Weighing Components

Reliability, Performance, Expertise
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.

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.

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.
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.

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

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

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

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

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.

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.

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

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.

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.

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.

<table>
<thead>
<tr>
<th>WMC</th>
<th>WMS</th>
<th>WXS</th>
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<tbody>
<tr>
<td>Ultra-compact design with a width of 25mm. This allows integration of high-resolution weighing where space is limited.</td>
<td>Slim weigh module with high weighing capacity and adaptable platform offers highest flexibility.</td>
<td>Highest precision and accuracy for automated weighing in industrial environments. Top model with readability of 1 μg up to 21 g.</td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>10 g – 20 g</td>
<td>220 g – 6100 g</td>
</tr>
<tr>
<td><strong>Readability</strong></td>
<td>0.01 mg – 0.1 mg</td>
<td>0.1 mg – 10 mg</td>
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<tr>
<td><strong>Features</strong></td>
<td>Models with and without internal calibration weight</td>
<td></td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>RS232, Ethernet and Fieldbus as option</td>
<td>RS232 and RS422, Fieldbus as option</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Stainless steel</td>
<td>Stainless steel</td>
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<tr>
<td></td>
<td></td>
<td>IP54 protection. Wash-down option with IP66 protection.</td>
</tr>
<tr>
<td>WM / WM-Ex WM-X</td>
<td>WMH / WMH-Ex</td>
<td>Fieldbus Modules</td>
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<tr>
<td>Rugged weigh module successfully used for numerous automated applications, also in hazardous areas.</td>
<td>High-precision and high-capacity weigh platform for direct connectivity to control systems.</td>
<td>For direct integration of all high-precision weigh modules into your control system.</td>
</tr>
<tr>
<td>121 g – 6100 g</td>
<td>15 kg – 3000 kg</td>
<td>Profibus® DP</td>
</tr>
<tr>
<td>0.1 mg – 10 mg</td>
<td>0.1 g – 50 g</td>
<td>Profinet® IO</td>
</tr>
<tr>
<td>Incorporated calibration weight</td>
<td>Incorporated calibration weight for load cell</td>
<td>EtherNet/IP™</td>
</tr>
<tr>
<td>RS232 and RS422, Fieldbus as option</td>
<td>RS232 and RS422, Fieldbus as option</td>
<td>DeviceNet™</td>
</tr>
<tr>
<td>Stainless steel</td>
<td>Stainless steel, hot galvanized or enameled</td>
<td></td>
</tr>
<tr>
<td>With ATEX and FM approval. IP54 protection. Wash-down option with IP66 protection.</td>
<td>With ATEX and FM approval. IP66/67 protection.</td>
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</table>
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.

<table>
<thead>
<tr>
<th>Weigh Modules Type</th>
<th>Capacity</th>
<th>Standards, Approvals</th>
<th>Application</th>
<th>Material</th>
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<tbody>
<tr>
<td>0972 Ultramount</td>
<td>5 kg – 500 kg</td>
<td>OIML, NTEP, ATEX, FM, CSA approvals</td>
<td>Small tanks, silos, vessels conveyors, mixers</td>
<td>304 stainless steel</td>
</tr>
<tr>
<td>0958 Flexmount</td>
<td>110 kg – 4.4 t</td>
<td>OIML, NTEP, ATEX, FM, CSA approvals</td>
<td>For static weighing with options to allow tank expansion. 0958 Centerlign: Extremely robust design for dynamic applications</td>
<td>Painted mild steel or 304 stainless steel</td>
</tr>
<tr>
<td>0958 Centerlign</td>
<td></td>
<td>OIML, NTEP, ATEX, FM, CSA approvals</td>
<td>Conveyors, mixers.</td>
<td>316 stainless steel</td>
</tr>
<tr>
<td>0970 Ringmount</td>
<td>250 kg – 10 t</td>
<td>OIML C3 and C6, NTEP, ATEX, FM, CSA approvals</td>
<td>Extremely low profile. For use in sanitary and wash-down environments.</td>
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<tr>
<td>Multi-purpose weighing with high levels of safety. All safety-related fixtures are present in duplicate. Stabilizers as option.</td>
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<td>7.5 t – 22.5 t</td>
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<tr>
<td>OIML, NTEP, ATEX, FM approvals</td>
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<tr>
<td>Tank weighing, silos, conveyors, mixers, applications with high lateral forces.</td>
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<tr>
<td>Plated steel, 304, 316 stainless steel</td>
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<tr>
<th>Heavy capacity weigh module for extremely heavy loads in compact design. Stabilizer for tank fixing.</th>
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<tr>
<td>20 t – 300 t</td>
</tr>
<tr>
<td>OIML, NTEP, ATEX, FM approvals</td>
</tr>
<tr>
<td>Silos, storage tanks</td>
</tr>
<tr>
<td>Plated steel, 304 stainless steel</td>
</tr>
</tbody>
</table>

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<tr>
<th>Designed for suspended weighing. Load cell protection by means of isolation and ground loop.</th>
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<tr>
<td>50 kg – 10 t</td>
</tr>
<tr>
<td>Stainless steel IP67 load cells. OIML, NTEP, ATEX, FM approvals</td>
</tr>
<tr>
<td>Suspended hoppers and vessels.</td>
</tr>
<tr>
<td>Plated steel</td>
</tr>
</tbody>
</table>

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<tr>
<th>The extensive range of accessories for weigh modules allow for correct installation in harmful environmental conditions to increase lifetime and performance.</th>
</tr>
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<tbody>
<tr>
<td>Thermal pads for hot tanks from 82 °C to 170 °C.</td>
</tr>
<tr>
<td>Damping pads isolate from shock loads and vibration</td>
</tr>
<tr>
<td>Dead stands and dummy load cells protect equipment in the installation phase phase.</td>
</tr>
<tr>
<td>Spacer plates allow for load cells to be exchanged without tank lifting – crucial when fixed piping needed.</td>
</tr>
</tbody>
</table>

www.mt.com/load-cells
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.
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.

**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.

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

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.

**IND110**
Weight Transmitter

Provides an economical way to connect an analog strain gauge scale or weigh module via 4-20mA to process control equipment.

4000 d

**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, NTEP Class III/IIL 10 000 d

Stainless steel, IP69k, DIN rail plastic IP20 Type 1.

- Operating voltage 0-5VDC or 5-15VDC
- 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 4 x
- 4-20 mA

- 4-20 mA, AB RIO, DeviceNet®, Profibus® DP, ControlNet®, EtherNet/IP™, Modbus® TCP, serial
### 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/IIL 10,000d**
- **Stainless steel, IP65, NEMA Type 4x 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/IIL 10,000d, NTEP Class II 100,000d**
- **Stainless steel, IP65, NEMA Type 4x and 12 (panel front), IP69k, Type 4x 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/IIL 10,000d, NTEP Class II 100,000d**
- **Stainless steel, IP69k, NEMA Type 4x and 12**
- **4-20 mA, AB RIO, DeviceNet®, 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, IIII 10,000d, NTEP Class III/IIL 10,000d, NTEP Class II 100,000d**
- **Stainless steel, IP69k, NEMA Type 4x and 12**
- **4-20 mA, AB RIO, DeviceNet®, ControlNet®, Profibus® DP, Ethernet/IP®, Ethernet TCP/IP, USB, Modbus® TCP, serial**