

Globally Approved for Accuracy and Safety



Process Weighing

Due to the hermetically sealed design, MTB is ideal for harsh environments in process or food applications. The full set of approvals makes it the right choice for your application.



Tank Weighing

The capacity range from 5kg to 500kg makes the weighing of small vessels possible. The stainless steel design, hermetic sealing and IP68 protection provides the best reliability in these applications.



ULTRAMOUNT Module

With the optional stainless steel ULTRAMOUNT weigh module METTLER TOLEDO provides a complete solution for vessel weighing in harsh environments.



MTB Load Cell

The MTB load cell features:

- OIML C3, NTEP IIIM 5,000d and IIIS 3,000d approvals
- ATEX Zone1/2 and 21/22 approvals
- FM Class I,II,III Div 1&2 approvals for USA & Canada
- Stainless steel
- Hermetically sealed design
- IP68 protection class
- All approvals standard on every Load Cell

The MTB is approved for use in various applications in Europe, Asia, America and almost everywhere else in the world. If an approval is required, the MTB probably already complies.

If ever needed for hazardous areas later, the MTB is already prepared.

MTB Load Cell Specifications

| Parameter | | unit of measure | Specification | | | | | | | |
|--|---------------------------|---------------------|------------------------|--|---------|-------------|--------------|--------------|----------------------|------------|
| Model No: | | | MTB | | | | | | | |
| Rated Capacity (R.C.) | | kg (lb, nominal) | 5 (11) | 10 (22) | 20 (44) | 50 (110) | 100 (220) | 200 (441) | 300 (661) | 500 (1102) |
| Rated Output | | mV/V @R.C. | 2 ± 0.1% | | | | | | | |
| Zero load Output | | %R.C. | ≤ 1 | | | | | | | |
| Combined Error ^{1), 2)} | | %R.C. | ≤ 0.018 | | | | | | | |
| Repeatability Error | | %A.L. ³⁾ | ≤ 0.01 | | | | | | | |
| Creep, 30 minute | | %A.L. | ≤0.05 ⁵⁾ | ≤ 0.0167 | | | | | | |
| Min. Dead Load Output Return (DR), 30 min | | %A.L. | – | ≤ 0.0167 | | | | | | |
| Temperature Effect on | Min Dead load Output | %R.C./°C (./°F) | ≤ 0.001 (0.0006) | | | | | | | |
| | Sensitivity ²⁾ | %A.L./°C (./°F) | ≤ 0.0009 (0.0005) | | | | | | | |
| Temperature Range | Compensated | °C (°F) | –10 ~ +40 (+14 ~ +104) | | | | | | | |
| | Operating | °C (°F) | –20 ~ +65 (–4 ~ +150) | | | | | | | |
| | Safe Storage | °C (°F) | –40 ~ +80 (–40 ~ +176) | | | | | | | |
| OIML / European Approval ⁴⁾ | OIML Cert. No. | | – | R60/2000-NL 1-05.18 | | | | | | |
| | European Cert. No. | | – | NMI TC6035 | | | | | | |
| | Class | | – | C3 | | | | | | |
| | n _{max} | | – | 3000 | | | | | | |
| | Y | | – | 12000 | | | | | | |
| | PLC | | – | 0.7 | | | | | | |
| | Humidity Symbol | | – | none | | | | | | |
| NTEP Approval ⁴⁾ | Min. dead load | kg (lb) | – | 0 (0) | | | | | | |
| | Number | | | 06-045 | | | | | | |
| | Class | | | IIS / III M | | | | | | |
| | n _{max} | | | 3000 / 5000 | | | | | | |
| | V _{min} | kg (lb) | | R.C. / 12000 | | | | | | |
| | Min. dead load | kg (lb) | | 0 (0) | | | | | | |
| | Number, Cat 2 | | | KEMA 05ATEX1178 X | | | | | | |
| ATEX Approval ⁴⁾ | Number, Cat 3 | | | KEMA 05ATEX1179 | | | | | | |
| | Rating | | | II 2 GD EEx ia IIC T4 T135°C II 3 GD EEx nL IIC T4 T135°C II 3 GD EEx nA II T4 T135°C IP65 | | | | | | |
| | Entity Parameters | | | Ui=25V, Ii=600mA, Pi=1.25W, Ci=5nF, Li=30µH | | | | | | |
| | Number, USA | | | 3005885 | | | | | | |
| | Number, Canada | | | 3025753C | | | | | | |
| | Rating | | | IS / I,II,III / 1 / ABCDEFG / T4 NI / I / 2 / ABCD / T6 S / II,III / 2 / FG / T6 | | | | | | |
| | Entity Parameters | | | Vmax=25V, Imax=600mA, Pi=1.25W, Ci=0, Li=0 | | | | | | |
| Factory Mutual Approval ⁴⁾ | System Drawing No, USA | | | 72184367 | | | | | | |
| | System Drawing No, CDN | | | 72189337 | | | | | | |
| | Excitation Voltage | Recommended | V AC/DC | 5-15 | | | | | | |
| Terminal Resistance | Excitation | Ω | ≥ 383 | | | | | | | |
| | Output | Ω | 350 ± 1 | | | | | | | |
| Insulation Resistance @50VDC | | MΩ | > 5000 | | | | | | | |
| Breakdown Voltage | | V AC | > 500 | | | | | | | |
| Material | Spring Element | | stainless steel | | | | | | | |
| | Enclosure | | 316 stainless steel | | | | | | | |
| | Cable entry fitting | | 304 stainless steel | | | | | | | |
| | Cable | | PVC | | | | | | | |
| Protection | Type | | welded | | | | | | | |
| | IP Rating | | IP 68 | | | | | | | |
| | NEMA Rating | | NEMA 6/6P | | | | | | | |
| Load Limit | Safe | %R.C. | 150 | | | | | | | |
| | Ultimate | %R.C. | 300 | | | | | | | |
| Safe Dynamic Load | | %R.C. | 70 | | | | | | | |
| Fatigue Life | | cycles @R.C. | >1,000,000 | | | | | | | |
| Direction of Loading | | | beam | | | | | | | |
| Deflection @ R.C., nominal | | mm (in) | 0.30 (0.012) | 0.40 (0.016) | | 0.5 (0.020) | 0.75 (0.030) | 1.12 (0.044) | | |
| Weight, nominal | | kg (lb) | 0.6 (1.3) | | | | | | | |
| Cable Length | | m (ft) | 3 (10); 5 (16.6) | | | | | | | |
| Barometric Pressure Effect on Zero Load Output | | kg/kPa (lb/in.Hg) | none | | | | | | | |
| Safe Side Load | | %R.C. | 100 | | | | | | | |
| Mounting Screw | Grade | | 8.8 (grade 5) | | | | | | | |
| | Size/thread | mm (in) | M8x1.25 (5/16-18 UNC) | | | | | | M10x1.5 (3/8-16 UNC) | |
| | Engaged Length | mm (in) | – | | | | | | | |
| Torque, nominal | | N.m (ft-lb) | 15 (13) | | | | | | 20 (23) | |

¹⁾ Error due to the combined effect of non-linearity and hysteresis

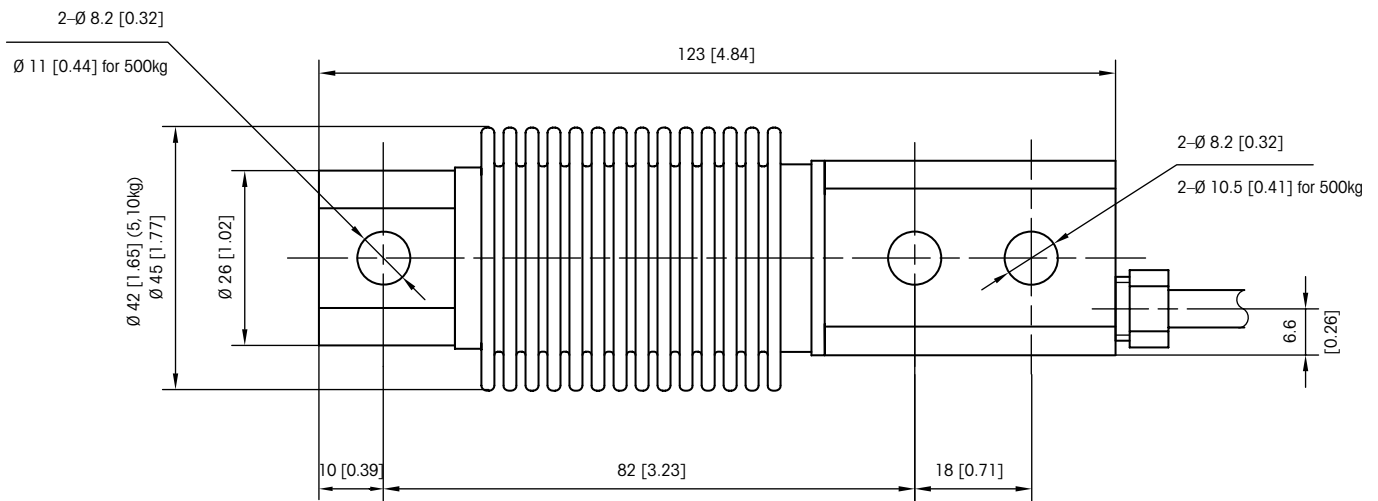
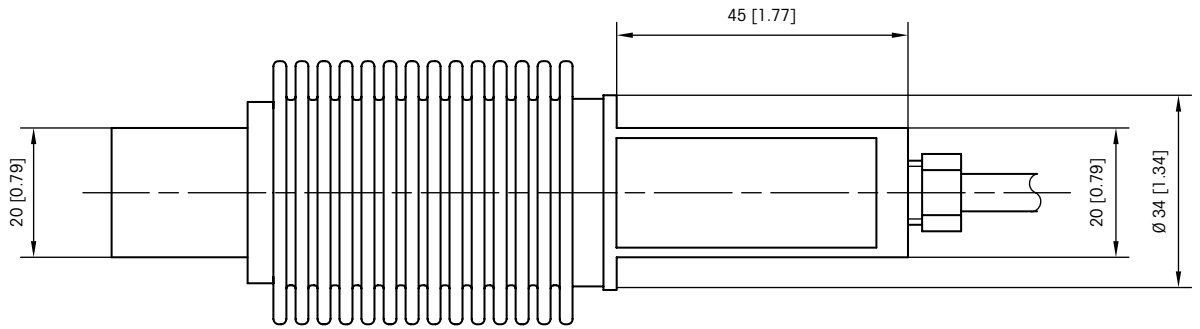
²⁾ Typical values only. The sum of errors due to Combined Error and Temperature Effect on Sensitivity comply with the requirements of OIML R60 and NIST HB44.

³⁾ A.L. = Applied Load

⁴⁾ See certificate for complete information.

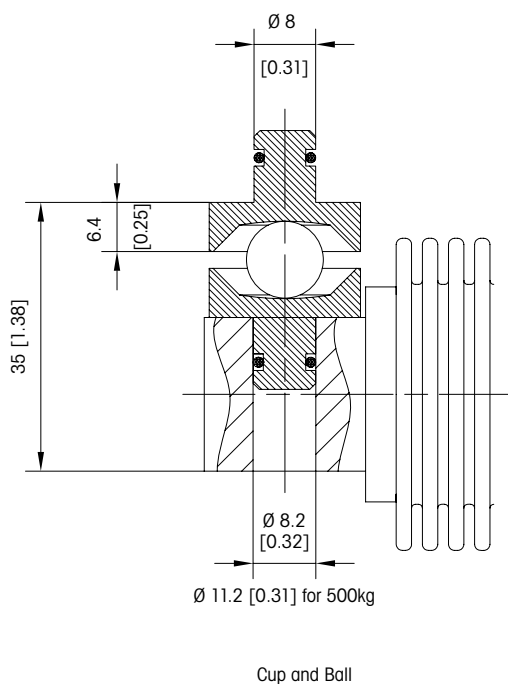
⁵⁾ 60 minutes

MTB Load Cell Dimensional Drawings mm [inch]

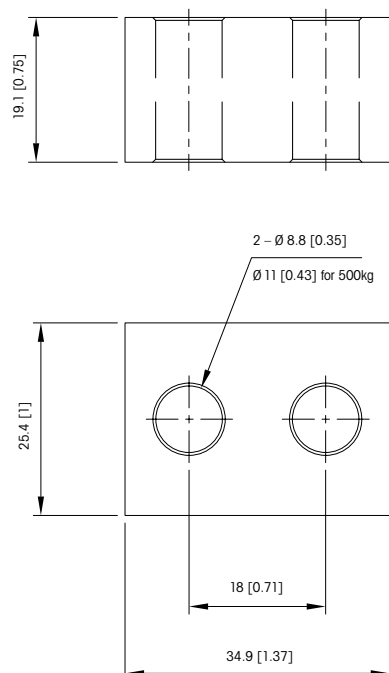


MTB 5, 10, 20, 50, 100, 200, 300, 500

MTB Ball/Cup Load Introduction mm [inch]



MTB Spacer mm [inch]



MTB Load Cell Order Information

| Description | Item No. |
|--------------------------------|-----------------|
| LOAD CELL MTB 5KG, 3M | 71209934 |
| LOAD CELL MTB 10KG, 3M | 71209642 |
| LOAD CELL MTB 20KG, 3M | 71201556 |
| LOAD CELL MTB 50KG, 3M | 71201557 |
| LOAD CELL MTB 100KG, 3M | 71201558 |
| LOAD CELL MTB 200KG, 3M | 71201559 |
| LOAD CELL MTB 300KG, 3M | 71201560 |
| LOAD CELL MTB 500KG, 3M | 71209472 |
| LOAD CELL MTB 5KG, 5m | 72208033 |
| LOAD CELL MTB 10KG, 5m | 72208034 |
| LOAD CELL MTB 20KG, 5m | 72208035 |
| LOAD CELL MTB 50KG, 5m | 72208036 |
| LOAD CELL MTB 100KG, 5m | 72208037 |
| LOAD CELL MTB 200KG, 5m | 72208038 |
| LOAD CELL MTB 300KG, 5m | 72208039 |
| LOAD CELL MTB 500KG, 5m | 72208040 |
| BALL/CUP MTB 5-300KG | 72191495 |
| SPACER MTB 5-300KG | 72191496 |
| BALL/CUP MTB 500KG | 72191497 |
| SPACER MTB 500KG | 72191498 |

Bolded entries are stocked

MTB Load Cell Cable Colours

| Colour | Function |
|---------------|--------------|
| Green | + Excitation |
| Black | - Excitation |
| White | + Signal |
| Red | - Signal |
| Yellow | + Sense |
| Blue | - Sense |
| Yellow (Long) | Shield |

Full Connectivity

Our sensors and instruments are professional communicators. METTLER TOLEDO supplies you with various data communication interfaces that allow you to communicate with your PLCs, MES or ERP systems.



Global Approvals

The MTB is provided with all listed approvals. No need to think about options and additional charges. Simplifies the conduct of global business, order processing and service-part stocking.



ServiceXXL[®] Tailored Services

Worldwide Services

Use METTLER TOLEDO service including fast parts availability from our local supply or one of our logistics centers in Europe, Asia and America. Trained technicians can assist in professional service, installation and approval worldwide.

Weighing Electronics

METTLER TOLEDO offers a complete family of electronics from simple weighing to application solutions for filling, stock control, batching, formulation, counting, checkweighing.



Quality certificate ISO 9001
Environment certificate ISO 14001

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