process under control, even when multiple operators work on the same batch in parallel on IND900 terminal, PC or tablet.

User-Friendly Design
Form+ enables the management of recipes, batches and other production activities from an easy-to-use web interface with complete system control from anywhere in the plant.

Form+ System
Formulation and Recipe Management

Discover this complete recipe management system which provides batch repeatability and full traceability for food and chemical manufacturers.

Perfect Batches Every Time	Eliminate unnecessary waste from bad batches by preventing human errors in your formulation process. Saves production time and material cost by controlling material weighing tolerances and supporting multi-workstation parallel processing. Production order allocation to specific workgroups or indicators increases production process control. Overall waste is reduced, productivity is maximized, and costly rework is avoided while real-time stock level information is provided based on actual consumption, not planned estimates.
Boost Operator Efficiency	Form+ provides tailored workflows with clear operator guidance resulting in shortening of the operator training time, consistent and repeatable product quality in every batch. Efficiency increase is supported by functionalities like automatic tare and auto-acceptance within tolerances, negative weighing, pre-tare, auto-scale selection based on production characteristics (options based on: precision or speed).
Seamless Traceability and Regulatory Compliance	Every operator action is recorded and complete batch evidence documentation is easily reportable providing compliance with quality regulations and audit-proof documentation. Furthermore, GWP Verification function allows weighing risks to be minimized, while maximizing weighing quality, that results in elimination of failure costs in the production processes.
Allergen and Hazardous Material Management	Identification, handling and processing of allergen and hazardous materials is critical to avoid mistakes and protect employee and company safety. Form+ provides clear guidance for identification and monitoring of these materials to prevent accidental cross-contamination.
Integrate with ERP or MES Systems via Smart API, Active Directory	Import and export master data with easy-to-use manual file exchange and an API option which allows connectivity with external systems. Integrate into existing infrastructure and manage users in one place thanks to Active Directory support.
More Information	**www.mt.com/FormPlus**

ISO 9001 registered   ISO 14001 registered

Dispensing and Formulation System
Process Guidance for Consistent Quality

FormWeigh.Net® software for recipe management and material dispensing provides intuitive guidance for production processes in pharma and other regulated industries. It allows you to optimize your manufacturing process by eliminating operator error and material waste for greater predictability and profitability.

▶ **www.mt.com/FormWeighNet**

Take Control of Your Processes
Each process step is displayed for the operator in easy-to-understand screens. Quality checks are enforced at weighing stations. Automatic scale selection provides assurance that the operator cannot make a mistake.

Reliable, Traceable Results
Electronically document your processes and results on a centralized database without compromising your flexibility. Take control of your workflows to see which orders are completed, in progress or awaiting processing.

Increase Production Yield
Powerful functions, such as FEFO (First Expire – First Out), allow you to fully utilize your materials and reduce waste. This helps make your production more cost-effective and environmentally friendly.
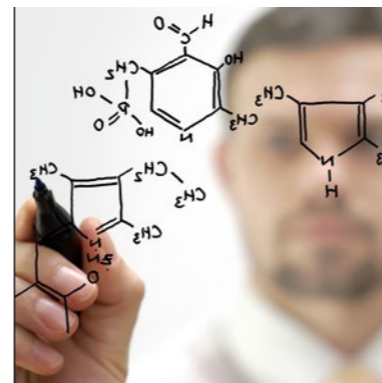
Simplify Your Tasks
FormWeigh.Net for dispensing and formulation is designed to simplify your complex and demanding formulation needs. An intuitive formulation process ensures stable product quality from batch to batch.

Ensure Consistency
Automated Batch Evidence Reporting

Master Data Management	Monitoring and reporting keep materials and processes under control. Allows fast access to crucial control functions so you can easily manage materials, instructions, recipes, orders, history, label reprints, reports and users.
Advanced Stock Management	Optimized material picking – according to FEFO principle (First Expire – First Out).
Textual Instructions	Increased operator efficiency by guidance through reliable and documented process steps. Release personnel from countercheck principles and assign parallel tasks.
Reporting	Use a set of standard reports including weighing, manufacturing, exception, order, consumption or materials list. Tailor your custom reports to your corporate design guidelines.
Hazardous Environment Capable	Network scale connection over TCP/IP provides possibility of wireless (Wi-Fi) connectivity between Master Station, Weighing Client and Weighing platform. System layout becomes easier than before, implying reduction of cables and unnecessary equipment.
21 CFR Part 11 Ready	Ensure FDA compliance and electronic documentation.
ERP Data Integration and Active Directory	Seamless online data management. Exchange production data with ERP systems to prevent errors and data redundancy. Integrate into existing infrastructure and manage users in one place thanks to Active Directory support.
System Setup	Network solution with MS Windows operating system and MSSQL Database.
More Information	**www.mt.com/FormWeighNet**

ISO 9001 registered   ISO 14001 registered

Data Collection and Monitoring
Solid Support for Business Decisions

Collect+™ data collection and visualization software brings a new perspective to your processes. It graphically represents trends, offering the transparent operational views necessary to maintain high-quality, profitable manufacturing.

▶ **www.mt.com/collectplus**

Intelligent Data Capture
Efficiently store all measurement values centrally. Easily export raw data to other systems in your plant, including Microsoft® Excel®, via the web-based interface.

Collect+™ Data Collection
Link Your Scales to Your Business

Represent process trends and key performance indicators graphically to support sound decision-making and maintain quality and profitability.

Data Collection	Collect process data from many types of devices, including scale indicators and other sensors. Retrieve data via RS232 or Ethernet TCP/IP connections.
Graphical Visualization	Easily analyze current production status using dynamic and engaging dashboards. View dashboards from anywhere in your plant, even on tablets.
Knowledge Sharing	Share web-based dashboard links with others so they can view on their PCs. Save data as CSV files and dashboards as PDF files for archiving. Export data to Microsoft Excel for advanced analysis or transfer to other systems.
System Requirements	Microsoft® Windows® 7 SP1 Microsoft® Windows® 10 (Professional, Enterprise) Microsoft® Windows® Server 2012 R2 with update (Standard, Datacenter) Windows® Server 2016; Windows® Server 2019 2 GHz dual-core processor, 4 GB RAM, 200 GB free disk space
Web Browser Support	MS Internet Explorer 11, MS Edge, Google Chrome 35 and higher, Mozilla Firefox 30 and higher, Apple Safari for iOS 7 and higher
Database Support	Microsoft® SQL Server® 2019 / 2017 / 2016 SP2 / 2014 SP3 / 2012 SP4 Windows® 7 not supported
Device Compatibility	Compatible with METTLER TOLEDO scale indicators, and many other devices with data output
System Setup	Standalone or network
More Information	**www.mt.com/collectplus**

Remote Monitoring Display
View material levels in remote silo farms or track environmental factors, such as temperature and pressure. Specify how often the measurement should be checked and see the dashboard update automatically.

Monitor Product Quality
Display your key performance indicators in helpful dashboards to observe trends and highlight deviations. Ensure the quality of your product by taking corrective action before failures occur.

Track Production Efficiency
Estimate process performance by work station on a timely basis or analyze total throughput. Predict how many parts will be completed within a specific timeframe to better allocate resources.

Statistical Quality and Process Control
Legal Compliance and Productivity

FreeWeigh.Net™ for quality and process control is a fully networked, comprehensive PC software system that helps you comply with legal requirements by documenting and archiving sample-based production parameters in a centralized database. Furthermore, it helps you optimize filling processes and reduce overfills to enhance productivity and maximize revenue.

▶ **www.mt.com/FreeWeigh**

Thanks to breakthrough Mobile Test Place and Mobile Monitoring functionality, Free-Weigh.Net™ paves the way for significant IT infrastructure savings and productivity improvements, while both mobile web-base modules make system installation and maintenance effortless.

Connectivity and Data Export
Connectivity is key to thorough and complete process control. Connect FreeWeigh.Net™ to static scales, checkweighers, metal detectors and tablet testers, as well as any third-party devices, PLCs or higher software systems.

Control Beyond Weight
Check attributes of any visual control or automated non-weight data, such as torque, density and much more, to complete your statistic. Create your own test plans and calculate your KPIs.

21 CFR Part 11 Compliance
The system helps to ensure compliance for FDA-regulated industries. Perform system validation and make use of audit trail and electronic signature documentation.

Quality and Filling-Cost Control
Control Your Process, Enhance Productivity

Use weight statistics to control your filling process and comply with legal requirements.

Batch Management	Manage batch data. Create batch reports and release batches.
Multi-component Weighing	Weigh and control multiple components constituting one product.
Multi-head Statistic Control	Ensure quality per filling head or see the mean value of a set of multiple filling heads.
Attribute Control and Test Plan	Simultaneously check non-weighing data, such as visual control, to achieve a comprehensive test plan for consistent documentation. This includes connectivity to third-party devices.
Statistical Process Control (SPC)	Recognize process deviations immediately through underlying defined rules.
Formula Editor for Customized KPI	Define and create your own key performance indicators to optimize reporting and decision-making.
21 CFR Part 11 Ready	Ensure validation in a regulated environment.
System Setup	Operate this solution as stand-alone system or as part of a network application.
More Information	**www.mt.com/FreeWeigh**

Standalone Statistical Quality Control
Ensure High-Quality Production

Statistical quality control (SQC) is an important production aid to ensure consistent quality throughout your process by controlling variables, such as weight. With the IND930SQC scale indicator, all basic control-system requirements are met with a fast, easy-to-operate and reliable standalone solution. You gain an intuitive interface to fine-tune production in the easiest way possible.

▶ **www.mt.com/IND930SQC**

Constant Control
A big touchscreen with an intuitive menu guides the operator through the predefined product sample test sequence. Integrated tolerance systems support you in your efforts to comply with national and international net-content legislation and global standards.

Ready for Harsh Environments
The scale indicator is designed for hygienically sensitive environments. It comes marked IP69K, making it suitable for high-pressure, high-temperature wash-down applications.

Ease of Use
The system provides pre-configured information so operators can configure it in just a few steps. It is user-friendly and easy to set up and operate.
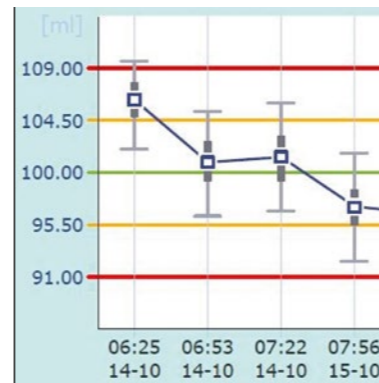
All-in-One Quality Assurance
IND930SQC is a powerful and efficient SQC tool. Receive meaningful results of random sampling from useful, easy-to-understand reports. Benefit from basic SPC functionality.

Standalone SQC
Reliable Information for Quality Assurance

Collect, calculate and report information that allows operators to react immediately if a violation occurs.

Touchscreen Interface	Standard on all models at 10" size, measured diagonally.
Environmental Protection	IP69K compliant, suitable for harsh industrial environments. Stainless housing with Ra<0.8μm surface finish.
Data Storage	Internal compact flash storage memory standard in all models.
Connectivity	Ethernet connectivity standard for integration into industrial networks. Select and install up to six interfaces including scales, USB and serial (RS-232) for connection to PCs, printers and bar-code readers.
Regulatory Compliance	Choose from several different tolerance systems for effortless regulatory compliance.
Flexible Reporting and Archiving	Export reports to a memory stick or a network-accessible server folder.
Operation	Enter product information quickly and accurately using the touchscreen HMI. An information line messages the operator if a sample series or statistic has passed or failed.
More Information	**www.mt.com/IND930SQC**

Our Solutions
For Your Production

Automated Production
Engineering and Inventory Control
Material Receiving
Quality Control Lab
Manual Production
Packaging and Filling
Logistics

Scales and Platforms
For Wet and Harsh Environments

Stainless-steel scales and platforms are designed for easy and fast cleaning with IP protections up to IP69k. They are fit for heavy wash-down applications and hygienically sensitive processesand can be used in a broad range of applications from checkweighing and portioning to counting. Choose the one that meets your process needs, whether you work with food, pharmaceuticals, or chemicals.

▸ **www.mt.com/bench-scales**

Wherever product integrity matters, colorWeight® checkweighing can be used as a fast and cost-effective quality assurance method. Our scales provide clear information as to whether quality specifications are met and a product is safe for further processing.

colorWeight®

101 PCS	above target
100 PCS	ok
99 PCS	below target

Premium and Advanced
Provide checkweighing, formulation and classifying in hygienically sensitive areas. Benefit from full-graphic display technology, an alphanumeric keypad and multiple interfaces.

Industrial Basics
Industrial Basic Scales feature quality scales at attractive prices. They are suitable for basic food, chemical or manufacturing applications in dry and wet environments.

Weighing Platforms
Solutions are available from 0.6 to 600 kg and thanks to innovative measuring technology, accuracies as low as 1 mg can be reached.

Built for Efficient Cleaning

IP69K-protected scale indicators and hermetically sealed load cells, engineered in conjunction with platform designs conforming to the latest hygienic guidelines, enable easy access to all scale areas for efficient and easy cleaning.

- Stainless-steel construction
- No open threads
- Smooth surface finish
- Minimized horizontal surfaces
- Full-penetration welding

IP68 IP69k OIML NTEP CE (SP) c(UL)us

IEC IECEx Ex FM APPROVED GMP

Bench Scales for Wet Environments
Comparison of Standard Configurations

Scales with ingress protection up to IP69k are designed for demanding weighing tasks in harsh and hygienically sensitive environments.

▶ **www.mt.com/bench-scales**

Data+ – Data Management Software Solution

Eliminate the need to enter data manually on a scale indicator and skip directly to entering data on a PC. By streamlining this process you save effort and increase processing speed up to 20x.

▶ **www.mt.com/Dataplus**

	ICS689		ICS4_9 (ICS469 / ICS449 / ICS439 / ICS429)		BBA236		ICS226		BPA121	
	Premium bench scale for demanding applications		Bench scale for advanced applications		Cost-effective bench scale for basic applications		Mobile compact scale for basic applications		Portable compact scale for wet environments	
Applications	• Intuitive checkweighing and portioning • Basic filling and formulation • Fast classifying and average weighing		• Advanced checkweighing and portioning • Accurate counting and totalizing • Fast average weighing		• Basic weighing and checkweighing • Counting and totalizing • Average weighing		• Basic weighing • Simple checkweighing		• Basic Weighing	
Accuracy	★★★☆	High precision	★★☆☆	Standard precision	★★☆☆	Standard precision	★★☆☆	Standard precision	★★☆☆	Strandard precision
Versatility	★★★★	10 capacities, 7 sizes	★★★☆	10 capacities, 7 sizes	★★☆☆	10 capacities, 7 sizes	★☆☆☆	3 capacities, 1 size	★★☆☆	4 capacities, 1 size
Process Integration	★★★★	Up to 4 scales and 4 data interfaces	★★★☆	Up to 2 scales and 2 data interfaces	★★☆☆	1 standard & 1 optional interface	★☆☆☆	1 standard interface	☆☆☆☆	–
Data Management	★★★★	Database stores up to 5,000 articles	★★☆☆	Database stores up to 100 articles	★★★★	–	★★★★	–	☆☆☆☆	–
Compliance Support	★★★★	Alibi memory and hygienic design for easy cleaning	★★★☆	Alibi memory and hygienic design for easy cleaning	★★☆☆	Hygienic platform for easy cleaning	☆☆☆☆	–	☆☆☆☆	–
Display	Color TFT (320 x 240) with 3 display layouts, colorWeight® functionality		Graphic LCD display with 3 display layouts, colorWeight® functionality		7-segment LCD display with white backlight		7-segment LCD display with white backlight		7-segment LED display x 2	
Interfaces	RS232, RS422/485, USB, Ethernet, digital I/O (4 in- and 4 outputs)		RS232, RS422/485, USB, Ethernet, digital I/O (4 in- and 4 outputs)		RS232, RS422/485, USB device, digital I/O		RS232		-	
Resolution (depending on platform)	Approvable: 6,000e OIML Class III Recommended (max.): </=60,000d		Approvable: 6,000e OIML Class III Recommended (max.): </=60,000d		Approvable: 3,000e OIML Class III Recommended (max.): </=15,000d		Approvable: 3,000e OIML Class III Recommended (max.): </=6,000d		Approvable: 3,000e OIML Class III Recommended (max.): </=6,000d	
Capacity Range	0.6 kg up to 600 kg		0.6 kg up to 600 kg		3 kg up to 600 kg		3 kg up to 15 kg		3kg up to 30kg	
Platform Sizes (mm)	228 x 228 up to 600 x 800		228 x 228 up to 600 x 800		228 x 228 up to 600 x 800		228 x 228		182 x 226	
Ingress Protection	Scale: IP68/IP69k		Scale: IP68/IP69k		Scale Indicator: IP66/IP67 Platform: IP65		Scale Indicator: IP67 Platform: IP65		Scale: IP68 / 69K	
Approvals, Certificates	OIML, NTEP, CE, CSA, GMP		OIML, NTEP, CE, CSA, GMP		OIML, NTEP, CE, UL		OIML, NTEP, CE, UL		OIML, CE	
More Information	**See page 78 or www.mt.com/ICS689**		**See page 80 or www.mt.com/ICS469**		**See page 82 or www.mt.com/BBA236**		**See page 84 or www.mt.com/ICS226**		**See page 86 or www.mt.com/BPA121**	

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

ICS Bench Scale Series
Where Hygiene Counts

The ICS689, ICS469, ICS449, ICS439 and ICS429 bench and compact scales series can be used for a variety of applications, including over/under checkweighing, counting, classifying, filling, formulation and many more. The full stainless-steel design makes it best suited for wet, harsh or hygienic environments especially in the food, pharmaceutical or chemical industries.

▶ **www.mt.com/bench-scales**

The ICS product family supports fast and efficient portioning and classifying processes. Whether filling small containers placed on the platform, or using the powerful takeaway mode for filling without a keystroke, ICS scales help to speed up productivity by as much as 20%. With SpeedWeigh™, yield can be increased by up to 30%.
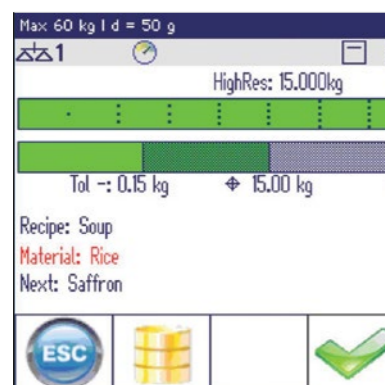
Formulation and SpeedWeigh Speed Up Workflows
The formulation application guides operators through recipes intuitively. SpeedWeigh optimizes the accuracy and speed for each ingredient enhancing error-free formulation.

colorWeight®
Speeds Up Production
Save time and money with the smart colored display that makes weighing applications faster and less error-prone.

Mobile Operation for the Flexibility of Your Processes
An optional long-lasting Li-Ion battery pack allows flexible operation anywhere in the facility.

Hygienic Design for Sanitary Environments

From occasionally wet to harsh washdown conditions, these scales can take it. The stainless-steel platforms and scale indicators of the ICS6 and ICS4 series provide a flexible and rugged solution for a wide range of weighing tasks. All parts have been engineered and manufactured according to the latest hygienic-design guidelines, resulting in a construction without closed cavities or sharp edges and minimized horizontal surfaces. This allows easy, fast and efficient cleaning.

Connect your scale via Ethernet or USB for easy data-transfer. Add a barcode reader or other peripheral for secure material identification.

IP68 **IP69k** OIML NTEP CE CSA cULus GMP

Your Customized Solution
Wet and Harsh Environments

The ICS4_9 and ICS689 compact systems are the perfect solution for any application in wet and harsh environment. The rugged stainless steel design of all indicators and platforms with high ingress protection guarantees long lifetime and allows frequent and intensive cleaning.

1 Choose an Application / Indicator

Model	ICS429	ICS439	ICS449	ICS469	ICS689
Applications	• Basic Weighing	• Basic Weighing	• Basic Weighing • Counting • Over/Under Checkweighing	• Basic Weighing • Counting • Over/Under Checkweighing	• Basic Weighing • Counting • Over/Under Checkweighing • Filling/Dosing • Classifying • Formulation • SpeedWeigh • Pick&Pack
Color TFT display					•
colorWeight®			•	•	•
Five configurable soft keys			•	•	•
Numeric (n)/alphanumeric (a) keypad		n		n	a
Additional interface options	1	1	1	1	3
Attachable platforms	1	1	2*	2*	4**

* Connection of a second scale to ICS449 and ICS469 is limited to SICSpro- or SICS-interface
** Maximum 2 analog, or 2 IDNet platforms respectively 1 analog plus 1 IDNet

General Specifications

Resolution for analog platforms***	Up to OIML 2x3,000e/ NTEP 5,000d
Display	**ICS4_9:** LCD liquid crystal graphical display with backlighting **ICS689:** Color TFT display 320 x 240 pixels
Keypad	**ICS4_9:** Tactile-touch membrane keypad (PET), scratch-resistant material **ICS689:** Piezo keypad scratch-resistant material
Housing	Stainless steel 1.4301, AISI 304
Protection	Up to IP69k
Power	100–240 VAC; optional battery 12 V / 2.5 A
Standard Interfaces	1 RS232

*** for digital platforms, the resolution is defined by the respective platform

2 Interface Options / Accessories

Optional Data Interfaces	RS232, RS422/485, USB device/host, Ethernet, Digital I/O (4 Inputs + 4 Outputs)
Optional Scale Interfaces	digital SICSpro, digital IDNet, analog (max. 2 analog, or 2 IDNet resp. 1 analog + 1 IDNet)
Accessories	Choose from various accessories such as wall bracket, columns/stands, roller tops, printers, battery packs, relays for digital I/O, barcode scanners and much more

3 Combine with the best fit platform for wet and harsh environments
Modular Solutions, ICS429/439/449/469 and ICS689 Combi Bench Scales

Platform Size	3 kg	6 kg	12 kg	15kg	30 kg	60 kg	120 kg	150 kg	300 kg	600 kg
QA 228 x 228 [mm]	•	•								
A 240 x 300 [mm]	•	•	•	•						
QB 305 x 305 [mm]			•	•	•	•				
BB 300 x 400 [mm]					•	•				
B 400 x 500 [mm]					•	•	•	•		
BC 500 x 650 [mm]						•	•	•	•	
CC 600 x 800 [mm]						•	•	•	•	•

PBD659	3 kg	6 kg	12 kg	15kg	30 kg	60 kg	120 kg	150 kg	300 kg	600 kg
Approved readability (6,000e)	0.5 g	1 g	2 g	n/a	5 g	10 g	20 g	n/a	50 g	200 g*
Recommended readability at max. resolution (60,000d)	0.05 g	0.1 g	0.2 g	n/a	0.5 g	1 g	2 g	n/a	5 g	10 g
Ingress Protection	IP68/IP69k									

PBA639	3 kg	6 kg	12 kg	15kg	30 kg	60 kg	120 kg	150 kg	300 kg	600 kg
Approved readability (3,000e)	1 g	2 g	n/a	5 g	10 g	20 g	n/a	50 g	100 g	200 g
Approved readability (2x3,000e)	n/a	1/2 g	n/a	2/5 g	5/10 g	10/20 g	n/a	20/50 g	50/100 g	100/200 g
Recommended readability at max. resolution (30,000d)	0.1 g	0.2 g	n/a	0.5 g	1 g	2 g	n/a	5 g	10 g	20 g
Ingress Protection	IP68/IP69k									

PBA439**	3 kg	6 kg	12 kg	15kg	30 kg	60 kg	120 kg	150 kg	300 kg	600 kg
Approved readability (3,000e)	1 g	2 g	n/a	5 g	10 g	20 g	n/a	50 g	100 g	200 g
Recommended readability at max. resolution (15,000d)	0.2	0.5	n/a	1	2	5	n/a	10	20	50
Ingress Protection	IP68/IP69k									

PBA436**	3 kg	6 kg	12 kg	15kg	30 kg	60 kg	120 kg	150 kg	300 kg	600 kg
Approved readability (3,000e)	1 g	2 g	n/a	5 g	10 g	20 g	n/a	50 g	100 g	200 g
Approved readability (2x3,000e)	n/a	1/2 g	n/a	2/5 g	5/10 g	10/20 g	n/a	20/50 g	50/100 g	100/200 g
Recommended readability at max. resolution (15,000d)	0.2	0.5	n/a	1	2	5	n/a	10	20	50
Ingress Protection	IP65									

*3,000e / **Only for ICS4x9 Combi Bench Scales

High Precision, Bundle ICS Indicators with PBK989

PBK9 Series

Platform Size (Load Plate Size)	0.6 kg	3 kg	6 kg	15 kg	30 kg	60 kg	120 kg	150 kg	300 kg	600 kg
XS 210x250 (130x160 mm)	•									
A 275x345 (240x300 mm)		•	•							
AB 280x350 mm				•	•	•				
B 400 x 500 mm						•	•			
CC 600 x 800 mm								•	•	
Approved readability (30,000e)*	0.01 g	0.1 g	0.2 g	0.5 g	1 g	2 g	5 g	5 g	10 g	
Recommended readability at max. resolution (750,000d)*	0.001 g	0.005 g	0.01 g	0.02 g	0.05 g	0.1 g	0.2 g	0.2 g	0.5 g	
Ingress Protection	IP66/IP68									

*max. readability/resolution, other resolutions see datasheet

BBA236 Bench Scale Series
Durable – Reliable – Economical

The BBA236 stainless steel scale is a robust and easy-to-operate all-in-one solution. It is a perfect fit for basic applications in dry and short-time wet industrial environments. The user-friendly scale indicator promotes fast operation and measurably improve production efficiency.

▸ **www.mt.com/BBA236**

In addition to five tactile and responsive standard keys, the scale features two freely definable function keys. This allows fast and easy switching between functions and ensures quick set-up and easy use.

Highly Visible Display
For excellent readability under any light condition, the BBA236 scale features a large, 60 mm high LCD display with an adjustable white backlight.

Versatile Usage
The scale includes an RS232 interface, which allows communication with a printer or PC. Its stainless steel enclosure is both stylish and functional.

Rugged and Easy to Clean
The IP65 protected platform, with its open, sturdy and straight-forward design, allows efficient cleaning and helps to reduce possible bacterial contamination.

BBA236 Bench Scales
For a Variety of Applications

Display	7-segment LCD Display							
Material	Scale: stainless steel, AISI304							
Power Supply	85-264 VAC, Optional: Built-in NIMH rechargeable battery pack							
Data Interfaces	RS232 (Standard)							
	Maximum Capacity							
Platform / Load Plate Size	**3 kg**	**6 kg**	**15 kg**	**30 kg**	**60 kg**	**150 kg**	**300 kg**	**600 kg**
QA 228 x 228 mm	•	•						
A 240 x 300 mm	•	•	•					
QB 305 x 305 mm			•	•	•			
BB 300 x 400 mm				•	•			
B 400 x 500 mm				•	•	•		
BC 500 x 650 mm					•	•	•	
CC 600 x 800 mm					•	•	•	•
Approved Readability	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g
Minimum Capacity	20 g	40 g	100 g	200 g	400 g	1,000 g	2,000 g	4,000 g
Approvable Resolution	OIML Class III, 3,000e							
Recommended Resolution (max.)	15,000d							
More Information	**www.mt.com/BBA236**							

ICS226 Compact Scale Series
Mobile – Ergonomic – Compact

The ICS226 Compact Scale is a portable scale for weighing and portioning in food production and packaging applications. This full stainless-steel scale is IP65/IP67 protected and a good fit in any light wash-down application with a need for ruggedness and durability.

▶ **www.mt.com/ICS226**

Manufacturing Flexibility
Removable handles and a high-quality Ni-MH rechargeable battery make the ICS226 a fully portable and mobile scale for flexible operation everywhere in your facility.

Ergonomic and Rugged Keypad
The high-quality membrane keys and the duplicated Zero/Tare buttons provide long life and convenient operation.

Bright, Easy-Read Display
The ICS226 compact scale includes a large and highly visible LCD display and an intuitive graphic checkweighing scale indicator for easy readability.

ICS226 Compact Scales
For Simple Checkweighing Applications

Display	6 digit LCD Display, with white backlight		
Material	Scale: stainless steel, AISI 304		
Power Supply	100–240 VAC, Rechargeable 6V, Ni-MH battery		
Data Interfaces	RS232 (Standard)		
	Maximum Capacity		
Platform / Load Plate Size	**3 kg**	**6 kg**	**15 kg**
228 x 228 mm	•	•	•
Approvable Readablity	1 g	2 g	5 g
Recommended Readability (min.)	0.5 g	1 g	2 g
Approvable Resolution	OIML Class III, 3,000e		
Recommended Resolution (max.)	6,000d		
More Information	www.mt.com/ICS226		

BPA121 Portable Scale
For Wet and Harsh Environments

A compact scale designed specifically for flexible use in food-processing applications, the BPA121 portable bench scale offers reliable protection against humidity and water ingress, making it the right choice for fast, accurate weighing in damp environments.

▶ **www.mt.com/BPA121**

The lightweight plastic housing of the BPA121 makes the scale easy to carry with only one hand, enabling quick mobility and simple integration into just about any space and workflow. A stainless steel platter is also available as an accessory.

Flexible Power Supply
With both a power adaptor and a lead-acid rechargeable battery, the standard configuration of this scale enables flexibility in your weighing processes.

Easy to Clean
Equipped with smooth external surfaces and easily removable electronic components, the BPA121 helps to accelerate cleaning procedures so you can maintain excellent hygiene.

Fast and Accurate
With a dual display and a stabilization time of less than 0.6s, the BPA121 enables safe and efficient weighing in your challenging industrial environment.

Hygienic Design
The BPA 121 Product Range

Scale Capacity	3kg	6kg	15kg	30kg
Readability				
3,000e	1 g	2 g	5 g	10 g
6,000d / 7,500d	0.5 g	1 g	2 g	5 g
12,000d / 15,000d	0.2 g	0.5 g	1 g	2 g
30,000d / 37,500d	0.1 g	0.2 g	0.5 g	1 g
Dual Display	6-bit 7-section red LED display			
Platter Size	182 × 226 mm			
Net Weight	2.29 kg (without battery) / 3.24 kg (with battery)			
IP Rating	IP68/69k			

IP68 IP69k OIML CE

Bench Scales
For Hazardous Areas

Platforms for hazardous areas classified as Zone 1/21 and Division 1 enable precise weighing in areas where an explosive atmosphere is likely to occur during normal operation.

▶ **www.mt.com/ind-haz-bench**

High-Precision Weighing in Hazardous Areas

Watch the video to learn how METTLER TOLEDO platform designs enable the highest precision in hazardous areas, and how they can help you improve your weighing processes to ensure consistent quality along with improved productivity and regulatory compliance.

▶ **www.mt.com/ICS466x-series**

	ICS466x Bundle	**ICS426x Bundle**	**BBA256x Bundle**
	Premium bench scale for demanding applications.	Bench scale for advanced applications.	Cost effective bench scale for basic applications.
Applications	• Simple weighing and checkweighing • Manual Filling	• Simple weighing	• Simple weighing and checkweighing
Accuracy	★★★★ Highest precision	★★★★ Highest precision	★★☆☆ Standard precision
Versatility	★★★☆ 5 capacities, 2 sizes	★★☆☆ 5 capacities, 2 sizes	★★☆☆ 6 capacities, 5 sizes
Process Integration	★☆☆☆ Serial data interface to the safe area	★☆☆☆ Serial data interface to the safe area	★☆☆☆ Serial data interface to the safe area
Data Management	★★★☆ Store up to 100 targets with the internal database	★★★★ –	★★☆☆ Stored target for checkweighing and tare values
Compliance Support	★★★☆ Hazardous area approved; alibi memory, user prompting.	★★★☆ Hazardous area approved.	★★★☆ Hazardous area approved, alibi memory, hygienic design
Display	Backlit LCD with colorWeight® functionality	Backlit LCD	Backlit LCD
Interfaces	1 x standard RS232 and optional 1 x RS232, RS422/485, via current loop connection to ACM200 communication module in the safe area	1 x standard RS232 and optional 1 x RS232, RS422/485, via current loop connection to ACM200 communication module in the safe area	1 x standard RS232 and optional 1 x RS232, RS422/485, via current loop connection to ACM200 communication module in the safe area
Resolution (Depending on Platform)	Approvable: </=30,000e OIML Class II Recommended (max.): </= 750,000d	Approvable: </=30,000e OIML Class II Recommended (max.): </= 750,000d	Approvable: </=3,000e OIML Class III Recommended (max.): </= 15,000d
Capacity Range	3 kg up to 60 kg	3 kg up to 60 kg	3 kg up to 150 kg
Platform Sizes (mm)	275 x 345 up to 280 x 350	275 x 345 up to 280 x 350	228 x 228 to 400 x 500
Ingress Protection	IP65	IP65	IP66
Approvals, other Certificates	OIML, NTEP	OIML, NTEP	OIML, NTEP
Hazardous Area Approvals ⚠EX	IECEx/ATEX (Zone 1/21), NEC (Div. 1 and Zone 1)	IECEx/ATEX (Zone 1/21), NEC (Div. 1 and Zone 1)	IECEx/ATEX/NEC (Zone 1/21), NEC (Div. 1)
More Information	**www.mt.com/ICS466x-series**	**www.mt.com/ICS426x-series**	**www.mt.com/BBA256x**

Requirement fulfillment scoring: ★★★★ very good ★★★☆ good ★★☆☆ fair ★☆☆☆ limited ☆☆☆☆ none

ICS4_6x Compact Scales
For Safety and Precision

When weighing in hazardous environment you need accuracy and reliability without sacrificing safety. The ICS4_6x-Series is rugged and easy to clean thanks to its stainless steel design makes it best suited for wet, harsh and hazardous environments.

▶ **www.mt.com/ICS426x-series**
▶ **www.mt.com/ICS466x-series**

The ICS4_6x-Series can easily be installed in different configurations (Front-, Wall-, Column- or Desk-Installation) Benefit: Higher productivity can be achieved by an ergonomic designed working place.

Full Protection
The intrinsically safe product design ensures highest level of safety and compliance with the latest hazardous area requirements in Zone 1/21 or Division 1.

Highest Accuracy
The ICS4_6x-Series enable industry leading accuracy of up to 750,000d in Zone 1/21, Division 1. When tolerances are tight, these scales deliver the precision you need.

Best Usability
An intuitive operating philosophy provides easy and secure handling of even complex weighing tasks in the hazardous area.

ICS4_6x Compact Scales
For Addvanced Weighing Applications

Models	ICS426x	ICS466x
Resolution (Approved)	OIML: 100 000e Class II, 10 000e Class III NTEP: 32 000e Class II, 10 000e Class III	
Capacities (kg)	3, 6, 15, 30, 60	
Display	Backlit LCD	Backlit LCD with colorWeight®
Keypad	4 function keys, tactile feel	32 keys, tactile feel, soft keys, numeric keypad
Housing	Stainless steel AISI304	
Interfaces	1 intrinsically safe RS232 optional: 1 RS232 or 1 RS422/485 via ACM200 module	
Power Supply	Either 120V or 230V via APS768x power supply	
Applications	Basic weighing, average weighing	Basic weighing, average weighing, checkweighing, totalizing, manual filling
Special Features		Connect two digital or one digital and one analog platform
More Information	**www.mt.com/ICS426x-series**	**www.mt.com/ICS466x-series**

BBA256x Bench Scale Series
For Your Hazardous Environment

Designed to operate safely in environments with explosive gases or dusts, the economical BBA256x carries ATEX, IECEx and FM hazardous-area approvals. The full stainless-steel design is built to deliver reliable performance in most harsh industrial environments.

▶ **www.mt.com/BBA256x**

With reliable intrinsically safe technology, the BBA256x bench scale is a safe and versatile weighing solution for any Zone 1/21 and Division 1 environment.

Store Transaction Data Automatically
The transaction log/alibi function in combination with label printing enhances data traceability.

Durable and Easy-to-Clean
The BBA256x platform features full electro-polished stainless-steel frame design as well as an advanced stainless-steel load cell.

Saving Costs, Reducing Set-Up
Pre-configuration of the full scale and the internal power supply makes field installation easy and fast.

BBA256x Bench Scale
For Simple Weighing Applications

Display	240 x 96 pixel white backlit LCD, 25 mm high digits
Material	Scale indicator, platform, column: Stainless steel AISI304
Power Supply	Built-in, 187 VAC to 250 VAC (for ATEX, IECEx only), or connection to METTLER TOLEDO AC power supply or an external battery installed in the hazardous area (for FM version)
Data Interfaces	1 intrinsically safe RS232 optional: 1 RS232 or 1 RS422/485 via ACM200 module in the safe area

Model / Plattform Size	Maximum Capacity					
	6 kg	15 kg	30 kg	30 kg	60 kg	150 kg
BBA256x-7QA 228 x 228 mm	3 kg	6 kg				
BBA256x-7A 240 x 300 mm	3 kg	6 kg	15 kg			
BBA256x-7QB 305 x 305 mm			15 kg	30 kg	60 kg	
BBA256x-7BB 300 x 400 mm				30 kg	60 kg	
BBA256x-7B 400 x 500 mm				30 kg	60 kg	150 kg
Approvable resolution Class III single range - 1 x 3,000e						
Approvable readablity (e min)	1 g	2 g	5 g	10 g	20 g	50 g
Minimum capacity	20 g	40 g	100 g	200 g	400 g	1,000 g
Approvable Resolution	OIML Class III, 3,000e					
Recommended Resolution	15,000d					
More Information	www.mt.com/BBA256x					

Bench Platforms
For Wet and Harsh Environments

These weighing platforms are designed for demanding weighing tasks in harsh and hygienically sensitive environments.

▸ **www.mt.com/ind-platforms**

High Precision in Action

Watch the video to learn how the platform design enables the highest precision in production environments and how this can help you improve your weighing processes and ensure consistent quality, increase productivity and meet regulatory requirements.

▸ **www.mt.com/PBK9**

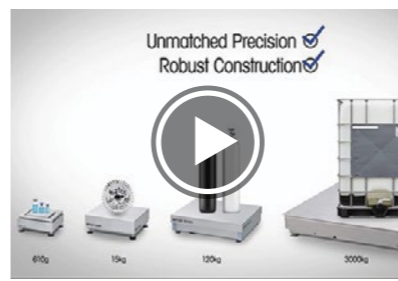|	**PBK9(x)**		**PBD769**		**PBD659**		**PBA639**		**PBA439**		**PBA436**	
	Premium platform for best-in-class performance.		Robust platform with fast and precise results can replace three scales with one.		Optimized hygienic design with higher accuracy.		Optimized hygienic design for wet environments.		Durable and economical solution for wet environments.		Durable and economical solution for light wet environments.	
Applications	• Precision weighing & counting • Automated weight determination • Pharmaceutical processes		• Precise weighing and counting • Automated weight determination • Formulation and recipe weighing		• Harsh wet-area weighing • Biotech and hygienic processes • Formulation and recipe weighing		• Harsh wet-area weighing • Biotech and hygienic processes • Formulation and recipe weighing		• Harsh wet-area weighing • Chemical processes • Formulation and recipe weighing		• Light wet area weighing • In-process quality control • Formulation and recipe weighing	
Accuracy	★★★★	Highest precision	★★★★	High precision	★★★★	High precision	★★★☆	Advanced precision	★★☆☆	Standard precision	★★★☆	Advanced precision
Versatility	★★★★	9 capacities, 5 sizes	★★★☆	6 capacities, 3 sizes	★★★★	8 capacities, 7 sizes	★★★★	8 capacities, 7 sizes	★★★★	8 capacities, 7 sizes	★★★★	8 capacities, 7 sizes
Process Integration	★★★★	Connects to scale indicator or direct to PLC	★☆☆☆	Digital scale interface for fast system integration	★★★☆	Digital scale interface for fast system integration	★★★★	–	★★★★	–	★★★★	–
Compliance Support	★★★★	Hygienic design, hazardous-area approved.	★★☆☆	Hygienic design	★★☆☆	Hygienic design	★★★☆	Hygienic design, hazardous-area approved.	★★☆☆	Hygienic design, hazardous-area approved.	★☆☆☆	Hygienic design
Resolution	Approvable: up to 30,000e OIML Class II Recommended (max.): </=750,000d		Approvable: 3 x 3,000e MI OIML Class III or 7,500e OIML Class III Recommended (max.): </=150,000d		Approvable: 6,000e OIML Class III Recommended (max.): </= 60,000d		Approvable: 2 x 3,000e OIML Class III Recommended (max.): </= 30,000d		Approvable: 3,000e OIML Class III Recommended (max.): </= 15,000d		Approvable: 2 x 3,000e OIML Class III Recommended (max.): </= 15,000d	
Capacity Range	0.6 kg up to 300 kg		15 up to 300 kg		3 kg up to 600 kg		3 kg up to 600 kg		3 kg up to 600 kg		3 kg up to 600 kg	
Platform Sizes (mm)	210 x 250 up to 600 x 800		280 x 350 up to 600 x 800		228 x 228 up to 600 x 800		228 x 228 up to 600 x 800		228 x 228 up to 600 x 800		228 x 228 up to 600 x 800	
Ingress Protection	IP67/IP68		IP66/IP68		IP68/IP69k		IP68/IP69k		IP68/IP69k		IP65	
Weighing Platform Material	Frame: Stainless steel AISI304 Load plate: Stainless steel AISI304 / 316		Frame: Stainless steel AISI304 Load plate: Stainless steel AISI304, brushed, e-polished		Frame: Stainless steel AISI304 Load plate: Stainless steel AISI304 / 316 e-polished		Frame: Stainless steel AISI304 Load plate: Stainless steel AISI304 / 316 e-polished		Frame: Stainless steel AISI304 Load plate: Stainless steel AISI304 / 316 e-polished		Frame: Stainless steel AISI304 Load plate: Stainless steel AISI304 / 316 e-polished	
Detailed Product Information	Monobloc technology in stainless-steel housing		Digital load cell in stainless-steel housing		Stainless steel, hermetically sealed, digital load cell		Stainless steel, hermetically sealed		Stainless steel, hermetically sealed		Aluminum potted	
Approvals, other certificates	OIML, NTEP, GMP, EHEDG		OIML, NTEP		OIML, NTEP, GMP		OIML, NTEP, GMP		OIML, NTEP		OIML, NTEP	
Hazardous Area Approvals	IECEx/ATEX/NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)		n/a		n/a		IECEx/ATEX/NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)		IECEx/ATEX/NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)		n/a	
More Information	See page 96 or www.mt.com/PBK9		See Page 98 or www.mt.com/PBD769		See page 100 or www.mt.com/PBA639-PBD659		See page 100 or www.mt.com/PBA639-PBD659		See page 102 or www.mt.com/PBA439		See page 102 or www.mt.com/PBA436	

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

PBK989 Bench Platform Series
For Precision in Any Environment

For applications that require high reliability with industry leading metrological performance, PBK989 high-precision bench platforms, with resolutions of up to 750,000 divisions, are the right choice. Their unique platform construction makes them suitable for a variety of challenging environments, including areas with high humidity, that need regular cleaning or are classified as hazardous.

▶ **www.mt.com/PBK9**

The Monobloc load cell at the core of the PBK9 weighing platform guarantees the highest precision and reliability. The robust load-cell housing features integrated overload protection and durable mechanical interfaces for many years of intensive use.
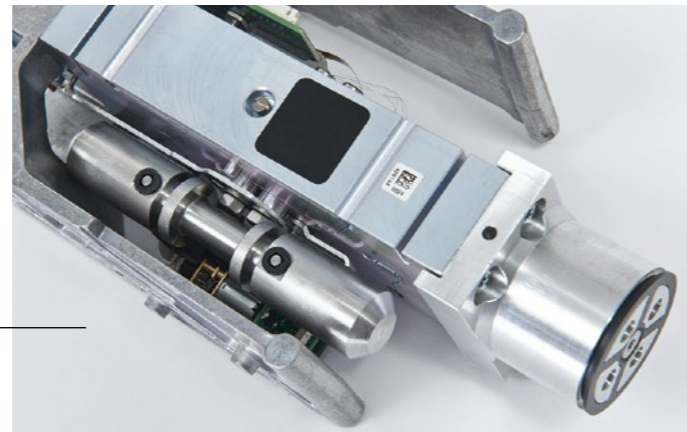
Smart Platter option dramatically increases the weighing accuracy in locations with moving air.

PBK9 High-Precision Bench Platforms
For Outstanding Accuracy

Frame Material	Stainless steel AISI304								
Load Plate Material	Stainless steel AISI304/316; Smart Platter (option for A3/A6)								
Load Cell	Monobloc technology in stainless-steel housing								
	Maximum Capacity								
Platform / Load Plate Size	**0.6k g**	**3 kg**	**6 kg**	**15 kg**	**30 kg**	**60 kg**	**120 kg**	**150 kg**	**300 kg**
XS 210 x 250 / 130 x 160 mm	•								
A 275 x 345 / 240 x 300 mm		*	*						
AB 280 x 350 mm				•	•	•			
B 400 x 500 mm						•	•		
CC 600 x 800 mm								•	•
Approvable Readablity	0.01 g	0.1 g	0.2 g	0.5 g	1 g	2 g	5 g	5 g	10 g
Recommended Readability (min.)	0.001g	0.005 g	0.01 g	0.02 g	0.05 g	0.1 g	0.2 g	0.2 g	0.5 g
Approvable Resolution	OIML Class II, up to 30,000e								
Recommended Resolution (max.)	up to 750,000d								
More Information	**www.mt.com/PBK9**								

* Smart Platter load plate option available

Increased Throughput for Fast Processes
Industry-leading stabilization times make the platforms suitable for high-speed weighing processes.

Safe in Hazardous Environments
The platforms are approved for top performance in gaseous, dusty environments – Cat2/Cat3 and Div 2, Div 1.

Direct Connectivity for Safe Processes
PBK9 APW weighing platforms can be directly connected via plug-in cables to many automation control systems.

RA SILVER Technology Partner A ROCKWELL AUTOMATION PARTNER
PROFI® NET
PROFI® BUS
EtherCAT®
CC-Link IE Field
EtherNet/IP™

IP67 IP68 OIML NTEP IEC IECEx Ex FM APPROVED GMP

PBD769 Bench Platforms
Three Scales in One

Each PBD769 series can replace three 3,000e approved scales, saving space and costs while speeding up your processes. Even better, when a tare load is applied, the scale automatically starts to weigh with the smallest readability. Set up as a single range scale, the approvable readability is as high as 7,500e. In non-legal-for-trade applications, achieve stable resolutions of up to 150,000d.

▶ **www.mt.com/PBD769**

The PBD769 design provides stable accuracy even under unfavorable operating conditions. Unique construction in combination with a high-performing load cell make it suitable for a variety of challenging environments including areas of high humidity which need regular cleaning and are subject to harsh wash-down procedures.

Reliable Performance
A robust lever system together with multiple shock-absorbing protections facilitates excellent corner- and side-load stability, which makes this platform an excellent solution for many dynamic and static installations.

Improved Hygiene
The high-grade stainless-steel load plate with its machine-brushed surface features a low surface roughness, which avoids corrosion and makes it easy to clean.

Increased Throughput
Fast stabilization times and update rates from the high-performing digital load cell guarantee short cycle times even in wet and harsh environments.

PBD769 Bench Platforms
High Variability and Accuracy

Frame Material	Stainless steel AISI304					
Load Plate Material	Stainless steel AISI304; AISI316 for dynamic load plate (as option)					
Load Cell Material	stainless steel AISI304, brushed, e-polished					
	Maximum Capacity					
Platform Size	**15 kg**	**30 kg**	**60 kg**	**120 kg**	**150 kg**	**300 kg**
AB 280 x 350 mm	•	•				
B 400 x 500 mm			•	•		
CC 600 x 800 mm					•	•
Approvable Readablity						
Class III, 3 x 3,000e Multi-Interval	3 kg /1 g 6 kg /2 g 15 kg /5 g	6 kg / 2 g 15 kg / 5 g 30 kg / 10 g	15 kg / 5 g 30 kg / 10 g 60 kg / 20 g	30 kg / 10 g 60 kg / 20 g 120 kg / 50 g	30 kg / 10 g 60 kg / 20 g 150 kg / 50 g	60 kg / 20 g 150 kg / 50 g 300 kg / 100 g
Class III, 6,000e / 7,500e Single Range	2 g	5 g	10 g	20 g	20 g	50 g
Recommended Readability (min.)						
Up to 150,000d	0.1 g	0.2 g	0.5 g	1 g	1 g	2 g

IP67 IP68 OIML ℂ€ ISO 9001 certified ISO 14001 certified

PBD659/PBA639 Weighing Platforms
Cleaning and Compliance Made Easy

In regulated, hygienic environments, ease of equipment sanitation is as important as the operational performance. It is becoming increasingly important to streamline cleaning processes to not only eliminate contamination risk but also maximize productivity. The PBD659 /PBA639 stainless steel weighing platforms enable you to address these challenges with an optimized hygienic design. The PBA639(x/xx) can also be used in hazardous areas.

▶ **www.mt.com/PBA639-PBD659**

PBD659/PBA639 bench platforms strictly adhere to hygienic design guidelines, facilitates quick and easy cleaning, and meets higher accuracy standards to optimize your processes and reduce costs.

Hazardous Area Approved
The PBA639(x/xx) platform series is available with global Ex approvals for use in Zone 1/21, Div. 1 and Zone 2/22, Div. 2 hazardous environments.

Accelerate cleaning speed
Easily achieve higher hygienic standards and boost cleaning speed by up to 40% with less effort. The innovative open platter and stainless steel design prevent moisture accumulation and allow you to eliminate contamination risk in regulated environments.

Prevent bad batches
The smart load cell used within the PBD platforms actively corrects and compensates for measurement errors caused by external and internal factors, which improves accuracy by up to 100% to prevent bad batches and reduce product waste.

Hygienic Design
PBD659/PBA639 Bench Platforms

Model	Platform Size	Capacity							
		3 kg	6 kg	12 kg/15 kg	30 kg	60 kg	120 kg/150 kg	300 kg	600 kg
PBD659/PBA639-QA	228 x 228 mm	•	•						
PBD659/PBA639-A	240 x 300 mm	•	•	•					
PBD659/PBA639-QB	305 x 305 mm			•	•	•			
PBD659/PBA639-BB	300 x 400 mm				•	•			
PBD659/PBA639-B	400 x 500 mm				•	•	•		
PBD659/PBA639-BC	500 x 650 mm					•	•	•	
PBD659/PBA639-CC	600 x 800 mm					•	•	•	•
PBD659 Approved Readability		0.5 g	1 g	2 g	5 g	10 g	20 g	50 g	200 g
PBD659 Recommended Readability		0.05 g	0.1 g	0.2 g	0.5 g	1 g	2 g	5 g	10 g
PBD659 Approvable Resolution		OIML Class III, 6,000e							
PBD659 Recommended Resolution (max.)		60,000d							
PBD659 Load Cell		Digital, Hermetically sealed, stainless steel (IP68/IP69k)							
PBA639 Approved Readability		1 g	1/2 g	2/5 g	5/10 g	10/20 g	20/50 g	50/100 g	100/200 g
PBA639 Recommended Readability		0.1 g	0.2 g	0.5 g	1 g	2 g	5 g	10 g	20 g
PBA639 Approvable Resolution		OIML Class III, 2 x 3,000e							
PBA639 Recommended Resolution (max.)		30,000d							
PBA639 Load Cell		Analog, Hermetically sealed, stainless steel (IP68/IP69k)							
More Information		**www.mt.com/PBA639-PBD659**							

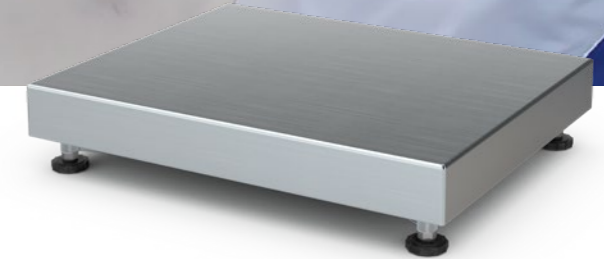IP68 IP69k OIML NTEP Ex GMP FM APPROVED IECEx

PBA436/PBA439 Weighing Platforms
Durable, Easy-to-Clean Design

PBA439 and PBA436 series offer solutions for a wide range of weighing tasks in anything from light wet to harsh washdown environments. They are a perfect fit in any food, chemical or pharmaceutical processing application in which there is a need for durability and cleanliness. The PBA439(x/xx) can also be used in hazardous areas.

▸ **www.mt.com/PBA439**

This stainless-steel platform series was designed according to hygienic standards. The open, sturdy and straightforward mechanical design allows access to any part of the platform for efficient cleaning.

High-End Aluminum Load Cell
This load cell makes the PBA436 series applicable for light hose-down applications. It features moderate protection against water and humidity.

Hermetically Sealed Load Cell
This load cell makes the PBA439(x/xx) series the perfect choice for applications in extremely harsh conditions. It withstands steam and high pressure washdown.

Hazardous Area Approved
The PBA439(x/xx) platform series is available with global Ex approvals for use in Zone 1/21, Div. 1 and Zone 2/22, Div. 2 hazardous environments.

Affordable Weighing Platforms
PBA436/PBA439 Bench Platforms

Model	Platform Size	Capacity							
		3 kg	**6 kg**	**15 kg**	**30 kg**	**60 kg**	**150 kg**	**300 kg**	**600 kg**
PBA436/PBA439-QA	228 x 228 mm	•	•						
PBA436/PBA439-A	240 x 300 mm	•	•	•					
PBA436/PBA439-QB	305 x 305 mm			•	•	•			
PBA436/PBA439-BB	300 x 400 mm				•	•			
PBA436/PBA439-B	400 x 500 mm				•	•	•		
PBA436/PBA439-BC	500 x 650 mm					•	•	•	
PBA436/PBA439-CC	600 x 800 mm					•	•	•	•
PBA436 Approved Readability		1 g	1/2 g	2/5 g	5/10 g	10/20 g	20/50 g	50/100 g	100/200 g
PBA436 Recommended Readability		0.2 g	0.5 g	1 g	2 g	5 g	10 g	20 g	50 g
PBA436 Approvable Resolution		OIML Class III, 2 x 3,000e							
PBA436 Recommended Resolution (max.)		15,000d							
PBA436 Load Cell		Aluminium, potted (IP65)							
PBA439 Approved Readability		1 g	2 g	5 g	10 g	20g	50 g	100 g	200 g
PBA439 Recommended Readability		0.2 g	0.5 g	1 g	2 g	5 g	10 g	20 g	50 g
PBA439 Approvable Resolution		OIML Class III, 3,000e							
PBA439 Recommended Resolution (max.)		15,000d							
PBA439 Load Cell		Hermetically sealed, stainless steel (IP68/IP69k)							
More Information		**www.mt.com/PBA439**							

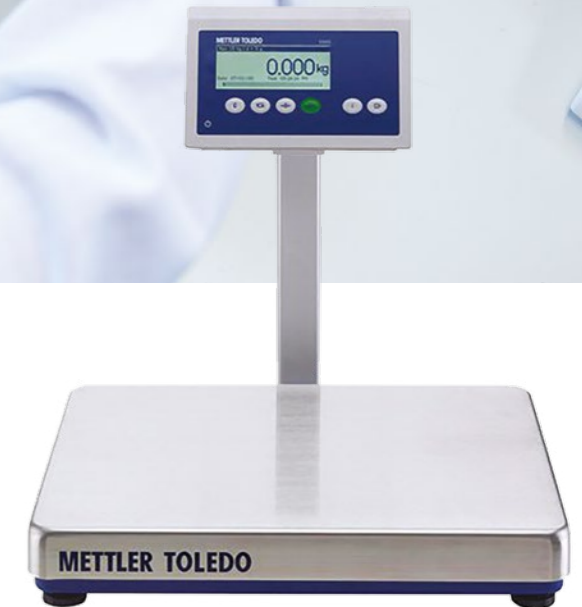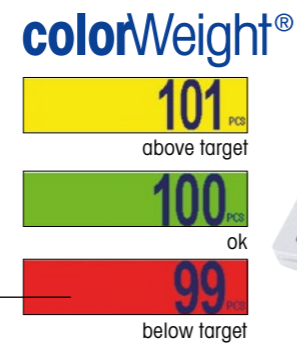**IP65 IP68 IP69k** OIML NTEP Ex FM APPROVED IECEx

Scales and Platforms
For Dry and Dusty Environments

These series offer a wide range of scales and platforms designed to integrate easily into your weighing process, whether you need checkweighing, counting, kitting, packing or quality-assurance applications. Select your optimal combination and raise your throughput. At the same time, you will increase process security and improve product quality.

▸ **www.mt.com/bench-scales**

colorWeight®

Save time and money with our smart colored display. colorWeight® makes completeness checks, portioning, classifying and counting simple and fast while reducing error risk. The display indicates at-a-glance if weight or count is below, within or above target.

101 PCS
above target

100 PCS
ok

99 PCS
below target

Premium and Advanced
Obtain accurate counting and checkweighing results in dust-contaminated environments. Pick&Pack ensures kit completeness the first time and avoids rework.

Industrial Basic Series
Industrial basic scales feature quality at attractive prices. They are suitable for basic food, chemical or manufacturing applications in dry and dusty environments.

Weighing Platforms
Solutions are available from 0.6 to 600 kg and thanks to innovative measuring technology, accuracies as low as 1mg can be reached.

Optimize Your Processes

Speed counts in today's competitive environment. Manufacturers are expected to produce error-free, high-quality products in record time. METTLER TOLEDO scales and platforms provide solutions for fast and accurate weighing, mixing, counting and checkweighing to increase your throughput.

Built not only to offer superior weighing performance, these instruments are designed for a long working life in rugged dry and dust-contaminated environments.

Intuitive user menus and available data-management systems allow proven traceability of your weighing processes, capturing everything from definition of articles and tolerances to tare values.

Intuitive operation and superior weighing performance combine to increase your throughput with fast, accurate results.

**IP54** **IP65** OIML NTEP CE CSA cULus IEC IECEx Ex FM APPROVED

InVision™ Smart Scale
The Smart Way to Ensure Quality Kits

The smart algorithms of InVision™ combine weighing with visual recognition and picture capture for easy handling and error-free operation in picking and packing applications. The system directly connects to production and ERP systems for full data visibility and visual proof of successful order fulfillment.

▶ **www.mt.com/InVision**

Order picking is a manual process that is often prone to errors. Similar parts are mistaken for each other and counting errors occur when operators are under time pressure. Solve these issues with InVision™, your second set of eyes.
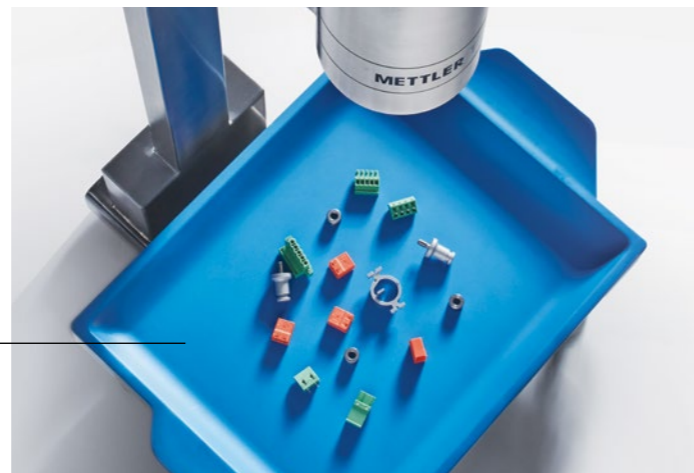
InVision™ Helps You Meet Your Operational Goals

Achieve up to 100% Quality Kits
Zero missing parts is a reality with InVision™. When you reduce the risk of human error in manual picking processes, you can achieve 100% quality kits and maximize customer satisfaction.

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

Benefit from True Traceability
Benefit from automatic data and image capture with every kit, then send this information to your connected ERP or MES for simplified track-and-trace documentation.

Discover the InVision™ Breakthrough

Achieve zero out-of-box failures in packing and kitting operations with InVision™, utilizing patented machine learning algorithms and dual verification for accuracy in parts selection and packaging. Guided working steps, automatic data capture and process verification significantly increase production quality and worker efficiency.

Setup	IND970 HMI, IND970 Elobox, PBD769-AB15 or PBK989-AB15, Camera
Technologies	Visual recognition and weighing
Application	Picking, counting
Minimum Size of Parts	0.4 mm
Minimum Weight of Parts	0.6 g
Attachable Platforms	1

Bench Scales for Dry Environments
Comparison of Standard Configurations

Scales with ingress protection up to IP65 are designed for demanding weighing tasks in dry and dust-contaminated environments.

▶ **www.mt.com/dry-bench-scales**
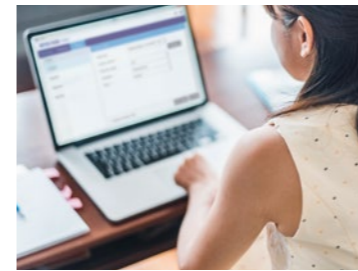
Data⁺ – Data Management Software Solution

Eliminate the need to enter data manually on a scale indicator and skip directly to entering data on a PC. By streamlining this process you save effort and increase processing speed up to 20x.

▶ **www.mt.com/Dataplus**

	ICS685	ICS4_5 (ICS465 / ICS445 / ICS435 / ICS425)	BBA231	ICS241
	Premium bench scale for demanding applications.	Bench scale for advanced applications.	Cost effective bench scale for basic applications.	Mobile compact scale for simple applications.
Applications	• Intuitive counting and totalizing • Smart formulation and Pick&Pack • Fast classifying and average weighing	• Accurate counting and totalizing • Advanced checkweighing and portioning • Fast average weighing	• Basic weighing and checkweighing • Counting and totalizing • Average weighing	• Basic weighing • Simple counting
Accuracy	★★★★ Highest precision	★★★★ Highest precision	★★☆☆ Standard precision	★★☆☆ Standard precision
Versatility	★★★★ 9 capacities, 8 sizes	★★★☆ 9 capacities, 8 sizes	★★☆☆ 6 capacities, 5 sizes	★★☆☆ 4 capacities, 1 size
Process Integration	★★★★ Up to 4 scale and 4 data interfaces	★★★☆ Up to 2 scale and 2 data interfaces	★★☆☆ 1 standard & 1 optional interface	★☆☆☆ 1 standard interface
Data Management	★★★★ Database stores up to 5,000 articles	★★☆☆ Database stores up to 100 articles	☆☆☆☆ –	★☆☆☆ Database stores up to 50 articles.
Compliance Support	★★★★ Alibi memory and user management functionality	★★★☆ Alibi memory and user prompting functionality	☆☆☆☆ –	☆☆☆☆ –
Display	Color TFT (320 x 240) with 3 display layouts. colorWeight® functionality	Graphic LCD display with 3 display layouts. colorWeight® functionality	7-segment LCD display with white backlight	Graphic LCD display with white backlight
Interfaces	RS232, RS422/485, USB, Ethernet, Digital I/O (4 in- & 4 outputs)	RS232, RS422/485, USB, Ethernet, Digital I/O (4 in- & 4 outputs)	RS232, RS422/485, USB Device, Digital I/O	RS232
Resolution (depending on platform)	Approvable: </=60,000e OIML Class II Recommended (max.): </= 610,000d	Approvable: </=60,000e OIML Class II Recommended (max.): </= 610,000d	Approvable: 3,000e OIML Class III Recommended (max.): </=15,000d	Approvable: 3,000e OIML Class III Recommended (max.): </=30,000d
Capacity Range	0.6 kg up to 600 kg	0.6 kg up to 600 kg	6 kg up to 300 kg	3 kg up to 30 kg
Platform Sizes (mm)	206 x 247 up to 600 x 800	206 x 247 up to 600 x 800	240 x 300 up to 600 x 800	230 x 306
Ingress Protection	IP54; optional IP65	IP54; optional IP65	IP54	–
Approvals, Certificates	OIML, NTEP, CE, CSA C US	OIML, NTEP, CE, CSA C US	OIML, NTEP, CE, UL	OIML, CE, UL
More Information	**See page 110 or www.mt.com/ICS685**	**See page 110 or www.mt.com/ICS465**	**See page 114 or www.mt.com/BBA231**	**See page 116 or www.mt.com/ICS241**

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

ICS Bench Scale Series
When Productivity and Flexibility Counts

The ICS685, ICS465, ICS445, ICS435 and ICS425 bench and compact scales series can be used for a variety of applications including counting, over/under checkweighing, classifying, filling and kitting. The rugged design makes these scales suited for dry and dust-contaminated environments in a variety of industries, such as metal fabrication, plastic molding and electronics.

▶ **www.mt.com/dry-bench-scales**

When verifying inventory, packaging or production quantities, every part or piece is important. The ICS685 and ICS4_5 scale family provides solutions to make parts-counting applications fast, accurate and cost-effective. ICS685 provides intuitive guidance for packing and ensures kit completeness on the first pick.

Max 60 kg I d = 50 g
Package 1/1   High resolution: 2.198kg
0 PCS   ⊕ 1 PCS
BOM: Package 1
Article: 100000, Hammer
Next: 200000

**colorWeight®
Speeds Up Production**
Save time and money with the smart colored display that makes weighing applications faster and less error-prone.

**Mobile Operation
for Flexible Processes**
An optional long lasting Li-Ion battery pack allows flexible operation anywhere in the facility.

**Pick&Pack™ and SpeedWeigh™
Ensure Kit Completeness**
The Pick&Pack™ application guides the operator intuitively through an error-free picking process. Pair with SpeedWeigh™ to increase speed by up to 50%.

The Right Solution Tailored to Your Specific Needs

The ICS685, ICS465, ICS445, ICS435 and ICS425 product family is a highly modular product range consisting of a large variety of scale indicators and platforms to best fulfill your specific requirements. From simple weighing to integrated solutions with multiple components including third-party devices, a wide range of configurations are possible.

Connect your scale via Ethernet or USB for easy data-transfer. Add a barcode reader or other peripheral for secure material identification.

IP54 IP65 OIML NTEP CE CSA

ICS Bench Scale Series
Configurations for Dry Environments

ICS685, ICS465, ICS445, ICS435 and ICS425 compact scales are the perfect fit for your applications in dry or dusty environments. Whether you need a scale for simple weighing, advanced counting or quality control applications, you will find the perfect solution for your specific needs.

▶ **www.mt.com/dry-bench-scales**

1 Choose an application / scale indicator

Model	ICS425	ICS435	ICS445	ICS465	ICS685
Applications	• Basic Weighing	• Basic Weighing	• Basic Weighing • Counting	• Basic Weighing • Counting • Over/Under Checkweighing	• Basic Weighing • Counting • Over/Under Checkweighing • Filling/Dosing • Classifying • Formulation • SpeedWeigh • Pick&Pack
Color TFT Display					•
colorWeight®				•	•
Configurable Soft Keys			•	•	•
Numeric (n) / Alphanumeric (a) Keypad		n		n	a
Additional Interface Options	1	1	1	1	3
Attachable Platforms	1	1	2	2	4*

* Maximum 2 analog, or 2 IDNet platforms respectively 1 analog plus 1 IDNet

General specifications

Resolution for Analog Platforms**	300,000d; 7,500e, OIML / 10,000d, NTEP
Display	**ICS4_5**: LCD liquid crystal graphical display with backlighting **ICS685**: Color TFT display 320 x 240 pixels
Keypad	Tactile-touch membrane keypad (PET), scratch-resistant material
Housing	Die-cast aluminium
Protection	IP65
Power	100 – 240 VAC; optional battery 12 V / 2.5 A
Standard Interfaces	1 RS232

** for digital platforms, the resolution is defined by the respective platform

2 Select interface options / accessories

Optional Data Interfaces	RS232, RS422/485, USB device/host, Ethernet, Digital I/O (4 Inputs and 4 Outputs)
Optional Scale Interfaces	digital SICSpro, digital IDNet, analog (max. 2 analog, or 2 IDNet resp. 1 analog and 1 IDNet)
Accessories	Choose from various accessories such as wall bracket, columns/stands, roller tops, printers, battery packs, relays for digital I/O, barcode scanners and much more.

3 Combine with the right platform for dry environment

PBK785	Maximum Capacity					
Platform/Load Plate Size	0.6 kg	3 kg	6 kg	6 kg	15 kg	35 kg
XS 206 x 247 (130 x 160 mm)	•	•	•			
SM 206 x 247 (200 x 240 mm)				•		
LA 247 x 357 (240 x 350 mm)					•	•
Approvable Readability	0.01 g	0.1 g	0.1 g	1 g	1 g	1 g
Recommended Readability (min.)	0.001 g	0.01 g	0.01 g	0.1 g	0.1 g	0.1 g
Frame Material	Dye-Casted aluminum					
Load Plate Material	Stainless steel AISI304					
Load Cell	Monobloc technology					
Approvable Resolution	OIML Class II, up to 60,000e					
Recommended Resolution (max.)	up to 610,000d					
Ingress Protection	IP65					

PBD555	Maximum Capacity			
Platform/Load Plate Size	3 kg	6 kg	15 kg	35 kg
SM 206 x 247 (200 x 240 mm)	•	•		
LA 247 x 357 (240 x 350 mm)			•	•
Approvable Readability	0.5 g	1 g	2 g	5 g
Recommended Readability (min.)	0.05 g	0.1 g	0.2 g	0.5 g
Frame Material	Dye-Casted aluminum			
Load Plate Material	Stainless steel AISI304			
Load Cell	Digital aluminum potted			
Approvable Resolution	OIML Class III, up to 7,500e			
Recommended Resolution (max.)	up to 75,000d			
Ingress Protection	IP65			

PBD655	Maximum Capacity						
Platform Size	6 kg	12 kg	30 kg	60 kg	120 kg	300 kg	600 kg
A 240 x 300 mm	•	•					
BB 300 x 400 mm			•	•			
B 400 x 500 mm				•	•		
BC 500 x 650 mm				•	•	•	
CC 600 x 800 mm				•	•	•	•
Approvable Readability	1 g	2 g	5 g	10 g	20 g	50 g	100/200 g
Recommended Readability (min.)	0.1 g	0.2 g	0.5 g	1 g	2 g	5 g	10 g
Frame Material	Powder coated, carbon steel						
Load Plate Material	Stainless steel AISI304						
Load Cell	Digital aluminum potted						
Approvable Resolution	OIML Class III, 6,000e						
Recommended Resolution (max.)	60,000d						
Ingress Protection	IP65						
More Information	**www.mt.com/PBD655**						

BBA231 Bench Scale Series
Fast – Versatile – Economical

The BBA231 bench scale is a cost-effective, easy-to-operate one-for-all solution and a perfect fit for basic applications in dry and dust-contaminated environments. The user-friendly scale indicator with its highly visible display promotes quick operation and can measurably improve production efficiency.

▶ **www.mt.com/BBA231**

In addition to five tactile and responsive standard keys, the scale features two free definable function keys. This allows fast and easy switching between functions and ensures quick set-up and easy use.

Highly Visible Display
For excellent readability under any light condition, the BBA231 scale features a large, 60 mm high LCD display with an adjustable white backlight.

Versatile Usage
The scale includes an RS232 interface which allows communication with a printer or PC. Its plastic enclosure is both stylish and functional.

Robust Construction
The rugged platform construction ensures durability and accurate weighing results. Overload stop protects the load cell from damage.

BBA231 Bench Scale
For a Variety of Applications

Display	7-segment LCD Display					
Material	Load plate: AISI304					
Power Supply	85 – 264 VAC, 6AA Batteries					
Data Interfaces	RS232					
	Maximum Capacity					
Platform / Load Plate Size	**6 kg**	**15 kg**	**35 kg**	**60 kg**	**150 kg**	**300 kg**
A 240 x 300 mm	•	•				
BB 300 x 400 mm			•	•		
B 400 x 500 mm				•	•	
BC 500 x 650 mm				•	•	•
CC 600 x 800 mm				•	•	•
Approvable Readablity	2 g	5 g	10 g	20 g	50 g	100 g
Recommended Readability (min.)	0.5 g	1 g	2 g	5 g	10 g	20 g
Approvable Resolution	OIML Class III, 3,000e					
Recommended Resolution (max.)	15,000d					
More Information	**www.mt.com/BBA231**					

IP54   OIML   NTEP   CE   c UL us

ICS241 Compact Scale Series
Convenient – Smart – Efficient

The ICS241 is a versatile counting and simple-weighing scale for various industrial environments, including production, warehouse & logistics, packaging and quality control. It offers an easy-to-use interface with an intuitive LCD display and alphanumeric keypad for easy, fast operation.

▶ **www.mt.com/ICS241**
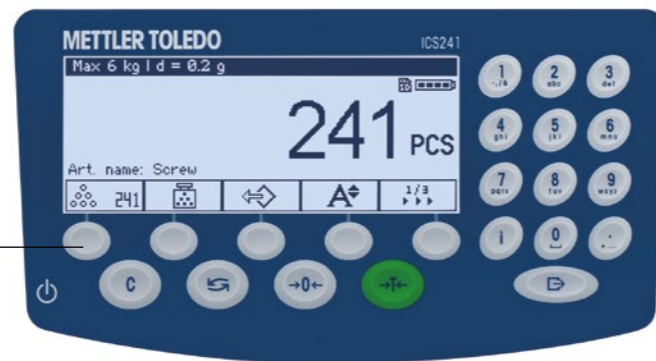
The ICS241 offers configurable soft keys for fast access to key functions, such as sampling and counting. The numeric keypad allows for fast input of tare or sample weights.

Smart Database Management
The transaction database can save each counting/weighing result and up to 30,000 entries via SD card for traceability.

Batteries for Mobile Operation
The ICS241 features an easily accessible battery compartment with six D-size dry or rechargeable batteries for self-contained operation.

Intuitive LCD Display
The large graphic LCD display shows text and graphics for excellent operator guidance. All relevant information is shown on one screen.

ICS241 Counting Scales
For Simple Counting

Display	Graphic LCD display, with white backlight			
Material	Scale: plastic			
Power Supply	6D size batteries or 100 – 240 VAC over adapter			
Data Interfaces	RS232			
	Maximum Capacity			
Platform / Load Plate Size	**3 kg**	**6 kg**	**15 kg**	**30 kg**
228 x 228 mm	•	•	•	•
Approvable Readablity	1 g	2 g	5 g	10 g
Recommended Readability (min.)	0.1 g	0.2 g	0.5 g	1 g
Approvable Resolution	OIML Class III, 3,000e			
Recommended Resolution (max.)	30,000d			
More Information	**www.mt.com/ICS241**			

Bench Platforms
For Dry and Dusty Environments

Weighing platforms designed for your most demanding weighing tasks in dry and dust- contaminated environments.

▶ **www.mt.com/ind-platforms**

High Precision in Action

Watch the video to learn how the platform design enables the highest precision in production environments and how this can help you improve your weighing processes to ensure consistent quality, increase productivity and meet regulations.

▶ **www.mt.com/PBK9**

	PBK9(x)	**PBA757**	**PBD655**	**PBA655(x)**	**PBA220**
	Premium platform for best-in-class performance.	Robust and rugged platform that gives you fast and precise results.	Digital platform for advanced applications.	Analogue platform for standard applications.	Analogue platform for basic applications.
Applications	• Precision weighing and counting • Automated weight determination • Net content control	• Dynamic weighing and counting • Shipping and manifesting • Net content control	• In-process quality control • Automated weight determination • Net content control	• Sorting and tracking • Shipping and manifesting	• Sorting and tracking • Shipping and manifesting
Accuracy	★★★★ Highest precision	★★★☆ Advanced precision	★★★☆ Advanced precision	★★★☆ Advanced precision	★★☆☆ Standard precision
Versatility	★★★☆ 9 capacities, 5 sizes	★★☆☆ 3 capacities, 2 sizes	★★★☆ 7 capacities, 5 sizes	★★★☆ 7 capacities, 5 sizes	★★★☆ 6 capacities, 9 sizes
Process Integration	★★★★ Connects to scale indicators or direct to PLC	★★☆☆ Optional digital scale interface	★★★★ Connects to scale indicators or direct to PLC	☆☆☆☆ –	☆☆☆☆ –
Compliance Support	★★★★ Hazardous-area approved.	★★☆☆ Hazardous-area approved.	☆☆☆☆ –	★★☆☆ Hazardous-area approved.	☆☆☆☆ –
Resolution	Approvable: up to 30,000e OIML Class II Recommended (max.): 750,000d	Approvable: 6,000e OIML Class II Recommended (max.): </=60,000d	Approvable: 6,000e OIML Class III Recommended (max.): </=60,000d	Approvable: 6,000e OIML Class III Recommended (max.): </=60,000d	Approvable: 3,000e OIML Class III Recommended (max.): </=15,000d
Capacity Range	60 kg up to 300 kg	60 up to 300 kg	6 kg up to 600 kg	6 kg up to 600 kg	6 kg up to 300 kg
Platform Sizes (mm)	400 x 500 up to 600 x 800	400 x 500 and 600 x 800	240 x 300 up to 600 x 800	240 x 300 up to 600 x 800	240 x 300 up to 600 x 800
Ingress Protection	IIP66 / IP68	IP65	IP65	IP65	IP65
Weighing Platform Material	Frame: powder coated carbon steel Load plate: stainless steel AISI304/316	Frame: powder coated mild steel Load plate: stainless steel AISI304	Frame: powder coated carbon steel Load plate: stainless steel AISI304	Frame: powder coated carbon steel Load plate: stainless steel AISI304	Frame: powder coated carbon steel Load plate: stainless steel AISI304/316
Load Cell	Monobloc technology in stainless steel housing	Analog aluminum load cell, optional digital interface	Aluminum, potted	Aluminum, potted	Aluminum, potted
Approvals, other certificates	OIML, NTEP	OIML, NTEP	OIML, NTEP	OIML, NTEP	OIML, NTEP
Hazardous Area Approvals ⚠EX	IECEx/ATEX/NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)	ATEX (Zone 2/22)	n/a	NEC (Zone O, Zone 2); NEC (Div. 1 or Div 2)	n/a
More Information	**See page 120 or www.mt.com/PBK9**	**See Page 122 or www.mt.com/PBA757**	**See page 124 or www.mt.com/PBD655**	**See page 124 or www.mt.com/PBA655**	**www.mt.com/PBA220**

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

PBK987 Bench Platform Series
For Precision in Dry Environments

For applications that require high reliability with industry-leading metrological performance, PBK987 high-precision bench platforms, with resolutions of up to 750,000 divisions, are the right choice. Their unique construction makes them suitable for a variety of challenging environments, including heavily dust-contaminated areas.

▶ **www.mt.com/PBK9**

The Monobloc load cell at the core of the PBK9 weighing platform guarantees the highest precision and reliability. The robust load-cell housing features integrated overload protection and durable mechanical interfaces for many years of intensive use.

Increased Throughput for Fast Processes
Industry-leading stabilization times make the platforms suitable for high-speed weighing processes.

Accurate Counting
Instead of using a separate reference scale for counting applications, one PBK9 with a fitting scale indicator (e.g. ICS685) can be used for the entire process.

Direct Connectivity for Automation
PBK9 APW weighing platforms can be directly connected via the ACT350 transmitter or IND360 indicator.

SILVER Technology Partner
A ROCKWELL AUTOMATION PARTNER
PROFI NET
PROFI BUS
EtherCAT
CC-Link IE Field
EtherNet/IP

PBK9 High-Precision Bench Platforms
For Outstanding Accuracy

Frame Material	Stainless steel AISI304			
Load Plate Material	Stainless steel AISI304/316			
Load Cell	Monobloc technology in stainless steel housing			
	Maximum Capacity			
Platform / Load Plate Size	**60 kg**	**120 kg**	**150 kg**	**300 kg**
B 400 x 500 mm	•	•		
CC 600 x 800 mm			•	•
Approvable Readablity	2 g	5 g	5 g	10 g
Recommended Readability (min.)	0.1 g	0.2 g	0.2 g	0.5 g
Approvable Resolution	OIML Class II, up to 30,000e			
Recommended Resolution (max.)	up to 750,000d			
More Information	**www.mt.com/PBK9**			

IP67 IP68 OIML NTEP IEC IECEx Ex FM APPROVED

PBA757 Bench Platforms
Designed for Dynamic and Static Use

The robust and reliable lever system grants excellent corner- and side-load stability, which makes this platform an excellent solution for many dynamic and static conveyor applications. Furthermore, it is the best choice for a multitude of counting and simple weighing tasks. The approvable readability is as high as 6,000e. In non-legal-for-trade applications, stable resolutions of up to 60,000d can be achieved.

▶ **www.mt.com/PBA757**

The PBA757 analog platform is suitable for many purposes, such as conveyor systems, counting, filling and self-check-out applications. It stands for fast, precise and stable operation in dynamic and rugged manual applications thanks to its rigid corner- and side-load characteristics.

Fast Dynamic Weighing
The unique mechanical design of the PBA757 platform series allows for stable weighing results even in fast dynamic conveyor applications. It facilitates high throughput and faster processes.

Reliable Weighing
The robust and highly reliable lever system together with multiple shock-absorbing protections facilitates excellent corner- and side-load stability.

Safe in Hazardous Areas
The platforms are approved for use in the presence of flammable gases and dusts in Zone 2/22.

PBA757 Bench Platforms
Highly Accurate and Rigid

Frame Material	Mild steel powder coated		
Load Plate Material	Stainless steel AISI304; AISI316 for dynamic load plate (as option)		
Load Cell Material	Aluminium		
Scale Interface	Analog, SICSpro (as option), IDNet (as option)		
	Maximum Capacity		
Platform Size	**60 kg**	**120 kg**	**300 kg**
B 240 x 300 mm	•	•	
CC 300 x 400 mm		•	•
Approvable Readablity			
Class III, 6,000e Single Range	10 g	20 g *	50 g
Min. Capacity (certified platforms only)	200 g	400 g	1000 g

* For B120 model, 6000e is only available with SICSPro interface.

PBD655 and PBA655(x) Bench Platforms
For Reliability in Dry Environments

The digital PBD655 and analog PBA655(x) bench-scale platform-series are designed for durability and reliability. They are the perfect choice for dry and dust-contaminated environments, such as receiving, inspection, manufacturing and warehousing. The platforms feature resolutions of up to 60,000 divisions.

▶ **www.mt.com/PBD655**

The PBD655 platform series is a rugged digital device designed for simplicity and dependability. It features an approvable resolution of OIML 6,000e. This provides optimal accuracy while still being cost-effective.

Ready to Operate in Seconds
The PBD655 platform is a true digital, pre-calibrated device designed for simplicity. Plug the platform into a suitable scale indicator and start weighing.

High Durability
The extremely robust platform design features an approvable resolution of OIML 6,000e for optimal weighing and counting precision.
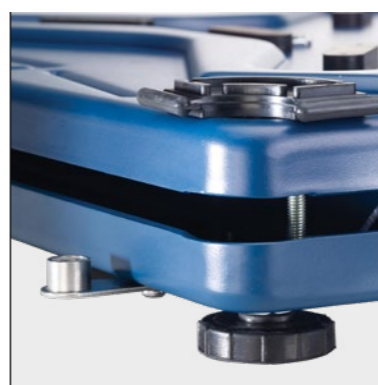
Damage Protected
The PBA655 platform features several overload stops to ensure the best possible load cell protection and long life.

PBD655 and PBA655(x) Bench Platforms
For Out-of-the-Box Weighing

Frame Material	Powder-coated carbon steel						
Load Plate Material	Stainless steel AISI304						
Load Cell	Digital or analog aluminum						
	Maximum Capacity						
Platform Size	**6 kg**	**12 kg**	**30 kg**	**60 kg**	**120 kg**	**300 kg**	**600 kg**
A 240 x 300 mm	●	●					
BB 300 x 400 mm			●	●			
B 400 x 500 mm				●	●		
BC 500 x 650 mm				●	●	●	
CC 600 x 800 mm				●	●	●	●
Approvable Readablity	1 g	2 g	5 g	10 g	20 g	50 g	100 / 200 g
Recommended Readability (min.)	0.1 g	0.2 g	0.5 g	1 g	2 g	5 g	10 g
Approvable Resolution	OIML Class III, 6,000e						
Recommended Resolution (max.)	60,000d						
More Information	**www.mt.com/PBD655**						

Floor, Low-Profile and Platform Scales

4

Our Solutions
For Your Production

Automated Production

Engineering and Inventory Control

Material Receiving   Quality Control Lab   Manual Production   Packaging and Filling   Logistics

Floor Scales and Platforms
For Dry, Wet and Harsh Environments

Our versatile floor and platform scales provide you with the highest precision, reliability and durability for a variety of heavy-duty applications in industrial environments. Easy to clean and move, they can be configured for ground or pit weighing.

▸ **www.mt.com/floor-scales**

METTLER TOLEDO floor and platform scales are durable and reliable in industrial settings thanks to rocker-foot suspension and an installation frame that transfers vertical load. Their hygienic design includes a lift deck, making these scales extremely easy to clean, while a low profile and wheel set enables easy handling and flexibility.
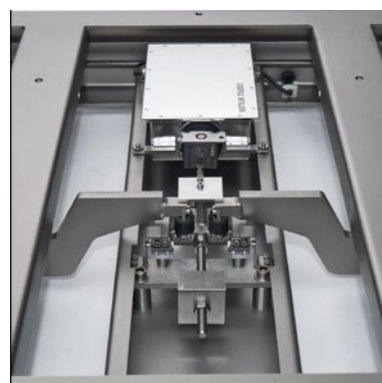
Advanced Technology
A MonoBloc load cell and hybrid platform allow high-precision weighing with resolutions up to 30,000e and capacities from 300 kg to 30,000 kg.

Hygienic Design
These scales are ideal for hygienic applications and quick wash-down due to smooth surfaces, washout areas, a lift deck and an IP69k rating.

Low-Profile Lift Deck
Easy to load, lift and clean, these scales enable mobile weighing for greater flexibility and productivity.

Built for Your Specific Applications

Our versatile platform structures are a great fit for applications that require easy cleaning, moving and loading. They are designed for heavy-duty, high-precision weighing in food, pharma, chemical and manufacturing settings.

- Models in stainless and painted mild steel
- Smooth and patterned surface options
- Rocker-foot suspension
- Low profile lift deck; optional wheels for mobility
- Hermetically sealed load cell rated IP68 / IP69k
- Hygienic design
- MonoBloc weighing cell and hybrid leveling system
- Also available as pallet and pallet truck scales

IP68 **IP65** | Ex | FM APPROVED | IEC | IECEx | OIML | GMP

Rugged, Lift and Versatile Platforms
Precise, Durable, Easy Clean and Hygienic

Our rugged, versatile weighing platforms are designed for your highest precision in an easy-to-clean format, whether they are installed above ground or using a pit. They offer you repeatable weighing in dry, wet, hygienic and harsh environments.

▶ **www.mt.com/floor-scales**

High Precision in Action

Watch the video to learn how METTLER TOLEDO's platform design enables the highest precision in production environments, and how it can help you improve your weighing processes to ensure consistent quality, better productivity and regulatory compliance.

▶ **www.mt.com/PBK9**

	PFK989(x)/PFK988(x)	**PFD774/PFD779**	**PFA779lift/PFA579(x)lift**
	Stainless and mild steel platform fit for dry, wet and wash-down environments.	Fully sealed stainless and mild steel platforms fit for dry, wet, heavy wash-down and heavy duty environments.	Stainless platform with lift device fit for wet, wash-down, hygienic and hazardous environments. Easy to load and clean.
Applications	• Precision weighing • Automated weight determination • Chemical and pharma processes	• Process weighing • Filling and formulation • Chemical, pharma, and food processes	• Filling and formulation • Bulk material handling • Wet and hygienic material weighing
Accuracy	★★★★ Highest precision weighing	★★★★ Lowest profile scale for process tolerances	★★★☆ Reliable weighing; improved weighing consistency
Versatility	★★★★ 4 capacities, 4 sizes	★★★★ 6 capacities, 7 sizes, optional free sizes	★★★☆ 4 capacities, 4 sizes, optional free sizes
Process Integration	★★★★ Digital interface for fast system integration	★★★★ Digital interface for fast system integration	★★★☆ Analog or digital interface for fast system integration
Compliance Support	★★★☆ GMP; hazardous-area approved.	★★★☆ Hazardous-area approved.	★★★★ Hygienic design; GMP; hazardous area approved.
Resolution	Approvable: up to 30,000e OIML Class II, 3 x 10,000e multi interval, OIML Class III Recommended (max.): 750,000d	Approvable: 2 x 10,000e, 2 x 6000e multi range, 6,000e OIML Class III; 10,000e CMC; 10,000d NTEP; Recommended (max.): 50,000d	Approvable: 2 or 3 x 3,000e multi range, 2 x 3,000e multi interval, 6,000e OIML Class III Recommended (max.): 30,000d
Capacity Range	300 kg up to 3,000 kg	300 kg up to 12,000 kg	300 kg up to 3,000 kg
Platform Size (mm)[1]	800 x 1,000 up to 1,500 x 1,500	800 x 800 up to 2,500 x 2,000	1,000 x 1,000 up to 1,500 x 1,500
Ingress Protection	IP66/IP68	IP68	IP68
Weighing Platform Material	Frame: Stainless steel AISI304 / mild steel Load plate: Stainless steel AISI304 / 316 / mild steel	Stainless Steel AISI 304 or 316 option / carbon steel	Stainless steel AISI 304 or 316 option
Load Cell	Stainless steel (AISI304), brushed, e-polished, Electromagnetic Force Restoration	Stainless steel, hermetically sealed POWERCELL® SLB615D	Stainless steel, hermetically sealed, strain gage
Approvals, other certificates	OIML, NTEP, GMP	OIML, NTEP	OIML, NTEP
Special Features	Lift deck or removable deck plate	Sealed sandwich design structure Lowest profile on market	Lift deck
Hazardous Area Approvals	IECEx/ATEX/NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)	IECEx/ATEX (Zone 2/22), NEC (Div 2; Zone 2)	ATEX (Zone 1/21 or Zone 2/22)
More Information	**www.mt.com/PFK9**	**www.mt.com/Powerdeck**	**www.mt.com/PFA579lift** **www.mt.com/PFA779lift**

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none
[1] Some options are not globally available, please refer to the local data sheet

High Capacity, Heavy Duty Platforms
Accurate and Reliable Weighing

Rugged and high capacity weighing platforms are built for heavy industrial use. A variety of floor platforms/options are available to match your application's requirements.

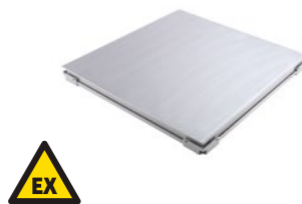▶ www.mt.com/floor-scales

Why Elephants Prefer Cable-Free

No matter where your weighing needs take you, the Cable-Free floor scale offers the flexibility you need to get there. Watch the video to see a unique application!

▶ **www.mt.com/ind-cable-free-floor-scale**

	PFA575/PFA579(x)		PFA584/PFA589(x)		BFA236/BFA231	
	Stainless and mild steel platform fit for dry, wet and wash-down environments.		Stainless and mild steel platform fit for dry, wet and wash-down environments.		Stainless and mild steel. Low profile fit for dry areas. Easy to load and clean.	
Applications	• Industrial weighing • Filling and formulation • Bulk material handling		• Industrial weighing • Filling and formulation • Bulk material handling		• Basic weighing • Bulk material handling • Inventory control	
Accuracy	★★★☆	Reliable weighing; improved weighing consistency	★★★☆	Reliable weighing; improved weighing consistency	★☆☆☆	Reliable weighing
Versatility	★★☆☆	4 capacities, 5 sizes, optional free sizes	★★★★	7 capacities, 7 sizes, optional free sizes	★☆☆☆	2 capacities, 2 sizes
Process Integration	★★★☆	Analog or digital interface for fast system integration	★★★☆	Analog or digital interface for fast system integration	★☆☆☆	RS232 system integration via scale indicator
Compliance Support	★★☆☆	GMP; hazardous area approved.	★★★☆	Hazardous-area approved.	☆☆☆☆	–
Resolution	Approvable: 2 or 3 x 3,000e multi range, 2 x 3,000e multi interval, 6,000e OIML Class III; Recommended (max.): 30,000d		Approvable: 2 or 3 x 3,000e multi range, 2 x 3,000e multi interval, 6,000e OIML Class III; Recommended (max.): 30,000d		Approvable: 3,000e, OIML Class III Recommended (max.): 15,000d	
Capacity Range	300 kg up to 3,000 kg		300 kg up to 12,000 kg		1,500 kg up to 3,000 kg	
Platform Size (mm)[1]	1,000 x 1,000 up to 2,000 x 1,500		800 x 800 up to 2,000 x 2,000		1,250 x 1,250 and 1,500 x 1,500	
Ingress Protection	IP65/IP68		IP68		IP67	
Weighing Platform Material	Stainless steel AISI 304 or 316 option / carbon steel		Stainless steel AISI 304 or 316 option / carbon steel		Stainless steel AISI 304 / carbon steel	
Load Cell	Stainless steel, hermetically sealed, strain gage		Stainless steel, hermetically sealed, strain gage		Alloy steel, hermetically sealed	
Approvals, other certificates	OIML, NTEP, GMP		OIML		OIML	
Special Features	Removable deck plate		Lowest profile on market		Scale indicator is connected with platform	
Hazardous Area Approvals ⚠EX	ATEX (Zone 1/21 or Zone 2/22)		IECEx/ATEX (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)		n/a	
More Information	**www.mt.com/PFA575 / www.mt.com/PFA579x**		**www.mt.com/ind-pfa-video**		**www.mt.com/BFA231-236**	

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none
[1] Some options are not globally available, please refer to the local data sheet

PFK989/PFK988 Floor Scales
Precise Weighing in Any Environment

Accurate weighing helps you to manage raw materials, ensure compliance with regulations and improve your product quality. For floor scale applications that require reliability with the best accuracy available, PFK9 weighing platforms provide industry-leading performance. The wide range of platforms with 4 capacities from 300 to 3,000 kilograms in 4 sizes makes them suitable for a variety of applications and industries.

▶ **www.mt.com/PFK9**

A Monobloc-technology load cell sits at the core of PFK9 weighing platforms to guarantee the highest precision and reliability. A robust load-cell housing features integrated overload protection and durable mechanical interfaces for many years of intensive use.

Functional Design
Pit installation allows easy loading and unloading on the ground level. Pit frames, available as accessories for all floor scales, offer a short installation time and easy positioning/leveling.

Direct Connectivity
PFK9 APW weighing platforms can be directly connected via plug-in cables to many process-control systems for safe, easy integration.

Safe in Hazardous Environments
When working in a hazardous environment, safety is critical. PFK9 weighing platforms are approved for use in hazardous areas classified Category 3, Division 2 for top performance in gaseous and dusty environments.

PFK9 Floor Platforms
Accurate – Reliable – Robust – Versatile

	Maximum Capacity			
Platform Size	**300 kg**	**600 kg**	**1,500 kg**	**3,000 kg**
C 1,000 x 800 mm	•	•		
D 1,250 x 1,000 mm		•	•	
E 1,500 x 1,250 mm			•	•
ES 1,500 x 1,500 mm			•	•
Approvable Readability (15 000e, class II)	20 g	50 g	100 g	200 g
Recommended Readability (min.)	0.5 g	1 g	2 g	5 g
Approvable Resolution	3 x 10,000eMI (class III), 15,000e (class II)			
On Request	30,000e (class II)			
Recommended Resolution (max.)	750,000d			
More Information	www.mt.com/PFK9			

IP68 **IP65** Ex FM C APPROVED US IEC IECEx OIML GMP

SILVER
Technology Partner
A ROCKWELL AUTOMATION PARTNER
PROFINET
EtherCAT
CC-Link IE Field
PROFIBUS
EtherNet/IP

PHD779 Ultra-Low-Profile Scales
Hygienic Design, Smart Weighing

Combine the power of POWERCELL® technology with our fully optimized hygienic design. The ultra-low-profile PHD779 platforms alleviate the most common floor scale challenges to speed up every part of your process, from loading and unloading to cleaning between cycles.

▶ www.mt.com/PHD779

Choose from the static, mobile, or easy-lift models to optimize your operation. All members of the PHD779 family feature ultra-low platform heights for easy loading and unloading, hermetically sealed load cells to protect against water ingress, and factory calibration to speed up installation time.

Rapid, Effective Sanitation
Clean faster and more effectively to simultaneously eliminate bacteria and maximize uptime. The thoughtful equipment design goes beyond standard stainless-steel construction to eliminate troublesome crevices, resulting in a truly hygienic floor scale.

One Scale for Any Batch Size
Save time, costs and space with the scale that can be set up in minutes and handles a wide range of batch sizes. POWERCELL® technology delivers uniquely high accuracy, allowing you to weigh your smallest batch and largest load on one scale.
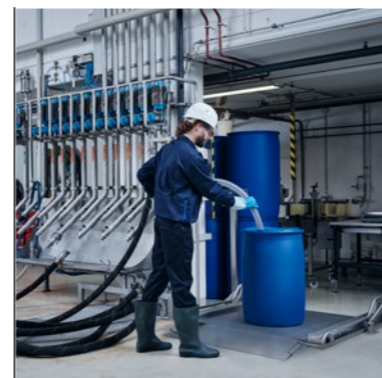
Real-Time Monitoring
Condition monitoring and proactive alerts for overloads, shock loads, and extreme temperature deviations allow you to address issues faster to prevent waste and maximize uptime. Achieve peace of mind with full system visibility and control.

PHD779 Floor Platforms

	Maximum Capacity				
Platform Sizes	300 kg	600 kg	1,200 kg	1,500 kg	2,000 kg
0.65 x 0.65 m	•	•	•	•	
0.80 x 0.80 m	•	•	•	•	
1.0 x 1.0 m	•	•	•	•	
1.25 x 1.0 m	•	•	•	•	•
1.25 x 1.25 m	•	•	•	•	•
1.5 x 1.25 m	•	•	•	•	•
1.5 x 1.5 m	•	•	•	•	•
Height	35 mm	35 mm	35 mm	35 mm	45 mm
Approved Accuracy Class III					
3000e [g]	100	200		500	1,000
6000e [g]	50	100	200		500
2 x 10,000e [kg/g]	200/20 300/50	500/50 600/100		1,000/100 1,500/200	1,000/100 2,000/200

PowerDeck™ PFD7_ Floor Platforms
Maximize Productivity and Yields

Only PowerDeck™ continuously monitors every component and overall status of the scale. Operators are immediately alerted to any deviations, meaning your critical measurements will be true every time. PowerDeck™ offers an increased level of Performance that allows you greater confidence in your production process knowing that your scale is verifying every measurement every time.
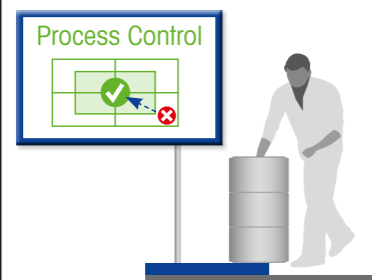
▶ **www.mt.com/PowerDeck**

PowerDeck™ provides lasting precision even in the harshest industrial applications. It's monitoring capabilities, real-time alerts, and operator guidance ensure accurate results with very few adjustments.

Real-Time Operator Guidance
Avoid off-center placement errors. Quick verification of properly placed goods eliminates weighing errors. It alerts the operator in real-time.

Multiple Batch Sizes
With new accuracy classes (6,000e/10,000e) self-monitoring smart load cells continually monitor and compensate for measurement deviations. Weigh with tighter tolerances to improve profitability.

Safe in Hazardous Environments
When working in a hazardous environment, safety is a requirement. PFD7_ weighing platforms are approved for Zone 2/22, Division 2.

PowerDeck™
PFD774/PFD779 Floor Platforms

Platform Sizes	Maximum Capacity								
	300 kg	600 kg	1,200 kg	1,500 kg	3,000 kg	6,000 kg	3,000 kg	6,000 kg	12,000 kg
1.0 x 1.0 m	•	•	•	•	•				
1.25 x 1.00 m	•	•	•	•	•				
1.5 x 1.25 m	•	•	•	•	•	•			
1.5 x 1.5 m	•	•	•	•	•	•	•	•	•
2.0 x 1.5 m	•	•	•	•	•	•	•	•	•
2.0 x 2.0 m							•	•	•
2.5 x 2.0 m							•	•	•
Height	78 mm	78 mm	78 mm	78 mm	78 mm	78 mm	102 mm	102 mm	102 mm
Approved Accuracy Class III									
3000e [g]	100	200		500	1,000	2,000	1,000	2,000	5,000
6000e [g]	50	100	200		500	1,000	500	1,000	2,000
2 x 10,000e [kg/g]	200/20 300/50	500/50 600/100		1,000/100 1,500/200	2,000/200 3,000/500	5,000/500 6,000/100			

IP68 IP69k ⟨Ex⟩ FM APPROVED IEC IECEx OIML NTEP GMP

PFA579(x)lift/PFA779lift Floor Scales
Designed for Hygienic Demands

Excellent metrology combined with high reliability and easy handling makes these platforms ideal for sanitary situations. Easy-raise lift decks allow quick cleaning around and beneath the platform, meeting your demands for hygiene as well as accuracy.

▶ **www.mt.com/PFA579lift**
▶ **www.mt.com/PFA779lift**

For optimum corrosion prevention, the entire platform is made out of high-grade stainless steel, type AISI304. The surface of the load plate can be optionally improved to a roughness of <1μm. For more aggressive environments, the platform material can be switched to AISI316 stainless steel.

Hygienic Details
The PFA779lift has no hidden crevices and is designed to withstand the most thorough cleaning.

Sophisticated Design
All hinges and moving parts are sealed with special washers. In the design of PFA779lift, load cell cables are laid in the hermetically sealed section tubes for added protection.

One-Handed Operation
Lifting the deck for cleaning requires a minimum amount of strength and uses just one hand while the operator stands next to the platform.

PFA579(x)lift/PFA779lift Platforms
Robust Design

Platform Size	Maximum Capacity			
	300 kg	600 kg	1,500 kg	3,000 kg
DS 1,000 x 1,000 mm	•	•	•	
D 1,250 x 1,000 mm	•	•	•	•
E 1,500 x 1,250 mm	•	•	•	•
ES 1,500 x 1,500 mm	•	•	•	•
Free Sizes				
FL 800 x 800 – 1,000 x 1,000 mm	•	•	•	
FM 1,000 x 1,000 – 1,500 x 1,500 mm	•	•	•	•
Approvable Readability	50 g / 100 g	100 g / 200 g	200 g / 500 g	500 g / 1,000 g
Recommended Readability (min.)	10 g	20 g	50 g	100 g
Approvable Resolution	2 x 3,000e multi range, 3 x 3,000e multi range, 2 x 3,000e multi interval, 1 x 6,000e single range			
Recommended Resolution (max.)	30,000d			
More Information	www.mt.com/PFA579lift			

IP68 IP65 Ex IEC IECEx OIML GMP

PFA575(x)/PFA579(x) Floor Scales
Rugged for Durable, Reliable Weighing

Our rugged floor platforms are a reliable partner for your weighing applications. Mounted directly on adjustable feet, these platforms can be placed on the floor or installed into prepared pit frames. A wide range of options and accessories results in a highly flexible, versatile product range that fits your requirements.

▶ **www.mt.com/PFA579x**
▶ **www.mt.com/PFA575**

The PFA57_ platform series is designed for harsh industrial daily work. High-grade materials and state-of-the-art manufacturing processes makes the various platforms reliable for many applications. For special requirements beyond our versatile portfolio, please contact your local METTLER TOLEDO market organization. We can customize specialized platforms according to your needs.

Quick Installation and Easy Maintenance
A movable deck plate, quick pit and pit frame makes this scale suitable for and easy to integrate into many types of industrial environments.

Adaptable to Your Needs
Change the size, capacity, resolution, material or surface structure to meet your individual application needs.

Reliable and Robust
The rocker-foot design is self-aligning and self-centering. It balances side shocks and transmits force vertically into load cell, promoting accuracy and durability.

PFA575(x)/PFA579(x) Platforms
Robust Design

Platform Size	Maximum Capacity			
	300 kg	**600 kg**	**1,500 kg**	**3,000 kg**
DS 1,000 x 1,000 mm	•	•	•	
D 1,250 x 1,000 mm	•	•	•	•
E 1,500 x 1,250 mm	•	•	•	•
ES 1,500 x 1,500 mm	•	•	•	•
G 2,000 x 1,500 mm	•	•	•	•
Free Sizes				
FL 700 x 400 – 1,000 x 1,000 mm	•	•	•	
FM 1,000 x 1,000 – 1,500 x 1,500 mm	•	•	•	•
FH 1,500 x 1,500 – 2,000 x 1,500 mm	•	•	•	•
Approvable Readability	50 g / 100 g	100 g / 200 g	200 g / 500 g	500 g / 1,000 g
Recommended Readability (min.)	10 g	20 g	50 g	100 g
Approvable Resolution (optional)	2 x 3,000e multi range, 3 x 3,000e multi range, 2 x 3,000e multi interval, 1 x 6,000e single range			
Recommended Resolution (max.)	30,000d			
More Information	**www.mt.com/PFA579x**			

IP68 **IP65** 〈Ex〉 **IEC** **IECEx** OIML **GMP**

PFA584(x)/PFA589(x) Floor Scales
Globally Configurable Solutions

We know the needs of every industry are different, which is why the PFA5 is not a one-size-fits-all solution. We have taken the pain out of the floor scale configuration process by creating an easy-to-order, globally standardized set of components that can easily be mixed-and-matched to formulate your ideal scale.

▶ **www.mt.com/PFA584**
▶ **www.mt.com/PFA589**

Significantly ease the ordering and scale up process with flexible customization and expert METTLER TOLEDO consultancy. It's easy to see why this solution is ideal for multinational companies, because it eliminates the need to order different configurations country-by-country.

Accurate Out-of-the-Box
By storing the factory calibration values within the scale, you get out-of-the-box accuracy and easy setup.
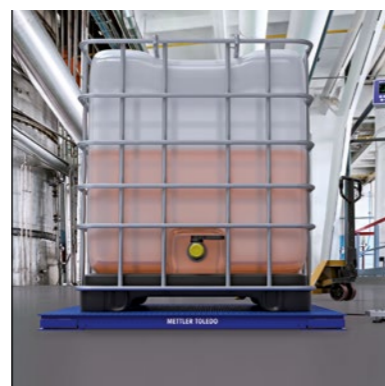
Faster Scale-Up
The ability to mix-and-match from a set of globally approved components significantly eases the ordering and scale-up process.

Global Approvals for Consistency
Metrology: OIML, NTEP, CPA Wireless: FCC, CE/RED, SRRC Safety: UN38.3, IEC/EN61010, Ex: IECEx, ATEX, FM approved for Hazardous Areas Zone 1/21, 2/22 and Div 1/ Div 2

Premium Components with Global Approvals
Mix and Match Your Ideal Configuration

Model		PFA584	PFA589
Platform Material	Mild steel powder coated/painted, blue	•	
	Stainless steel AISI304		•
	Stainless steel AISI316L		•
Top Deck Plate	Smooth		•
	Pattern	•	
Sizes		From 0.8 x 0.8 m to 2.0 x 2.0 m	
Capacities		From 300 kg to 12,000 kg	
Compliance	Metrology	OIML Class III, NTEP Class III, CPA Class III	
	EMC	10 V/m	
Hazardous Area Approvals	ATEX	No	3G / 3D or 2G / 2D
	IECEx	No	Gb / Db or Gc /Dc
	FM US	NI/I, II, III/2/ABCDFG/T6 Ta=55 °C	
	FM Canada	NI/I, II/2/ABCDFG/T6 Ta=55 °C / DIP/III/2/T6 ta=55 °C	
Load Cell		SLB415 / 0745A, IP68/IP69K	
Scale Interfaces		Analog, SICSPro, Cable-Free	

IP68 IP69k

BFA231/BFA236 Floor Scales
Simple, Reliable Weighing Performance

These scales' rocker-foot load-cell suspension enables reliable basic-weighing accuracy in dry and wet environments. Simple designs in stainless or mild steel use easy-loading ramps and above-ground installation.

▶ **www.mt.com/BFA231-236**

Rocker-foot suspension is self-aligning and self-centering. It balances side shocks and transmits force vertically into the load cell. Because only vertical forces are transmitted, it eliminates side load and bump impact for better accuracy and longevity in industrial environments. The ramp configuration allows drive-on or drive-through weighing.
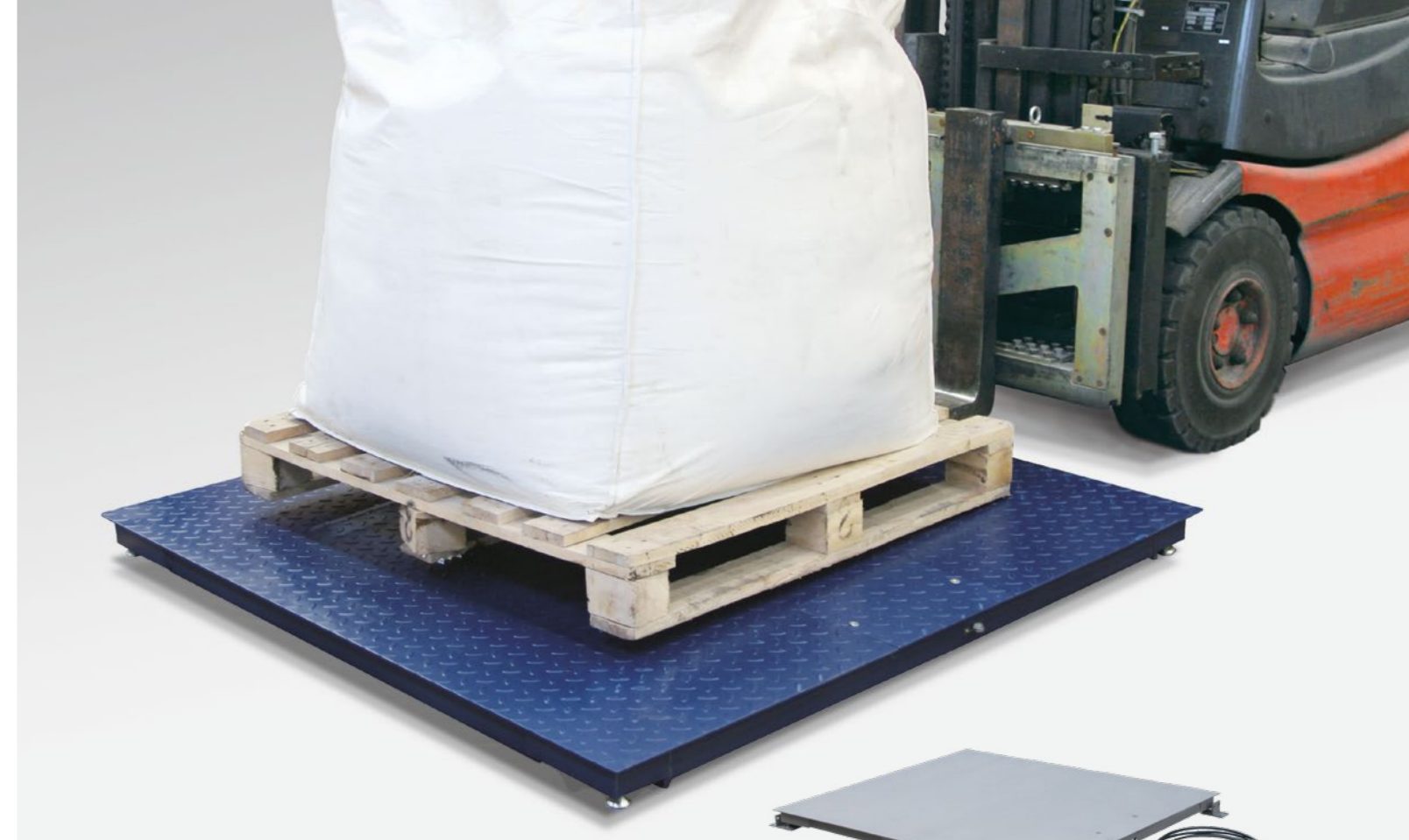
Quick Start-Up
These scale indicators and platforms are connected and calibrated in our plant so they are ready to commission and operate when they reach yours.

Easy, Flexible Installation
The rocker foot can be installed with or without anchor plate to allow material handling with or without side load.

Increase operation speed
The simple and convenient menu configuration and intuitive setup makes the BFA231/BFA236 easy to use. It requires minimal operator training and measurably improves production efficiency.

BFA231 and BFA236
Basic and Reliable Weighing

Display	40 mm 7 digits LCD display with backlighting	
Material	Scale indicator housing: painted mild steel or stainless steel depending on platform selection	
Power Supply	AC: 85–264VAC; 50Hz–60Hz	
Data Interfaces	RS232	
	Maximum Capacity	
Platform Size	**1,500 kg**	**3,000 kg**
E 1,500 x 1,250 mm	•	•
ES 1,500 x 1,500 mm	•	•
Approvable Readability	500 g	1,000 g
Recommended Readability (min.)	200 g	200 g
Approvable Resolution	OIML Class III, 3,000e	
Recommended Resolution (max.)	15,000d	
More Information	**www.mt.com/BFA231-236**	

OIML IP54 IP67
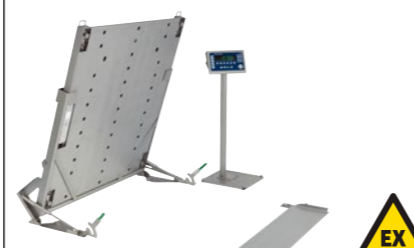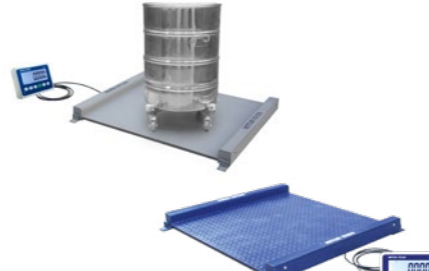
Low-Profile, Lift and Mobile Scales
Easy Loading, Lifting, Moving and Cleaning

Our low profile weighing platforms are designed for easy loading and cleaning in a space-saving construction with no pit required. They offer reliable weighing performance in dry, wet/wash-down and hygienic environments depending on platform structures, materials and finishes.

▸ **www.mt.com/PUA579**

	PUA579(x)/PUA574	PUA579(x)lift	PUA579(x)mobile	BUA231/BUA236
	Low profile for your dry, wet, hygienic or hazardous environment. Easy loading.	Liftable low profile for wet, hygienic or hazardous environments. Easy loading and cleaning.	Movable low profile for dry, wet or hazardous environments. Easy loading and cleaning.	Stainless and mild steel low profile fit for dry areas. Easy loading and cleaning.
Applications	• Basic and precision weighing • Filling and formulation • Bulk material handling	• Filling and formulation • Bulk material handling • Wet and hygienic material weighing	• Filling and formulation • Bulk material handling • Movable weighing	• Basic weighing • Bulk material handling • Inventory control
Accuracy	★★★☆ Reliable weighing; improved weighing consistency	★★☆☆ Reliable weighing; improved weighing consistency	★★★☆ Reliable weighing	★☆☆☆ Good weighing performance
Versatility	★★★☆ 3 capacities, 2 sizes, optional free sizes	★★★☆ 3 capacities, 2 sizes, optional free sizes	★★★☆ 3 capacities, 2 sizes, optional free sizes	★☆☆☆ 2 capacities, 2 sizes
Process Integration	★★★☆ Analog or digital interface for fast system integration	★★★☆ Analog or digital interface for fast system integration	★★★☆ Analog or digital interface for fast system integration	★☆☆☆ RS23 system integration via scale indicator
Compliance Support	★★★★ Hygienic design; GMP; hazardous area approved.	★★★★ Hazardous area approved.	★★★★ Hygienic design; hazardous area approved.	☆☆☆☆ –
Resolution	Approvable: 2 or 3 x 3,000e multi range, 2 x 3,000e multi interval, 6,000e OIML Class III Recommended (max.): 30,000d	Approvable: 2 or 3 x 3,000e multi range, 2 x 3,000e multi interval, 6,000e OIML Class III; Recommended (max.): 30,000d	Approvable: 2 x 3,000e multi range, OIML Class III Recommended (max.): 30,000d	Approvable: 3,000e, OIML Class III; Recommended (max.): 15,000d
Capacity Range	300 kg up to 1,500 kg	300 kg up to 1,500 kg	300 kg up to 1,500 kg	600 kg up to 1,500 kg
Platform Size (mm)	850 x 850 up to 1,500 x 1,500	850 x 850 up to 1,500 x 1,250	850 x 850 up to 1,500 x 1,250	1,000 x 1,000 up to 1,250 x 1,250
Ingress Protection	IP68 / IP65	IP68	IP68	IP67
Weighing Platform Material	Stainless steel AISI 304 or 316 option / carbon steel	Stainless steel AISI 304 or 316 option	Stainless steel AISI 304	Stainless steel AISI 304 / carbon steel
Load Cell	Stainless steel, hermetically sealed, strain gage	Stainless steel, hermetically sealed, strain gage	Stainless steel, hermetically sealed, strain gage	Alloy, hermetically sealed, strain gage
Approvals, other certificates	OIML, GMP	OIML, GMP	OIML, GMP	OIML
Special Features	Many options	Lift deck	Mobile	Platform and scale indicator combined
Hazardous Area Approvals ⚠EX	ATEX (Zone 1/21 or Zone 2/22)	ATEX (Zone 1/21 or Zone 2/22)	ATEX (Zone 1/21 or Zone 2/22)	n/a
More Information	www.mt.com/PUA579 / www.mt.com/PUA574	www.mt.com/PUA579	www.mt.com/PUA579	www.mt.com/BUA231-236

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

# PUA574/PUA579(x) Low-Profile Scales
Easy Loading and Space Saving

When passage height is low and simple cleaning is required, our low-profile platform is the easy answer. PUA57_ range platforms offer versatility through different materials, surface treatments and a wide range of sizes and capacities to fit your application.

▶ **www.mt.com/PUA579x**
▶ **www.mt.com/PUA574**

PUA574/579(x) low-profile scales offer the highest flexibility for individual needs by allowing you to configure and adapt the platforms to your individual application.
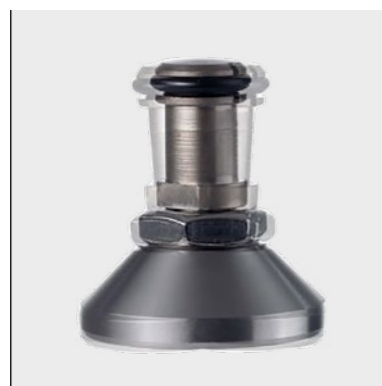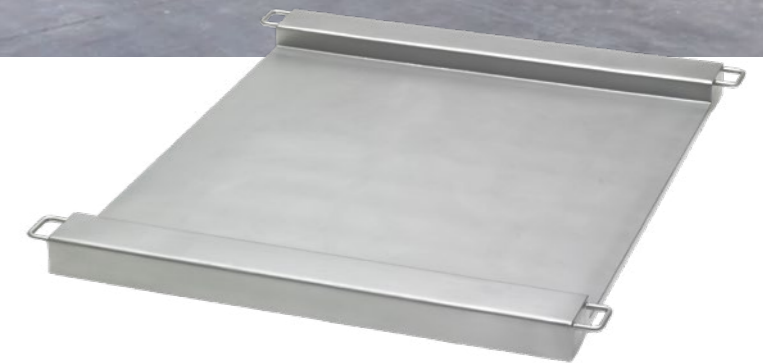
Reliable, Durable Accuracy
Self-aligning and self-centering rocker-foot suspension balances side shocks and transmits force vertically into the load cell to eliminate side load and bump impact.

Easy Loading
The 35mm-height platform using one or two short ramps requires a minimum of effort to load.

Effective, Efficient Cleaning
The scale's low-profile is characterized by an easy-to-clean, GMP-compliant design to prevent potential contamination sources.

PUA574/PUA579(x) Low-Profile Platforms
Ergonomic Designs

	Maximum Capacity		
Platform Size	**300 kg**	**600 kg**	**1,500 kg**
CS 850 x 850 mm	•	•	
E 1,500 x 1,250 mm; height: 35 mm	•	•	•
Free Size			
Height 35 mm / 45 mm	750 x 400…1,500 x 1,500 (length x inner width)		
Approvable Readability	50 g / 100 g	100 g / 200 g	200 g / 500 g
Recommended Readability (min.)	10 g	20 g	50 g
Approvable Resolution	2 x 3,000e multi range, 3 x 3,000e multi range, 2 x 3,000e multi interval, 1 x 6,000e single range, up to 30,000d		
Recommended Resolution (max.)	30,000d		
More Information	www.mt.com/PUA574 / www.mt.com/PUA579x		

IP68 IP65 Ex IEC IECEx OIML GMP

PUA579(x)lift Low-Profile Scales
Excellent Hygiene and Thorough Cleaning

Is systematic cleaning a key factor in your manufacturing process? You can move the PUA579(x) platform into an upright position for thorough cleaning with only a few hand movements and a minimum amount of physical effort to solve your cleaning and safety issues.

▶ **www.mt.com/PUA579**

PUA579(x)lift reduces downtime required for cleaning, increasing productivity. Its ergonomic design helps to guarantee the safety of your staff through an ergonomic, efficient design.

Thorough Cleaning
The open platform can be easily moved to an upright position for cleaning. A detachable ramp and sealed parts add to cleaning ease.

Easy Operation
Gas springs make the platform easy to open and close.

Operator Safety
Two-handed operation of the lifting device from a side orientation creates maximum operator safety.

PUA579(x) Low-Profile Platforms with Lifting Device
Ergonomic Designs

	Maximum Capacity		
Platform Size	**300 kg**	**600 kg**	**1,500 kg**
CS 850 x 850 mm; height: 35 mm	•	•	
E 1,500 x 1,250 mm; height: 35 mm	•	•	•
Free Size			
Height: 35 mm	750 x 400…1,500 x 1,250 (length x inner width)		
Approvable Readability	50 g / 100 g	100 g / 200 g	200 g / 500 g
Recommended Readability (min.)	10 g	20 g	50 g
Approvable Resolution	2 x 3,000e multi range, 3 x 3,000e multi range, 2 x 3,000e multi interval, 1 x 6,000e single range		
Recommended Resolution (max.)	30,000d		
More Information	www.mt.com/PUA579		

IP68 IP65 ⟨Ex⟩ IEC IECEx OIML GMP

PUA579(x) Mobile Low-Profile Scales
Maximum Flexibility, Mobile Use

Our mobile low-profile scales allow weighing throughout your facility to improve productivity. These easy-to-move scales also enhance your ability to clean your workspace, saving effort and optimizing floor use.

▶ **www.mt.com/PUA579**

The PUA579(x) is a five-star weighing platform. It optimizes space-use in your facility because it can be pushed aside whenever it is not needed. Easy mobility also offers cost- and inventory-reduction because it can be used in different locations.

Safety First
Safe two-hand operation avoids user risks. Wheels are set into drive position manually for secure weighing in place.

Always in the Right Position
The installation frame helps the operator to always place the platform in the same way, offering an excellent solution for repetitive weighing processes.

Move It All at Once
The scale indicator can be connected directly to the platform, allowing you to move the whole weighing system to a new location.

PUA579(x) Low-Profile Platforms for Mobile Use
Ergonomic Designs

Platform Size	Maximum Capacity		
	300 kg	**600 kg**	**1,500 kg**
CS 850 x 850 mm; height: 35 mm	•	•	
E 1,500 x 1,250 mm; height: 35 mm	•	•	
Free Size			
Height: 35 mm	750 x 400…1,500 x 1,250 (length x inner width)		
Approvable Readability	50 g / 100 g	100 g / 200 g	200 g / 500 g
Recommended Readability (min.)	10 g	20 g	50 g
Approvable Resolution	2 x 3,000e multi range		
Recommended Resolution (max.)	30,000d		
More Information	**www.mt.com/PUA579**		

IP68 **IP65** Ex IEC IECEx OIML GMP

BUA231/BUA236 Low-Profile Scales
Simple and Easy to Use

These scales' rocker-foot load-cell suspension enables reliable basic weighing in dry and wet environments. A simple design in stainless or mild steel uses easy-loading ramps and above-ground installation.

▶ **www.mt.com/BUA231-236**

Self-aligning, self-centering rocker-foot suspension balances side shocks and transmits force vertically into the load cell, eliminating side load and bump impact. Scale height allows use of shorter ramps for better space use while still allowing drive-on / drive-through weighing.

Quick Commissioning and Start-Up
Scale indicator and platform are connected and calibrated in our plant so they are ready to commission and use in yours.

Easy, Flexible Installation
Wheels in the fork end and a handle on the frame make the platform fit for flexible use. Rocker-foot suspension ensures accurate and reliable weighing.

One Scale for Many Applications
The versatile IND231/236 scale indicator includes applications for simple weighing, check-weighing, counting and accumulation.

BUA231 and BUA236
Designed for Basic and Reliable Weighing

Display	40 mm 7-digit LCD display with backlighting	
Material	Scale indicator housing: painted mild steel or stainless steel depending on platform selection	
Power Supply	AC: 85 – 264VAC; 50Hz – 60Hz	
Data Interfaces	RS232	
	Maximum Capacity	
Platform Size	**600 kg**	**1,500 kg**
DS 1,000 x 1,000 mm	•	•
EES 1,250 x 1,250 mm	•	•
Approvable Readability	200 g	500 g
Recommended Readability (min.)	50 g	100 g
Approvable Resolution	OIML Class III, 3,000e	
Recommended Resolution (max.)	15,000d	
More Information	**www.mt.com/BUA231-236**	

OIML IP54 IP67

No Cables... No Troubles

Cable-Free Floor Scale
Complete Freedom from Cables

From day-one installation to moving throughout your production line, the Cable-Free floor scale is designed with simplicity in mind. Set the scale exactly where you need it, weigh with pre-calibrated accuracy and benefit from 100 percent elimination of cable headaches. Our Cable-Free floor scale offers you the freedom to upgrade your facility for maximum flexibility.

▶ **www.mt.com/ind-cable-free-floor-scale**

The Cable-Free floor scale eliminates home run cable, offers a two-year battery life without charging, and a digital platform with factory calibration to break away from traditional floor scales that tie you down.

Place and Weigh
Cable-free and pre-calibrated, this floor scale allows you to place and weigh same-day.

Flexibility to Move Anywhere
The Cable-Free floor scale offers you the flexibility to place your scale and accessories exactly where you need them.

Support for Lean Manufacturing
The Cable-Free floor scale is not tied down like a traditional floor scale, making it ideal for environments requiring lean manufacturing.

Cable-Free is Ideal for:

- Hygienically sensitive environments requiring frequent cleaning
- High-traffic areas where tripping hazards should be avoided
- Facilities with reduced manufacturing floor space, especially clean rooms
- Reducing construction on site for easy installation
- Facilities with frequent station changes

Global Compliance
- Metrology: OIML, NTEP, CPA
- Wireless: FCC, CE/RED, SRRC
- EMC: FCC, CE
- Bluetooth: SIG
- Safety: UN38.3/Battery transportation, IEC/EN61010, UL

Scales for Special Applications

5

Our Solutions
For Your Production

Pallet Scales and Pallet Truck Scales
Efficient, Mobile Pallet Weighing

METTLER TOLEDO's easy-to-clean mobile weighing solutions are designed to integrate easily into your processes for more efficient filling, packing, formulation, inventory, load management and counting to raise throughput, productivity and process flexibility.

▶ **www.mt.com/ind-pallet-truck-scales**

	PTA459(x) and PTA455 Reliable, easy-to-move weighing accuracy.	**PJA334/PJA434/PJA439** Improved flexibility. Easy to lift and move.	**BTA231** Basic, dry-environment weighing. Easy to lift and move.
Applications	• Movable weighing • Filling and formulation • Material handling on pallet	• Filling and formulation • Material handling on pallet • Load management and inventory control	• Basic mobile weighing • Material handling on pallet • Load management and inventory control
Accuracy	★★★☆ Reliable weighing; improved weighing consistency	★★★☆ Reliable weighing; Good weighing consistency	★☆☆☆ Good weighing performance
Versatility	★★★☆ 4 capacities, 1 size, optional free size	★★★★ 6 capacities, 6 size	★☆☆☆ 1 capacities, 2 size
Process Integration	★★★☆ Analog or digital interface for fast system integration	★★☆☆ RS232 system integration offline, Wifi system integration online	★☆☆☆ RS232 system integration offline
Compliance Support	★★☆☆ Designed for easy cleaning; GMP certified; hazardous approved.	★☆☆☆ Hazardous-area approved.	☆☆☆☆ –
Resolution	Approvable: 2 or 3 x 3,000e multi range, 2 x 3,000e multi interval, 6,000e OIML Class III Recommended (max.): 30,000d	Approvable: 2 x 3000e muti range, OIML III Recommended (max): 10,000d	Division: 2,000d
Capacity Range	300 kg up to 3,000 kg	600 kg up to 3,000 kg	2,000 kg
Platform Size (mm x mm)	Space between 2 forks 600 x 1,060	Fork length 1,150/950/1,400; Fork outside width 550/690	Fork length 1,220; Fork outside width 555/690
Ingress Protection	IP68 / IP65	IP65	IP54
Weighing Platform Material	Stainless steel AISI 304 or 316 option / carbon steel galvanized	Stainless steel AISI 304 / carbon steel	Carbon steel
Load Cell	Stainless steel, hermetically sealed, strain gage	Stainless steel, hermetically sealed, strain gage	Alloy, hermetically sealed, strain gage
Approvals, other certificates	OIML, GMP	OIML	
Special Features	Movable	Mobile (platform and scale indicator combined)	Mobile (platform and scale indicator combined)
Hazardous Area Approvals	ATEX (Zone 1/21 or Zone 2/22)	ATEX (Zone 1/21)	n/a
More Information	**www.mt.com/PTA455 / www.mt.com/PTA459**	**www.mt.com/PJA**	**www.mt.com/BTA231**

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

PTA455/PTA459(x) Pallet Scales
Movable Weighing with Easy Loading

PTA455/PTA459 – the pallet scales for goods shipping and receiving, manufacturing and packaging. These rugged, reliable pallet scales are made of hot-galvanized mild steel or stainless steel. A wide range of options and accessories help these versatile scales to meet your requirements. Let us find the right solution for your application.

▸ **www.mt.com/PTA455**
▸ **www.mt.com/PTA459**

PTA pallet scales come with wheels and a handle so you can weigh wherever it is most convenient for you (product option / accessory). PTA455 comes in galvanized mild steel for dry and light-wet applications, while the PTA459(x) stainless-steel version allows use in wet applications in both safe and hazardous areas.

**Open Design
for Efficient Cleaning**
The frame design with its open tubes makes it easy for you to clean and flush out.

Adaptable to Your Needs
A variety of options and accessories make the platform highly flexible. Choose different materials, surface treatments, wheels, handles and resolutions.

EU Standard Pallets and Beyond
PTA scales are designed to fit the most common EU pallet size. Other dimensions or a tailored mechanical design are available on request.

PTA455/PTA459(x) Pallet Platforms
Ergonomic Designs

Platform Size	Maximum Capacity			
	300 kg	**600 kg**	**1,500 kg**	**3,000 kg**
1 200 x 600 mm	•	•	•	•
Free Sizes				
500 x 450 – 1 260 x 1 000 mm	•	•	•	•
Approvable Readability	50 g / 100 g	100 g / 200 g	500 g / 1,500 g	500 g / 1,000 g
Recommended Readability (min.)	10 g	20 g	50 g	100 g
Approvable Resolution	2 x 3,000e multi range, 3 x 3,000e multi range, 2 x 3,000e multi interval, 1 x 6,000e single range			
Recommended Resolution (max.)	30,000d			
More Information	www.mt.com/PTA455 / www.mt.com/PTA459			

IP68 IP65 Ex OIML GMP

PJA434/PJA439 Pallet Truck Scales
For High-Productivity Mobile Weighing

Our pallet truck scales are designed to integrate easily into filling, inventory, load management or counting applications anywhere in your workplace. Basic mobile weighing can help increase your throughput and process flexibility.

▶ **www.mt.com/PJA**

Four load cells embedded into the forks of a standard pallet truck make this mobile solution a fully functional scale capable of lifting, weighing, and moving items anywhere in your work area. Unique FlexBolt load-cell fixation eliminates the potential negative influence of stress on the chassis caused by the load, ensuring superb accuracy and repeatability.

Boost Time and Cost Savings
Weigh and move at the same time – no independent material load-in time added.

Fit to Your Processes
Different wheel options help you work anywhere on any floor condition. The ICS4x9 scale indicator lets you perform multiple weighing functions.

Save Space and Clean Freely
Because it requires no pit construction, your workspace retains maximum flexibility. Easy movement also means easy floor cleaning!

Designed for Seamless Integration
PJA434/PJA439 Pallet Truck Scales

Display	LCD liquid crystal graphical display with backlighting				
Material	Scale indicator: Stainless steel 1.4301, AISI 304 Platform: Painted mild steel, stainless steel				
Power Supply	Battery 12V / 7Ah				
Data Interfaces	RS232				
	Maximum Capacity				
Platform Size	**600 kg**	**1,000 kg**	**1,500 kg**	**2,000 kg**	**2,500 kg**
PJA434/PJA439 Painted steel 1,150/950/1,400 x 550/690 fork length x over-fork width	•	•	•	•	•
PJA434/PJA439 Stainless steel 1,150/950/1,400 x 550/690 fork length x over-fork width	•	•	•	•	•
Approvable Readability (optional)	0.2 kg	n/a	0.2/0.5 kg	0.5/1 kg	0.5/1 kg
Recommended Readability (min.)	0.1/0.2 kg	0.1 kg	0.2/0.5 kg	0.5/1 kg	0.5/1 kg
Approvable Resolution (optional)	OIML Class III, 2x3,000e Multi-range				
Recommended Resolution (max.)	10,000d				
More Information	**www.mt.com/PJA**				

BTA231 Pallet Truck Scales
Mobile Weighing for Improved Productivity

Our pallet truck scales are designed to integrate easily into filling, inventory, load management or counting applications anywhere in your workplace. Basic mobile weighing can help increase your throughput and process flexibility.

▶ **www.mt.com/BTA231**

A 40 mm-high, 7-digit LCD display with backlight is easy to read in all lighting conditions. Four load cells embedded into the forks of a standard pallet truck make this mobile solution a fully functional scale capable of lifting, weighing, and moving items anywhere in your work area.

Boost Cost and Time Savings
Thanks to the ergonomic, full-function handle, you can move and weigh at the same time – no extra material loading time for an independent weighing application is added.

Fit to Your Rugged Processes
High quality wheels in the truck design allow easy movement over uneven surfaces.

Save Space and Clean Freely
Because it requires no pit construction, your workspace retains maximum flexibility. Easy movement also means easy floor cleaning!

BTA231 Pallet Truck Scale
Designed for Seamless Integration

Display	40 mm 7-digit LCD display with backlighting
Material	Scale indicator housing: painted mild steel; platform: painted mild steel
Power Supply	Battery 6V / 10Ah
Data Interfaces	No
Maximum Capacity	2,000 kg
Platform Size	1,220 x 555/690 mm fork length x over-fork width
Approvable Readability	None approved
Recommended Readability (min.)	1 kg
Approvable Resolution	None approved
Recommended Resolution (max.)	2,000d
More Information	**www.mt.com/BTA231**

IP65

TLF820/VFS120 Forklift Scales
Unbeatably Robust

Designed for tough industrial environments, METTLER TOLEDO forklift scales set the standard for reliability, safety and accuracy in heavy-use applications. Whether your business is freight logistics, shipping or warehousing, on-board weighing can significantly speed up your processes.

▶ **www.mt.com/forkliftscales**

Cut maintenance costs in half with a forklift scale that requires no shimming and infrequent calibration thanks to patented three-point suspension.

Easy, Seamless Integration
Weight data is transmitted seamlessly from an embedded smart PC. Preconfigured workflows offer step-by-step guidance, reducing effort and humanerror.

Long Life, Doesn't Break Down
The heavy-use scale carriage enables you to keep working when other scales break down. Minimal maintenance and a long lifespan ensure low cost of ownership.
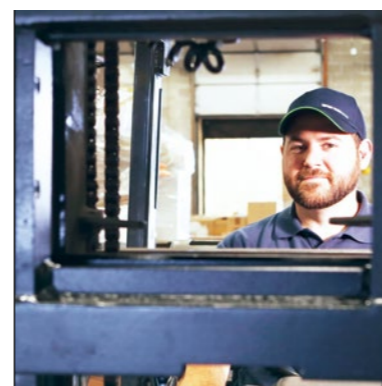
Reduce Risk of Accidents
The scale has a high-visibility window, making it easy for the forklift operator to see loads, position forks for lifting and avoid accidents.

Onboard Pallet Weighing
VFS120/TLF820 Forklift Scales

Our forklift scales can be installed on any Class II or III forklift truck and are an ISO-approved accessory compatible with any other ISO-approved accessories.

	VFS120 – Basic Connectivity	**TLF820** – Advanced Connectivity
Description	Forklift weighing for simple applications with limited data integration.	Forklift weighing with advanced connectivity and data integration.
Data Interface	IND236 for forklifts	Smart PC
Data Interface Connection	Cable	Bluetooth
Data Transmission	Bluetooth (optional)	Bluetooth, WiFi
Data Management Requirements		
Simple Weighing with Manual Processing	•	
Automatic Data Transfer to Third Party Devices		•
Fully Integrated Data Management via Smart PC		•
Full Operator Guidance Displayed on Smart PC		•
Onboard Data Merging		•
Technical Specifications		
Capacity	1,500 / 2,000 / 3,000 / 5,000 kg	3,000 / 5,000 / 7,500 / 10,000 lbs
Resolution	1,000 ~ 1,500e	
Stable Weighing Time	1 – 2 seconds	
Angular Compensation Range	Pitch ±5°, Roll ±3°	
Overload	Safe overload: 150% / limited overload: 300%	
Capacity Loss	~15% of forklift capacity	
IP Protection	IP65 for electric parts	
Power	12~36 VDC by forklift battery (wired) or 9 VDC battery (wireless)	
More Information	**www.mt.com/VFS120**	**www.mt.com/TLF820**

RPA345 Economic Paint Scale
Simplified and Flexible Paint Mixing

The RPA345 from METTLER TOLEDO is an economical, flexible paint mixing scale designed for the automotive refinish market. The high-resolution display, tilt-enabled screen and simple connectivity allow for more efficient and easy operation in body shops. Built-in formulation software with guided steps simplifies processing and ensures high quality output every time.

▶ **www.mt.com/ind-paint-mixing-scale**

Your Formulas at Your Fingertips
Leverage the Bluetooth module and send a formula or job from your mobile device directly to the scale. This eliminates cumbersome paper recipes and speeds up the time required to obtain the formula so that you can simply start weighing.

Boost Productivity
A large high-resolution graphical display enables operators to read measurements and prompts effortlessly, which makes the process easy to follow and reduces mixing time and errors.

Increase Mix Quality
RPA345 manages formulas and jobs automatically, so operators can focus on mixing. Automatic recalculation enables quick adjustment to complete accurate batches and prevent costly waste.

Maximize User Ergonomics
The easily adjustable screen maximizes ergonomic operation. Duplicate buttons for zero and tare simplify right- and left-handed use so that all users have a clear view of the screen during the process.

RPA345 Technical Specifications

Metrological Data

Capacity	7500 g / 999.95 g
Readability	0.1 g / 0.05 g
Tare Range	-7500 g
Ambient Temperature Range	0 ~ 40 / 32 ~ 104
Power-on Zero Range	± 750 g

Dimensions / Weight

Weighing Platter	234 mm
Housing (WxDxH)	234 x 309 x 365 mm
Scale Net Weight	Approximately 3.3 kg

Display / Language

Display (Keyboard)	Mono LCD graphic display / Membrane keypad
Language	English, Chinese, Portuguese

Power Supply

Power Supply	USB 2.0 or higher or AC adapter PSAIO5R-O5OQL6
Input Voltage Power Consumption	5 VDC / 5 W

Interface Connectivity

Connectivity Options	USB or Bluetooth

IP / Overvoltage / Pollution

IP Protection	IP40 in accordance with EN 60529/IEC 60529
Overvoltage Degree	IP40 in accordance with EN 60529/IEC 60529
Pollution Degree	IP40 in accordance with EN 60529/IEC 60529

RPA455 Smart Paint Scale
For Consistent Paint Mix Quality

The RPA455 is a family of smart paint scales are designed for the automotive refinish market. This solution brings a new level of comfort and functionality into the automotive body shop. Its intuitive and easy-to-use interface helps to increase productivity and reduce processing time, and it offers USB and Ethernet compatibility for flexible and fast connectivity.

▶ **www.mt.com/ind-paint-mixing-scale**

Integrated Formula Management – 4 Simple Steps to Mix Your Paints:

Step 1	Step 2	Step 3	Step 4

Select a formula, enter the amount

Start mixing the formula

Mix in each ingredient

Finish your mix
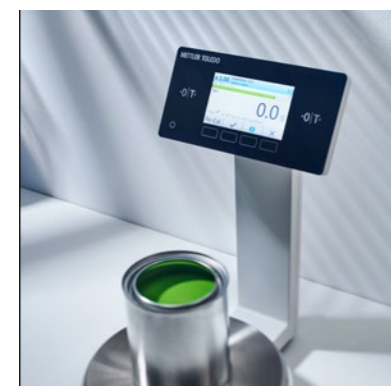
Intuitive User Interface
The user-friendly interface offers a bigger display with TFT color touchscreen for easy viewing of mix information and alerts. This allows customers to manage formulas with guided processes, eliminating potential errors.

Modular and Adaptable
Modular design provides complete flexibility to build the ideal configuration. Select required components to benefit from flexible placement, resulting in reduced cost to setup solutions.

Flexible Connectivity
The standard USB communication port can easily be upgraded to Ethernet, enabling communication to the network or cloud server for painless data transfer.

RPA455 Technical Specifications

Metrological Data

Capacity	7500 g / 999.95 g
Readability	0.1 g / 0.05 g
Tare Range	-7500 g
Ambient Temperature Range	0 ~ 40 / 32 ~ 104
Power-on Zero Range	± 750 g

Dimensions / Weight

Weighing Platter	234 mm
Housing (WxDxH)	234 x 309 x 365 mm
Scale Net Weight	Approximately 3.3 kg

Display / Language

Display (Keyboard)	Colorful TFT LCD Capacitive Touch Screen
Language	English, Chinese, German, French, Spanish, Portuguese

Power Supply

Power Supply	USB 2.0 or higher or AC adapter PSAIO5R-O5OQL6
Input Voltage / Power Consumption	5 VDC / 5 W
USB Power and Data Barrier	Energy limiting unit included

Interface Connection

USB Standard and Ethernet optional

IP / Overvoltage / Pollution

IP Protection	IP40 in accordance with EN 60529/IEC 60529
Overvoltage Degree	IP40 in accordance with EN 60529/IEC 60529
Pollution Degree	IP40 in accordance with EN 60529/IEC 60529

Models / Application Area / Hazardous Area Approvals

RPA455	Non-Hazardous Area		
RPA455x	EX Zone 1 / Class I, Div. 1	EICEx	Ex ib IIB T4 Gb
		ATEX	II 2G Ex ib IIB T4 Gb
		FM (USA / Canada)	IS CL I, Div 1, GP C, D T4
			CL I, Zone 1, AEx / Ex ib IIB T4 Gb
RPA455xx	Ex Zone 2	IECEx	Ex ic IIB T4 Gc
		ATEX	II 3G Ex ic IIB T4 Gc

ADI856 HD Touchscreen System
The Right Color at Your Fingertips

With a large HD color touchscreen display, ADI856 gives you the ability to mix paint using your PC more easily than ever before. You can control the entire process from the solvent-resistant touchscreen display. The touchscreen display comes standard in an easy-clean, stainless-steel housing. ADI856 works with all standard PCs and is compatible with all paint and office-software packages.

▶ **www.mt.com/ADI856**

In the refinishing industry, obtaining the perfect color match for the job is critical. Even the smallest drop can make a difference. The ADI856 HD touch-sensitive display mirrors the information from your remote PC, allowing you to control the formulation software from the mixing room. This provides quick and accurate results.

Large HD Touchscreen Display
The 15.6" HD color display is easy to read and can be adjusted to avoid glare. The bright color display allows you to easily select the right formula for your job.

True Industrial Design
ADI856 is simple to install and works with all standard PCs. It has been developed for the ruggedness of the automotive body-shop environment.

Direct Scale Integration
Our intrinsically safe RPA455 paint scales can be connected directly to the ADI856, providing complete control of the scale and paint-mixing software.

Safe to Use
ADI856 Touch Screen Scale Monitor

The ADI856 is fully approved for use in hazardous areas classified Class I Division 1.

ADI856 Display Unit

Screen Size	15.6"
Resolution (Pixels)	1,920 x 10,080 (Full HD), 1,366 x 765, 800 x 600
Approvals	FM Class I, Division 1, Group C, D The METTLER TOLEDO ADI856 Touch Display System has been tested and certified by FM Approvals LLC for IntecPC LTD, Poynton, SK12 1 PQ, UK
Atmospheric Humidity	Max. 80%
Temperature Range	Operation: 32–110 °F (0–40 °C) Storage: 0–120 °F (-20–50 °C)
Connectivity	Local connection to METTLER TOLEDO scales BBA242 and Panda 7
Weight	20lbs (8.5 kg)

ADI856 Interface

Interface Cable	15 m
Temperature	Operation: 14 – 110 °F (-10 – 40 °C) Storage: 0 – 120 °F (-20 – 50 °C)
Atmospheric Humidity	Max. 80%
Weight	4lbs (2 Kg)

Power Supply

Operating Voltage	90VAC – 264VAC @50 – 60Hz
Power Consumption	25W typ
Power Cable	Grounding-type plug with neutral conductor

SmartShelf Shelf Scales and Scale Pads
Automated Inventory Management

Weighing sensors are the perfect tool to remotely monitor inventory levels. They can be integrated into shelves, racks, industrial vending machines or jobsite containers. All weighing electronics have digital connectivity for easy integration into your existing network, and remote computer access allows you to check stock and analyze usage trends for easy supply-chain optimization anywhere, anytime.

▶ **www.mt.com/SmartShelf**

Make Your Inventory Shelf Talk
With the direct integration of A/D converters close to the weighing point, you get stable and easy-to-use digital communication of stock levels. This simple integration ensures you never run out of stock for smoother processing and happier customers.

Track Your Valuables
Weighing is very useful for tracking all material types that cannot be dispensed or controlled in traditional ways. Vending machines offer full accountability, saving valuable assets from excessive use.

Eliminate Wait-Time
Digital communication allows you to set inventory levels, which enables automatic replenishment, keeping operations stable and reducing or eliminating wait-time for parts and components.

Reduce Picking Errors
Use SmartShelf to determine the correct extraction of parts by weight to ensure that every kit contains the correct items and quantities. This allows you to implement an error-free process.

The SmartShelf portfolio offers maximum flexibility.

Complete Shelves	Capacity	Resolution
6 Pads SmartShelf	6 x 8 kg or 6 x 25 lb	0.002 kg or 0.01 lb
4 Pads SmartShelf	4 x 20 kg or 4 x 50 lb	0.01 kg or 0.2 lb
1 Pad SmartShelf	100 kg or 250 lb	0.05 kg or 0.1 lb
Bench Scale	600 kg	0.5 kg
Floor Scale	1000 kg	0.5 kg

SmartShelf Weighing Pads	Capacity	Resolution
Weighing Pad	2 kg / 8 kg / 25 kg or 5 lb / 25 lb / 50 lb	0.001 kg / 0.005 kg / 0.01 kg or 0.002 lb / 0.01 lb / 0.02 lb
High Resolution Weighing Pad	8 kg / 15 kg or 15 lb / 30 lb	0.1 g / 0.5 g or 0.0002 lb / 0.001 lb

BC Scale Family
Perfect for Letters and Parcels

BC scales are designed to provide postal, carrier and express applications with faster processing, better accuracy and easier set-up. BC scales feature analog and digital load cells with advanced compensation and multi-interval capabilities. They are simple to set up and operate thanks to USB connectivity, an intuitive display menu and an easy-to-use boot-up wizard. The wizard facilitates initial installation by prompting for required parameters.

▸ **www.mt.com/ind-bc-scale**

The BC scale is a true global platform for postal and shipping applications. The large graphical display provides easy customization and flexibility for the scale to meet local requirements.

Courtesy of precision warehouse design

Rugged and Reliable Design

BC scales offer high durability and long life due to all-metallic frames and heavy-duty overload protection. A single scale can weigh light envelopes with high precision, while robust overload protection allows the same scale to handle the shock of heavy parcels.

The solid frame of a METTLER TOLEDO BC scale

Communications to Meet Connectivity Requirements
BC scale supports Carrier serial protocols, plug and play USB, OPOS drivers, Ethernet for cloud or server based applications and Bluetooth for wireless mobility communication.
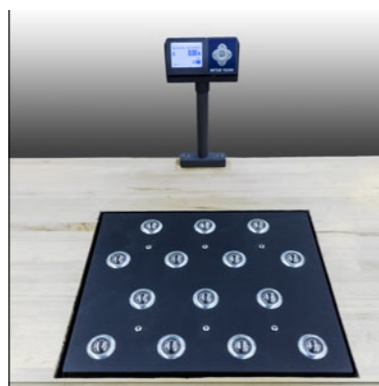
Flexible Configuration
Scales are adaptable with special capacity and increment sizes, multiple display options and special platter designs to allow faster parcel processing.

Processing Letters and Parcels in One Self-service Kiosk Scale
Kiosk scales are utilized with no display or a remote mounted display. All functions including calibration can be done through the scale communications.

BC Scales Model Overview
Optimized for Accuracy and Simplicity

METTLER TOLEDO offers a broad range of scales for postal, carrier and express environments for faster processing, better accuracy, and easier set-up.

▶ **www.mt.com/ind-bc-scale**

Robust and Flexible for Shipping and Mail Operations

A balance of performance and value through accuracy, durability, ease of use, and versatile communications.

▶ **www.mt.com/ind-bc-scale-brochure**

	BC-15U	BE-30, BC-3L	BC-6LU	BC-30U	BC-60U	BC-150U
Applications	• Basic weighing • Tare • Bulk mail counting	• Differential weighing of letters from a bin • Display weight and price		• Counting of small parts for packing stations • Product verification for packing stations • Label offset to compensate for packing lists / Label applied after final weighing		
Key Feature	Provides high resolution required for shipping via Global Posts & USPS			Superb reliability for retail stores, mail rooms, warehouse packing stations and shipping departments		
Attributes	Simple set-up and operation, high accuracy, functional durability, flexible communication, flexible configuration			Simple set-up and operation, high accuracy, functional durability, flexible communication, flexible configuration		
Capacity	30 lb / 15 kg	70 lb / 35 kg	150 lb / 60 kg	70 lb / 30 kg	150 lb / 60 kg	150 / 300 lb / 60 / 150 kg
Readability	0–15 lb x 0.1 oz 15–30 lb x 0.2 oz, or 30 x 0.01 lb	0–7 lb x 0.1 oz 7–70 lb x 0.2 oz	0–10 lb x 0.1 oz 0–70 lb x 0.2 oz 0–149 lb x 0.5 oz	0.05 lb 0.01 kg	0.05 lb 0.02 kg	0–150 x 0.05 lb 0–300 x 0.1 lb
	0–3 kg x 0.001 kg 3–15 kg x 0.005 kg	0–3 kg x 0.001 kg 3–6 kg x 0.002 kg 6–35 kg x 0.01 kg	0–15 kg x 0.005 kg 0–30 kg x 0.01 kg 0–60 kg x 0.02 kg			0–60 x 0.02 kg 0–150 x 0.05 kg
Frame	Steel plate	Die cast aluminum	Die cast aluminum	Die cast aluminum	Die cast aluminum	Tubular steel frame
Platter Construction	ABS plastic (dished), stainless steel	ABS plastic (dished), stainless steel	ABS plastic (dished), stainless steel, ball top	ABS plastic (dished), stainless steel	ABS plastic (dished), stainless steel, ball top, roller top	Stainless steel, ball top, roller top
Dimensions (Flat Top)	10.9 x 11.6 in 270 x 290 mm	11.8 x 13.8 in 300 x 350 mm	11.8 x 13.8 in 300 x 350 mm	12.3 x 13.9 in 300 x 350 mm	12.3 x 13.9 in 300 x 350 mm	16.5 x 20.5 in 400 x 500 mm 650 x 550 mm (Special) 800 x 600 mm (Special)
Approvals	EC / OIML, NTEP / MC	EC / OIML, NTEP / MC	EC / OIML, NTEP / MC	EC / OIML, NTEP / MC	EC / OIML, NTEP / MC	EC / OIML, NTEP / MC
Alibi Memory	Alibi	Alibi	Alibi	Alibi	Alibi	Alibi
Standard PC Communication	USB, RS232, virtual serial, keyboard wedge			USB, RS232, virtual serial, keyboard wedge		
Optional Communication	Bluetooth, Ethernet (as special)	Bluetooth, Ethernet	Bluetooth, Ethernet	Bluetooth, Ethernet	Bluetooth, Ethernet	Bluetooth, Ethernet
More Information	**www.mt.com/ind-bc-scale**			**www.mt.com/ind-bc-scale**		

BC-60U: Rotate parcels easily with BC ball top platter to allow faster scanning of barcodes.

BC-150U: BC roller top scale with conveyor Drop-in kit for easy mounting in a roller conveyor.

Pre-fabricated stainless steel mounting kit provides for easy installation in counter tops with minimal engineering. The remote tower display has enhanced visibility with large font – 20 mm.

Accessories

Barriers and Converters Connecting

Reliable Printing Solution

ACM360 Bluetooth Adaptor

Our Solutions
For Your Production

Automated Production

Engineering and Inventory Control

Material Receiving   Quality Control Lab   Manual Production   Packaging and Filling   Logistics

▶ **Weights** – For More Information, See Page   292

Barrier and Converter Connections
Completing Your Solution

Expanding weighing system connectivity may require a METTLER TOLEDO accessory designed for the purpose. These easy-to-integrate add-ons enable creation of a custom solution that fits your process needs.

	A100	**ARM100**	**ISB05/ISB05x**		**ISB15/ISB15x**	
	Provides 4–20 ma signal based on continuous weight output from a scale indicator.	Remote I/O module for use with compatible METTLER TOLEDO scale indicators.	Hazardous-area barrier for use with scale indicators having 5V load cell excitation.		Hazardous area barrier for use with scale indicators having up to 15V load cell excitation.	
			DIN Rail version	Ex flameproof housing	DIN Rail version	Ex flameproof housing
	• **Flexible usage** 4–20 mA output plus setpoint outputs with HI and LO LEDs • **Suitable for installation to Din rail or on wall/column** Optional IP65 stainless-steel enclosure, material #64053670	• **4 inputs / 6 outputs** Optically isolated inputs, 5–24 VDC Dry contact relay outputs, 250 VAC 1A • **Suitable for installation to Din rail or on wall/column** Optional IP65 stainless-steel enclosure, material #64053670	• **Global regulatory approvals** Enables scale indicators to provide a safe power level to scales in a hazardous area • **Models for installation in Non-hazardous (ISB05) or Hazardous (ISB05x) area** Cast aluminum Ex flameproof enclosure for use in Zone 1/21 or Div 1 area		• **Global regulatory approvals** Enables scale indicators to provide a safe power level to scales in a hazardous area • **Models for installation in Non-hazardous (ISB15) or Hazardous (ISB15x) area** Cast aluminum Ex flameproof enclosure for use in Zone 1/21 or Div 1 area	
Compatible With	METTLER TOLEDO scale indicators with continuous weight output or SICS level 0 communication	IND560, IND570, IND780, IND930, IND970	+1 to +5 VDC analog load cell excitation circuit		+5 to +15 VDC analog load cell excitation circuit	
Operating Voltage	24VDC	24VDC	Powered from scale indicator		Powered from scale indicator	
Data Communication	RS-232, RS-485, or 20 mA current loop or fiber optic	RS485	-		-	
Dimensions	74 x 100 x 57 mm (W x H x D)	74 x 100 x 57 mm (W x H x D)	110 x 115 x 35 mm	150 x 195 x 140 mm	110 x 115 x 35 mm	150 x 195 x 140 mm
IP Rating	IP20 (IP65 / Type 4 with optional 64053670 stainless-steel enclosure)	IP20 (IP65 / Type 4 with optional 64053670 stainless-steel enclosure)	IP20	IP66	IP20	IP66

Reliable Printing Solution
For Industrial Weighing Applications

Ticket and label printers allow you to reliably capture weighing and process data for easy documentation. Simple integration with your weighing systems makes installation and use effortless. Optimize your printer and peripherals with METTLER TOLEDO software to design labels and store custom templates to printers and indicators.

▶ **www.mt.com/industrial-printers**

Print and Record Your Weighing Result

Make your printing accurate, simple and smart.

▶ **www.mt.com/industrial-printers**

	APR320 Smart, slim ticket printer	**APR331** Safe, convenient label printer	**APR430** Compact, durable label printer	**APR530** Intelligent, high-speed label printer
	• **Easy Plug-and-Print setup** Do not waste time with complicated setup requirements. It seamlessly integrated with most METTLER TOLEDO weighing indicators using a variety of modern connection options. • **Save time, reduce contamination** Lightning-fast printing, simplified paper replacement and proactive maintenance alerts keep your operation running at maximum efficiency.	• **Save time, reduce contamination** This unit's stainless-steel housing and optional rubber gasket for closing the paper opening facilitate fast, thorough and easy cleaning. • **Flexibility for easy use** The simple design allows this printer to be placed near a wall, under a desk or wherever it fits best in your individual workplace.	• **Simple Plug-and-Print setup** MT Mode and Automatic Baud rate match allows the APR430 to be plugged into any METTLER TOLEDO indicator out of the box. • **Application versatility** The APR430 is a thermal transfer printer that can be used in direct thermal mode. This means that you have the choice of using high quality labels for long term storage or low cost direct thermal labels for short term use.	• **Easy label customization** Quickly switch between the resident 15 MT formats using the printer touchscreen or with MT Label+, the free label creation tool from METTLER TOLEDO. If the standard printout doesn't work, use Label+ to quickly create MT mode labels for a fully customized printout. • **Remote print capability** This printer is designed with a remote print soft key allowing you to print in a safe room or operator's booth away from the indicator.
Printing Technology	Dot Matrix	Direct Thermal	Direct Thermal or Thermal Transfer	Direct Thermal or Thermal Transfer
Display	1.6 in LCD	No	No	3.2 in LCD touch screen
Standard interface	USB-B2.0, RS232, Ethernet	RS232	USB-B2.0, RS232, Ethernet	USB-B2.0, RS232, Ethernet, Parallel Port
Resolution	42 columns (7 × 9)	203 dpi	203 dpi	300dpi
Media types	Paper Roll	Paper Roll, Labels	Paper Roll, Labels	Paper Roll, Labels
Media width	Min. 44 mm – Max. 76.2 mm (1.8 – 3.0 in)	50.8 mm (2.0 in)	Min. 25.4 mm – Max. 118 mm (1 – 4.64 in)	Min. 20.0 mm – Max. 118 mm (0.79 – 4.64 in)
Media thickness	Min. 0.06 mm – Max. 0.085 mm (0.002 – 0.003 in)	Min. 0.076 mm – Max. 0.20 mm (0.003 – 0.008 in)	Min. 0.076 mm – Max. 0.20 mm (0.003 – 0.008 in)	Min. 0.076 mm – Max. 0.20 mm (0.003 – 0.008 inch)
Printer command languages	ASCII, ESC/POS	ASCII	ASCII, EZPL, GEPL, GZPL, GDPL auto switch	ASCII, EZPL, GEPL, GZPL, GDPL auto switch
Printer Software	Ticket+	No	Label+	Label+
Dimensions (L × W × H)	205 mm × 140 mm × 83.5 mm	192 mm x 156 mm x 91 mm	251 mm x 200 mm x 164 mm (9.88 in x 6.46 in x 7.87 in)	280 mm x 210 mm x 195 mm (11.0 in x 8.3 in x 7.7 in)
More Information	**www.mt.com/APR320**	**www.mt.com/APR331**	**www.mt.com/APR430**	**www.mt.com/APR530**

ACM360 Bluetooth Adaptor
Fast and Flexible Peripheral Connectivity

The ACM360 is an industrial solution to connect peripherals such as printers or other Bluetooth 4.x Android smart devices to any METTLER TOLEDO scale indicator in a fast and convenient way. In addition to establishing indicator-to-indicator communication, the ACM360 is designed to provide an undisturbed wireless connection in rough environments.

Easy Installation and Pairing
Installing the ACM360 Bluetooth adaptor is simple. Just press the multifunction key sequentially or use the PC tool to pair and configure it and you are ready to go. An included mounting bracket allows the adaptor to be positioned almost anywhere. This makes the ACM360 a truly versatile wireless solution.

Weight Visualization

Multi-Scale Systems

PC Data Transferring

Remote Display

ACM360

Mobile App Solutions

Recording and Printing Reports

ZPL Template
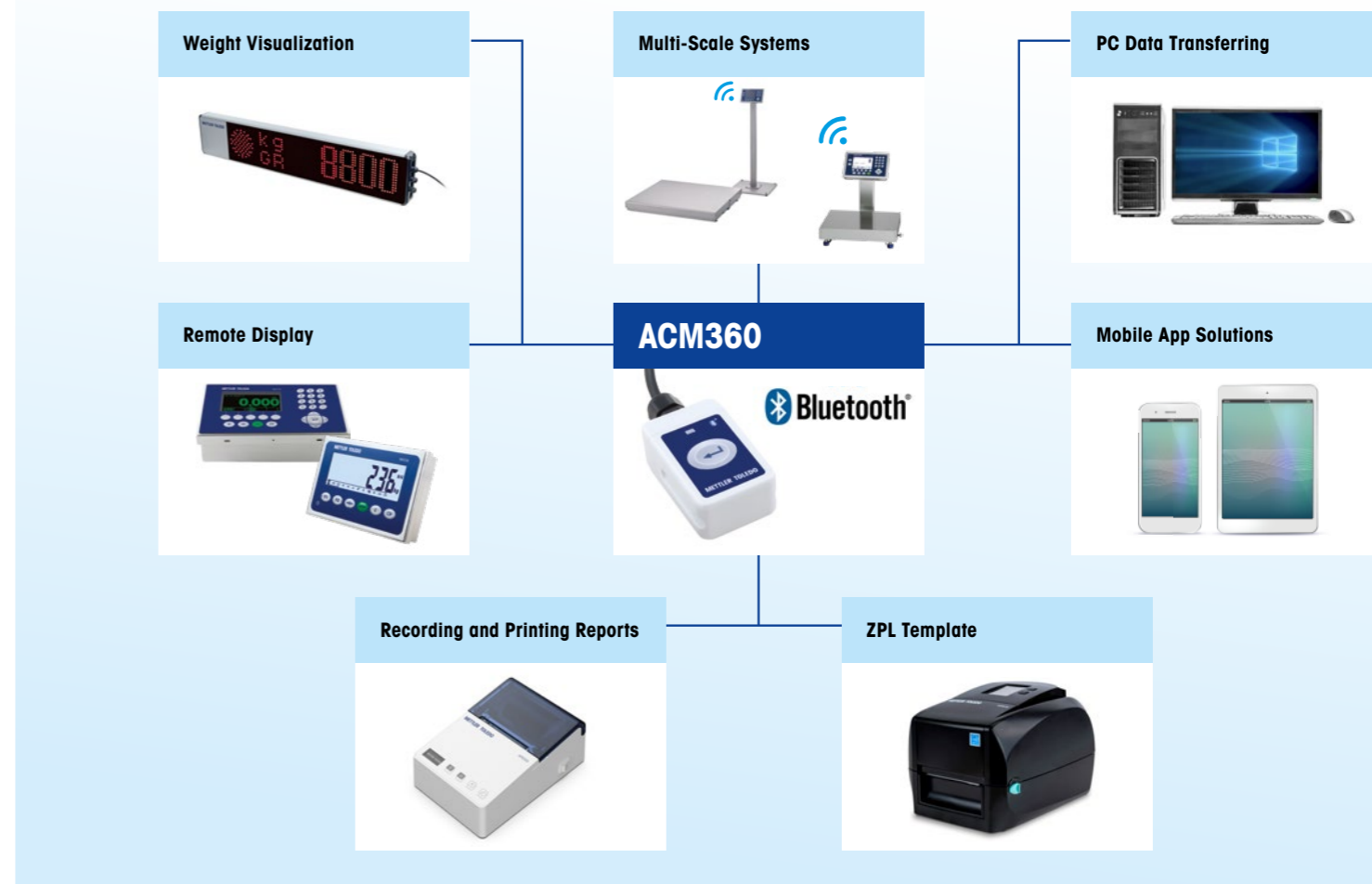
Multiple applications overview

Low Power Consumption
The ACM360 is Bluetooth version 4.1 and it is powered directly via the scale indicator's RS232 interface. No additional power supply is needed.

Flexible Label Printing
The adaptor stores up to 10 different label templates. This feature is a practical solution for easy printing, especially for our economic scale indicators.
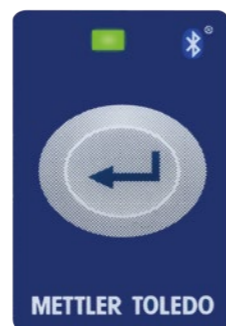
Intelligent LED Interfacing
The LED scale indicator changes colors depending on the status of the device. Press the multifunction key for immediate status feedback.

Versatile Wireless Solution
ACM360 Bluetooth Adaptor

Fast and Convenient Wireless Connection

Bluetooth Version	Bluetooth version 4.1 (only compatible with Bluetooth version 4.x device)
Average Power Consumption	10 mA; ~50 mW
Standard Communication Distance	~10 m (powered via RS232 signal)
Baud Rate	4,800, 9,600, 19,200, 38,400, 57,600, 115,200 bps
Work Mode	SPP or Label Template (ZPL)
Housing	ABS
Ingress Protection	IP54 (DB9 version), IP65 (M12 version)
Power Supply	RS232 signal or 5 ~ 9 VDC from RS232 Pin 9

Weigh Modules and Load Cells

7

Our Solutions
For Your Production

Multi-Purpose Weigh Modules
Right the First Time

Tank weighing made easy. SWB505 MulitMount™ and SWC515-A PinMount™ weigh modules are designed to fulfill broad application requirements for process tanks, storage silos and conveyor weighing. Suitable for high-precision requirements, they are available in resolutions up to OIML C6/NTEP 10,000 d. Multiple material selections allow use in various environments.

▶ **www.mt.com/compression-wm**

360-degree checking is a key for superior safety. Independent of weigh module orientation, maximum safety ratings are achieved.

**Superior Safety**
High mechanical safety, 360° checking, drop down protection and lift-off protection keep the tank in place.

Easy Integration
Safelock avoids load-cell overload during shipping and installation.

Helpful Accessories
Agitators, hot tanks, vibration and shock loading, the right accessories are available for even extreme cases.
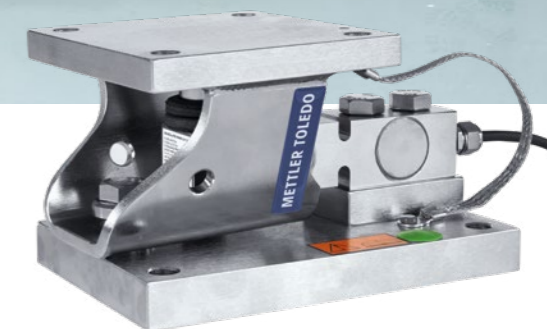
Fully Specified Safety Ratings

Silo and tank scales are critical in terms of safety. Tipping can lead to product loss, financial damage or even human injury. To support mechanical safety calculations, METTLER TOLEDO weigh modules are fully specified to normal, yield and ultimate limits. All values are verified by real physical testing (picture). Yield limits are typically used for dimensioning against infrequent events such as heavy-wind loads, while ultimate limits are used for one-off events such as severe earthquakes.

Check Out RapidCal™
New Tank Scale Calibration

More information on page 288
▶ **www.mt.com/ind-rapidcal**

Multi-Purpose Weigh Modules
Right the First Time

SWB505 MulitMount™ and SWC515-A PinMount™ provide broad application capabilities for silo, tank, hopper and conveyor scales. With the right accessories, they cope with agitators, hot contents, vibrations and shock loading.

▶ **www.mt.com/compression-wm**

Watch the Video

Learn the key values of multi-purpose weigh modules:
- Easy installation
- Safety features
- Stabilization
- Upgrade to PowerCell

▶ **www.mt.com/ind-wm-values-video**

	SWB505 5 kg – 300 kg	SWB505 110 kg – 4,400 kg	SWC515-A 7.5 t – 50 t	SWC515 100 t – 300 t
	• **Reliable** IP68/IP69K load cell for best possible reliability • **Easy operation** Safelock supports the installation process and makes it impossible to overload the load cell	• **High accuracy available** OIML C6, NTEP III M10 version for high accuracy • **Easy operation** Safelock supports the installation process and makes it impossible to overload the load cell	• **Low profile** PinMount™ provides low profile to easy integration and retrofit • **Easy operation** Safelock supports the installation process and makes it impossible to overload the load cell	• **Compact and strong** Although very compact the load ratings are extremely high for superior safety • **Easy to integrate** Safelock supports the installation process and makes it impossible to overload the load cell
Applications	Low capacity process weighing, pharma CIPs	Regular to high performance process tank weighing	Large process tanks, silos	Storage silos
Accuracy	OIML C3, C6, NTEP 5,000	OIML C3, C6; NTEP 5,000, 10,000	OIML C3, NTEP 5,000	OIML C3, NTEP 5,000
Hazardous Area Approvals	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi
Material	Zinc plated, 304 stainless, 316 stainless	Zinc plated, 304 stainless, 316 stainless	Zinc plated, 304 stainless	Zinc plated, 304 stainless
360° Checking	Yes	Yes	Yes	Yes
Safe Lock	Yes	Yes	Yes	Yes
Accessories	Agitators, hot tanks, vibration/shock, dummy applications	Agitators, hot tanks, vibration/shock, dummy applications	Agitators, hot tanks, vibration/shock, dummy applications	Agitators, hot tanks, vibration/shock, dummy applications
Protection	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K
More Information	www.mt.com/compression-wm	www.mt.com/compression-wm	www.mt.com/compression-wm	www.mt.com/compression-wm

PowerMount™ Weigh Modules
Know What's Ahead

PowerMount™ Weigh Modules use POWERCELL® technology for its superior performance and condition monitoring features. Each POWERCELL® reports its condition and an alarm is created when problems occur. This makes manufacturing more reliable by ensuring failures do not go unrecognized and cause out of spec production.

▶ **www.mt.com/ind-powermount**

RunFlat
In the rare case of load cell failure, RunFlat allows simulation of the faulty load cell. Operation can continue until the problem is solved. This reduces downtime as much as possible.

Superior Safety
High mechanical safety, 360° checking, drop down protection and lift-off protection keep the tank in place.

No Junction Box
PowerMount uses a daisy-chain network, removing the need for a junction box, which is a great improvement in terms of reliability.
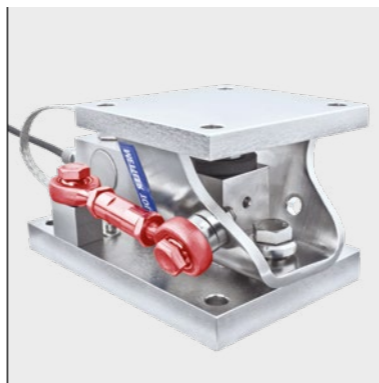
Helpful Accessories
Agitators, hot tanks, vibration and shock loading, the right accessories are available for even extreme cases.

OIML C10 Accuracy

When accuracy really matters, PowerMount™ Weigh Modules are available in C10 accuracies three times better than usual. This is possible because POWERCELL® load cell errors are actively adjusted to the correct value by an inbuilt microprocessor. Electromagnetic impacts are also under control with PowerMount™.

Check Out RapidCal™
New Tank Scale Calibration

More information on page 288
▶ **www.mt.com/ind-rapidcal**

PowerMount™ Weigh Modules
Know What's Ahead

SWB605 and SWC615-A PowerMount™ weigh modules allow you to control processes and predict potential trouble before serious costs are incurred. They are available in superior accuracy up to OIML C10, NTEP 10,000 d. CalFree™Plus provides the most accurate calibration method without the use of test weights.

▶ **www.mt.com/ind-powermount**

Watch the Video

Learn the key values of PowerMount Weigh Modules:
- Predictive maintenance
- Superior accuracy
- Easy integration

▶ **www.mt.com/ind-powermount-video**

	SWB605 220 kg – 4,400 kg	SWC615-A 7.5 t – 50 t	SWC615 90 t
	• **Predictive maintenance** Monitors load cell conditions; alarms in case of failure • **Superior accuracy** Due to in-built digital error compensation PowerMount™ achieves exceptional accuracy	• **Predictive maintenance** Monitors load cell conditions; alarms in case of failure • **Superior accuracy** Due to in-built digital error compensation, PowerMount™ achieves exceptional accuracy	• **Extended predictive maintenance** Monitors load cell voltage, temperature, breach and alarms in case of failure • **Superior accuracy** Due to in-built digital error compensation PowerMount™ achieves exceptional accuracy
Applications	High-performance process weighing	High-performance process weighing	High-performance silo weighing
Accuracy	OIML C3, C6, C10; NTEP 5,000, 10,000	OIML C3; NTEP 5,000	OIML C3; NTEP 5,000
Hazardous Area Approvals	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi
Material	Zinc plated, 304 stainless, 316 stainless	Zinc plated, 304 stainless	Zinc plated, 304 stainless
360° Checking	Yes	Yes	Yes
Safe Lock	Yes	Yes	Yes
CalFree-Plus, Push-Button Calibration	Yes	Yes	Yes
Accessories	Agitators, hot tanks, vibration/shock, dummy applications	Agitators, hot tanks, vibration/shock, dummy applications	Agitators, hot tanks, vibration/shock, dummy applications
Protection	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K
More Information	**www.mt.com/compression-wm**	**www.mt.com/compression-wm**	**www.mt.com/compression-wm**

Specific-Purpose Weigh Modules
Cope with Extremes

When standard weigh modules are not suitable, these special products provide solutions. Hygienic design, low-profile, ultra-high capacity, redundant weighing or suspended hoppers – they cover them all. METTLER TOLEDO sales experts can help you find the best solution to your individual situation. Professional installation and calibration is provided by our service team.

▸ **www.mt.com/weigh-modules**

Hygienic Weigh Module

For food and pharmaceutical applications where contamination risk should be minimized. All surfaces are mirror polished and self draining, open metal-to-metal contact is avoided. Weigh module is NSF and GMP certified.

Low Profile

These modules' 60–100 mm (2.3–4 inch) height can be integrated even when space is tight.

Tension Weigh Module

These modules convert suspended hoppers into reliable weighing devices, with all necessary features for easy implementation and accuracy.

Heavy Capacity

For storage silos beyond 200 t, METTLER TOLEDO supports design and integration with heavy capacity weigh modules.

Weigh Module Systems Handbook

Selecting the right weigh module requires know-how and experience. The METTLER TOLEDO Weigh Module Systems Handbook for engineers deals with all aspects of designing safe and accurate tanks scales. Get a free copy:

▸ **www.mt.com/ind-system-handbook**
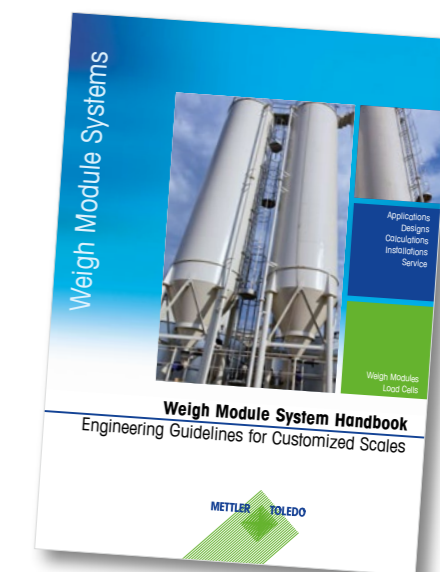
Specific-Purpose Weigh Modules
Cope with Extremes

Hygienic MultiMount, low profile RingMount, redundant RingMount, heavy capacity PinMount™/PowerMount™ and SWS310 TensionMount cope with more extreme weigh module requirements. Despite their highly specialized natures, they are easy to integrate.

▶ **www.mt.com/compression-wm**

Watch Video

Learn more about Hygienic MultiMount Weigh Module
- NSF and GMP certified
- Meets EHEDG design criteria
- Drys faster than other Weigh Modules
- Mirror polished surface for low contamination risk

▶ **www.mt.com/ind-video-sanitary-wm**

	SWB805 Hygienic MultiMount **110 kg – 4.4 t**	**0970 RingMount** **250 kg – 10 t**	**0970 Redundant RingMount™** **250 kg – 10 t**	**SWC515/615 PinMount™/PowerMount™** **200 t – 300 t**	**SWS310 TensionMount™** **50 kg – 10 t**
	• **No contamination** Designed to avoid contamination as much as possible • **Certified design** NSF and GMP certification for peace of mind usage	• **Reliable** 58,4 / 99.5 mm height for easy integration, IP68/IP69K load cell for best possible reliability • **Chemical resistance** Using 316 stainless steel and polished surfaces for best corrosion resistance	• **Redundant** Two independent load cells allow online double-checking of weighing results • **Compact** Despite two load cells, the weigh module is very compact	• **High-capacity** For heavy capacity silos • **Accuracy** Column-type load cells for best accuracy and compact dimensions	• **Suspended hoppers** This weigh module makes weighing suspended containers as simple as possible • **All on board** All features to get the best accuracy and reliability from S-type load cells
Applications	Food process tanks, clean pharma CIPs	Process tanks, pharma CIPs	High risk weighing	Large storage silos	Batching hoppers
Accuracy	OIML C3, NTEP 5,000	OIML C3, C6; NTEP 5,000, 10,000	OIML C3, C6; NTEP 5,000, 10,000	OIML C1, NTEP 1.600	OIML C3, NTEP 5,000
Hazardous Area Approvals	ATEX, FM, Nepsi	ATEX, FM, Nepsi	ATEX, FM, Nepsi	ATEX, FM, Nepsi, IECEx	ATEX, FM, Nepsi
Material	304 or 316 stainless steel	316 stainless steel	316 stainless steel	Carbon steel	Zinc plated steel
360° Checking	Yes	Yes	Yes	Yes	n/a
Safe Lock	No	Yes	Yes	Yes	n/a
Accessories	Agitators, Top and bottom mounting plates, hygienic sealing kits	Hot tanks, vibration/shock	Hot tanks, vibration/shock	n/a	n/a
Protection	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K	IP67
More Information	**www.mt.com/ind-swb805**	**www.mt.com/ind-ringmount**	**www.mt.com/compression-wm**	**www.mt.com/compression-wm**	**www.mt.com/tension-wm**

Weigh Module Accessories
Match the Application

We have the right accessories to match weigh modules to tanks that require mixers, high temperatures or strong vibration/shock loading. Dead stands allow use of passive legs for economic level-control solutions. Precision junction boxes connect analog load cells as accurately as possible.

▶ **www.mt.com/weigh-modules**

White Paper

Load Cell and Weigh Module accessories:
- Function
- Application
- Accuracy

▶ **www.mt.com/ind-downloads-loadcell**

	Stabilizers	Thermal Pads Vibration/Shock Pads	Dead Stands Spacer Plates	Precision Junction Boxes
	• **Mixers, conveyors** Stabilizers calm tanks and create stable weighing results • **Retrofit** Stabilizers can be applied anytime later if required	• **Hot tanks** Insulate load cells from conductive heat to improve load cell accuracy and lifetime • **Vibration** Insulate the load cells from mechanical peaks to improve load cell lifetime	• **Level control systems** For passive legs - typically used when liquids level-control with reduced accuracy is required • **Easy load cell replacement** Spacer plates allow load cell replacement without lifting the tank	• **Precise connection** Connect analog load cells the most accurate way possible • **No trim-pots** Boxes provide corner adjustment with discrete resistors which avoids unstable trim-pots
Applications	Mixers, agitators, conveyors	Extreme mechanical and temperature conditions	Large storage silos	Multiple load-cell systems
Material	Carbon steel, 304 stainless steel, 316 stainless steel	Acetal up to 82 °C PEI up to 170 °C Fabric plastic shock pads	Carbon steel, 304 stainless steel	304 stainless steel, 316 stainless steel
Suitable for	SWB505, SWB605, SWC515, SWC615	SWB505, SWB605, SWC515, SWC615, 0970 Ring-Mount, Redundant RingMount	SWB505, SWB605	All analog weigh modules. ATEX and IECEx approved versions available.
Retrofit	Yes	No	No	n/a
Dimension	No extra space required	Add. 25.4 mm height	See datasheet	Small, mid, large
More Information	**www.mt.com/compression-wm**	**www.mt.com/compression-wm**	**www.mt.com/compression-wm**	**www.mt.com/junctionbox**

Load Cells
When Accuracy Matters

METTLER TOLEDO load cells are made with the most modern equipment according to global quality standards. Our internal teams work closely together to help ensure that you are always able to access the highest quality load cell technology available.

▶ **www.mt.com/loadcell**

Fully Approved
METTLER TOLEDO load cells are fully approved to global standards. Hazardous approvals come standard with load cells, so there is no need to order options, greatly simplifying logistics.

Superior Accuracy
Accuracy up to OIML C6, NTEP 10,000d allows you to build the most accurate scale for your needs and keep processes under control.

Stainless Steel
Many load cells are made from stainless steel and laser welded for highest reliability even in harsh environments.

Accessories
The right load-cell accessory is crucial for achieving the highest possible load-cell accuracy and lifetime.

ISO 9001 Development/Manufacturing

METTLER TOLEDO's load cell manufacturing facility has been ISO 9001-certified. Load-cell development follows strict standards. All load cells must pass an 11-step testing procedure that includes reviews for metrology, IP-rating and shock absorption. During manufacture, full data collection allows optimization for product reliability and accuracy.

▶ **www.mt.com/ind-system-handbook**

Single-Beam Load Cells
Convert Structures to Scales

Beam load cells are used in multiples in floor scales, belt weighers, weighing systems, pallet scales, conveyor scales, and more. Most METTLER TOLEDO beam load cells are fully approved to OIML, NTEP, FM and ATEX as a standard so they can be used in legal weighing systems globally.

▶ **www.mt.com/singlebeam-lc**

Filling, Dosing and Dispensing

See publications on how to build accurate scales:
- Application notes
- White papers
- Guides
- Brochures

▶ **www.mt.com/filling**

	MTB 5 kg – 300 kg	0745A 110 kg – 4,400 kg	SLB515 110 kg – 4,400 kg	SLB415 110 kg – 4,400 kg	SLB215 220 kg – 4,400 kg
	• High accuracy available — OIML C6, NTEP III M10 version for high accuracy • Fully approved — No need to order options, all approvals in the standard product	• High accuracy available — OIML C6, NTEP III M10 version for high accuracy • Fully approved — No need to order options, all approvals in the standard product	• Threaded load introduction — Easy to integrate due to threaded load hole • Fully approved — No need to order options, all approvals in the standard product	• Blind hole load introduction — For allowing thermal expansion in conjunction with best accuracy • Economic welded design — Nickel-plated steel and hermetically sealing combines best reliability and economics	• Threaded load introduction — Easy to integrate due to threaded load hole • Economic welded design — Nickel-plated steel and hermetically sealing combines best reliability and economics
Applications	Low capacity process weighing, pharma CIPs	Regular for high-performance process weighing in food and pharma	Process weighing tanks in food and pharma	Weighing in transport, logistics	Weighing in transport, logistics
Accuracy	OIML C3, C6; NTEP 5,000, 10,000	OIML C3, C6; NTEP 5,000, 10,000	OIML C3, NTEP 5,000	OIML C3, NTEP 5,000	OIML C3, NTEP 5,000
Hazardous Area Approvals	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi
Material	Stainless steel	Stainless steel	Stainless steel	Nickel-plated tool steel	Nickel-plated tool steel
Protection	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K	IP67	IP67
Accessories	Load introduction, load foot, base plates	Load introduction, load foot, base plates	Load introduction, load foot, base plates	Load introduction, load foot, base plates	Load introduction, load foot, base plates
More Information	www.mt.com/singlebeam-lc	www.mt.com/singlebeam-lc	www.mt.com/singlebeam-lc	www.mt.com/singlebeam-lc	www.mt.com/singlebeam-lc

Load Cell Accessories
Easy Integration

Load cell accessories support easy and correct load cell integration. They provide thermal expansion and cope with uneven supports. Some also provide a damping function to reduce peak loading.

▶ **www.mt.com/loadcell**

White Paper

Load Cell and Weigh Module accessories:
- Function
- Application
- Accuracy

▶ **www.mt.com/ind-downloads-loadcell**

	Expansion Kit	Expansion and Vibration Kit	Foot Kit	Base Plate Kit	Precision Junction Boxes
	• **Easy integration** Kit allows for correct load introduction to maintain high accuracy • **Accurate load introduction** Rocker pin load introduction for best accuracy	• **Rigid load introduction** Rubber cushion for coping with expansion and vibration • **Damping** Rubber layer provides damping function for reducing peak loads	• **Floor scales** Joint and rubber foot to cope with uneven floors and expansion • **Removable rubber** For clean areas, the rubber foot can be removed	• **Concrete floor** Install load cells on concrete floor • **Complete kit** Delivered with load cell mounting bolts and spacer	• **Precise connection** Connect analog load cells the most accurate way possible • **No trim-pots** Boxes provide corner adjustment with discrete resistors which avoids unstable trim-pots
Applications	Accurate weighing	Industrial tank weighing, filling, batching, conveyors	Floor scales	Tank weighing, conveyors	Multiple load cell systems ATEX, IECEx versions available
Material	Stainless steel	Stainless steel, NRB rubber	Stainless steel, NRB rubber	Zinc plated steel, 304 stainless steel	304 stainless steel, 316 stainless steel
Suitable for	MTB, 0745A, SLB515, SLB215, SLB415	MTB, 0745A, SLB515, SLB215, SLB415	MTB, 0745A, SLB515, SLB215, SLB415	MTB, 0745A, SLB515, SLB215, SLB415	All analog weigh modules
More Information	**www.mt.com/loadcell**	**www.mt.com/loadcell**	**www.mt.com/loadcell**	**www.mt.com/loadcell**	**www.mt.com/junctionbox**

Canister/Ring Load Cells
Robustness for Harsh Environments

Ring load cells and canister load cells are used in tank scales, vessel weighing, silo scales, truck weighing, vehicle scales and rail scales. We offer digital and analog load cells with OIML and NTEP approvals which are also suitable for hazardous-area use.

▶ **www.mt.com/loadcell**

Watch the Video

PowerCell PDX – how it's made:
- CNC manufacturing
- Laser welding
- Testing

▶ **www.mt.com/ind-powercell-how-it-is-made-video**

	SLC820 POWERCELL PDX 20 t – 300 t	SLC611D POWERCELL 7.5 t – 22.5 t	0782 20 t – 300 t	SLC611 7.5 t – 22.5 t	RLC 250 kg – 10 t
	• **Reliable** High IP protection and in-built lightning protection • **Predictive diagnostics** Onboard monitoring of voltage, temperature and breach	• **Reliable** High IP protection, fully stainless steel • **Predictive diagnostics** Onboard monitoring for voltage and temperature	• **Reliable** Hermetically sealed stainless-steel design • **Fully approved** No need to order options, all approvals in standard product	• **Reliable** Hermetically sealed stainless-steel design • **Fully approved** No need to order options, all approvals in standard product	• **Low Profile** Easy to integrate due to ultra-low profile • **Accuracy** Available in OIML C6/NTEP 10,000 when accuracy counts
Applications	Vehicle weighing, tank scales	Tank scales	Heavy capacity tank weighing, vehicle scales	Process-weighing tanks in food and pharma	Process-weighing tanks in food and pharma
Accuracy	OIML C1, C3, C4; NTEP 1,600, 10,000	OIML C3, NTEP 5,000	OIML C3, NTEP 5,000	OIML C3, NTEP 5,000	OIML C3, C6; NTEP 5,000, 10,000
Hazardous Area Approvals	ATEX, UL, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi	ATEX, FM, IECEx, Nepsi
Material	Stainless steel, laser welded	Stainless steel, laser welded	Stainless steel, laser welded	Stainless steel, laser welded	Stainless steel, laser welded
Protection	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K	IP68 / IP69K
Interface	POWERCELL	POWERCELL	Analog	Analog	Analog
Junction Box	Not required	Not required	Required	Required	Required
More Information	www.mt.com/loadcell	www.mt.com/loadcell	www.mt.com/loadcell	www.mt.com/loadcell	www.mt.com/loadcell

S-Beam Load Cells
Scales for Suspended Structures

S-beam tension load cells are designed for use with suspended tanks, dosing hoppers and other devices that are suspended from a support structure. METTLER TOLEDO offers a wide range of load cell capacities to meet the needs of a variety of weighing applications.

▶ **www.mt.com/sbeam-lc**

Guideline for Accurate Filling Results

Successful integration of weighing:
- Filling methods
- Filling accuracy
- Weighing components

▶ **www.mt.com/ind-large-volume-filling-guideline**

	SLS410 50 kg – 7.5 t	**SLS510 50 kg – 10 t**	**Accessories S-Beam Load Cells**	**Precision Junction Boxes**
	• **Easy integration** Tension load cells are relatively easy to integrate if a suspended base is available • **Economic solution** Basic tension load cell for industrial weighing	• **Easy integration** Tension load cells are relatively easy to integrate if a suspended base is available • **Fully approved** No need to order options, all approvals in standard product	• **Threaded load introduction** Easy to integrate due to threaded load hole • **Rod end** Cope with expansion and angle deflection	• **Precise connection** Connects analog load cells the most accurate way possible • **All on board** All elements to fine trim scales are present
Applications	Suspended hoppers in dry environments	Suspended hoppers in harsh environments	Correct load introduction	Multiple load cell systems Hazardous versions available
Accuracy	Accuracy 0.03%	OIML C3, NTEP 5,000	n/a	Accuracy 0.01%
Hazardous Area Approvals	No	ATEX, FM	n/a	ATEX, IECEx
Material	Nickle plated tool steel, potted	Stainless steel, potted	Stainless steel, potted	304 stainless steel, 316 stainless steel
Protection	IP65	IP67	n/a	IP67, IP69K
Accessories	Knuckle eye	Knuckle eye	n/a	n/a
More Information	**www.mt.com/sbeam-lc**	**www.mt.com/sbeam-lc**	**www.mt.com/sbeam-lc**	**www.mt.com/junctionbox**

Single-Point Load Cells
Easy System Integration

Single-point load cells are used individually in scales, hopper scales, process control systems, conveyor weighing, packaging machines and check-weighing systems. Moment-insensitive single-point load cells allow for eccentric loads and simplify weighing system design, as the load cell copes with all occurring forces and moments without losing performance.

▶ **www.mt.com/singlepoint-lc**

Dos and Don'ts

For Custom Scale Design and Weigh Module Installation

▶ **www.mt.com/ind-wm-dos-donts**

	SLP33xD-IOL	MT1022, 1041, 1241, 1260 3 kg – 750 kg	SLP845 15 kg – 200 kg	SSH 50 kg – 1,000 kg	IL 150 kg – 2,000 kg
	• **On-board connectivity** IO-Link connectivity is integrated in the load cell; no additional device is required. • **Easy to integrate** Due to moment insensitive design, single-points are the easiest way to build accurate scales	• **Easy to integrate** Due to moment insensitive design, single-points are the easiest way to build accurate scales • **Fully approved** No need to order options, hazardous approvals in the standard product	• **Easy to integrate** Tension load cells are relatively easy to integrate if a suspended base is available • **Fully approved** No need to order options, hazardous approvals in the standard product	• **Easy to integrate** Due to moment insensitive design, single-points are the easiest way to build accurate scales • **Hermetically sealed** Laser-welded design for best reliability even in harsh environments	• **Easy to integrate** Due to moment insensitive design, single-points are the easiest way to build accurate scales • **High capacity** Scales with 2 t capacity can be built with one load cell only
Applications	Scales, filling, batching, feeders	Scales, filling, batching	Food and pharma scales, filling, batching	Food and pharma scales, filling, batching	Onboard weighing, filling systems
Accuracy	OIML C6, C3, NTEP 10,000, 5,000	OIML C3, NTEP 5,000	OIML C3, NTEP 5,000	OIML C3, NTEP 5,000	OIML C3, NTEP 5,000
Hazardous Area Approvals ⚠	–	ATEX	ATEX, FM	–	–
Material	Aluminum, potted	Aluminum, potted	Stainless steel	Stainless steel	Nickel-plated tool steel, potted
Protection	IP67	IP67	IP68/IP69K	IP68/IP69K	IP67
Platform Size (mm)	Up to 600 x 6000	Up to 600 x 600	Up to 500 x 400	Up to 800 x 1,200	Up to 1,000 x 1,000
More Information	**https://www.mt.com/slp33xd**	**www.mt.com/singlepoint-lc**	**www.mt.com/singlepoint-lc**	**www.mt.com/singlepoint-lc**	**www.mt.com/singlepoint-lc**

Automated Precision Weighing

8

Our Solutions
For Your Production

WXS High-Precision Weigh Modules
Maximum Precision for Automation

The WXS family is designed for high-precision automated and manual weighing in instruments, machines and isolators. It features models with readabilities from 1.0 µg to 0.1 mg with weighing capacities from 22 g to 220 g. Compact design means that installation is straightforward and space-saving. The comprehensive overload protection and rugged plug-in connections are designed for use in analytical processes and production applications.

▶ **www.mt.com/WXS**

Integrated Calibration Weights
Functionality, linearity, and precision can be checked at any time with two integrated calibration weights. Customer-specific adapters on top of the weighing pan do not need to be removed for calibration if they are less than 25 percent of full load.

Adaptable Weighing Pan
The weighing pan has 3 holes to fasten customized adapters to hold vials or tubes. Adapters may weigh one-third of the capacity without restricting weighing range.

Flexible Layout and Assembly
The electronic unit can be installed separately from the weighing cell. The devices can be located up to 5 m apart. A set for optional DIN rail mounting is supplied with the modules.

Below-the-Module Weighing
An optional adapter allows weighing suspended loads below the weigh module. Overload protection is still assured in all directions.

Automated Weighing from Just 1 µg
Flexibility for Complex Solutions

Rugged design, high resolution and space saving installation

Parameter		26	26DU	205	205DU	204
Maximum Capacity	nominal	22 g	22 g	220 g	220 g	220 g
Readability	nominal	0.001 mg	0.01 mg	0.01 mg	0.1 mg	0.1 mg
Maximum Capacity, Fine Range	nominal	–	11 g	–	111 g	–
Readability, Fine Range	nominal	–	0.001 mg	–	0.01 mg	–
Zero Setting Range (legal-for-trade versions)		20 g	20 g	20 g	20 g	20 g
Interfaces		RS232, Ethernet TCP / IP				
Materials		Stainless steel AISI316				
More Information		**www.mt.com/WXS**				

ISO 9001 registered   ISO 14001 registered   OIML

SPC High-Precision Weight Sensor
Automation with a Small Footprint

The innovative SPC weight sensor is the perfect combination of compactness and high accuracy. With it's compact size, this sensor opens the door to new applications and enables flexibility in machine design.

▶ **www.mt.com/SPC**

Small in Size, High in Performance
The new SPC sensor comes with a space-saving electronic unit and integrated Ethernet connectivity. It is the perfect sensor for demanding applications where fast weighing results and installation space are critical.

Extremely Small and Compact
The ultra-compact SPC weight sensor is ideal for integration into instruments and machines. Its impressively small width of 25 mm helps to keep overall dimensions of test and filling devices smaller than ever.

Faster Weighing Speeds
The low mass of the SPC weight sensor protects against vibration. It enables very fast and accurate weighing with up to 366 filtered weight values/s sent via TCP/IP or Industrial Ethernet to the control system.

High IP Rating
With the optional wash-down module, the weight sensor has an IP54 rating when weighing and an IP56 rating during wash-down. Thus, it becomes possible to weigh in a dusty environment and use a wash-down cleaning process.

The New Dimension
In Automated Precision Weighing

Ultra-compact, precise and expandable

Parameter	SPC115	SPC215	SPC214
Maximum Capacity	11 g	21 g	21 g
Readability	0.01 mg	0.01 mg	0.1 mg
Dynamics			
Fast Settling Time*	0.6 s	0.7 s	0.5 s
Maximum Weight Update Rate	up to 366 values/s		
General Data			
Degree of Protection	Load cell in use: IP30 / (IP54 with wash-down module)		
	Load cell in wash-down mode: IP56 (wash-down configuration)		
	Electronic unit: IP20		
Interfaces	PROFINET, EtherNet/IP and Ethernet TCP/IP		
Materials	Stainless steel AISI316		
More Information	www.mt.com/SPC		

* Time until weighing signal is within ± 2 x readability of end value (measured at 1/4 nominal load).

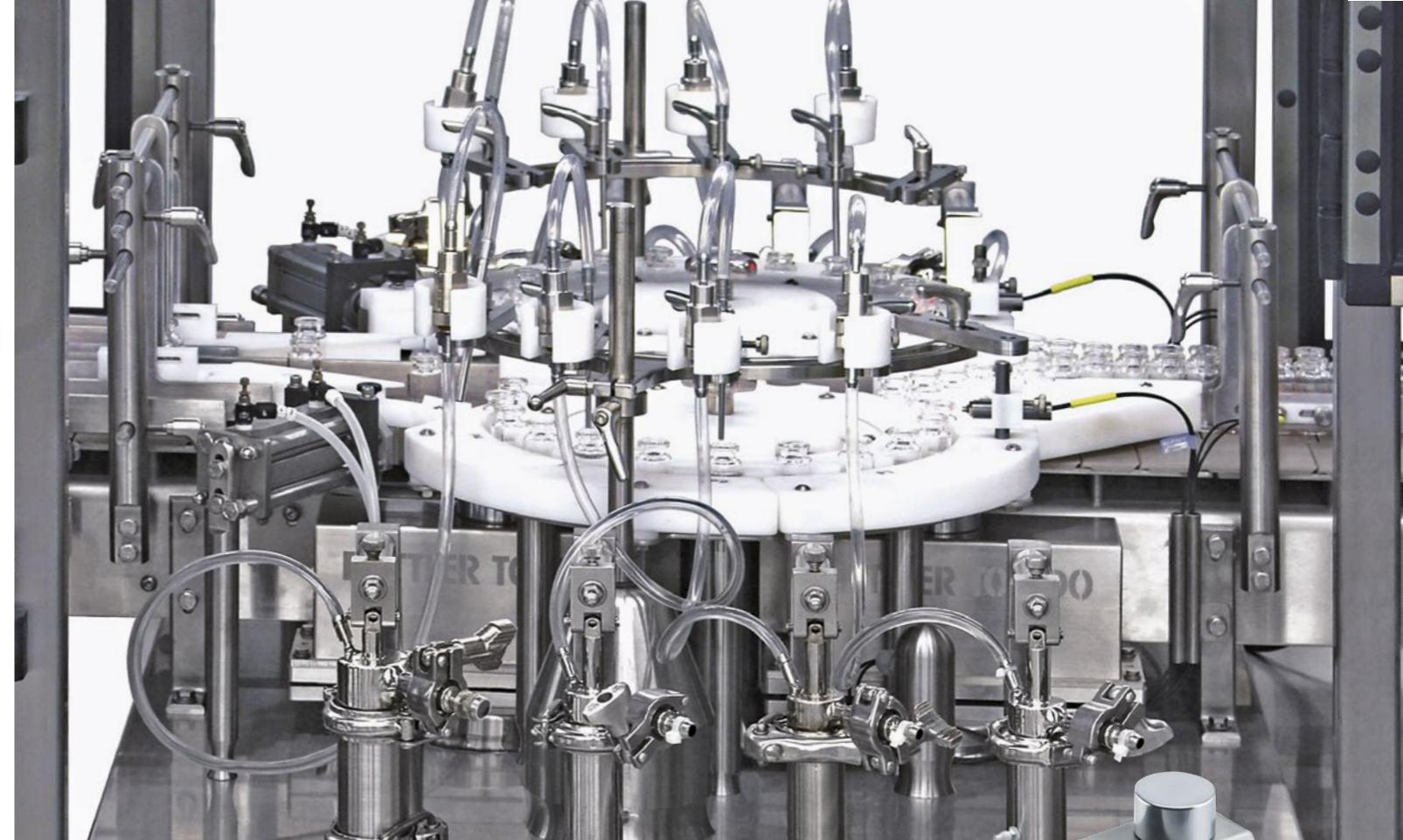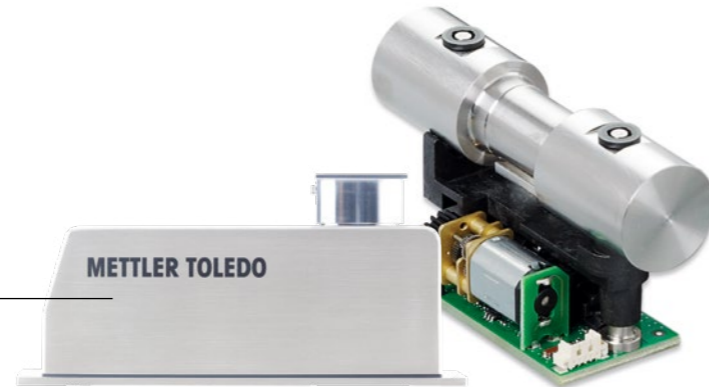# WMS High-Precision Weigh Modules
Robust Precision Weighing

Successor Product "SPE" with new functionality available in 2024
Contact your sales representative for more information

The WMS family is designed for high-precision automated weighing in instruments, machines and isolators. It features models with readabilities from 0.1 mg to 10 mg with weighing capacities from 120 g to 6,200 g. The compact design means that installation is straightforward and space-saving. Rugged stainless steel housing and wash-down features make it the ideal choice for integrated weighing in analytical and production applications.

▶ www.mt.com/WMS

Integrated Calibration Weight
The module can be checked at any time with the internal calibration weight. Adapters on the weighing pan do not have to be removed for calibration if they weigh less than 50% of full load.
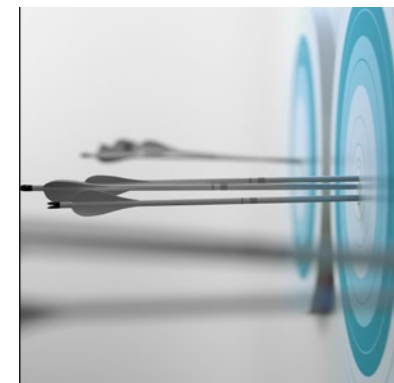
High Precision
Designed to meet the most demanding customer specifications, the WMS is a high-speed high-accuracy weigh module with readability up to 0.1 mg.

Rugged Design
The 316L (1.4404) stainless steel housing with FDA-compliant seals and a rugged industrial plug connector with IP67 protection ensure high levels of reliability.

Flexible Platforms
Customer-specific adapters can easily be fixed to the square shaped weighing platform which is rigidly connected to the weigh module by means of a patented locking device.

Designed for Automation
Compact Precision Weighing

High precision, rugged design, and robust

Parameter		Models with internal adjustment			
		WMS104C	**WMS404C**	**WMS1203C**	**WMS6002C**
Maximum Capacity	nominal	120 g	410 g	1,220 g	6,200 g
Readability	nominal	0.1 mg	0.1 mg	1 mg	10 mg

Parameter		Models without internal adjustment		
		WMS204	WMS803	WMS4002
Maximum Capacity	nominal	220 g	820 g	4,200 g
Readability	nominal	0.1 mg	1 mg	10 mg
IP Protection (in operational state with weighing plate/platform in place)				
When Weighing (protected with double-labyrinth)		IP54		
When Cleaning Wash-Down (seal activated with 1 bar air pressure)		IP66		
Interfaces		RS232, RS422		
Materials		Stainless steel AISI316		
More Information		www.mt.com/WMS		

ISO 9001 registered   ISO 14001 registered   IP66

WMF High-Precision Weigh Modules
Direct Automation Interface

The very high resolution of the weigh module – up to 2 million digits – enables the weighing of different container sizes on the same weigh module. The modules' very compact design includes power supply and industrial Ethernet connectivity without additional control cabinet space.

▶ **www.mt.com/WMF**

Plug and Communicate with Most Common PLC Systems

WMF is dedicated for use in automation. Connectivity via Ethernet/IP or PROFINET is incorporated in the space saving, compact unit. Certified automation interfaces with EDS, AOP and GSDML drivers plus sample code for cyclic and acyclic messaging at 92 and 366Hz.

Comprehensive Overload Protection Assures Uptime

WMF weigh modules are designed to have a long service life because of their innovative overload protection against forces from all directions. This protects accuracy of the weigh module during normal operation but also in the event of malfunction.

Test Functionality and Accuracy at Any Time

The production process does not need to be interrupted for calibration with an external reference weight, since the module's internal weight can be used to check functionality.
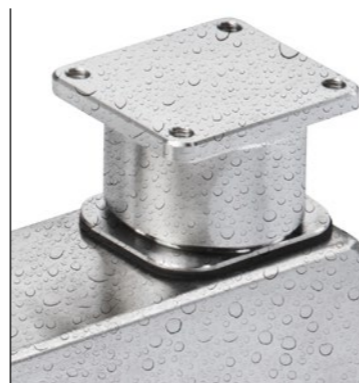
Protection Allows Liquid Rinsing for Clean-in-Place

Stainless steel housing (316L), FDA compliant sealing and the optional IP65 wash-down feature allow in-place cleaning procedures with water or liquid chemicals.

Designed for Automation
Tailored for Multi-Line Weighing

Compact size, integrated electronics, protected against overloads

Parameter		WMF204C	WMF303C
Maximum Capacity	nominal	220 g	320 g
Readability	nominal	0.1 mg	1 mg
Dynamics			
Maximum Weight Update Rate		92 values/s and 366 values / s *	92 values/s and 366 values / s *
Settling Time (under good conditions)	typical	< 0.4 s	< 0.4 s
IP Protection			
When Weighing		IP44	
When Cleaning, Wash-Down (seal activated with 0.6 bar air pressure)		IP65	
Interfaces		PROFINET, EtherNet/IP and Ethernet TCP/IP	
Materials		Stainless steel AISI316	
More Information		**www.mt.com/WMF**	

* Fast weight update channel

# WKC High-Precision Weigh Modules
Compact Precision Weighing

WKC weigh modules offer a compact and cost-effective solution for on-board weighing in automated applications where high resolution is needed. Standard M12 connectors and fully integrated electronics minimize integration efforts and enable quick and easy installation.

▶ **www.mt.com/WKC**

Compact Design
Fully integrated electronics help to save space in the machine/instrument design. No additional unit is needed for communication. Weigh modules can be integrated in machines/instruments with tight space requirements.
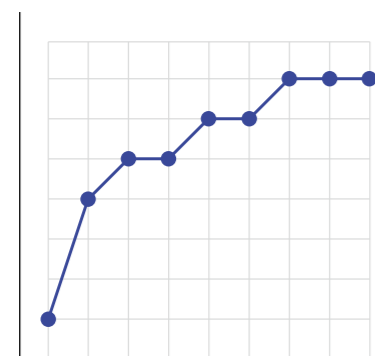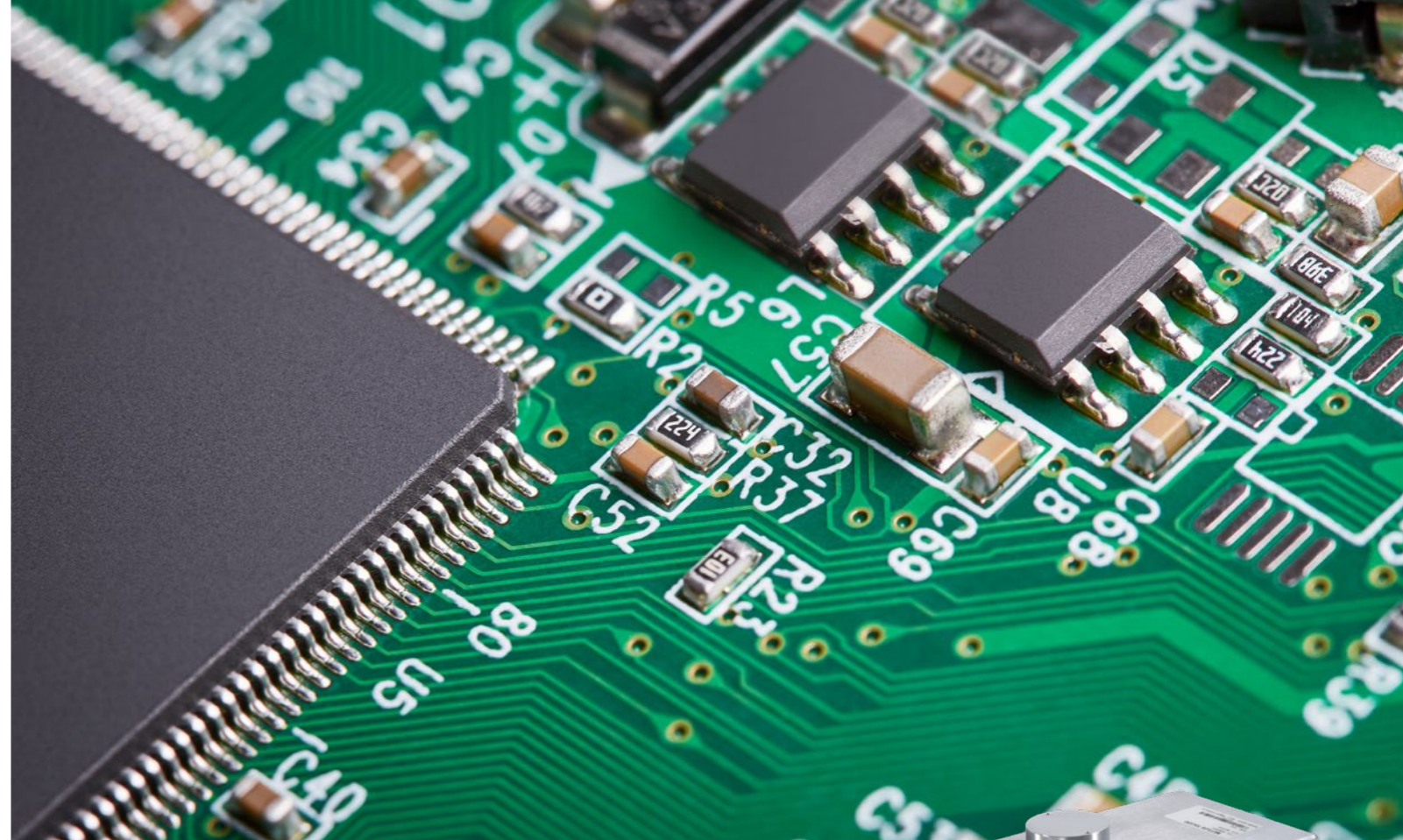
Easy Configuration
A computer-based software for parameterization, diagnostics, and data backup makes getting started easy. This allows the WKC weigh module to be customized for virtually any application.
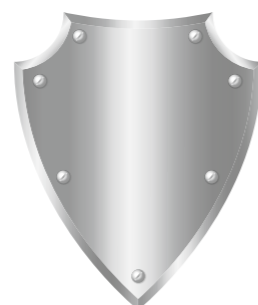
Robust
Stainless steel housing and coated connection cable protect the weigh module against external physical and electromagnetic influences. This ensures reliability of weight values and extends product life.

Quick Functionality Test
Thanks to the internal weight, it is possible to check correct functioning of the weigh module at any time, even with preloads. This saves calibration time and reduces down-time.

Designed for Automation
Compact Precision Weighing

High precision, rugged design, and robust

| Parameter		WKC204C	WKC603C	WKC6002C
Maximum Capacity	nominal	220 g	620 g	6,200 g
Readability	nominal	0.1 mg	1 mg	10 mg
Interfaces				
Interfaces		RS422, RS232		
Maximum Weight Update Rate		92 values / s		
Connector		M12, 12 p, male, A-coded		
Materials				
Housing, Base Plate		Stainless steel (EN 1.4307 / 304L)		
Weighing Pan		Stainless steel (EN 1.4307 / 304L)		
More Information		**www.mt.com/WKC**		

PBK9 Weighing Platforms
High Resolution in Harsh Environments

Accurate weighing helps you manage raw materials, ensure compliance with regulations and improve your product quality. For bench and floor scale applications that require reliability with the best accuracy available, PBK9 Weighing Platforms provide outstanding performance. A range of platforms with capacities from 0.6 to 300 kilograms and resolutions of up to 750,000 divisions are useful for many applications.

▶ **www.mt.com/PBK9**

Outstanding Accuracy
Thanks to its innovative measuring technology, PBK9 Weighing Platforms ensure industry-leading metrological performance. With a resolution of up to 750,000 divisions, the weighing platform is ideally suited for all weighing processes in which quality is critical and tolerances need to be minimized.
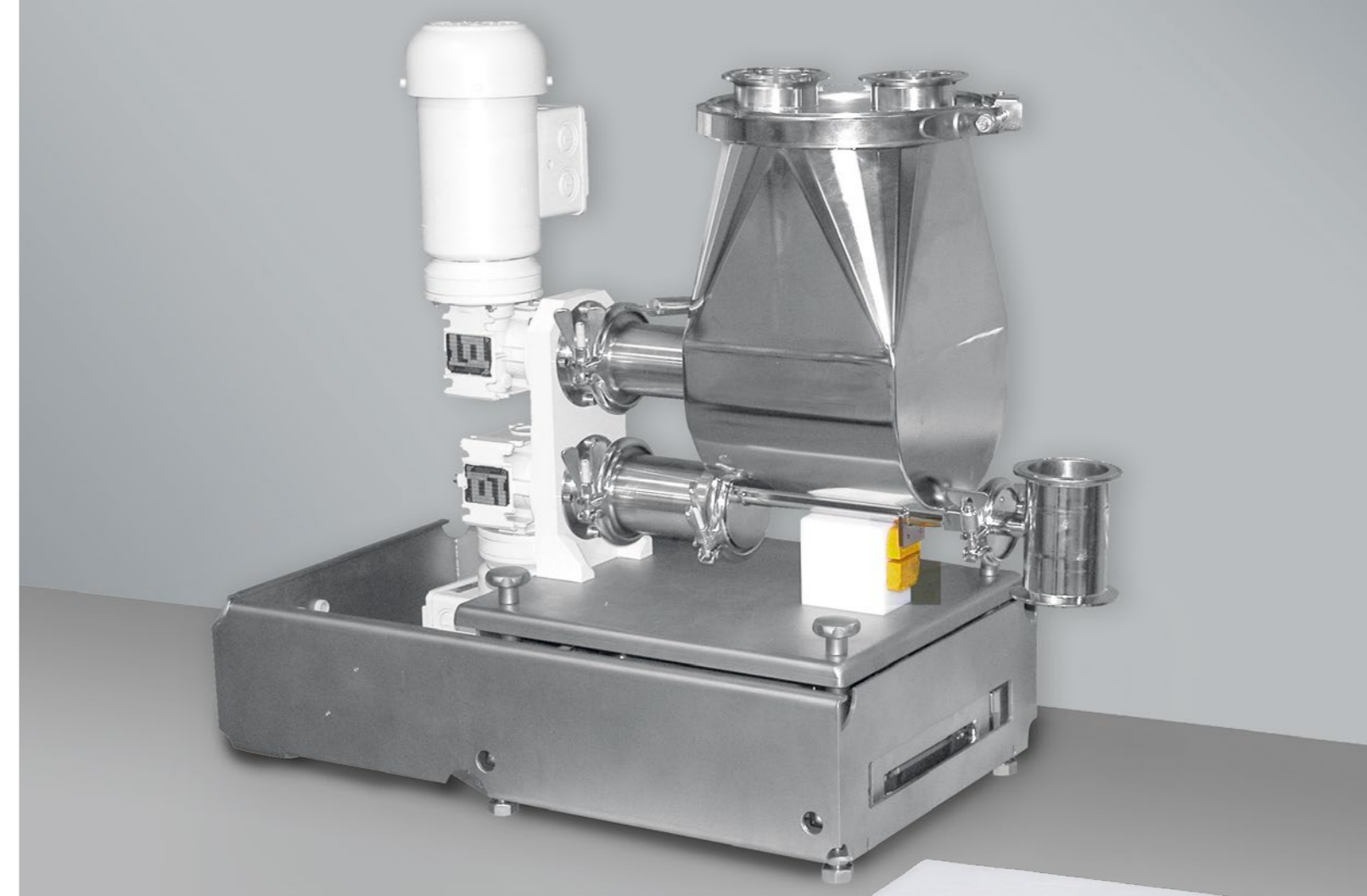
Smart Load-Cell Technology
The Monobloc technology load cell is at the core of PBK9 Weighing Platforms. Advanced technology guarantees the highest precision and reliability.

Reliable Process
PBK9 sensors always deliver reliable and exact results – even in the most difficult environments. This ensures you are always on the safe side when running formula, dosing and quality check applications.

Direct Connectivity
PBK9-APW weighing platforms can be directly connected to any automation system via RS422 or RS485 and serviced with an additional RS232 interface.

Accurate Weighing
From Ultra-Light to Heavy-Weight

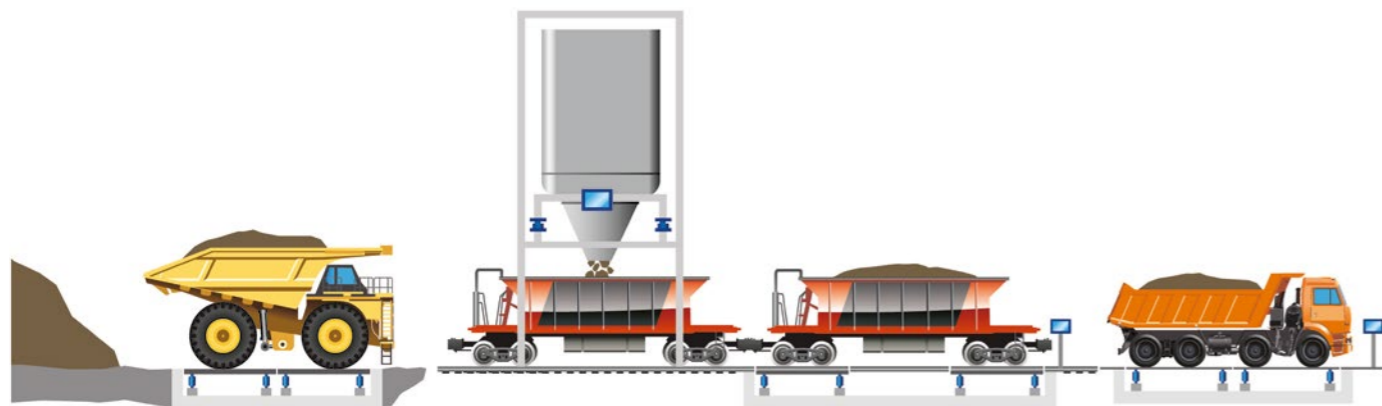High-precision weighing, reliable in harsh conditions, fast weighing processes

Platform Type	A3	A6	AB15	AB30	AB60	B60	B120	CC150	CC300
Capacity	3 kg	6 kg	15 kg	30 kg	60 kg	60 kg	120 kg	150 kg	300 kg
Readability	0.005 g	0.01 g	0.02 g	0.05 g	0.1 g	0.1 g	0.2 g	0.2 g	0.5 g
Platform Dimensions	275 x 345 mm		280 x 350 mm			402 x 503 mm		600 x 800 mm	
Interfaces	RS232, RS422 / RS485								
Maximum Weight Update Rate	92 values / s								
IP Rating	IP66 / IP68								
Load Plate Material	Stainless steel AISI304 as standard, stainless steel AISI316 available as option								
Hazardous Area Approvals ⚠	IECEx/ATEX/NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)								
More Information	**www.mt.com/PBK9**								

ISO 9001 registered · ISO 14001 registered · **IP66** · **IP68** · Ex c FM APPROVED US · IEC · IECEx

PFK9 Weighing Platforms
Maximum Precision for High Loads

Accurate weighing helps you manage raw materials, ensure compliance with regulations and improve your product quality. For bench and floor scale applications that require reliability with the best accuracy available, PFK9 Weighing Platforms provide outstanding performance. A range of platforms with capacities from 300 to 3,000 kilograms and resolutions of up to 750,000 divisions are useful for many applications.

▶ **www.mt.com/PFK9**

Outstanding Accuracy
Thanks to its innovative measuring technology, PBK9 Weighing Platforms ensure industry-leading metrological performance. With a resolution of up to 750,000 divisions, the weighing platform is ideally suited for all weighing processes in which quality is critical and tolerances need to be minimized.

Smart Load-Cell Technology
Monobloc technology load cells are at the core of PFK9 Weighing Platforms. Advanced technology guarantees the highest precision and reliability.

Safe Processes
The PFK9 Weighing Platforms (1.5 to 3 tons) are available with a lift option. Hinged load plates are supported by pneumatic springs. These features guarantee safe opening and closing and provide fast service access.

Direct Connectivity
PFK9-APW weighing platforms can be directly connected to any automation system via RS422 or RS485 and serviced with an additional RS232 interface.

Accurate Weighing
From Ultra-Light to Heavy-Weight

High-precision weighing, reliable in harsh conditions, fast weighing processes

Platform Type	C300	C600	D600	D1500	E1500	E3000	ES1500	ES3000
Capacity	300 kg	600 kg	600 kg	1,500 kg	1,500 kg	3,000 kg	1,500 kg	3,000 kg
Readability	0.5 g	1 g	1 g	2 g	2 g	5 g	2 g	5 g
Platform Dimensions	800 x 1,000 mm		1,000 x 1,250 mm		1,250 x 1,500 mm		1,500 x 1,500 mm	
Interfaces	RS232, RS422 / RS485							
Maximum Weight Update Rate	92 values / s							
IP Rating	IP66 / IP68							
Load Plate Material	Stainless steel AISI304 as standard, stainless steel AISI316 available as option							
Hazardous Area Approvals ⚠	IECEx/ATEX/NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)							
More Information	**www.mt.com/PFK9**							

ISO 9001 registered · ISO 14001 registered · IP66 · IP68 · Ex · FM APPROVED · IEC · IECEx

Vehicle Scales

Vehicle Scales
To Fit Any Operation

Vehicle Scale Variety
Designed for Your Business

METTLER TOLEDO protects your business by supplying you with accurate and reliable truck and rail scale solutions designed to thrive in any work environment. Whether your concern is a high volume of traffic, hazardous area, extreme weather, or all of the above, we offer the right fit based on your needs.
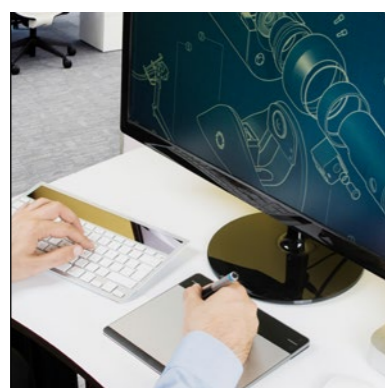
▶ **www.mt.com/vehicle**

Our comprehensive design, analysis and testing program enables us to deliver scales proven to meet the demands of your weighing application. No other company tests weighbridges this thoroughly.

Design
Throughout more than 20 years of CAD modeling, we have refined our designs to offer the best weighbridges available. Our engineers continue to innovate and build on the success of previous designs.

Testing
METTLER TOLEDO is the only manufacturer that performs true lifecycle testing on all weighbridge models. Our unique Module Masher applies 20 years of traffic in 6 to 8 weeks.

Analysis
Finite-element analysis shows how a weighbridge design should perform under various loading conditions. Analyzing all areas of the weighbridge allows for improvements in design.

Keep Your Business Moving

A vehicle scale will have a long-term impact on your operation. In many cases, it is vital to your ongoing productivity and profitability. With a full range of weighbridges/truck scales and railroad scales, METTLER TOLEDO can work with you to find the right weighing solution to keep your business moving.

With industry-leading load-cell technology, software, and services – METTLER TOLEDO is your one stop shop for all things vehicle scale.

Learn More: Quality Built into Every Step

Get an inside look into our heavy capacity production facility and see how we build quality into every step.

▶ **www.mt.com/INDPlantVisit**

Truck and Rail Scale Models
Durability You Can Trust

METTLER TOLEDO vehicle scales are manufactured to the highest quality by a team of skilled engineers and welders, and then subjected to true lifecycle testing. The resulting scales are ruggedly dependable weighing machines that are made to perform.

▶ **www.mt.com/vehicle**

Learn More:
Unmatched Validation Testing
Learn more about life-cycle testing with the module masher.

▶ **www.mt.com/weighbridgetesting**

Steel Deck Truck Scales

Sleek yet durable, steel deck truck scales offer unsurpassed versatility

- **Quick-install**
  With no wait time for concrete curing, turn around time to a working scale can be as short as one day
- **Water tight bridge**
  Continuous welds and superior paint specifications deter corrosion
- **Sturdy design**
  Orthotropic ribs distribute weight from heavy loads to the strongest part of the scale

Concrete Deck Truck Scales

Rugged and dependable, concrete deck truck scales can endure the extreme

- **Slip resistant surface**
  Concrete deck scales provide superior grip in slippery conditions
- **Robust design**
  A concrete and steel composite structure designed to last
- **Customization available**
  Metalization of the weighbridge offers additional protection from the elements

Railroad Scales

Strength and durability Built to stand up to the massive loads of rail traffic

- **Strength**
  Proven structural designs to stand up to the most demanding applications
- **Longevity**
  Superior materials and manufacturing ensure long life, even with years of heavy loads and challenging environments
- **Versatility**
  Truck and rail scale combinations meet multiple needs in one scale to save space and money

	Steel Deck	Concrete Deck	Railroad
Weighbridge Types Available	Multi-module	Multi-module	Multi-module
Construction	Orthotropic steel ribs	Hybrid – steel deck pan, concrete deck	Steel or concrete deck, welded steel beams
Scale Lengths Available	3 to 42.7 m (10 to 140 ft)	3 to 42.7 m (10 to 140 ft)	3.8 to 22.8 m (12 to 75 ft)
Axle Load Range	22 t (low) to 114 t (high)	22 t (low) to 40 t (high)	85 t per axel set
Foundation Compatibility	Above ground, shallow or deep pit	Above ground, shallow or deep pit	Shallow pit
Shipping Requirements	Standard or container, per model	Standard or container, per model	Standard
Customizable	Yes	Yes	Yes
More Information	www.mt.com/vehicle	www.mt.com/vehicle	www.mt.com/rail-scales
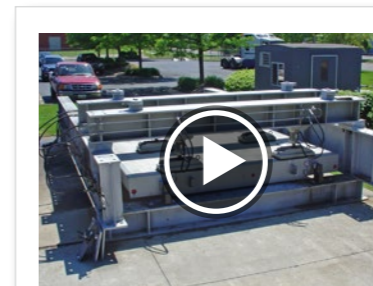
Remote Displays
For Weight Results from a Distance

Remote displays allow truck drivers and other personnel to see weights at locations other than where the scale indicator is mounted. The bright LED display is easy to read day and night. Three sizes are available with viewing distances of up to 80 m. Options include a built-in red/green traffic light and wireless communication between the display and the scale indicator. A durable aluminum enclosure makes the remote displays suitable for indoor and outdoor use.

POWERCELL® Load Cells
Protect Your Profits

POWERCELL® load cells have revolutionized vehicle weighing. With their unique design and patented digital signal processing – they bring a new level of performance to your vehicle weighing applications. Available in two models, POWERCELL® GDD® and POWERCELL® PDX® – you are sure to find the right fit for your operation.
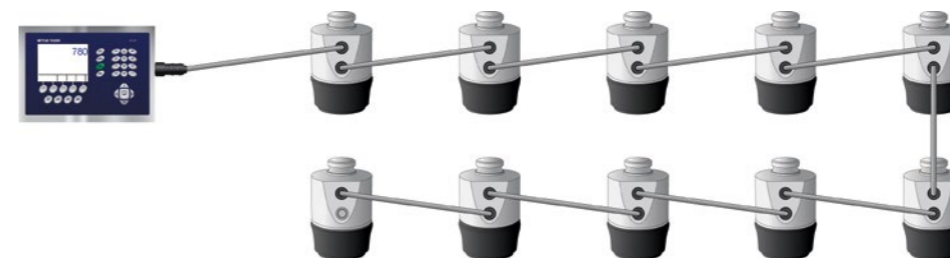
▶ **www.mt.com/NoJunctionBoxes**

All POWERCELL® load cells are constructed with 100% stainless steel components and are hermetically sealed and vacuum tested to ensure a long life.

True Accuracy
Digital signal processing enables our patented POWERCELL® technology to weigh as close as possible to the "true weight" of the load, so you can be confident in your results every time.
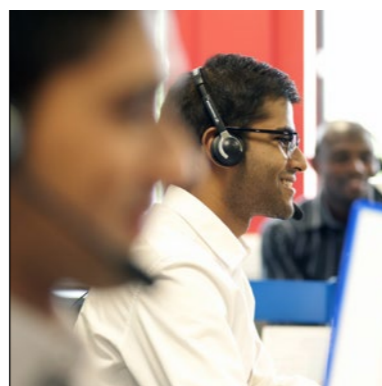
Advanced Diagnostics
A built-in diagnostics system gives you real-time data about the condition of each load cell, including weighing errors, environmental conditions, overloading, network health and voltages.

Environmental Protection
Truck scales operate in some of the harshest conditions possible. POWERCELL® offers advanced protection against water ingress and lightning strikes – common causes of scale downtime.

Simplified Network of POWERCELL® PDX®
POWERCELL® PDX® load cells connect to one another in a simple network that transmits individual load cell signals to the scale indicator, eliminating the need for a junction box. This enables outstanding reliability and simplified service.

10 Year Warranty

POWERCELL® Load Cells
Reliability You Can Count On

POWERCELL® load cells protect your business by ensuring that your vehicle scale weighs accurately day in and day out. This revolutionary technology cuts your operating costs by minimizing errors, reducing downtime, and simplifying service.

▶ www.mt.com/powercell

Learn More: Upgrading Your Vehicle Scale
Get information about Vehicle Scale upgrades.

▶ **www.mt.com/UpgradeToPDX**

	POWERCELL® PDX®	POWERCELL® PDX® Upgrade and Conversion Kit	POWERCELL® GDD®	POWERCELL® GDD® Upgrade and Conversion Kit	0782 Analog Load Cells
	The highest level of accuracy and reliability	All of the benefits of a PDX load cell system at a fraction of the cost of a new scale	Digital accuracy and reliability at an economical price	Get the advantages of the GDD load cell system: Improved performance and productivity	Trusted technology from the most trusted brand
	• **Simplified network** Ease of servicing with quick-connect cables and no junction boxes • **Environmental protection** Watertight load cells and cables form a network that is 100% submersible • **Proven accuracy** Accurate transactions on the truck scale mean less product giveaway	• **Improved accuracy** Improved accuracy will be noticeable immediately for quick ROI • **Easy installation** Technicians can usually complete a vehicle scale upgrade in one day • **Decreased maintenance** Improved reliability means fewer maintenance and repair bills	• **Digital accuracy** Easily calibrated to a high level of accuracy, built-in compensation • **Diagnostic capabilities** Allows you to view individual load-cell outputs on the scale indicator • **Cost-effective investment** Provides proven accuracy and reliability at an economical price	• **POWERCELL® hub** Our sealed POWERCELL® hub acts as a router for the CANBUS digital signal – no metrology adjustments are made inside the hub • **Simple connectivity** Cables are securely attached to GDD load cells at the factory for easy installation • **Superior diagnostics** Display individual load cell outputs to simplify troubleshooting	• **Versatile** Can be used in many applications that require reliable weighing at an economical price • **Time tested** A trusted load cell for many years
Capacity	20 t, 30 t, 50 t, 90 t	20 t, 30 t, 50 t, 90 t	20 t, 30 t, 50 t	20 t, 30 t, 50 t	20 t, 30 t, 50 t, 100 t
Accuracy	High	High	High	High	Mid
Communication	CAN	CAN	CAN	CAN	Analog signal
Network	No junction box	No junction box	POWERCELL® hub	POWERCELL® hub	Junction boxes
Diagnostics	Yes	Yes	Yes	Yes	No
Lightning Protection	> 80,000 A	> 80,000 A	> 29,000 A	> 29,000 A	Not rated
Breach Detection	Yes	Yes	No	No	No
Hazardous Area Approvals ⚠EX	IECEx/ATEX/ NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 and Div. 2)	IECEx/ATEX/ NEC (Zone 1/21 or Zone 2/22), NEC (Div. 1 and Div. 2)	n/a	n/a	IECEx/ATEX (Zone 1/21 or Zone 2/22), NEC (Div. 1 or Div. 2)
More Information	www.mt.com/powercell	www.mt.com/powercell	www.mt.com/powercell	www.mt.com/powercell	www.mt.com/powercell

In-Motion Weighing
Process Vehicles Quickly and Safely

We offer weigh-in-motion (WIM) solutions for trucks and railroad cars. These innovative solutions are designed to collect the vehicle weights and other data that your operation requires. They increase throughput by eliminating the need for vehicles to stop for weighing.

Process 3x Faster, with TruckPass™

TruckPass legal-for-trade WIM is now available to US customers. See how your operation could benefit when drivers do not have to stop on the truck scale!

▶ **www.mt.com/TruckPass**

	AxlePass WIM Scale	Highway WIM Solutions	Railroad CIM System
	An AxlePass scale can weigh as many vehicles as five static scales in a fraction of the time and at a fraction of the cost. It provides an efficient way for operations that handle large volumes of traffic to verify container weights or ensure that vehicles comply with highway weight limits.	Highway WIM systems measure the per-axle and gross weight of vehicles traveling at highway speed. This solutions makes the inspection and enforcement of highway regulations much more efficient.	A coupled in-motion (CIM) system weighs entire trains in a fraction of the time required for static weighing. This dynamic weighing solution provides legal-for-trade weights for individual railroad cars quickly and safely. It protects workers by eliminating the need to uncouple and recouple cars.
Applications	• Low-speed weigh-in-motion	• Checkweighing • Sorting	• Dual-draft weighing • Pseudo single-draft weighing • Combination CIM/static weighing
Vehicle Speed	Up to 25 km/h (15 mph)	16-64 km/h (10 – 40 mph)	Up to 10 km/h (6 mph)
Accuracy	Within ±2% gross vehicle weight at <10 mph	Within ±6% on gross weighing	Legal for trade in most markets
Processing	Automated vehicle processing	Automated vehicle processing	Automated vehicle processing
Versatility	Dynamic or static weighing	Dynamic weighing	Dynamic or static weighing
Data Collected	• Gross weight • Axle weight • Axle-group weight • Speed • Time and date	• Gross vehicle weight • Wheel load • Axle load • Axle-group load • Equivalent single-axle load • Speed • Axle spacing • Wheelbase • Lane • Direction • Time and date	• Railroad car weight • Train weight • Speed • Direction • Railroad car ID • Time and date
More Information	**www.mt.com/WIM**	**www.mt.com/WIM**	**www.mt.com/ind-rail-CIM**

Scale-Management Solution
Designed to Fit Your Business

Our three software packages make it easy to meet the specific needs of any operation. They enable you to process weighing transactions, capture data, and use the data with other business systems. Upgrade the software to expand its capabilities as your business grows.

▸ **www.mt.com/DataBridge**

DataBridge™ SS Software
DataBridge™ SS scale-house software is a PC-based solution for automating your vehicle-weighing operation. It provides complete control of one or two scales from a personal computer. The local database stores a detailed record of each weighing transaction for use with other software systems.

DataBridge™ MS Software
DataBridge™ MS software brings the benefits of scale-house software to larger operations with more complex weighing transactions. Install it on a network, so that multiple workstations can share data. This powerful solution speeds up weighing on multiple scales, manages transaction data, and protects against fraud.

DataBridge™ ES Software
DataBridge™ ES software provides a window into your vehicle-weighing operations. This enterprise solution consolidates data from multiple sites for centralized data management. It fits seamlessly into even the largest business, enabling the company-wide data sharing needed to maximize efficiency and productivity.

Benefits of DataBridge™

- Better organization, simpler processing, fewer errors and faster transaction time.
- Eliminates paperwork by storing a digital record of every weighing transaction in a secure database.
- Retrieve records for review, billing, and export, quickly and easily.
- Automatically generate and email report to your clients.
- Integrate unattended weighing operations and traffic management.
- Scalable solution that grows with the organization.
- Various pricing options to meet business requirements.
- Advanced anti-cheating features to protect profits.
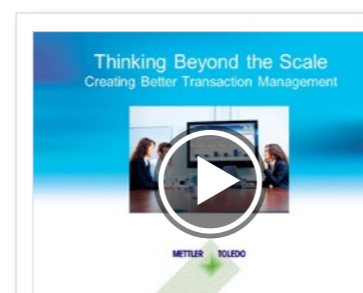
Watch Our Free On-Demand Webinar:

Thinking beyond the scale

▸ **www.mt.com/veh-beyondthescale**

Unattended Weighing
## Process Vehicles in a Fraction of the Time

Introduce self-service efficiency to your vehicle-weighing operation. Unattended weighing offers an effective strategy for increasing transaction speed and overall productivity while decreasing operating costs. It enables drivers to process their own weighing transactions without the need for a scale operator.

▶ **www.mt.com/VEH-Indicators**

Weigh More Trucks Per Day
An unattended weighing solution speeds up vehicle weighing by allowing drivers to process their own transactions. It enables facilities to improve transaction speed by over 50%. Unattended weighing is especially valuable to facilities that have multiple vehicle scales or operate 24/7.
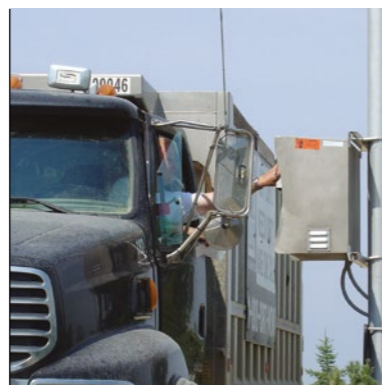
Reduce Operating Costs
Unattended weighing eliminates the need for a scale house with full-time scale operators on duty. By choosing an unattended driver scale indicator over a scale house, you can reduce construction costs, reduce the weighing operation's footprint, and free workers to handle other tasks.

Improve Safety
Costly accidents, trips and falls are the leading causes of non-fatal injuries to tractor-trailer drivers. Unattended weighing prevents accidents by keeping drivers safely inside their vehicles throughout the weighing process. Everything needed to complete a weighing transaction is right at the driver's fingertips.

IND9US Unattended Scale Indicator
- Standalone system with built-in IND780 scale indicator
- No personal computer required
- Optional accessories: keyboard, card reader, ticket printer, intercom

IND9UT Unattended Scale Indicator
- Touch screen simplifies transactions
- DataBridge™ software manages weighing data
- Controls ticket printing, traffic lights, and gates

DataBridge™ Express
- Drivers process weighing transactions on mobile devices
- Tickets sent by email
- Cost reduction of up to 75% compared to traditional driver scale indicators

Learn More: Streamline Vehicle Transactions
See how you can improve productivity and throughput at the scale

▶ **www.mt.com/ VEH-Contactless**
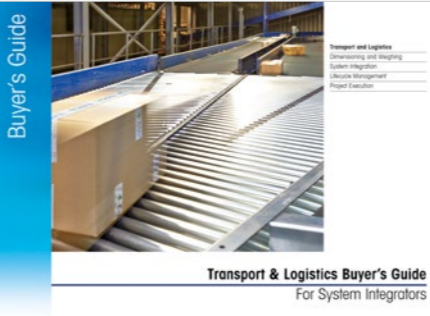
Our Solutions
For Your Production

Static and Dynamic Parcel Systems
Solutions and Components

Whether your operation calls for simple weighing or complex data-capture with high-throughput weighing and integrated dimensioning/barcode reading there are solutions for every requirement.

▶ **www.mt.com/dynamic-parcel**

Transport and Logistics Buyer's Guide For System Integrators

Download your free copy to discover our full range of weighing and dimensioning components for accurate high-throughput parcel measurement.

▶ **www.mt.com/TL-BuyersGuide**

	TLX Basic	**TLX Advanced**	**TLW160**	**TLW360**	**TLW450**	**XS100 DualScale**
	Basic turn-key dimensioning, weighing and scanning	Advanced turn-key dimensioning, weighing and scanning	Roller conveyor scale developed specifically for the stop-and-go weighing requirements of eCommerce, fulfillment distribution centers, and warehouses.	Cost-effective dynamic weighing with reliable performance	High-speed, high accuracy dynamic weighing	High performance, high throughput weighing with exceptional robustness
	• **Cost-effective DWS** Industry-leading technology in a simple DWS configuration	• **Highest read rates** Any shape, any surface Multi-sided barcode reading • **Advanced operation modes** Fully configurable customized interfaces • **Powerful data management** Communicate with any sorter • **Sorting and tracking**	• **Essential performance** Ideal for pick-to-ship containers and packing stations, where the operator statically weighs the package before moving it to the next station.	• **Essential performance** Reliable, cost-effective dynamic weighing	• **High speed** Speeds up to 180 m/min Fast data communication • **High accuracy** Accuracy in all conditions	• **High speed** Speeds up to 240 m/min Fast data communication • **High throughput** Two weighing belts that can be combined into a third virtual weighing belt Flexible weighing point • **Robust design** Sturdy frame and feet Stiff, lightweight conveyor body
Flexible Weighing Point	No	Yes	No	No	Yes	Yes
Dimension and Barcode Merging	Yes	Yes	Optional	Optional	Yes	Yes
Advanced Filter Technology	Yes	Yes	No	Yes	Yes	Yes
Multi-Lingual Scale Indicator	No	Yes	Yes	Yes	Yes	Yes
Advanced Operation Modes	No	Yes	Yes	No	No	Yes
Delivered with Dimensioning and Barcode Reading	Yes	Yes	Optional	Optional	Optional	Optional
Speed	72 m/min	120 m/min	Stop-and-Go	Up to 120 m/min	Up to 180 m/min	240 m/min MID, 180 m/min NTEP
Throughput	Up to 1,500 pcs/h	Up to 6,000 pcs/h	Up to 1,000 pcs/h	Up to 7,200 pcs/h	Up to 11,000 pcs/h	Up to 18,000 pcs/h
Accuracy	50 g	20, 50 g	10, 20 g	2, 5, 10, 20, 50 g	5, 10, 20, 50 g	20 g (138 m/min MID), 50 g
More Information	www.mt.com/TLX-Basic	www.mt.com/TLX-Advanced	www.mt.com/TLW160	www.mt.com/TLW360	www.mt.com/TLW450	www.mt.com/XS-DualScale

* Depends on single or dual scale configuration and weight of load

Dynamic Parcel Weighing
High Speeds, High Throughputs

METTLER TOLEDO dynamic parcel scales are designed for seamless integration into any sorting system. Choose from a variety of sizes, configurations and accessories to meet your individual operational requirements.

▶ **www.mt.com/dynamic-parcel**

A flexible weighing point can increase scale throughput by up to 30%. The weighing time is determined based on parcel length to optimize parcel gapping.

Easy Integration
Dynamic scales, TLW450 and XS100 DualScale offer seamless integration with dimensioners, barcode readers and convey-ors. Choose from a selection of standard interfaces or request a customized protocol.

Global Standards
Tailor your system based on a wide range of standard designs and benefit from short lead times, standardized installation proce-dures and easily available spare parts.

High Throughput
Short measuring times, smart gapping and special system design work together to achieve highest throughputs, keeping sorter efficiency at its peak.

Accuracy in Tough Conditions

METTLER TOLEDO dynamic scales use state-of-the-art load-cell technology to achieve top weighing accuracy at any speed, in all conditions.

Advanced technology filters out environmental disturbances such as vibrations from motorized systems which can negatively impact results.

Combined with a rugged, robust design, this feature works to ensure high precision and reliability in tough conditions including mezzanine installation or installation within a high-speed sorting system.

Dynamic Parcel Dimensioning
See More Revenue

With the ability to accurately obtain dimensions of difficult-to-measure packages of any shape at high speeds, METTLER TOLEDO dimensioners provide read rates and revenue recovery that others cannot match.
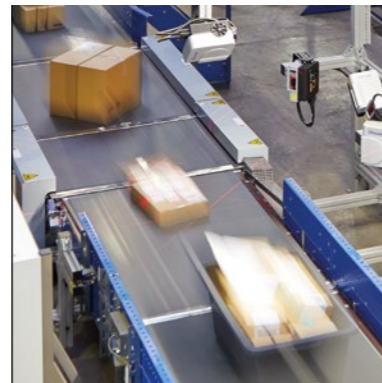
▸ **www.mt.com/TLD950**

With larger optics that let in more light and a wider dynamic range, METTLER TOLEDO dimensioners provide the best read rates in their class.
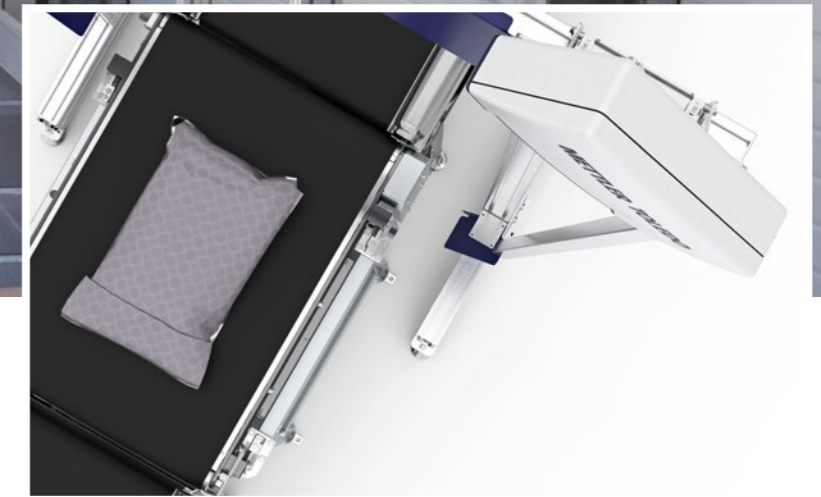
Recover More Revenue
Easily and accurately measure all parcels of all shapes, colours and wrappings, for maximum revenue recovery.

Reduce Miss-Sorts
Reduce the number of rejects for improved sorting efficiency and reduced manual handling costs.

Recover Revenue on Flats
An approved measurement accuracy of 2 mm in height allows for legal-for-trade invoicing of flat parcels down to 20 mm for additional revenue.

Any Speed, Any Shape
TLD950 Dimensioners

Dimensioning Solution	TLD950 SingleHead	TLD950 MultiHead
Singulated Cuboidal Shapes	Yes	Yes
Singulated Irregular Shapes	No	Yes
Touching Regular Shapes	Yes*	Yes*
Max. Size (LxWxH)	4,000 x 900 x 900 mm	4,000 x 1,600 x 1,200 mm
Min. Size (LxWxH)	50 x 50 x 20 mm	50 x 50 x 20 mm
Belt Speed	3.3 m/s	3.3 m/s
Conveyor Type	Flat conveyor belt	Flat conveyor belt and cross-belt
Legal for Trade Accuracy (LxWxH)	5 x 5 x 2 mm	5 x 5 x 2 mm
Legal for Trade Approvals	NTEP, MID and Measurement Canada	
More Information	www.mt.com/TLD950SH	www.mt.com/TLD950MH

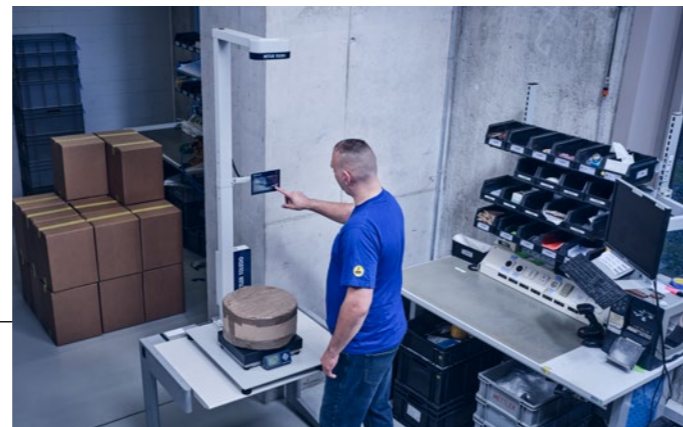*Certain conditions apply

TLD250 Static Dimensioner
User-Friendly, Adaptable Design

The cost-effective TLD250 static dimensioning system is engineered to automatically dimension parcels and packages in post offices, sorting facilities, distribution centers and warehouses. With only three main components, the TLD250 features an adaptable design and can be placed on a desk or mounted on a wall, enabling convenient ergonomic positioning to maximize productivity.

▶ **www.mt.com/TLD250**

Camera-Based Measurement Technology
The TLD250 features a vision-based sensor with intelligent algorithms to capture measurements in less than 2 seconds, even for non-cuboidal objects, and provides photo proof for claims processing.

Easy Setup and Operation
The 7" touchscreen display offers a simple setup wizard, live images, alerts and measurement results to streamline operational efficiency.

Flexible Connectivity
Easily integrate with a scale, barcode reader and host systems using RS-232, USB Keyboard Wedge, HIDPOS, Ethernet or Bluetooth.

Rugged and Durable
The rugged mild steel stand and base plate protect your investment from damage even in the most demanding environments.

TLD250 Technical Specification

Combine with a scale and barcode reader to achieve a complete dimensioning, weighing and ID solution suited for retail, warehouse and distribution centers. TLD250 is also adaptable to different height arrangements to meet your operational conditions.

Dimensioning Accuracy	Cuboidal: +/- 5 mm (0.2 in) Non-cuboidal: 10 mm (0.5 in)
Dimensioning Range (LxWxH)	Min: 60 x 60 x 60 mm (2.4 x 2.4 x 2.4 in) Max: 1000 x 600 x 600 mm (39 x 24 x 24 in)
Measurement Time	1 - 2 seconds
Object Shape	Cuboidal and non-cuboidal objects (cylinder, polygon)
Object Surface Characteristics	Opaque. Note: highly reflective surfaces may cause performance deviations.
Scale Interface	USB (HIDPOS)
Host Interface	Standard: 1 x RS232, 1 x USB, 1 x Ethernet Optional: Bluetooth

NTEP   OIML*   C E   c UL us   MID*   FCC

* Pending

CSN810 TableTop™
Improve Manual Operations

The CSN810 TableTop™ can be easily set up in any type of parcel handling operation. The compact workstation captures parcel dimensions, weight and ID in low-to-medium throughput operations or the hospitable area of an automatic sorting system.

▶ **www.mt.com/CSN810**

When built into the hospitable area of an automatic sorting system, the CSN810 TableTop offers the ideal solution for capturing data on rejected parcels.

Fast, Paper-Free Measuring
Improve productivity by automating the measuring process. Simply scan the barcode and capture dimensions and weight automatically.

Simple Integration
Simple set-up and seamless communication to IT systems means the CSN810 is easily incorporated into existing processes.

Easy to Use
A user-friendly graphical interface and ergonomic system design requires little operator training. Accurate, reliable results are guaranteed.

Static Dimensioning, Weighing and Scanning
CSN810 TableTop™

The CSN810 TableTop is supplied with either a flat or roller table. It also comes in an extra-large version where the flexibility to measure larger goods is required. Specifications vary depending on the model selected.

|	
Dimensioner Accuracy	± 5 mm
Dimensioning Range (LxWxH)	Min. object size: 50 x 50 x 50 mm Max. object size: 1,200 x 900 x 900 mm
Weighing Range	0.4 kg – 150 kg
Scale Resolution	± 20 g
Object Throughput	Approx. 400 per hour
Measurement Time	3 seconds
Object Shape	Rectangulars
Legal for Trade Approvals	NTEP, MID and Measurement Canada
More Information	**www.mt.com/CSN810**

TLD870 – Static Pallet Dimensioning
Simple, Fast, Accurate

Freight companies need to measure pallets quickly for revenue recovery, costing, invoicing and load planning. The TLD870 speeds up the measuring process and keeps operations running smoothly.

▶ **www.mt.com/TLD870**

OCTO ImageCapture™ takes a picture of each shipment for proof of condition, content and measurement using a legal-for-trade system.
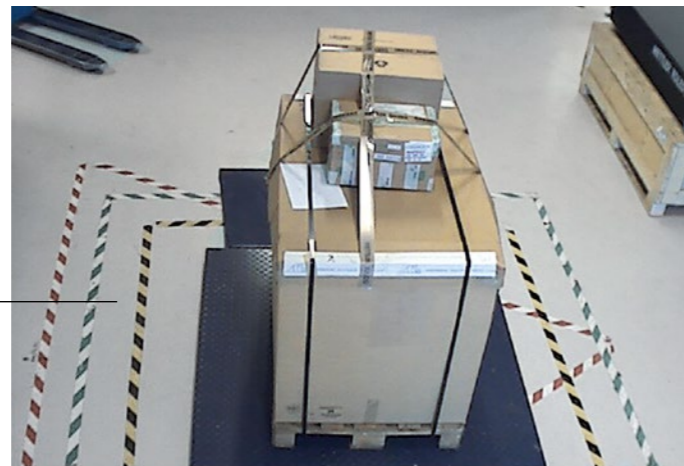
Fastest Measurement
Quick measuring time allows you to measure more pallets more efficiently. Recover revenue on up to 240 pallets an hour without impeding operations or missing cut-off times.

Easily Measure Any Pallet
Some pallet wrappings cause problems for dimensioners. The TLD870 gives an accurate reading on 99 percent of surface types for easy, efficient revenue recovery.

High Uptime, Low-Cost Service
For revenue recovery you can rely on, choose a pallet dimensioner that is designed for tough, industrial environments with no need for regular replacement of wear parts.

Fast, Efficient and Hassle Free
TLD870 Pallet Dimensioner

The TLD870 captures dimensions of any pallet in a matter of seconds. Combine it with floor or forklift scales to form a complete pallet dimensioning, weighing and scanning solution.

Dimensioner Accuracy (LxWxH)	± 10 x 10 x 10 mm
Dimensioning Range (LxWxH)	Min. object size: 200 x 200 x 100 mm Max. object size: 2,500 x 2,500 x 2,600 mm
Object Throughput	Approx. 240 per hour
Measurement Time	2 seconds
Object Shape	Any shape
Surface Characteristics	Most surfaces
Orientation	Most stable side down
Legal for Trade Approvals	NTEP, MID and Measurement Canada
More Information	**www.mt.com/TLD870**

TLD970 – Dynamic Pallet Dimensioning
## Non-Stop, In-Motion Measuring

To keep efficiency at its peak, you need a pallet dimensioner that doesn't put restrictions on your operation. The TLD970 measures trucks traveling at speed, requiring no slow-down or careful positioning of the truck. This solution integrates so seamlessly into operations you won't even know it's there.

▶ **www.mt.com/TLD970**

The smart, patented design of the TLD970 takes full advantage of METTLER TOLEDO's best-in-class dimensioning technology to record all data needed for in-motion pallet measurement.
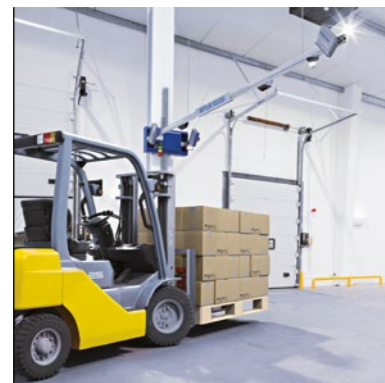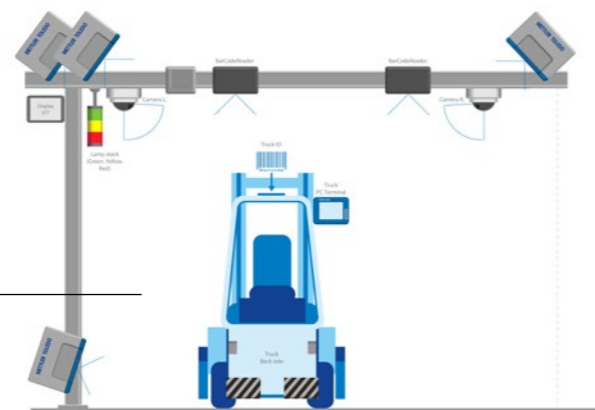
**Improve Efficiency
By up to 70%**
Measure up to 720 pallets an hour in a fully automatic, non-stop process.
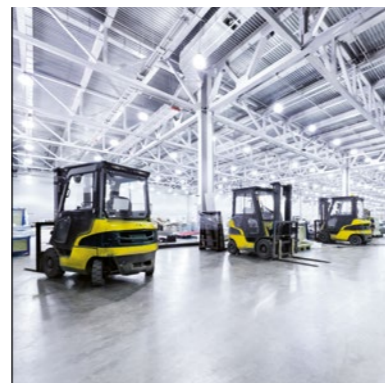
**No Slow Down,
No Measuring Restrictions**
Simply drive through and measure without thinking about forklift speed or position.
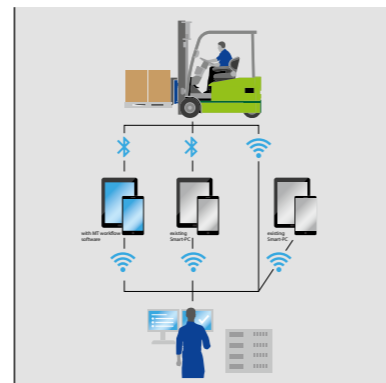
One Efficient Process
Combine dimensions, weight, pallet ID and image for a complete data profile on every piece of freight you handle.

Automatically Measure Any Pallet
No Restrictions

Achieve high accuracy on almost any pallet passed through with a forklift truck.

Dimensioner Accuracy (LxWxH)	± 20 x 20 x 10 mm
Dimensioning Range	Min. object size: ± 200 x 200 x 100 mm Max. object size: 168 x 96 x 102 in (NTEP) Max. object size: 96 x 96 x 102 in (MC) Max. object size: 2,500 x 2,500 x 2,600 mm (MID)
Pallet Throughput	720 pallets an hour
Measurement Time	Under 1 second
Speed	Legal for trade measurements of pallets on forklift trucks traveling up to 10 MPH (NTEP and MC) or 15 KM/H (MID)
Object Shape	Any shape
Surface Characteristics	Most surfaces
Orientation	Multi-directional scans with pallet positioned on forklift truck
Legal for Trade Approvals	NTEP, MID and Measurement Canada
More Information	**www.mt.com/TLD970**

Note: The TLD970 is currently only available in select markets. Inquire with your local representative about availability in your area.
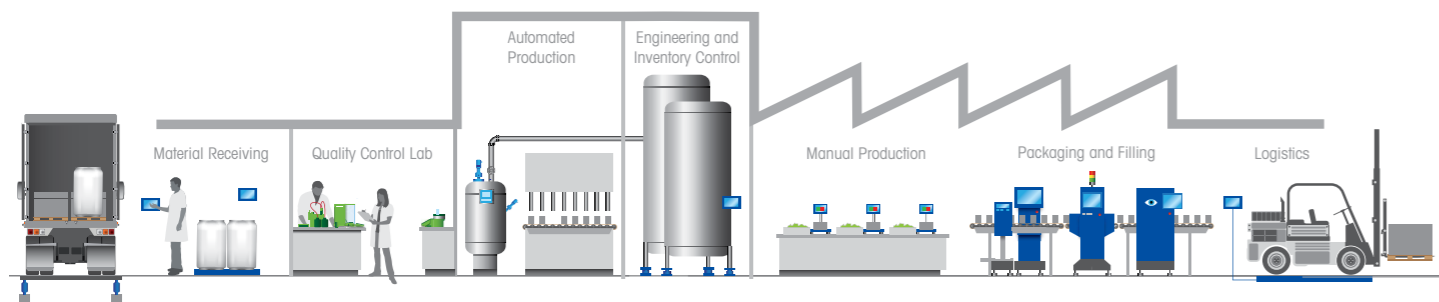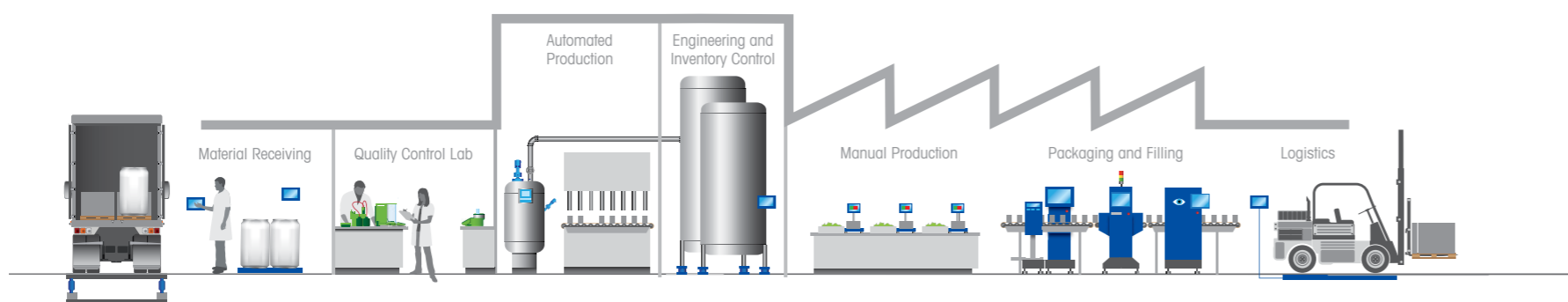
Providing Service Solutions
Across Your Value Chain

Providing Service Solutions
Across Your Value Chain

Whatever the application, we provide you with a tailor-made service solution independent of industry, environment or regulation based on our four values: uptime, performance, compliance and expertise. We support you in mastering your daily challenges. This helps you guarantee product quality, on-time deliveries, regulatory compliance and appropriate user competences.
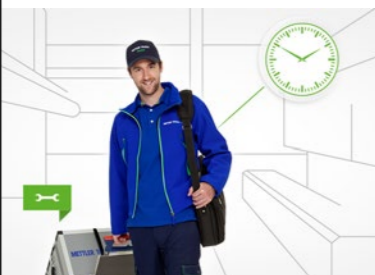
▶ **www.mt.com/service**

Automated Production

Engineering and Inventory Control

Material Receiving   Quality Control Lab

Manual Production   Packaging and Filling   Logistics

Our instruments meet the highest technical standards.
**Are you aware of your most important performance-assurance needs?**

Are fast intervention and turn-around times crucial to meet your shipment and delivery dates?

Are your measurement results meeting productivity, quality and regulatory requirements?

Does the accuracy of your measurement equipment meet your quality requirements?

Do you know how to apply metrological concepts, safety procedures and food and pharma standards to optimize your process?

Uptime
You require every minute of uptime. This means guarding against equipment breakdown, parts failure and "wear and tear" issues.
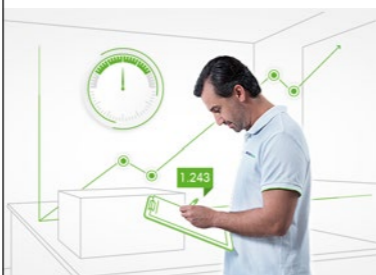
Performance
With periodic preventive maintenance, you achieve consistently accurate results, avoiding unexpected downtime and saving money.

Compliance
Whether you operate under ISO 9001 or strict pharmaceutical regulations, you require documented testing procedures and an accepted calibration certificate.

Expertise
Ensure you receive training and consultation on measurement technology, regulations and applications.

Over 5,000 Factory-Trained Service Specialists Worldwide

Global Presence
We serve our customers worldwide with one of the largest sales and service networks in the industry to assist you in increasing the efficiency, cost-effectiveness, safety and reliability of your operational processes. Our geographically-focused market organizations ensure close relationships with users. These organizations have the flexibility to adapt support and service offerings to different user requirements.

Our factory-trained and authorized service technicians help guarantee:
- Continous operational manufacturing quality and maximized uptime.
- Comprehensive, audit-proof and fully traceable electronic certificates.
- Consistency in procedures and certified, traceable tools.
- Highest operational performance for your compliance needs with combined equipment installation and qualification.

A Complete Service Offering
For the Entire Product Life Cycle

We support and service your equipment throughout its entire life cycle, from installation, preventive maintenance and calibration to equipment repair. Our experience across these areas ensures you receive high-quality service. Through efficient practices, we minimize costs throughout the service call – an important feature that distinguishes us from our competitors.

▶ **www.mt.com/service**

Lifetime Peak Performance
With METTLER TOLEDO, you selected the most precise and reliable equipment possible and we want to ensure your absolute satisfaction over the lifetime of your equipment. Discover more about our service expertise and the benefits we can provide to you through all stages of the product's life cycle.


Good Weighing Practice™
GWP® is a METTLER TOLEDO program for accurate weighing. From selection of suitable equipment to proper installation, calibration and routine testing, GWP® ensures your scale is performing accurately and is fit-for-purpose.

Installation and Qualification
StarterPac guarantees professional installation, configuration and user familiarization for the full performance right from the start. IPac adds qualification services to comply with external regulations.
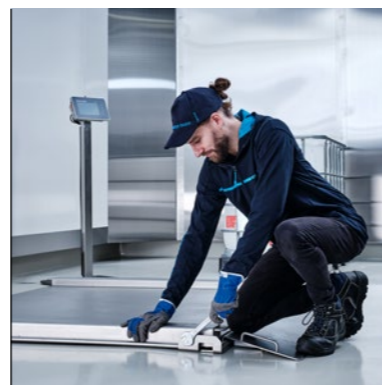
Maintenance and Repair
Care contracts ensure continuous performance and maximum availability of equipment and software solutions. Keep maintenance budgets under control and get back up and running quickly in the unlikely event of a breakdown.


Calibration and Verification
To ensure accuracy over time, assess the performance of your device with the Accuracy Calibration Certificate (ACC).
• Proves that the device is fit-for-purpose with tolerance testing
• Specifies a risk-based routine testing and calibration plan with GWP® Verification

Training
Solid skills for equipment operations, quality assurance and maintenance are key to achieving maximum performance. Our comprehensive training courses provide you with these skills so you can use your equipment effectively on a day-to-day basis.
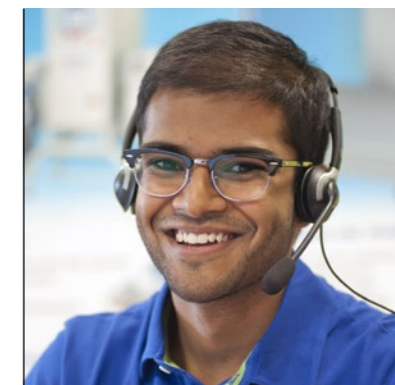

Remote Services
Trained and certified METTLER TOLEDO specialists ensure complete on- and off-site support over the entire product life cycle. Remote services empower you to manage equipment performance more efficiently and economically.

Installation and Extended Care
## Ensure a Perfect Start

You expect your new equipment to fulfill all requirements right from the start. Our factory-trained service engineers install your instrument according to the manufacturer's requirements and carry out practical operator training. Safe, routine operation is ensured so you can meet quality and regulatory standards from the beginning.
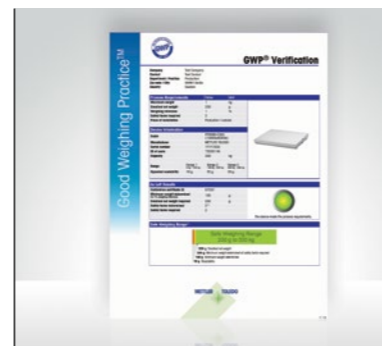
▶ **www.mt.com/service**
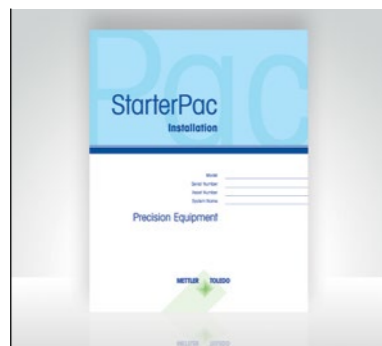
StarterPac
The StarterPac is designed for professional product installations and solid user familiarization in low-regulation or unregulated industries.
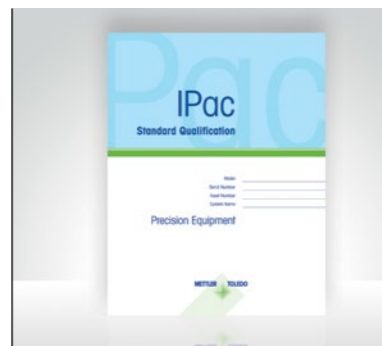
IPac
The IPac is designed for regulated industries with the need for ensuring that products are safe and of consistently high quality.

AccuracyPac
The AccuracyPac is designed to assure compliance and optimal performance with a risk-based routine test plan.

Extended Care – Reliable Results,
Secured Uptime and Full Cost Control

The first year of equipment operation is essential to ensure ongoing performance. The Extended Care Program protects your investment beyond the limited scope of the legal warranty with regular testing and maintenance, priority on-site service and technical hotline assistance.

Coverage	Regular Warranty	ExtendedCare
Preventive Maintenance	12 months	24 months
Annual inspection and cleaning, annual performance tests to manufacturer standards, adjustments if necessary, replacement of worn-out parts		●
Coverage in Case of Technical Problems	12 months	24 months
First year of warranty, labor cost included		●
Intervention on-site	●	●
Additional year of warranty, priority for intervention, travel cost included, hotline technical assistance	Only for some equipment, mail-in otherwise	●
More Information	www.mt.com/service	

Save time and be safe right from the start!
METTLER TOLEDO installation ensures:

✓ Measurement accuracy thanks to expert installation and initial qualification
----
✓ Proof of optimum equipment performance

✓ Avoidance of out-of-specification measurements

✓ Assurance of conformity by documented test results

✓ Improved productivity through professional user training

"The correct equipment setup and user training improve your productivity."

Equipment Qualification
Peace of Mind on Test Results

Our qualification services can help you go the extra mile to ensure your equipment is running optimally and in a safe and compliant manner. We also ensure your environment is suitable for the equipment's intended purpose and that operators are trained on equipment functions, cleaning procedures and basic diagnostics.

▶ **www.mt.com/service**

Professional Equipment Qualification Offers You:
• Documented performance through application of standardized calibration and performance verification procedures
• Cost savings in testing thanks to optimized qualification protocols
• Expert support for test development providing confidence that the equipment consistently performs according to process requirements
• Routine operational support protecting your investment and ensuring long-term data safety and full budget control

METTLER TOLEDO Installation Pacs

	StarterPac	**I**Pac	**Accuracy**Pac
Scale Selection			
GWP® Recommendation	●	●	●
Installation			
Installation and Setup Onsite	●	●	●
User Familiarization	●	●	●
Installation Qualification (IQ)	●	●	●
Operational Qualification (OQ)		●	●
Performance Qualification (PQ)		●	●
Maintenance Qualification (MQ)		●	●
Calibration and Routine Testing			
Accuracy Calibration Certificate (ACC)[1]	recommended	recommended	●
Process Tolerance Assessment: GWP® Certificate			●
Risk-based testing and calibration plan: GWP® Verification			●

[1] Available with accredited certificate ISO 17025

Benefit from Qualification Services

Thanks to METTLER TOLEDO's equipment qualification services, you can be sure that your equipment consistently returns accurate and precise results in its dedicated working area.

Software Validation
Software validation service conducted by factory-trained service technicians provides evidence that all software requirements have been implemented correctly and completely, delivering traceable results according to your system's requirements.

Calibration and Performance
We carry out initial calibration and performance verification to confirm optimal equipment setup and fulfillment of your process requirements, standards and regulations.

Globally Accepted Protocol
Our Installation Pacs provide documentation of the original state of the equipment as well as on-going calibration and maintenance activities. This provides a complete historical data set on your equipment performance throughout the life cycle.

Preventive Maintenance
For Proven Precision and Reliability

You need to rely on your equipment; it has to be fully operational and provide correct results at all times. Your processes, equipment and documentation also have to comply with regulations. METTLER TOLEDO offers various maintenance packages to fit your specific requirements, helping you reduce costs and offering peace of mind regarding measurement quality.

▶ **www.mt.com/service**

Protect Your Equipment Against Downtime
Performance Issues and Unexpected Material Costs

Our ComprehensiveCare Package ensures maximum uptime and optimum performance at a fixed price. It gives you privileged access to our extensive expertise by offering a single solution for maintenance, consulting and reliability with full budget control. The package offers:

• Equipment inspection to help avoid unexpected downtime
• Equipment testing that confirms accuracy to ensure optimum performance
• Preferred service intervention to eliminate wait time for repairs
• Labor and spare parts coverage to ensure full cost control

METTLER TOLEDO Maintenance Packages

Coverage	BasicCare	StandardCare	ComprehensiveCare
Preventive Maintenance • Inspection and cleaning of all mechanical components • Inspection and testing of electronic components • Inspection for wear and damage	●	●	●
Equipment Operational Testing	●	●	●
Preferred Service Intervention	●	●	●
Discounted Repair Labor	●	●	●
Technical Hotline Access		●	●
Repair Labor Coverage in Case of Equipment Breakdown		●	●
Spare Parts Coverage			●
Calibration and Verification	Added according to your requirements and regulations		
More Information	**www.mt.com/service**		

Increase accuracy, reliability and process efficiency with regular maintenance from METTLER TOLEDO Service:

✓ Optimum equipment performance

✓ Reliable operating procedures

✓ Traceable measurement accuracy

✓ Proactive protection against equipment failure

✓ Higher testing throughput

"Planned maintenance helps to guarantee accurate measurements and optimal equipment performance."

The Key to Compliance
With Calibration and Verification Services

METTLER TOLEDO Service knows what it takes to stay accurate and compliant. MiraCal+, the proprietary calibration and certification system of METTLER TOLEDO, provides total consistency by guiding our service technicians through globally applicable standard operating procedures. We offer a variety of calibrations, specialized calibration tools, and professional certificates to help you get accurate results and pass audits at all times.

▸ **www.mt.com/ACC**


Accuracy Calibration Certificate
ACC documents scale performance by determining the uncertainty of measurement-in-use with "As Found" and "As Left" statements. The certificate is globally standardized and fulfills EURAMET guidelines. Also available as ISO17025 accredited version in almost 30 countries.

Calibration Assessment
Assure that your scale is fit-for-purpose with tolerance testing.
• **GWP® Certificate**
  Use the full accuracy potential to reduce waste and improve quality and productivity
• **OIML / HB 44 Annex**
  Comply with legal-for-trade requirements
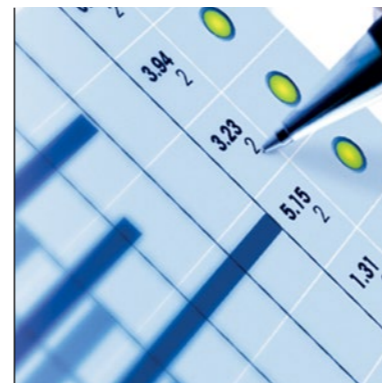
Scale Verification
Confirm the scale continues to meet your requirements over time with a risk-based routine testing plan and calibration and service frequency, with the GWP® Verification.

"With calibration and routine testing, you assure process tolerances that maximize your quality, productivity, and compliance."

Be accurate and compliant with METTLER TOLEDO's calibration and certificate service:

✓ Regulatory compliance by using certified and accredited calibration procedures

✓ Professional, easy-to-read certificates

✓ Audit-proof documentation

✓ Reliable measurement results thanks to regular instrument calibration

✓ Avoidance of inaccurate measurements and their cost potential
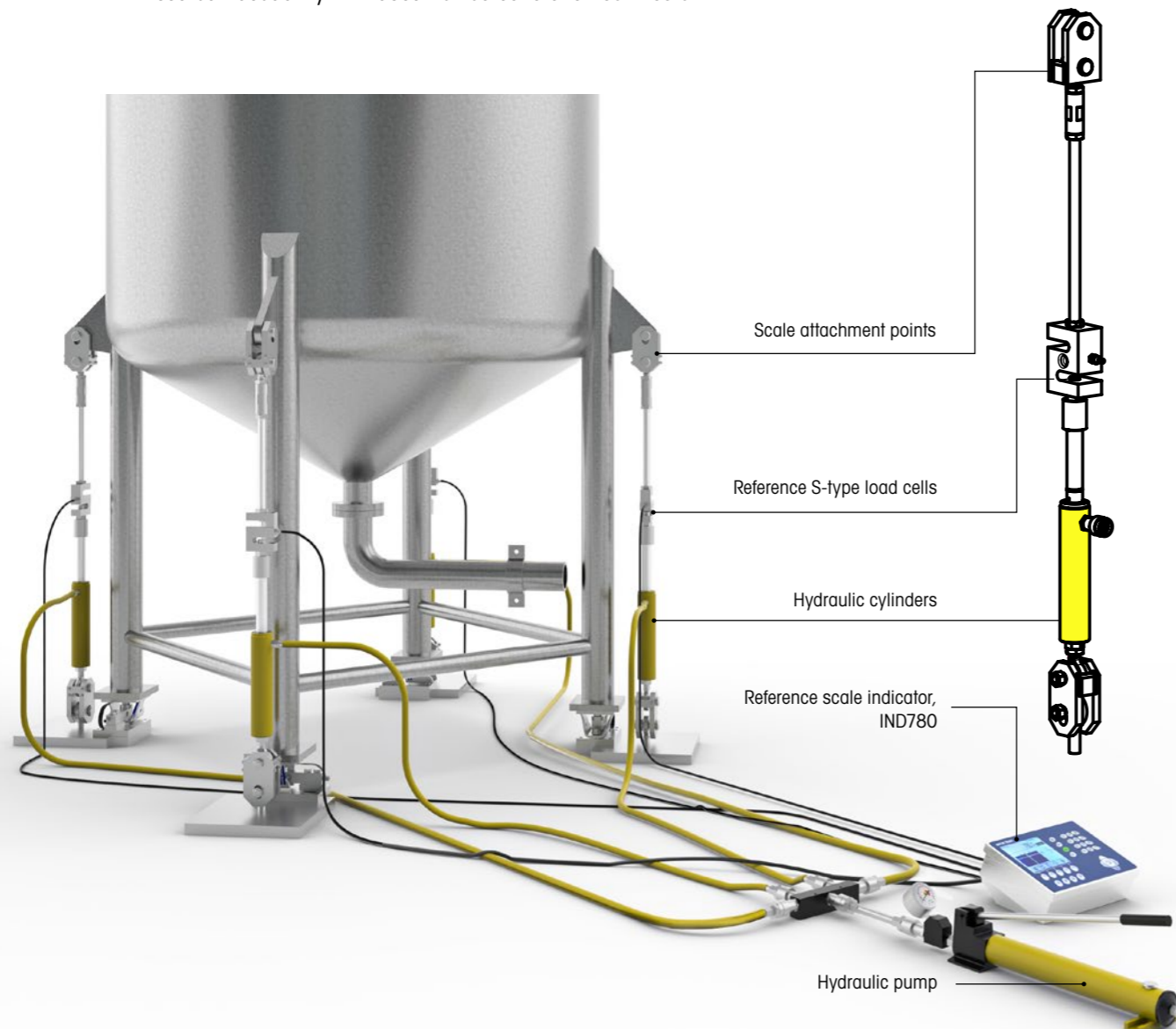
RapidCal™ Tank Scale Calibration
Maintain Accuracy for High-Capacity Scales

The new and innovative RapidCal™ calibration method from METTLER TOLEDO uses hydraulic equipment to apply downward force to the tank scale. It offers an economical and fast calibration that is accurate, traceable, and free of the need for test weights or purified liquids. This means less downtime when calibrating high-capacity tanks with no risk of scale contamination.

▶ **www.mt.com/ind-RapidCal**

RapidCal Provides the Following Benefits Over Traditional Calibration Methods:
- Up to 3x faster than flowmeter or substitution calibration
- 0.1% reference system accuracy for tank scales with capacities between 1 t – 32 t
- No risk of tank contamination
- Assured traceability with documented calibration certificate

Scale attachment points

Reference S-type load cells

Hydraulic cylinders

Reference scale indicator, IND780

Hydraulic pump

Faster Calibration Process
RapidCal Tank Scale Calibration is up to three times faster than flowmeter or substitution methods, requiring less downtime for the overall calibration process. RapidCal allows you to get back to production quicker.
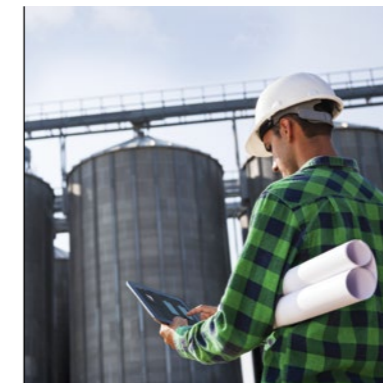
High Accuracy for High Capacity
Designed for tanks between one ton and 32 tons, RapidCal provides an accurate solution to calibrate your high-capacity tanks through their full range. With an accuracy of 0.1 percent, RapidCal is more accurate than other methods.

Reduced Environmental Footprint
RapidCal requires no external material for calibration. This means that no water or material is introduced into your tank, removing the need for waste disposal and reducing overall water consumption.

Green MT

User Training and Application Support
Confidence and Know-How

Get the most out of your equipment. Our comprehensive training courses provide you with all the skills you need to use your equipment effectively on a day-to-day basis. Profitability, compliance, and equipment longevity are fundamental to a company's success. At METTLER TOLEDO, we believe that training plays an integral part in sustaining this process and maximizing efficiency.
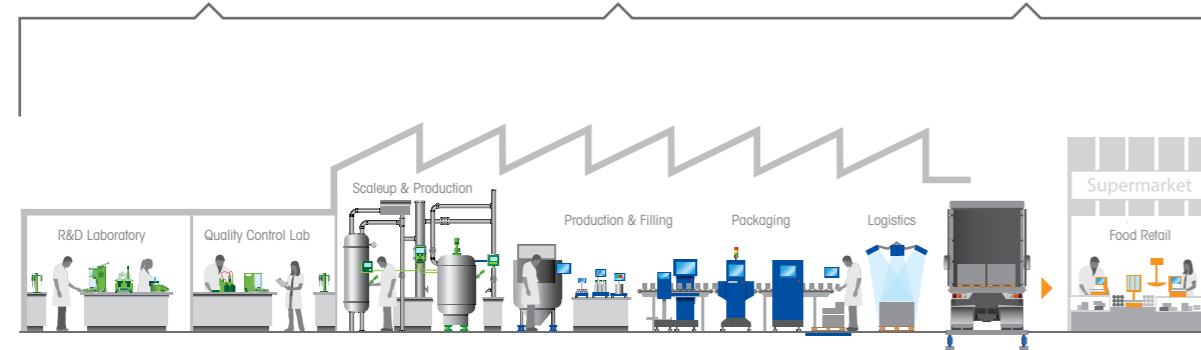
▶ **www.mt.com/service**

Training Tailored to Your Needs
Our experts have developed a range of different training modules for specific equipment types and audiences to help participants gain a comprehensive understanding of their instrument and keep their processes running at maximum performance.

Training Module Contents:
• General introduction and technical basics
• Functional hands-on training in operational area
• Practical tests on respective systems and processes

**Operation
Training Module**

Operate your equipment as efficiently as possible and provide your users with expert knowledge.

**Quality Assurance
Training Module**

Support your quality assurance scheme and to identify and avoid possible risks.

**Maintenance
Training Module**

Prevent unplanned downtime and carry out equipment maintenance easily.

R&D Laboratory | Quality Control Lab | Scaleup & Production | Production & Filling | Packaging | Logistics | Supermarket | Food Retail

Good Weighing Practice™
Fine-Tune Your Weighing Process

Are you sure your scale is weighing accurately? Can you verify that it is it fit-for-purpose? Do you know the simple way to achieve consistent quality, save costs and ensure compliance?

To help you answer "Yes" to all the questions above and support you in managing your entire weighing program, METTLER TOLEDO developed the globally recognized standard Good Weighing Practice™ (GWP®). Here is how it works in three simple steps:

▶ **www.mt.com/GWP**
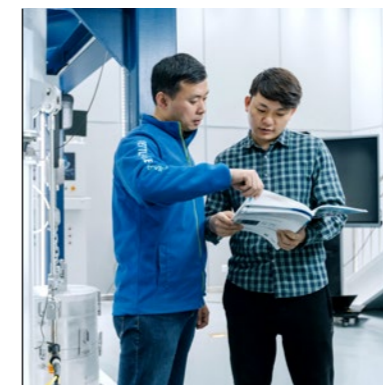
**GWP® Recommendation –
The Right Equipment in Place**
• Make use of our weighing competence to select the right scale for your specific application. Selection is the first step to meet accuracy and process requirements.
• Gain the security you need before making a purchasing decision.
• The service is free-of-charge and easy-to-apply.

**Installation Packages –
Full Performance from the Start**
• Ensure your new scale is running optimally in a safe and compliant manner from day one.
• Gain guidance to control environmental influences that affect the accuracy of your weighing results for enhanced accuracy.
• Make sure you have the required skills to operate and maintain scale performance in regulated environments.

**ACC and GWP® Verification –
Ensure Accuracy Over Time**
• Assess the performance of your device by documenting the measurement uncertainty in use with the ACC Calibration Certificate.
• Prove that your device is fit-for-purpose – with the GWP® Certificate.
• Specify a risk-based routine testing and calibration plan with GWP® Verification.

GWP ®
Good Weighing Practice™

With GWP®, You Profit from:
• Increased yield through tighter process tolerances and optimized routine testing
• Optimal use of your weighing instrument from the smallest net weight to its maximum capacity
• Constant and consistent quality by weighing in the safe weighing range
• Audit-readiness with a full set of audit-proof documentation

Uptime – Repair and Support
Rely on the Manufacturer's Competence

Your instruments are often subject to tough environments and high utilization in critical processes. Equipment uptime is crucial to productivity. When equipment fails, immediate action is required – either onsite or at our repair center.

▶ **www.mt.com/service**

METTLER TOLEDO Service provides fast intervention to minimize downtime using proprietary tools and safe and standardized work procedures. Our repair services help you restore your equipment and gain the uptime that is critical for your productivity.

- **Onsite repair** – Fast response times from a factory-trained and certified field force using proprietary tools and original spare parts.
- **Service center repair** – Fast turnaround times for cost-effective diagnostics and repair returning equipment to factory-specifications.

Remote Services
Remote services empower you to manage equipment performance more efficiently and economically. You gain:
- Quicker response to technical issues
- Increased equipment availability
- Remote diagnosis and repairs
- Product alert and alarm monitoring
- Predictive/proactive maintenance

Spare Parts and Kits
Our original spare parts and kits fulfill your highest expectations for quality. You can rely on our extensive inventory to meet your needs. You gain:
- Parts factory-tested to our specifications
- Most reliable parts available
- Continuous trouble-free operation
- Ensured ongoing compliance
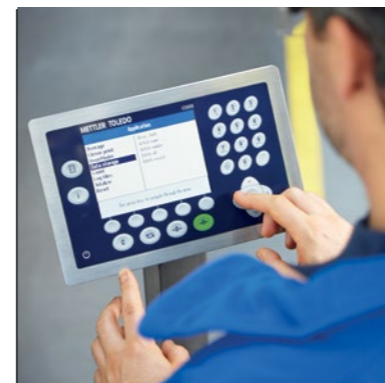
Manufacturer's Competence
Certified METTLER TOLEDO service technicians perform fast, reliable repair services using advanced skills, tools and original spare parts. This ensures that:
- Diagnostics isolate the root error cause
- Problems are fixed correctly the first time
- Productivity is restored

"Fast reaction times, reliable service and highly competent technicians helped us reduce our costs significantly."

Maximize the uptime of your equipment. METTLER TOLEDO offers you:

- ✓ The largest service force in the industry
- ✓ Fast response times
- ✓ Factory trained and certified engineers
- ✓ Proprietary tools and spare parts
- ✓ Testing to factory specifications

Test Weights

12

Our Solutions
For Your Production
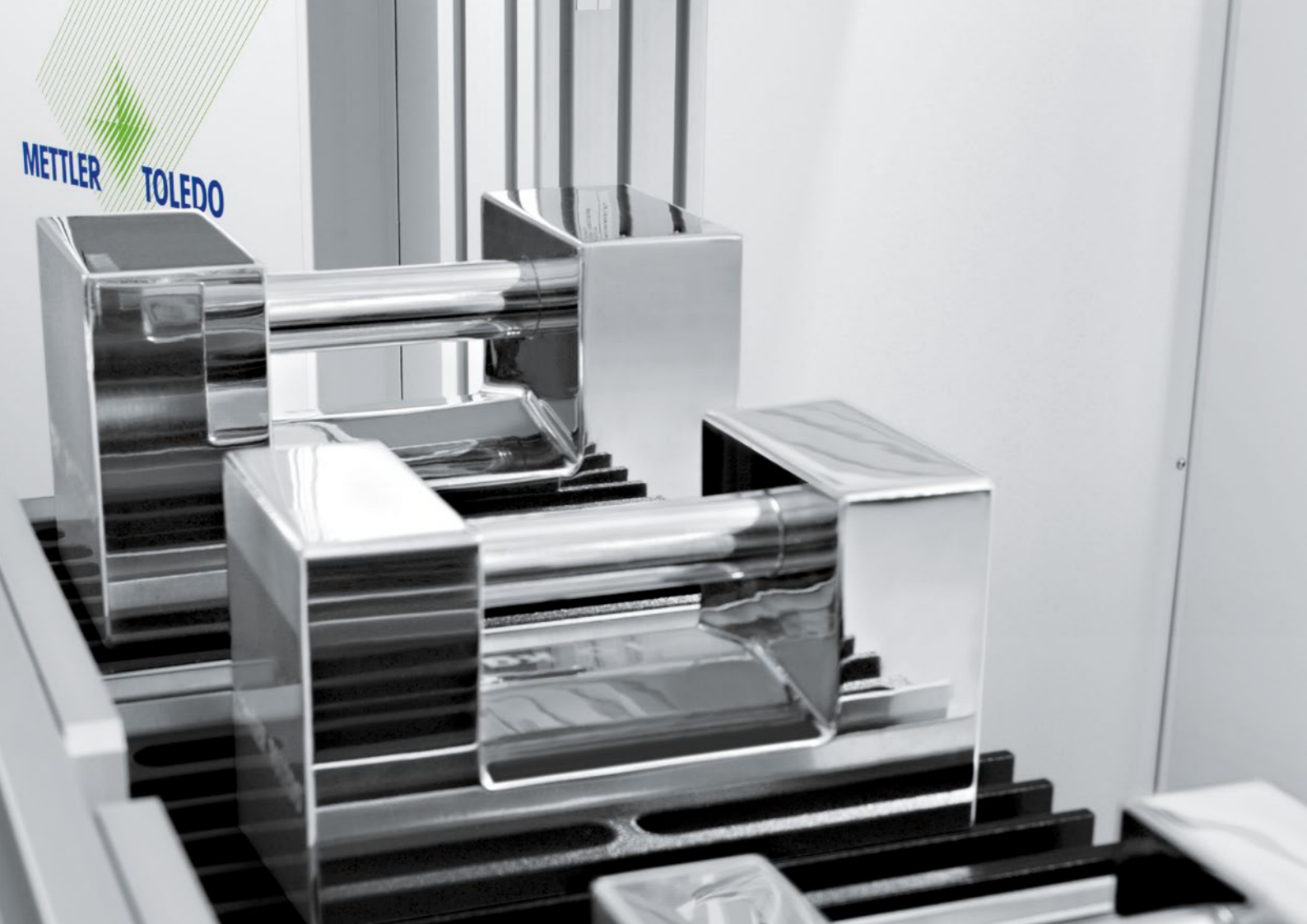
Unrivaled Expertise
To Meet Tough Requirements

METTLER TOLEDO is the world's leading precision instrument manufacturer. We supply innovative weight products and balance testing methods that move beyond current technology boundaries. Thanks to an established global network of accredited calibration laboratories, we also offer short turnaround for related calibration services. Our extensive portfolio covers weights from 0.05 mg to 5 tons in all accuracy classes and includes a variety of shapes for nearly any testing application.

▶ **www.mt.com/weights**

From Micrograms to Tons

Calibration and Testing

- Calibration and testing support from the world's leading precision instrument manufacturer
- Innovative weight products and balance-testing methods
- Established network of accredited calibration laboratories

CarePacs®

- Manufacturer recommended weight sets with two selected weights for testing balance weighing ranges up to 8 kg
- Easy and quick to use testing approach supported by manufacturer SOPs
- Test against process tolerances as low as 0.03%

Industrial Weights

- 1 kg – 5 tons, OIML Classes F1 – M3
- Stackable heavy capacity cast iron weights for safe stacking and handling
- Stainless steel grip handle weights are available for the highest quality requirements in regulated industries

Grip-Handle and Heavy Capacity Weights
For Safe and Efficient Scale Testing

As with laboratory balances, industrial scales and weighing platforms are also subject to regulations that ensure measurements are reliable and meet legal requirements. Regular testing with adequate test weights is essential. METTLER TOLEDO's grip-handle and heavy capacity weights are suitable for any application in all types of industrial environments. Choose the weight that best suits your needs out of our wide range of stainless steel and coated cast iron weights from a nominal value of 1 kg up to 5,000 kg. To gain traceability, documented weight calibration results are delivered in calibration certificates with details of conventional mass correction, uncertainty and traceability according to ISO/IEC 17025.

Grip-Handle Test Weights
For Safe and Convenient Scale Testing

While traditional knob weights do not allow safe stacking, cylindrical and rectangular weights assure better safety – an important aspect when testing higher-capacity balances. Grip-handle weights are available for multiple applications and environments. Choose between polished, glass bead blasted or painted weights for applications in wet, dusty, harsh or clean-room areas.

▶ **www.mt.com/industrial-weights**

Select the Right Weights

Do you know which test weights match your measuring, compliance and quality requirements? If not, request a free GWP® Recommendation and Sample Verification which will give you the right weight class, calibration and routine testing frequencies with test SOPs that allow you to pass any audit.

▶ **www.mt.com/GWP-recommendation**

	OIML F1 Stainless Steel Perfect to satisfy the highest requirements in regulated industries	**OIML F2, M1 Stainless Steel** Special design ensures safe stacking and flexible loading	**OIML M1 Stainless Steel** Designed for heavy-duty operation in harsh conditions	**OIML M1–M3 Cast Iron** An economic approach for general industrial applications
Suitable For	Official bodies, regulated and hygienically sensitive areas (e.g. GFSI, BRC, or FDA compliant)	Frequent and/or heavy duty use, all industrial areas (e.g. GFSI, BRC, or FDA compliant)	Frequent and/or heavy duty use, all industrial areas (e.g. GFSI, BRC, or FDA compliant)	Use in non-regulated and/or harsh environmental areas
Long-Term Stability	★★★★ High gloss polishing Forged stainless steel	★★★☆ Fine-turned surface	★★★☆ Glass bead blasted and passivated surface	★★☆☆ Two-component coating
Handling Safety	★★★☆ Sturdy aluminum carrying box included	★★★★ Centering rim on top prevents weights from falling off the stack	★★★☆ Rectangular design Flat top and bottom surface	★★★☆ Milled flat top surface for easy and secure stacking
Target Load Flexibility	★★☆☆ Rectangular design Flat top and bottom surface	★★★★ Dedicated carrier for safe accumulation up to 200 kg	★★★☆ Dedicated carrier for safe accumulation up to 500 kg	★★★☆ Dedicated carrier for safe accumulation up to 500 kg
Nominal Value (kg)	1, 2, 5, 10 and 20	5, 10, 20 and 50	1, 2, 5, 10 and 20	5, 10, 20 and 50
Tolerance MPE	OIML class F_1	OIML class F_2, M_1	OIML class M_1	OIML class M_1, M_2, M_3
Calibration Certificate	Yes	Yes	Yes	Yes
Material, Grade	Stainless steel, SS 304	Stainless steel, SS 303	Stainless steel, SS 304	Cast iron, EN-GJL-HB200
Density r	7,900 kg/m³ ± 140 kg/m³	7,900 kg/m³ ± 140 kg/m³	7,900 kg/m³ ± 140 kg/m³	7,200 kg/m³ ± 600 kg/m³
Susceptibility x	< 0.2	< 0.8	< 0.8	–
Surface	High-gloss finish	Precision-turned finish	Glass-bead blasted, passivated	Painted (two-component coating) M_1: Pantone 648 C, M_2: Pantone 647 C, M_3: Pantone 646 C
Adjusting Cavity	According OIML, Type 1 (Screwed sealing plug; Stainless steel)	According OIML, Type 1 (Sealing plug; tin)	According OIML, Type 1 (Sealing plug; aluminum)	According OIML, Type 2 (Sealing plug; aluminum)

Accessories	Included:
	• Lockable aluminum box and nylon gloves
		On request:
		• Plastic box
		• Weight carrier
		  - Nominal value 40 kg
		  - Stacking up to 200 kg (8 x 20 kg)
			On request:
			• Aluminum box
			• Weight carrier
			  - Nominal value 40 kg
			  - Stacking up to 500 kg (23 x 20 kg)
				On request:
				• Aluminum box
				• Weight carrier
				  - Nominal value 40 kg
				  - Stacking up to 500 kg (23 x 20 kg)

Requirement fulfillment scoring: ★★★★ very good   ★★★☆ good   ★★☆☆ fair   ★☆☆☆ limited   ☆☆☆☆ none

Cast Iron Weights
Top Performance through Genius Design

From many years of experience, METTLER TOLEDO knows that handling heavy capacity weights to test scales always poses certain risks. To minimize manual handling, METTLER TOLEDO has designed weights that enable safe lifting, including four-side and top access by fork lifts, cranes and hoists. This helps with safe operation and limits unnecessary costs. Your personal safety is our priority.

▶ **www.mt.com/industrial-weights**

Swiss-engineered evaporative-pattern casting technology leads to smoother surfaces than ever before. A two-component coating rejects dust and dirt and protects the weight from corrosion and scratches.
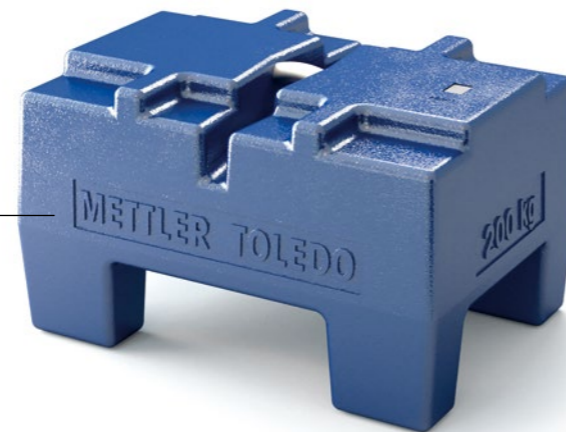
Safe Stacking
Our innovative design approach allows combining and stacking weights of different sizes. For crane lifting, straps are looped through handles-making it a "fail-safe" system.

Safe Moving and Handling
Weight dimensions fit all common pallet jacks and fork lifts and allow access from all sides. Heavy-duty, stainless steel handles facilitate the lifting of single weights or stacks by hoists and cranes.

A Cost-Cutting Approach
Weights are designed to fit on standard pick-up trucks or trailers. Lower maintenance and gas costs compared to a full-size commercial truck result in economic benefits.

Technical Specifications

Nominal Value (kg)	50, 100, 200, 500, 1,000, 2,000, 5,000
Tolerance	OIML class M1 (acc. to OIML R111-1:2004)
Calibration Certificate	Yes (COFRAC)
Material Weight	Cast iron: EN-GJL-HB200, reg. DIN EN 1561
Material Handle	Stainless steel
Density Weight	7,200 kg/m^3 ± 600 kg/m^3
Polarization µoM	< 250 µT
Surface	Painted (Pantone 648 C) Two-component coating
Accessories	PVC cover included, lifting straps on request

Heavy-Duty Stainless Steel Weights
Meet Strict Industry Requirements

If greater measurement accuracy or environmental compatibility are requested, as is often the case in regulated industries or testing labs, stainless steel weights are preferred. METTLER TOLEDO's heavy-capacity stainless steel weights satisfy the maximum permissible error standards for OIML classes F1 and F2 and are available in rectangular or cylindrical shapes from 100 kg up to 2,000 kg.

▶ **www.mt.com/industrial-weights**

Top Quality
METTLER TOLEDO puts the highest demands on the quality of its products. Each step in production is strictly controlled, from the original steel billet to the finished weight.

Impeccable Finish
A mirror-polished surface makes the weights easy to clean and provides the best possible corrosion resistance. This ensures near-perfect stability over the weight's life span.

Laser Markings
The high-specification polished stainless steel surface is marked in accordance with OIML guidelines using the latest laser technology. Customer-defined marking is also available.

Technical Specifications

	100 kg	200 kg	500 kg	1,000 kg	2,000 kg
Shape (cylindrical)	C	C	C	C	C
Tolerance	OIML cl. F_1, F_2 (acc. To OIML R111-1:2004)				
Calibration Certificate	Yes (COFRAC)				
Material	Stainless steel				
Density ρ	$7,900 \text{ kg/m}^3 \pm 140 \text{ kg/m}^3$				
Susceptibility χ	< 0.2				
Polarization µOM	< 25 µT				
Surface	High-gloss finish				
Adjusting Cavity	Yes				
Accessories	Cylindrical: Aluminum box included				

ISO 9001 registered ISO 17025 accredited METTLER TOLEDO OIML

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