

Weighing Components



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Reliability, Performance, Expertise

METTLER TOLEDO

Select the Right Partner

Run 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 factory-trained 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 1 μ g

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 high-resolution 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, powders, 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 Integration

Combined 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.

Packaging and Filling of Bottles, Cans



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, pallets and containers. Terminals with dedicated software for in-motion weighing process correct weight results.



Courtesy BASF-CC

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 Automation

Easy 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	WMS	WXS
			
	Ultra-compact design with a width of 25mm. This allows integration of high-resolution weighing where space is limited.	Slim weigh module with high weighing capacity and adaptable platform offers highest flexibility.	Highest precision and accuracy for automated weighing in industrial environments. Top model with readability of 1 µg up to 21 g.
Capacity	10 g – 20 g	220 g – 6100 g	21 g – 220 g
Readability	0.01 mg – 0.1 mg	0.1 mg – 10 mg	0.001 mg – 0.1 mg
Features		Models with and without internal calibration weight	Incorporated calibration weight. Optional terminal
Interface	RS232, Ethernet and Fieldbus as option	RS232 and RS422, Fieldbus as option	RS232, Ethernet and Fieldbus as option
Material	Stainless steel	Stainless steel	Stainless steel
		IP54 protection. Wash-down option with IP66 protection.	



Courtesy Luccioni

WM / WM-Ex 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 high-capacity 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™

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.

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.

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.

	0972 Ultramount  	0958 Flexmount 0958 Centerlign  	0970 Ringmount  
	 <p>Used for light capacity applications. The self-restoring ball/cup suspension gives the module exceptional versatility.</p>	 <p>0958 Flexmount: For static weighing with options to allow tank expansion. 0958 Centerlign: Extremely robust design for dynamic applications</p>	 <p>Extremely low profile. For use in sanitary and wash-down environments.</p>
Capacity	5 kg – 500 kg	110 kg – 4.4 t	250 kg – 10 t
Standards, Approvals	OIML, NTEP, ATEX, FM, CSA approvals	OIML, NTEP, ATEX, FM, CSA approvals	OIML C3 and C6, NTEP, ATEX, FM, CSA approvals
Application	Small tanks, silos, vessels conveyors, mixers	Flexmount: Static tank, silos, vessels. Centerlign: Conveyors, mixers.	High-accuracy tank weighing, conveyors, applications with hygienic requirements
Material	304 stainless steel	Painted mild steel or 304 stainless steel	316 stainless steel



Courtesy Procter & Gamble

SWC515 Pinmount



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

7.5 t – 22.5 t

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.

20 t – 300 t

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.

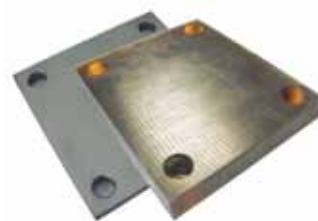
50 kg – 10 t

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 life-time 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.

High Level of Accuracy With 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.

MTB:

Stainless steel, IP68,
5 kg – 500 kg
OIML, NTEP, ATEX,
FM approval.

0745A:

Stainless steel, IP68/67,
110 kg – 4.4 t
OIML, NTEP, ATEX, FM
approval.

0745A:

Stainless steel, IP68,
9 t – 20.4 t
OIML, NTEP, ATEX,
FM approval.

Canister Load Cells



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

SLC610:

Stainless steel, IP68,
7.5 t – 22.5 t
OIML, ATEX, FM approval.
OIML C4 approval as option.

0782:

Stainless steel, IP68,
20 t – 300 t
OIML, ATEX, FM approval.
Load receivers as option.

S-Type Load Cells



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

SLS410:

Nickel plated steel, IP67,
50 kg – 7.5 t

SLS510:

Stainless steel, IP67,
50 kg – 10 t
OIML, ATEX, FM approvals.



Aluminum Single Point Load Cells



To build scales with one load cell only.

MT1022:

Aluminum, IP67, 3 kg – 30 kg OIML. For platforms up to 35 x 35 mm.

MT1041:

Aluminum, IP67, 10 kg – 100 kg OIML. For platforms up to 40 x 40 mm.

MT1241:

Aluminum, IP67, 30 kg – 250 kg OIML. For platforms up to 40 x 40 mm.

MT1260:

Aluminum, IP67, 50 kg – 750 kg OIML. For platforms up to 60 x 60 mm.

Steel Single Point Load Cells



To build scales with one load cell only.

SSH:

Hermetically sealed stainless steel load cell with IP68 protection. 50 kg – 1 t For platforms up to 800 x 1000 mm.

IL:

Nickel-plated stainless steel load cell in high-capacity range with IP67 protection. 150 kg – 2 t, 3 000e OIML. For platforms up to 800 x 1000 mm.

Junction Boxes



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

The IP65 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.

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 	IND131 Process Transmitters   
Resolution, Approvals	<p>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.</p> <p>—</p> <p>Operating voltage 0-5VDC or 5-15VDC</p>	<p>Provides an economical way to connect an analog strain gauge scale or weigh module via 4-20mA to process control equipment.</p> <p>4000 d</p>	<p>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.</p> <p>100 000 divisions, OIML Class III 6000e, NTEP Class III/IIIL 10 000 d</p>
Material	<p>Available for DIN rail mounting: for safe areas in plastic, for hazardous areas in aluminum housing, NEMA Type 7/9</p>	<p>Plastic, IP20, NEMA Type 1 for DIN rail or in stainless steel housing IP65, type 4 x</p>	<p>Stainless steel, IP69k, DIN rail plastic IP20 Type 1.</p>
Interfaces		<p>4-20 mA</p>	<p>4-20 mA, AB RIO, DeviceNet™, Profibus® DP, ControlNet™, EtherNet/IP™, Modbus® TCP, serial</p>



► www.mt.com/terminals

IND331 Process Terminal



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 6000e,
NTEP Class III/IIIL 10 000d

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, serial

IND560 Process and Conveyor Terminal



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

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

Stainless steel, IP65, NEMA Type 4 x and 12 (panel front), IP69k, Type 4 x and 12 (harsh)

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

IND690 Application Terminal



Controls up to 4 scales for formulation, dosing, filling, totalizing, classifying and counting. It can also be customized to fit any special requirements.

450 000 divisions,
OIML Class III 7000e,
NTEP Class III 10 000d, NTEP Class II 100 000d

Stainless steel, IP69k, NEMA Type 4 x and 12

4-20 mA, Profibus® DP, Ethernet TCP/IP, Bluetooth, WLAN, serial

IND780 High End Process Terminal



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), OIML Class III, IIIIL 10 000e NTEP Class III/IIIL 10 000d, NTEP Class II 100 000d

Stainless steel, IP69k, NEMA Type 4 x and 12

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

	Mettler-Toledo AG CH-8606 Greifensee, Switzerland Tel. +41-44-944 22 11 Fax +41-44-944 30 60
Australia	Mettler-Toledo Ltd. , Port Melbourne, Victoria 3207 Tel. (03) 9644 5700, Fax (03) 9645 3935
Austria	Mettler-Toledo GmbH. , A-1230 Wien Tel. (01) 604 19 80, Fax (01) 604 28 80
Belgium	Mettler-Toledo s.a. , B-1932 Zaventem Tel. (02) 334 02 11, Fax (02) 334 03 34
Brazil	Mettler-Toledo Indústria e Comércio Ltda. , São Paulo CEP 06465-130 Tel. (11) 421 5737, Fax (11) 725 1962
Canada	Mettler-Toledo Inc. , Toronto, Canada Tel. 800-523-5123, Fax 614-438-4900
China	Mettler-Toledo (Changzhou) Ltd., Scale & System Ltd. Changzhou City, Jiangsu 213001 Tel. (519) 664 2040, Fax (519) 664 1991
Croatia	Mettler-Toledo, d.o.o. , HR-10000 Zagreb Tel. 01 29 58 633, Fax 01 29 58 140
Czech Republic	Mettler-Toledo, spol. s.r.o. , CZ-100 00 Praha 10 Tel. 272 123 150, Fax 272 123 170
Denmark	Mettler-Toledo A/S , DK-2600 Glostrup Tel. (43) 270 800, Fax (43) 270 828
France	Mettler-Toledo s.a. , F-78222 Viroflay Tel. (01) 3097 17 17, Fax (01) 3097 16 16
Germany	Mettler-Toledo GmbH , D-35353 Giessen Tel. (0641) 50 70, Fax (0641) 52 951
Hong Kong	Mettler-Toledo (HK) Ltd. , Kowloon Tel. (852) 2744 1221, Fax (852) 2744 6878
Hungary	Mettler-Toledo, Kft , H-1173 Budapest Tel. (01) 288 40 40, Fax (01) 288 40 50
India	Mettler-Toledo India Pvt Ltd , Mumbai 400 072 Tel. (22) 2803 1111, Fax (22) 2857 50 71
Italy	Mettler-Toledo S.p.A. , I-20026 Novate Milanese Tel. (02) 333 321, Fax (02) 356 29 73
Japan	Mettler-Toledo K.K. , Chiyoda-ku, Tokyo 102-0075 Tel. +81 (3) 3222 7106, Fax +81 (3) 3222 7122
Korea	Mettler-Toledo (Korea) Ltd. , Seoul 137-130 Tel. 82-2-3498-3500, Fax 82-2-3498-3555
Malaysia	Mettler-Toledo (M) Sdn. Bhd. , 40150 Selangor Tel. (603) 7844 5888, Fax (603) 7845 8773
Mexico	Mettler-Toledo S.A. de C.V. , México, D. F. 11570 Tel. (55) 1946 0900, mt.mexico@mt.com
Netherlands	Mettler-Toledo B.V. , NL-4000 HA Tiel Tel. (0344) 638 363, Fax (0344) 638 390
Norway	Mettler-Toledo A/S , N-1008 Oslo Tel. 22 30 44 90, Fax 22 32 70 02
Poland	Mettler-Toledo, Sp. z o.o. , PL-02-822 Warszawa Tel. (22) 545 06 80, Fax (22) 545 06 88
Russia	Mettler-Toledo AG , 10 1000 Moskau Tel. (095) 921 68 12, Fax (095) 921 63 53
S.E.A.	Mettler-Toledo (SEA), Reg. Office 40150 Shah Alam Tel. (03) 7845 5800, Fax (03) 7845 3478
Singapore	Mettler-Toledo (S) Pte. Ltd. , Singapore 139959 Tel. 65-6890 0011, Fax 65-6890 0012
Slovakia	Mettler-Toledo s.r.o. , SK-831 03 Bratislava Tel. (2) 4444 1220-2, Fax (2) 4444 1223
Slovenia	Mettler-Toledo, d.o.o. , SI-1236 Trzin Tel. (01) 562 18 01, Fax (01) 562 17 89
Spain	Mettler-Toledo S.A.E. , E-08908 Barcelona Tel. (93) 223 76 00, Fax (93) 223 76 01
Sweden	Mettler-Toledo AB , S-12008 Stockholm Tel. (08) 702 50 00, Fax (08) 642 45 62
Switzerland	Mettler-Toledo (Schweiz) GmbH , CH-8606 Greifensee Tel. (044) 944 45 45, Fax (044) 944 45 10
Taiwan	Mettler-Toledo Pac Rim AG , Taipei Tel. (2) 2657 8898, Fax (2) 2657 0776
Thailand	Mettler-Toledo (Thailand) Ltd. , Bangkok 10310 Tel. (02) 723 0300, Fax (02) 719 6479
United Kingdom	Mettler-Toledo Ltd. , Leicester, LE4 1AW Tel. (0116) 235 0888, Fax (0116) 236 5500
USA	Mettler-Toledo, Inc. , Columbus, Ohio 43240 Tel. 800-786-0038, Fax 614-438-4900

For all other countries: **Mettler-Toledo AG**
PO Box VI-400, CH-8606 Greifensee
Tel. +41-44-944 22 11, Fax +41-44-944 31 70

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