

Weighing Components

Reliability, Performance, Expertise



Select the Right PartnerRun a Successful Business

METTLER TOLEDO is a technology leader in precision instruments. The company is the world's largest manufacturer and supplier of weighing instruments and components for use in laboratory, industrial and food retailing applications. METTLER TOLEDO is a truly global company. Its logistics and business processes provide its customers with a multitude of services, wherever they are.

Assembly of a Monobloc Load Cell



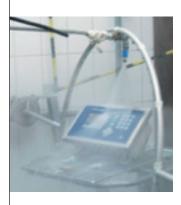
METTLER TOLEDO has factories in Switzerland, Germany, UK, USA, Norway, India and China. All load cells with the high-resolution Monobloc technology are manufactured in Switzerland. The assembly of these robust yet extremely sensitive modules requires a significant amount of skilled manual work.

Fully Automatic Strain Gauge Application



Robots affix strain gauges to the metal body inside a clean room. All METTLER TOLEDO factories are equipped with advanced production technologies and apply state-of-the-art methods for production management. They are certified according to ISO9000 and ISO14000.

Testing Laboratories



METTLER TOLEDO operates several ISO/IEC 17025: 2005 accredited test labs, which perform tests according to internationally applicable EN/IEC standards. Static and dynamic loading as well as all kinds of environmental effects such as shocks, vibrations, temperature, water and dust impacts can be simulated.



Integration



The cost of a component is negligible compared to the costs involved in mechanical, electrical and software integration.

METTLER TOLEDO offers more than just components. Our large range of accessories and application terminals enables fast, easy and economical installation to keep your overall costs as low as possible.

Service and Consulting



The successful integration of weighing technology depends on your expertise, but may sometimes benefit from additional know-how, tools, training or skilled hands.

METTLER TOLEDO's factorytrained service staff can supply on-site services and support when and where you need it, from improving performance, through installation and training, right up to validation.

Leader in Technology



Different applications require different weighing technologies to comply with specifications, the environment or regulations.

METTLER TOLEDO has the right technology for your needs. The unique MonoBloc technology offers very high accuracy, linearity and repeatability. Strain Gauge technology is used in standard applications.

Global Reach



System integrators often depend on local service from their suppliers at the final installation site of their solutions.

METTLER TOLEDO serves customers worldwide. Our sales and service organizations around the globe have experienced and highly qualified specialists, adding value to your solutions and processes.

Accurate Weighing for Automation With a Precision of 1µg

Weight is a key parameter in production and quality control. A reproducible resolution of up to 1 part per 20 million allows detection and measuring of the smallest deviations and quantities. Whether your application requires simple weighing, precise filling, characterization of materials or quality control, METTLER TOLEDO precision weigh modules, sensors and terminals provide reliable weight results for automated processes.

High-Throughput Filling of Liquids in Small Volumes



High-capacity and highresolution weigh modules must be able to cope with different types of vials, syringes or ampoules on the same machine.

Accurate Dosing of Solids in Production

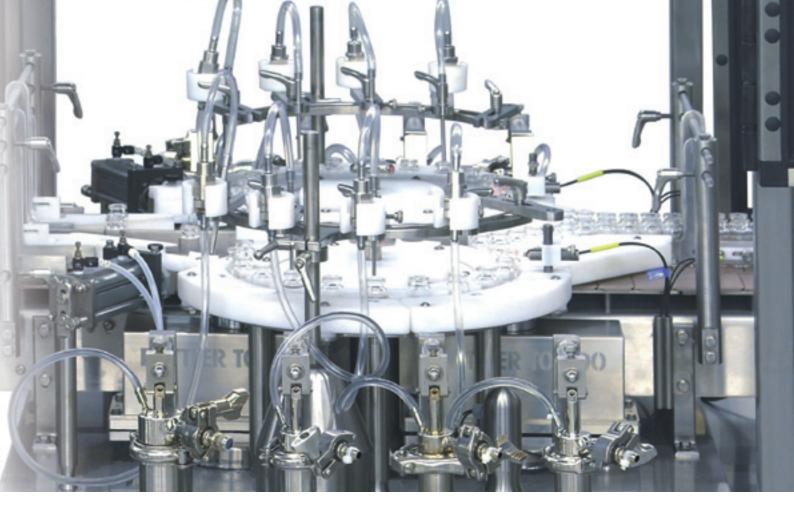


Easy cleaning of weigh modules enables a fast change of products for automated dosing and check weighing of solids, powers, granules and pellets.

Laboratory Automation Liquid Handling



On board weighing enables more accuracy and safety in automated dispensing of liquids for analyses and synthesis. Weighing technology is an efficient and reliable calibration method for pipettes.



Weighing in Hazardous Environments



Weigh modules with approval for hazardous environments are mandatory for automatic filling and quality control for airbag ignitors, amunition, explosive liquides, gases or solids.

Weighing in Hermetically Sealed Environments



Fast and accurate automatic dosing of medicines, drug preparation and handling of toxic or hazardous materials in hermetically sealed sterile environments require weigh modules with stainless steel housing and in-place cleaning features.

Quality Control of Parts, Modules and Kits



Checks for completeness and density of tool-shaped parts and assembled kits such as sinter metal, brake pads, cast parts, molded plastic parts, ball bearings or gear boxes. Weigh modules can detect very small deviations or missing parts.

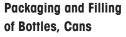
Quality Control of Electronic Parts



Verification of the correct sealing of integrated circuits. Checking the thickness of coatings on solar wafers, galvanized or painted surfaces. These applications require very high-resolution weigh modules and excellent repeatability.

Seamless IntegrationCombined With Greater Efficiency

Liquids, powders, solids, and gases are captured, transported, dispensed, filled, stored, and processed in many different types of containers. Whether bottles, cans, drums, big bags, tanks, hoppers or vessels, there are numerous requirements for integrating weighing technology into automatic processing machines or devices. METTLER TOLEDO's broad product portfolio, with platforms, weigh modules, load cells, transmitters and terminals offers weighing solutions from 1 µg to hundreds of tons.





Parallel arrays of weigh modules require small dimensions and ease of mechanical, electrical and software integration into very compact and complex machines.

Big Volume Filling



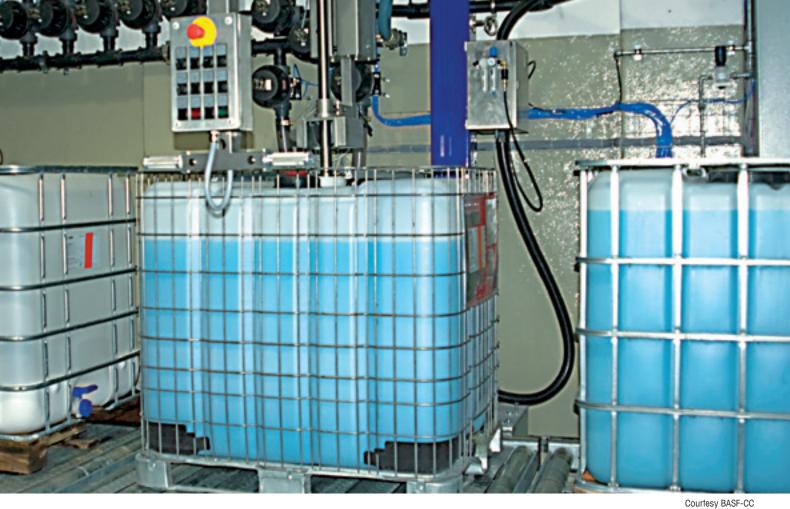
Robust and accurate weighing technology is required for the automated filling of drums, big bags and IBC to avoid expensive overfill.

Compliance with regulations is required in order to fill solids and liquids in hazardous environments.

Logistics, Warehouses and Airports



Specially designed weigh modules for conveyors in warehouses and airport logistic centers absorb strong lateral shocks from moving parcels, palettes and containers. Terminals with dedicated software for in-motion weighing process correct weight results.



Metal Production, Casting and Scrap Handling



Outdoor batching of scrap metal in winter and the weighing of red hot steel beams radiating extreme heat are a reality for weigh modules and terminals. Accurate weighing in such environments is still possible with the right equipment.

Bulk Material Conveying and Handling



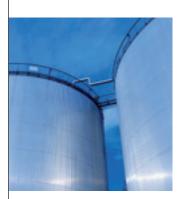
Conveyors covering a long distance are often exposed to harsh weather, dust and temperature changes. Access to weighing technology for service is difficult. Reliable and rugged weighing technology has to guarantee the uptime of large process plants.

Concrete and Asphalt Batching



Weighing technology for concrete and asphalt batching has to withstand dust, humidity, vibrations, heat and temperature changes and provide reliable weight values during the whole lifetime.

Tanks, Vessels and Hoppers



Dosing, mixing, batching or inventory control with outdoor tanks, silos, hoppers and vessels is heavy duty for weighing technology. The weighing equipment must be able to withstand high forces from the effects of mixers, wind and earthquakes.

Tailor-made for AutomationEasy to Integrate

Weigh modules with the electro magnetic force restoration technology from METTLER TOLEDO offer the highest levels of linearity, repeatability and speed. They are tailored to the needs of machine and equipment manufacturers for simple electrical and mechanical integration. The proven ruggedness allows reliable operation for many years in an industrial environment. They are the perfect solution for high-precision weighing in automation.

WMC



Ultra-compact design with a width of 25mm. This allows integration of high-resolution weighing where space is limited.

Capacity

11 g - 21 g

Readability

0.01 mg - 0.1 mg

Features

Interface

RS232, Ethernet and Fieldbus as option

Material

Stainless steel

WMS



Slim weigh module with high weighing capacity and adaptable platform offers highest flexibility.

120 g - 6200 g

0.1 mg - 10 mg

Models with and without internal calibration weight

RS232 and RS422, Fieldbus as option

Stainless steel

IP54 protection. Wash-down option with IP66 protection.

WXS



Highest precision and accuracy for automated weighing in industrial environments. Top model with readability of 1 µg up to 21 g.

22 g - 220 g

0.001 mg - 0.1 mg

Incorporated calibration weight. Optional terminal

RS232, Ethernet and Fieldbus as option

Stainless steel



Courtesy Loccioni

WM-X





Rugged weigh module successfully used for numerous automated applications, also in hazardous areas.

121 g - 6100 g

0.1 mg - 10 mg

Incorporated calibration weight

RS232 and RS422, Fieldbus as option

Stainless steel

With ATEX and FM approval. IP54 protection. Wash-down option with IP66 protection.

WMH / WMH-Ex





High-precision and highcapacity weigh platform for direct connectivity to control systems.

15 kg - 3000 kg

0.1 g - 50 g

Incorporated calibration weight for load cell

RS232 and RS422, Fieldbus as option

Stainless steel, hot galvanized or enameled

With ATEX and FM approval. IP66/67 protection.

Fieldbus Modules



For direct integration of all high-precision weigh modules into your control system.

Profibus® DP

Profinet® IO

EtherNet/IP™

DeviceNet™

CC-Link

Connection Modules



Devices for economical and convenient installation in control cabinets

ConBlock:

To connect WMS. With 3 digital inputs, 3 digital outputs. DIN rail mounting. IP65 protection as option.

ConModule:

To connect WM and WMH. With 3 digital inputs, 3 digital outputs. DIN rail mounting.

ConBox:

To connect WM, WMS and WMH. In aluminum die cast housing with IP68 protection.

www.mt.com/APW

Preserve Accuracy To Reduce Downtime

The weighing of tanks, vessels or conveyors is heavy duty for weighing technology, which must be able to withstand vibrations, aggressive raw materials, wind forces, temperature fluctuations and torques from mixers. The very robust weigh modules cope with those impacts and preserve fast weighing and accurate results for a long lifetime.

VLM2, VLM3, SWD440 (Pictured)





Economical solution for general static weighing.

VLM2: 110kg - 1100 kg (250 - 2500 lb)

VLM3: 440 kg - 34,020 kg (1000 - 75,000 lb)

SWD440: 2200 kg - 113 t (5000 - 250,000 lb)

VLM2: IP67/68, NTEP, FM VLM3: IP67, FM SWD440: IP67, NTEP, FM

Tanks, silos, vessels, conveyors

Carbon steel, 304 stainless steel



0970 Ringmount





Multi-purpose weighing with self restoring RockerPin. With SafeLock[™] for efficient and safe installation.

5 kg - 4400 kg (11 lb - 10,000 lb)

OIML, NTEP, ATEX, FM approvals

Tanks, silos, vessels, conveyors, mixers, customized scales

Zinc plated, 304, 316 stainless steel



Extremely low profile. For use in sanitary and wash-down environments.

250 kg - 10 t (551 lb - 22,046 lb)

OIML C3 and C6, NTEP, ATEX, FM, CSA approvals

High-accuracy tank weighing, conveyors, applications with hygienic requirements

316 stainless steel



Courtesy Procter & Gamble

SWC515 Pinmount





Multi-purpose weighing with high levels of safety. All safetyrelated fixtures are present in duplicate. Stabilizers as option.

7.5 † - 100 † (16,500 lb - 220,000 lb)

OIML, NTEP, ATEX, FM approvals

Tank weighing, silos, conveyors, mixers, applications with high lateral forces.

Plated steel, 304, 316 stainless steel

3390 Gagemount



Heavy capacity weigh module for extremely heavy loads in compact design. Stabilizer for tank fixing.

200 † - 300 † (441,000 lb)

OIML, NTEP, ATEX, FM approvals

Silos, storage tanks

Plated steel, 304 stainless steel

SWS310-SLS510



Designed for suspended weighing. Load cell protection by means of isolation and ground loop.

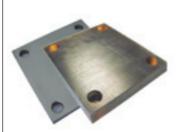
25 kg - 10 t (50 lb - 20,000 lb)

Stainless steel IP67 load cells. OIML, NTEP, ATEX, FM approvals

Suspended hoppers and vessels.

Plated steel

Accessories



The extensive range of accessories for weigh modules allow for correct installation in harmful environmental conditions to increase lifetime and performance.

Thermal pads for hot tanks from 82 °C to 170 °C.

Damping pads isolate from shock loads and vibration

Dead stands and dummy load cells protect equipment in the installation phase phase.

Spacer plates allow for load cells to be exchanged without tank lifting — crucial when fixed piping needed.

www.mt.com/load-cells

High Level of AccuracyWith Global Approvals

METTLER TOLEDO is the world's largest consumer and a leading manufacturer of quality load cells. Our reliable load cells are at the heart of our success as a manufacturer of complete scales.

We offer load cells for all globally required approvals and standards.

Steel Beam Load Cells .





Fully welded stainless steel load cells to withstand harsh industrial environments. Minimized sensitivity to off-center forces

SLD425, SLD525:

454 kg - 34.3 t (1000 - 75,000 lb) IP67, FM

SLD430/ SLD530:

227 kg - 113.4 t, (5,000 - 250,000 lb) IP67, FM

Steel Beam Load Cells





Fully welded stainless steel load cells to withstand harsh industrial environments.

MTB: 5 kg - 500 kg, (11 lb - 1102 lb) IP68, OIML, NTEP, ATEX, FM

0745A: 110 kg - 4400 kg, (250 lb - 10,000lb) IP68/67, OIML, NTEP, ATEX, FM

0713, 0714, 0715:

113 kg - 4537 kg (250 lb - 10,000 lb) IP65/ IP67, NTEP,

0793: 227 kg - 2270 kg (500 lb - 5000 lb) IP68, NTEP, FM

Canister Load Cells



Most compact high-capacity solution for outdoor applications such as truck, railroad and tank scales

0782:

Stainless steel, IP68, 7.5 t - 22.5 t (16.5 klb - 49.6 klb) OIML, ATEX, FM approval. Load receivers as option.

RLC

Stainless steel, IP68 250kg - 5000kg (551lb - 11023lb) OIML, NTEP, ATEX, FM

S-Type Load Cells





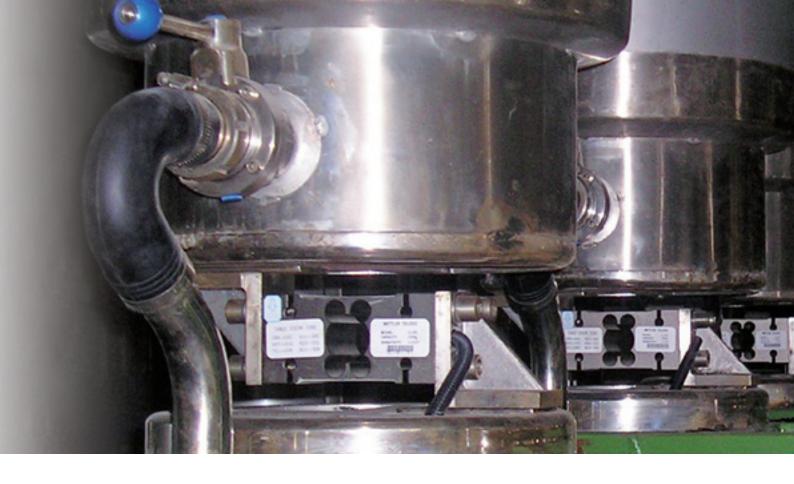
Used to convert suspended hoppers or other hanging devices into a weighing system.

SLS410:

Nickel plated steel, IP67, 25 kg - 10 t (50 lb - 20,000 lb)

SLS510:

Stainless steel, IP67, 25 kg - 10 t (50 lb - 20,000 lb) OIML, ATEX, FM approvals.



Aluminum Single Point **Load Cells**





To build scales with one load cell only.

MT1022:

Aluminum, IP67, 3kg - 30 kg (6.6 lb - 66.1 lb) OIML. For platforms up to 350 x 350 mm.

MT1041:

Aluminum, IP67, 10 kg - 100 kg (22 lb - 220 lb) OIML. For platforms up to 400 x 400 mm.

MT1241:

Aluminum, IP67, 30 kg -250 kg (66 lb - 551 lb) OIML. For platforms up to 400 x 400 mm.

MT1260:

Aluminum, IP67, 50kg - 750 kg (110 lb - 1654 lb) OIML. For platforms up to 600 x 600 mm.

Steel Single Point Load Cells



To build scales with one load cell only.

SSH:

Stainless steel, IP68 protection. 150 kg - 2000 kg (331 lb - 4408 lb) For platforms up to 800 x 1000 mm.

Nickel-plated stainless steel with IP67 protection. 50 kg - 1000 kg (110 lb - 2205 lb), 3 000e OIML. For platforms up to 800 x 1000 mm.

SLP845:

Hermetically sealed IP68/ IP69K, stainless steel load cell 15 kg - 200 kg (32lb - 440lb) OIML, NTEP, ATEX, FM For platforms up to 500 x 400 mm

Junction Boxes





Junction boxes are suitable for the quick and simple connection of multiple load cells to weighing electronics. The integrated rotary switches allow corner errors to be minimized by simply adjusting them with a screwdriver - no soldering or separate resistors are necessary.

The IP65/69k stainless steel housing provides optimum reliability.

Available with ATEX approval.

Accessories



For easy integration into customized solutions and to adapt to environmental disturbances such as vibrations. Accessories also ensure the correct application of force in the load cell, thus guaranteeing an accurate weighing result.

EK: Expansion Kit and ball/ cup load transmissions for ideal load transmission.

EVK: Expansion Vibration Kit for ideal load transmission and vibration damping.

BPK: Base Plate Kit for fixing load cells to a sturdy foundation, such as concrete.

www.mt.com/load-cells

User-Friendly Terminals and Transmitters for Manual and Automated Processes

METTLER TOLEDO offers a wide range of industrial weighing terminals and weight transmitters to meet the needs of almost any industry and any application. They range from terminals for simple weighing applications to advanced controllers that are able to store data, operate peripheral equipment and communicate with computers or PLC systems.

ISB(x) **Intrinsic Safety Barrier**



IND110 Weight Transmitter









Connects an analog load cell in the hazardous area to a terminal in the safe area. The ISB limits the energy delivered into the hazardous area to prevent ignition of a potentially explosive atmosphere.

Resolution, **Approvals**

> Operating voltage 0-5VDC or 5-15VDC

Material

Available for DIN rail mounting: for safe areas in plastic. for hazardous areas in aluminum housing, NEMA Type 7/9 Plastic, IP20, NEMA Type 1 for DIN rail or in stainless steel housing IP65, type 4x

Provides an economical way

gauge scale or weigh module

via 4-20mA to process con-

trol equipment.

4000 d

to connect an analog strain

4-20 mA

IND131 Process Transmitters



Available in DIN rail mount and Junction Box configurations in AC and DC versions. Support for up to 8 analog load cells on AC units and up to 4 analog load cells on DC units.

100 000 divisions, OIML Class III 6000 e, MID approval NTEP Class III/IIIL 10 000 d

DIN rail plastic IP20 Type 1.

4-20 mA, AB RIO, DeviceNet[™], Profibus[®] DP, ControlNet[™], EtherNet/IP[™], Modbus® TCP, CC-Link, serial

Interfaces



www.mt.com/terminals

IND131 Process Terminal in **Junction-Box**





















Available in DIN rail mount and Junction Box configurations in AC and DC versions. Support for up to 8 analog load cells on AC units and up to 4 analog load cells on DC units.

100 000 divisions. OIML Class III 6000 e. MID approval NTEP Class III/IIIL 10 000 d

Stainless steel, IP69k,

4-20 mA, AB RIO, DeviceNet™, Profibus® DP, ControlNet[™], EtherNet/IP[™], Modbus® TCP, CC-Link, serial





All you get from an IND131. Available in Harsh and Panel mount configurations in AC and DC versions. The panel mount configuration supports remote installation of display.

100 000 divisions, OIML Class III 6000 e, MID approval NTEP Class III/IIIL 10 000 d

Stainless steel, IP65, NEMA Type 4 x and 12 (panel front) IP66 (harsh)

4-20 mA, AB RIO, DeviceNet[™], Profibus[®] DP, ControlNet[™], EtherNet/IP[™], Modbus® TCP, CC-Link, serial





Dedicated software for process weighing, dosing, filling and in-motion weighing in conveyors.

100 000 divisions, OIML Class II/III 10 000e, MID Approval NTEP Class III/IIIL 10 000d, NTEP Class II 100 000d

Stainless steel, IP65, NEMA Type 4x and 12 for panelmount model, IP69k, Type 4x and 12 for harsh model

4-20 mA/0-10V, AB RIO, DeviceNet[™], Profibus[®] DP, EtherNet/IP™, Modbus® TCP, Ethernet TCP/IP, serial





Controls up to 4 scales with ultrafast A/D conversion and I/O update rate. Colored TFT LCD display. Application software for batching, material transfer, vehicle weighing.

1 000 000 divisions, OIML Class II 100 000d (depending on platform), MID Approval, OIML Class III, IIII 10 000e, NTEP Class III/IIIL 10 000d, NTEP Class II 100 000d

Stainless steel, IP65/Type 4x and 12 for panel-mount model. IP69k for harsh model

4-20 mA, AB RIO, DeviceNet™, ControlNet™, Profibus® DP, Ethernet/IP™, Ethernet TCP/IP, USB, Modbus® TCP, serial

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