

The Ideal Weighing Solution for Sanitary Applications



Sanitary Applications

RINGMOUNT weigh modules are ideal for sanitary applications. The hermetically sealed load cell and mounting hardware made of 316 stainless steel provide a smooth, stainless steel finish with no exposed threads.



Load Cells

Model RLC torsion-ring load cells feature a compact, stainless steel design. The self-centering, rocker-pin suspension ensures a high degree of weighing accuracy and repeatability for filling, batching, and mixing processes.



Hold-Down Bolts

Each weigh module is equipped with a pair of hold-down bolts to check horizontal movement and restrain the tank from tipping. For most installations, no additional checking is needed.



Shipping Blocks

Specially designed shipping blocks maintain proper alignment between the top and bottom mounting plates. The blocks simplify installation and protect the load cell from damage during shipping and installation.



0970 RINGMOUNT® Weigh Module

RINGMOUNT weigh modules let you add weighing capabilities to processes in sanitary and washdown environments. They provide accurate weighing of tanks and vessels in the food, pharmaceutical, chemical, and biotech industries. The smooth, stainless steel surfaces inhibit the growth of bacteria and simplify washdown for clean-in-place applications. Because of their extremely low profile, the weigh modules increase a scale's stability by lowering its center of gravity.

- Hermetically sealed stainless steel load cells
- 316 stainless steel mounting hardware is standard
- Global approvals standard on every load cell

0970 Weigh Module Specifications

| Weigh Module Parameter | | Unit of Measure | Specification | | | | | | |
|---------------------------------------|--------------|--------------------------------|---------------------|----------------|------------------|------------------|------------------|-------------------|--------------------|
| Model No. | | | 0970 RINGMOUNT | | | | | | |
| Rated Capacity | | kg (lb, nominal) | 250 (551) | 500 (1,102) | 1,000 (2,205) | 2,000 (4,409) | 3,500 (7,716) | 5,000 (11,023) | 10,000 (22,046) |
| Max. Top Plate Travel | Transverse | ± mm (in) | 2.3 (0.09) | | | | | | 4.1 (0.16) |
| | Longitudinal | ± mm (in) | 2.3 (0.09) | | | | | | 4.1 (0.16) |
| Restoring Force ¹ | | %A.L./mm (.../in) ⁶ | 17.7 (450) | | | | | | 4.4 (113) |
| Max. Horizontal Force ² | Transverse | kN (lb) | 11.8 (2650) | | | | | | 17.7 (4000) |
| | Longitudinal | kN (lb) | 11.8 (2650) | | | | | | 17.7 (4000) |
| Max. Uplift Force ³ | | kN (lb) | 11.8 (2650) | | | | | | 41.2 (9300) |
| Weight (including load cell), nominal | | kg (lb) | 4.2 (9.3) | | | | | | 10.8 (23.8) |
| Material | | | 316 stainless steel | | | | | | |

| Load Cell Parameter | | Unit of Measure | Specification | | | | | | |
|--------------------------------------|--------------------------|-------------------|---|---|------------------|------------------|------------------|-------------------|--------------------|
| Model No. | | | RLC | | | | | | |
| Rated Capacity (R.C.) | | kg (lb, nominal) | 250 (551) | 500 (1,102) | 1,000 (2,205) | 2,000 (4,409) | 3,500 (7,716) | 5,000 (11,023) | 10,000 (22,046) |
| Rated Output | | mV/V @ R.C. | 1.75±0.1 | 2±0.1 | | | | | 2.05±0.1 |
| Combined Error ^{4, 5} | | %R.C. | C3: ≤ 0.018; C6: ≤ 0.013 ⁸ | | | | | | |
| Temperature Effect on | Min. Dead Load Output | %R.C./°C (.../°F) | C3: ≤ 0.0020 (0.0011); C6: ≤ 0.0012 (0.0006) ⁸ | | | | | | |
| | Sensitivity ⁵ | %A.L./°C (.../°F) | C3: ≤ 0.0009 (0.0005); C6: ≤ 0.0004 (0.0002) ⁸ | | | | | | |
| Temperature Range | Compensated | °C (°F) | -10 to +40 (+14 to +104) | | | | | | |
| | Operating | °C (°F) | -30 to +70 (-22 to +160) | | | | | | |
| | Safe Storage | °C (°F) | -50 to +80 (-58 to +176) | | | | | | |
| OIML/European Approval ⁷ | Class | | C3; C6 ⁸ | | | | | | |
| | nmax | | C3: 3000; C6: 6000 ⁸ | | | | | | |
| | Y | | C3: 7100; C6: 12050 ⁸ | | | | | | |
| NTEP Approval ⁷ | Class | | NA | C3: III M; C6: III L M ⁸ | | | | | |
| | nmax | | NA | C3: 5000; C6: 10000 ⁸ | | | | | |
| | Vmin | kg (lb) | NA | C3: R.C./7100 (R.C./7100); C6: R.C./12050 (R.C./12050) ⁸ | | | | | |
| ATEX Approval ⁷ | Rating | | II 2 G EEx ib IIC T4 or T6 / II 2 D T70°C ; II 3 G EEx nL IIC T4 or T6 / II 3 D T70°C | | | | | | |
| Factory Mutual Approval ⁷ | Rating | | IS/I,II,III/1/ABCDEFG/T4 ; NI/I/2/ABCD/T6 ; S/II,III/2/FG | | | | | | |
| Excitation Voltage | Recommended | V AC/DC | 10 | | | | | | |
| | Maximum | V AC/DC | 30 | | | | | | |
| Terminal Resistance | Excitation | Ω | 1100±50 | 1110±50 | | | | | 1100±50 |
| | Output | Ω | 1025±50 | 1025±25 | | | | | 1025±50 |
| Material | Spring Element | | Stainless steel | | | | | | |
| | Type | | Glass-to-metal seal | | | | | | |
| Protection | IP Rating | | IP68 | | | | | | |
| | NEMA Rating | | NEMA 6/6P | | | | | | |
| Load Limit | Safe | %R.C. | 150 | | | | | | |
| | Ultimate | %R.C. | 150 ⁹ | | | | | | |
| Deflection @ R.C., nominal | | mm (in) | 0.1 (0.004) | | | | | | |
| Weight, nominal | | kg (lb) | 0.73 (1.6) | | | 0.96 (2.2) | | | 1.2 (2.6) |
| Cable Length | | m (ft) | 5 (16.4) | | | | | | 10 (32.8) |

¹ % of Applied Load (A.L.) per mm (in) displacement of the top plate (transverse and longitudinal).

² Maximum horizontal force that can be applied to the top plate.

³ Maximum vertical uplift force that can be applied to the top plate.

⁴ Error due to the combined effect of non-linearity and hysteresis.

⁵ 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.

⁶ A.L. = Applied Load.

⁷ See certificate for complete information.

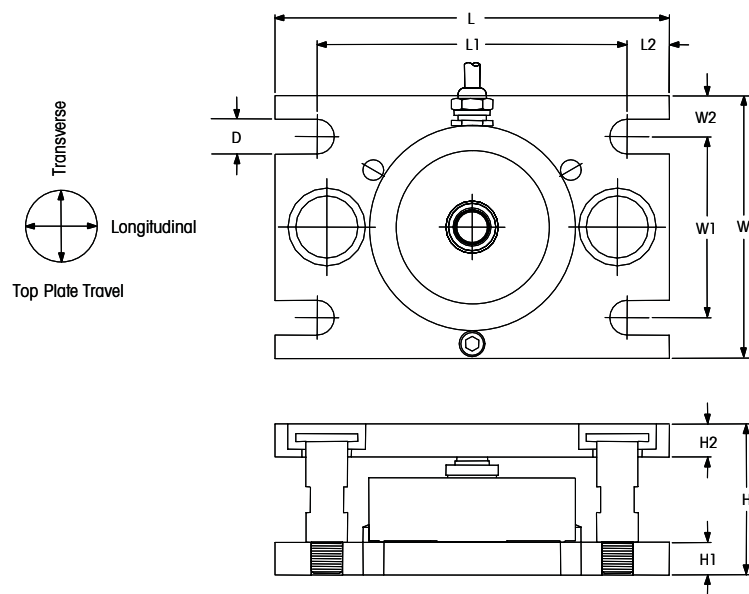
⁸ Class C6 load cells are available only in the following capacities: 1000, 2000, 3500, 5000 kg.

⁹ Applied load must not exceed 150% R.C. unless load cell is mounted on a ground metal surface (which is required for the overload protection to function).

Produced in a
facility that is

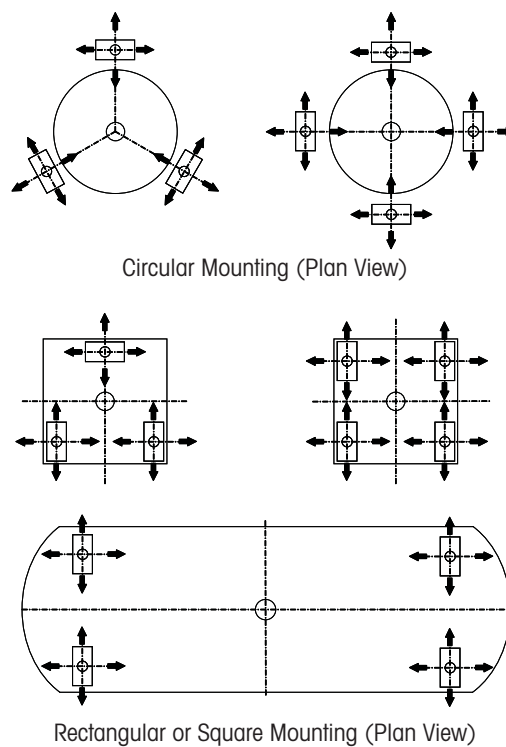


0970 Weigh Module Dimensions



Note: Each weigh module is supplied with shipping/installation blocks to keep the top and bottom plates rigidly aligned during shipping and installation.

0970 Mounting Arrangements



Note: Typical mounting arrangements are shown above. The weigh modules can be oriented in other directions as long as they are evenly spaced and each supports approximately the same weight.

| Capacity | D | H | H1 | H2 | L | L1 | L2 | W | W1 | W2 |
|------------------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|---------------------|----------------------|---------------------|---------------------|
| 250-5000 kg 551-11,023 lb | 13.5 mm 0.53 in. | 58.4 mm 2.30 in. | 12.7 mm 0.50 in. | 12.7 mm 0.50 in. | 152.4 mm 6.00 in. | 120.0 mm 4.72 in. | 16.2 mm 0.64 in. | 101.6 mm 4.00 in. | 70.0 mm 2.75 in. | 15.8 mm 0.62 in. |
| 10,000 kg 22,046 lb | 18.0 mm 0.71 in. | 99.5 mm 3.92 in. | 19.0 mm 0.75 in. | 25.4 mm 1.00 in. | 203.2 mm 8.00 in. | 165.2 mm 6.50 in. | 19.0 mm 0.75 in. | 120.6 mm 4.75 in. | 82.6 mm 3.25 in. | 19.0 mm 0.75 in. |

Top Plate Travel

| Capacity | Longitudinal | Transverse |
|------------------------------|------------------------|------------------------|
| 250-5000 kg 551-11,023 lb | ± 2.3 mm ± 0.09 in. | ± 2.3 mm ± 0.09 in. |
| 10,000 kg 22,046 lb | ± 4.1 mm ± 0.16 in. | ± 4.1 mm ± 0.16 in. |

0970 Cable Colors

| Color | Function |
|-------|--------------|
| Pink | + Excitation |
| Gray | - Excitation |
| Brown | + Signal |
| White | - Signal |
| Clear | Shield |

0970 RINGMOUNT Weigh Module

Ordering Information

Contact your local sales representative for ordering numbers, pricing, and availability.

Global Approvals

Model RLC load cells have global certifications for metrological performance and hazardous area applications. There is no need for options or additional charges.

Full Connectivity

METTLER TOLEDO supplies various data communication interfaces that enable our sensors and instruments to communicate with your PLC, MES, or ERP systems.

ServiceXXI
Tailored Services

Tailored Services

Our extensive service network is among the best in the world and ensures maximum availability and service life of your product.

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Specifications subject to change without notice.

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Weighing Electronics

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

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