

## 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.



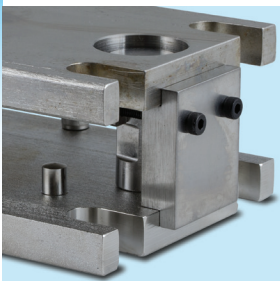
### Load Cells

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.



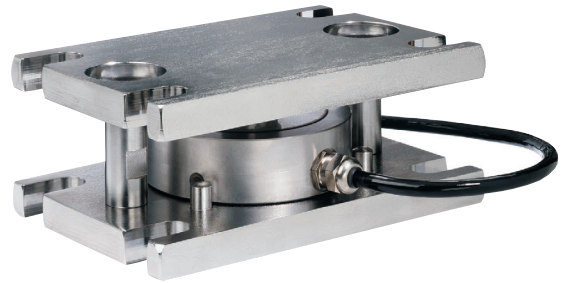
### Hold-Down Bolts

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)							
	Longitudinal	± mm (in)	2.3 (0.09)							
Restoring Force <sup>1</sup>		%A.L./mm (.../in) <sup>6</sup>	17.7 (450)							
Max. Rated Forces										
Max. Compressive Force, Rated		kN (lb)	2.5 (551)	4.9 (1102)	9.8 (2205)	19.6 (4409)	34.3 (7716)	49 (11023)	98.1 (22046)	
Max. Horizontal Force, Rated <sup>2</sup>		kN (lb)	17.4 (3911)							26.7 (6002)
Max. Uplift Force, Rated <sup>3</sup>		kN (lb)	15.1 (3394)							40.1 (9015)
Max. Yield Forces										
Max. Compressive Force, Yield		kN (lb)	3.7 (826.5)	7.4 (1653)	14.7 (3307.5)	29.4 (6613.5)	51.5 (11577)	73.5 (16534.5)	147.1 (33067.5)	
Max. Horizontal Force, Yield		kN (lb)	24.2 (5440)							37.2 (8362)
Max. Uplift Force, Yield		kN (lb)	21 (4723)							55.8 (12544)
Max Ultimate Forces										
Max. Compression Force, Ultimate		kN (lb)	7.4 (1653)	14.7 (3306)	29.4 (6615)	58.8 (13227)	103 (23154)	147.1 (33069)	294.2 (66135)	
Max. Horizontal Force, Ultimate		kN (lb)	45.6 (10251)							75.5 (16973)
Max. Uplift Force, Ultimate		kN (lb)	73 (16445)							175 (39439)
Weight (including load cell), nominal		kg (lb)	4.2 (9.3)							9.5 (21)
Material			316 stainless steel							
Max. Compressive Force, Rated - with Shipping Locks		kN (lb)	75 (16856)							100 (22474)

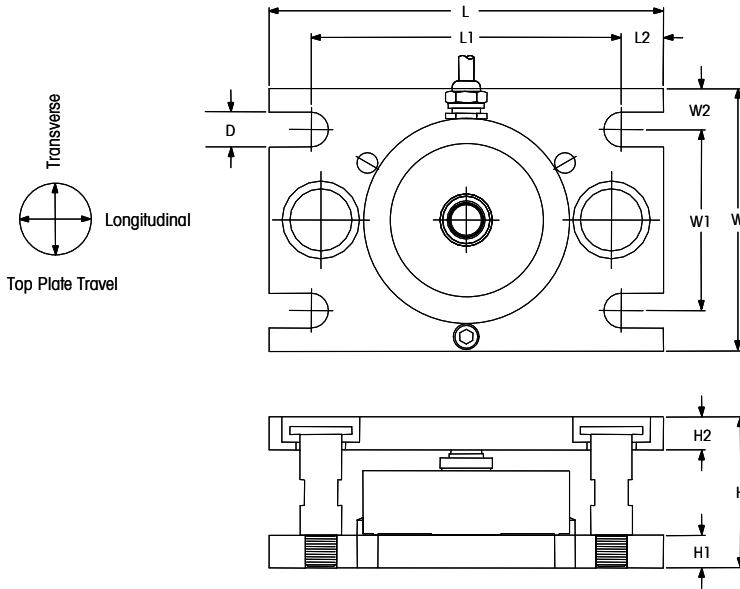
Load Cell Parameter		Unit of Measure	Specification						
Model No.			RLC						
Rated Capacity (R.C.)		kg (lb, nominal)	250 (551)	500 (1,102)	1,000 (2,205)	2,000 (4,409)	3,500 (7,716)	5,000 (11,023)	10,000 (22,046)
Rated Output		mV/V @ R.C.	1.75 ± 0.1	2 ± 0.1					2.05 ± 0.1
Combined Error <sup>4, 5</sup>		%R.C.	C3: ≤ 0.018; C6: ≤ 0.013 <sup>8</sup>						
Temperature Effect on	Min. Dead Load Output	%R.C./°C (.../°F)	C3: ≤ 0.0020 (0.0011); C6: ≤ 0.0012 (0.0006) <sup>8</sup>						
	Sensitivity <sup>5</sup>	%A.L./°C (.../°F)	C3: ≤ 0.0009 (0.0005); C6: ≤ 0.0004 (0.0002) <sup>8</sup>						
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 <sup>7</sup>	Class		C3; C6 <sup>8</sup>						
	nmax		C3: 3000; C6: 6000 <sup>8</sup>						
	Y		C3: 7100; C6: 12050 <sup>8</sup>						
NTEP Approval <sup>7</sup>	Class		NA	III M; III L M					NA
	nmax		NA	5000; 10,000					NA
	Vmin	kg	NA	R.C./16,667; R.C./33,333					NA
ATEX Approval <sup>7</sup>	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 <sup>7</sup>	Rating		IS/I,II,III/1/ABCDEF/G/T4 ; NI/II/2/ABCD/T6 ; S/II,III/2/FG						
Excitation Voltage	Recommended	V AC/DC	10						
	Maximum	V AC/DC	30						
Terminal Resistance	Excitation	Ω	1,100 ± 50	1,110 ± 50					1,100 ± 50
	Output	Ω	1,025 ± 50	1,025 ± 25					1,025 ± 50
Material	Spring Element		Stainless steel						
	Type		Glass-to-metal seal						
Protection	IP Rating		IP68						
	NEMA Rating		NEMA 6/6P						
	Safe	%R.C.	150						
Load Limit	Ultimate	%R.C.	150 <sup>9</sup>						
	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)	



## Notes for Specifications Table

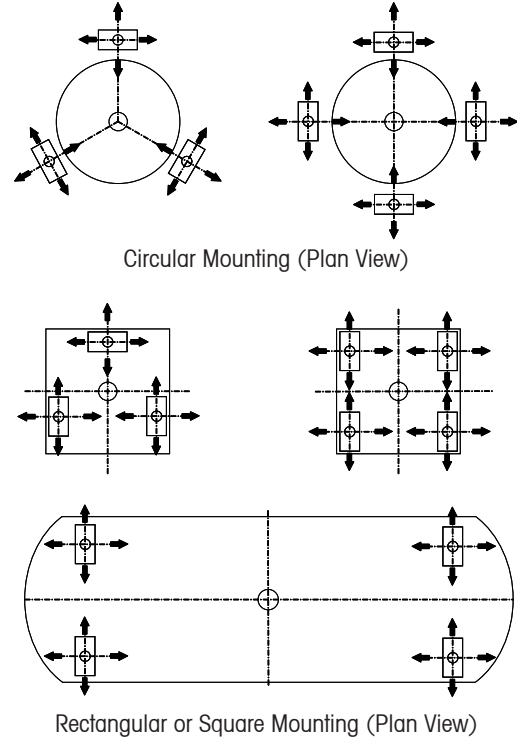
- 1 % of Applied Load (A.L.) per mm (in) displacement of the top plate (transverse and longitudinal).
- 2 Maximum horizontal force that can be applied to the top plate.
- 3 Maximum vertical uplift force that can be applied to the top plate.
- 4 Error due to the combined effect of non-linearity and hysteresis.
- 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).

## 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.

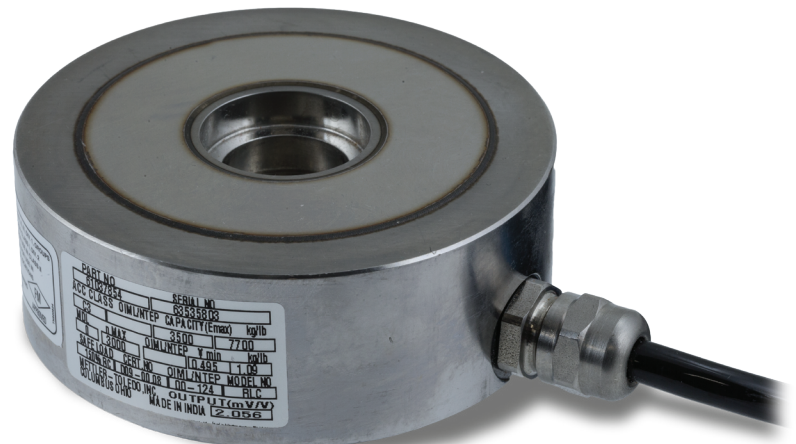
Capacity	D	H	H1	H2	L	L1	L2	W	W1	W2
250-5000 kg 551-11,023 lb	13.5 mm 0.53 in.	58.4 mm 2.30 in.	12.7 mm 0.50 in.	12.7 mm 0.50 in.	152.4 mm 6.00 in.	120.0 mm 4.72 in.	16.2 mm 0.64 in.	101.6 mm 4.00 in.	70.0 mm 2.75 in.	15.8 mm 0.62 in.
10,000 kg 22,046 lb	18.0 mm 0.71 in.	99.5 mm 3.92 in.	19.0 mm 0.75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

Description	Item Number
WMA 0970, 250 kg (C3) (with load cell)	69031599
WMA 0970, 500 kg (C3) (with load cell)	69031600
WMA 0970, 1000 kg (C3) (with load cell)	69031595
WMA 0970, 2000 kg (C3) (with load cell)	69031596
WMA 0970, 3500 kg (C3) (with load cell)	69031597
WMA 0970, 5000 kg (C3) (with load cell)	69031598
WMA 0970, 10000 kg (C3) (with load cell)	61038871
WMA 0970, 1000 kg (C6) (with load cell)	61038933
WMA 0970, 2000 kg (C6) (with load cell)	61038934
WMA 0970, 3500 kg (C6) (with load cell)	61038935
WMA 0970, 5000 kg (C6) (with load cell)	61038936
WMK 0970, 250-5000 kg (without load cell)	61039164
WMK 0970, 10000 kg (without load cell)	61030974
RLC Load Cell, 250 kg (C3)	61037713
RLC Load Cell, 500 kg (C3)	61038019
RLC Load Cell, 1000 kg (C3)	61036052
RLC Load Cell, 2000 kg (C3)	61037137
RLC Load Cell, 3500 kg (C3)	61037854
RLC Load Cell, 5000 kg (C3)	61038020
RLC Load Cell, 10000 kg (C3)	61038876
RLC Load Cell, 1000 kg (C6)	61038021
RLC Load Cell, 2000 kg (C6)	61037497
RLC Load Cell, 3500 kg (C6)	61038948
RLC Load Cell, 5000 kg (C6)	61037496

Options	Item Number
Vibration Isolation Pad, 0970 250-5000 kg	61036187
Vibration Isolation Pad, 0970 10000 kg	61038873
Acetal Thermal Pad, 0970 250-5000 kg	61037314
Acetal Thermal Pad, 0970 10000 kg	61038874
Ultem PEI Thermal Pad, 0970 250-5000 kg	61037446
Ultem PEI Thermal Pad, 0970 10000 kg	61038875

### 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.

### METTLER TOLEDO Service

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

Produced in a facility that is



### Weigh-Connect-Control-Comply

METTLER TOLEDO embeds intelligence into weighing applications. Our industry leading scale electronics enable users to integrate their gravimetric measurement with applications running on PCs, PLCs, or DCS systems. Our products are designed specifically for industries subject to regulatory controls, such as pharmaceutical, chemical, food and beverage, and have been confirmed by multiple global agency standards including UL, CE, NTEP, and OIML.

[www.mt.com/weighmodule](http://www.mt.com/weighmodule)

For more information

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Specifications subject to change without notice.

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