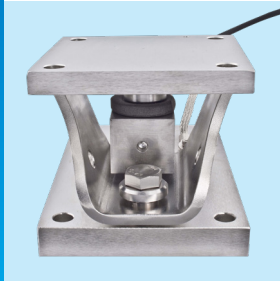


Right-the-First-Time Integration Safe, Accurate, Service-Friendly



No Compromise on Safety

SWB505 weigh modules do not compromise on safety - all safety features are on board. Anti-uplift, down-stop protection and 360° checking are incorporated in the weigh module design, to prevent damage in case of accidents.



Right the First Time

SWB505 MultiMount™ ensures correct scale system installation right from the start, even for dynamic-loading applications such as conveyors, mixers and blenders. Service features, including SafeLock™ provide easy and trouble-free setup.



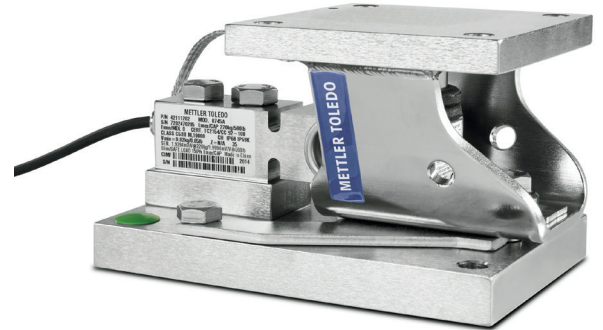
Accurate Load Cells

The load cells have a rocker-pin design that automatically aligns load forces for accurate weighing. The hermetically sealed load cells are IP68/IP69k rated and can be used in all environments. The load cells are easy to inspect or replace.



Stabilizers

Up to two optional stabilizers can be applied to each weigh module to stabilize a scale subject to heavy vibration, high torque, or in-motion weighing. With stabilizers installed, thermal expansion is still possible, enabling the best weighing performance.



SWB505 MultiMount™ Right the First Time

Key Features:

- Full mechanical safety - anti-uplift protection, down-stop protection and 360° checking
- Ground strap – welding protection
- SafeLock™ – protection during weigh module transportation and installation
- Stainless steel load cells with IP68 / IP69K ratings
- Hazardous approvals with IECEx, ATEX and FM
- OIML C3/NTEP III M n:5 / OIML C6/NTEP III M n:10
- Zinc-plated or stainless steel mounting hardware
- CalFree™: Calibration without test weights
- EN1090 structural safety standard (Europe only)

Content

Specifications	Page 02
Weigh Module Dimensions	Page 04
Order Information	Page 05
Weigh Module Accessories	Page 07
Related Products	Page 09
Weigh Module Knowledge Base	Page 10

SWB505 MultiMount™ Specifications – Weigh Module

Weigh module	Unit of measure	Specification													
		SWB505 MultiMount™													
Model No.		SWB505 MultiMount™													
Size		1					2					3			
Rated capacity	kg (lb, nominal)	5 (11)	10 (22)	20 (44)	30 (66)	50 (110)	100 (220)	200 (440)	300 (660)	110 (250)	220 (500)	550 (1250)	1100 (2500)	2200 (5000)	4400 (10000)
Max. rated forces ¹⁾															
Max. compressive force, rated	kN (lb)	0.05 (11)	0.1 (22)	0.2 (44)	0.3 (66)	0.5 (110)	1 (220)	2 (440)	3 (660)	1.1 (250)	2.2 (500)	5.6 (1250)	11.1 (2500)	22.2 (5000)	44.5 (10000)
Max. horizontal Force, rated	transverse	4.5					7.5					15			
	longitudinal	(1010)					(1685)					(3370)			
Max. uplift force, rated	kN (lb)	5.5 (1230)					16 (3600)					22.2 (5000)			
Max. horizontal force (longitudinal) per stabilizer option, rated ⁷⁾	kN (lb)	1.5 (675)					5 (1120)					7.4 (1660)			
Max. yield forces ^{2) 4)}															
Max. compressive force, yield	kN (lb)	0.074 (16.5)	0.15 (33)	0.29 (66)	0.44 (99)	0.74 (165)	1.47 (330)	2.94 (660)	4.4 (990)	1.62 (375)	3.2 (750)	8.1 (1875)	16.2 (3750)	23.3 (5120)	50 (11200)
Max. horizontal Force, yield	transverse	6.6					9.8					22			
	longitudinal	(1480)					(2200)					(4950)			
Max. uplift force, yield	kN (lb)	7.7 (1730)					22 (4950)					34 (7640)			
Max. ultimate forces ^{3) 4)}															
Max. compressive force, ultimate ⁵⁾	kN (lb)	65 (14600)					90 (20000)					150 (33000)			
Max. horizontal Force, ultimate	transverse	17					42					48			
	longitudinal	(3800)					(9400)					(10750)			
Max. uplift force, ultimate	kN (lb)	22 (4950)					50 (11200)					55 (12350)			
Restoring force	%A.L./mm (./in) ⁶⁾	7.4 (190)					4.4 (111)					5.5 (140)			
Max. top plate travel	transverse	2.5					3					3.5			
	longitudinal ⁸⁾	± mm (in) (0.10)					(0.12)					(0.14)			
Weight (including load cell), nominal	kg (lb)	3.8 (8.4)					6.9 (15.2)					7.7 (17)		15.9 (34)	
Material		Carbon steel / 304 stainless steel / 316 stainless steel													
Finish		Zinc Plated / electropolished / electropolished													
Shipping dimensions (LxWxH)	cm (in)	28 x 20 x 16.5 (11.02 x 7.87 x 6.50)												37 x 27 x 19 (14.57 x 10.63 x 7.48)	
Shipping weight	kg (lb)	4.5 (9.92)					7.5 (16.53)					8.3 (18.30)		17.1 (37.70)	

¹⁾ The weigh module is rated for these forces in normal operation, a factor of safety has been applied by METTLER TOLEDO.
²⁾ Warning: if loaded statically one time in excess of these forces, the weigh module may yield and need replacing.
The Max. yield forces do not consider fatigue/cyclic loading and should be approached only in exceptional circumstances.
³⁾ Warning: if loaded statically one time in excess of these forces, the weigh module may break with potential for serious injury and/or property damage.
⁴⁾ Warning: apply a factor of safety appropriate to the application.
⁵⁾ The top plate will travel downwards by 4.2mm @ size 1, 4.5mm @ size 2 and 3 before the down-stop engages and this ultimate force can be developed.
⁶⁾ % of Applied Load (A.L.) per mm (in) displacement of the top plate (transverse & longitudinal).
⁷⁾ 1 or 2 per weigh module. Max. permissible longitudinal force per stabilizer.
⁸⁾ 0 with stabilizer.

SWB505 MultiMount™ Specifications – Load Cell

Model No.		Unit of measure	MTB							0745A						
Rated capacity (R.C.)		kg (lb, nominal)	5 (11)	10 (22)	20 (44)	30 (66)	50 (110)	100 (220)	200 (441)	300 (661)	110 (250)	220 (500)	550 (1250)	1100 (2500)	2200 (5000)	4400 (10000)
Rated output		mV/V @R.C.-kg	2 ± 0.1%							0.970 ± 0.2%		1.940 ± 0.1%				
		mV/V @R.C.-lb	-							1.000 ± 0.2%		2.000 ± 0.1%				
Combined error ⁽⁹⁾ / ⁽¹⁰⁾		%R.C.	C3: ≤ 0.018 / C6: ≤ 0.012							≤ 0.03		C3: ≤ 0.018 / C6: ≤ 0.012				
Temperature effect on	Min. dead load output	%R.C./°C (./°F)	C3: ≤ 0.001 (0.0006) / C6: ≤ 0.001 (0.0006)							≤ 0.0027 (0.0015)		C3: ≤ 0.0013 (0.0007) / C6: ≤ 0.0013 (0.0007)				
	Sensitivity ⁽¹⁰⁾	%A.L./°C (./°F)	C3: ≤ 0.001 (0.0006) / C6: ≤ 0.0005 (0.0003)							≤ 0.0014 (0.0008)		C3: ≤ 0.001 (0.0006) / C6: ≤ 0.0005 (0.0003)				
Temperature range	Compensated	°C (°F)	-10 ~ +40 (+14 ~ +104)							-10 to +40 (+14 to +104)						
	Operating		-40 ~ +65 (-40 ~ +150)							-40 to +65 (-40 to +150)						
	Safe storage		-40 ~ +80 (-40 ~ +176)							-40 to +80 (-40 to +176)						
OIML / European approval ⁽¹¹⁾	Class			C3	C6	C3 / C6				C3 / C6						
	nmax	-		3000	6000	3000 / 6000				3000 / 6000						
	y			12000						11000						
NTEP approval ⁽¹¹⁾	Class		III S / III M									III M / III M				
	nmax		3000 / 5000									5000 / 10000				
	Vmin	kg (lb)	R.C. / 12000									R.C. / 11000				
ATEX approval ⁽¹¹⁾	Rating		II 2 G Ex ib IIC T4 Gb / II 2 D Ex ib IIIC T135 °C Db							II 2 G Ex ia IIC T4 Gb / II 2 D Ex ia IIIC T100 °C Db						
			II 3 G Ex ic IIC T4 Gc / II 3 G Ex nA IIC T4 Gc / II 3 G Ex ec IIC T4 Gc / II 3 D Ex tc IIIC T135 °C Dc							II 3 G Ex ic IIC T4 Gc / II 3 G Ex nA IIC T4 Gc / II 3 D Ex tc IIIC T100 °C Dc						
IECEX approval ⁽¹¹⁾	Number		IECEX DEK 16.0031X							IECEX DEK 15.0017						
	Rating		Ex ib IIC T4 Gb / Ex ib IIIC T135 °C Db / Ex ic IIC T4 Gc / Ex nA IIC T4 Gc / Ex tc IIIC T135 °C Dc							Ex ia IIC T4 Gb / Ex ia IIIC T100 °C Db / Ex ic IIC T4 Gc / Ex nA IIC T4 Gc / Ex ec IIC T4 Gc / Ex tc IIIC T100 °C Dc						
	Entity parameters		Ui = 25V, li = 600mA, Pi = 1.25W, Ci = 0.2nF/m, Li = 1µH/m / Un = 25V, Pn = 1.1 W							Ui = 25V, li = 600mA, Pi = 1.25W, Ci = 5nF, Li = 30µH / Un = 25V, li = 50 mA						
Factory mutual approval ⁽¹¹⁾	Rating, USA		IS / I, II, III / 1 / ABCDEFG / T4							IS / I, II, III / 1 / ABCDEFG / T4						
			NI / 1 / 2 / ABCD / T6 / S / II, III / 2 / FG / T6							NI / 1 / 2 / ABCD / T6 / S / II, III / 2 / FG / T6						
	Rating, Canada		IS / I, II, III / 1 / ABCDEFG / T4							IS / I, II, III / 1 / ABCDEFG / T4						
			NI / 1 / 2 / ABCD / T6 / DIP / II, III / 2 / FG / T6							NI / 1 / 2 / ABCD / T6 / DIP / II, III / 2 / FG / T6						
Excitation voltage	Recommended	V AC/DC	5-15							C3: 5-15 / C6: 5-10						
	Max.		20							15						
Terminal resistance	Excitation	Ω	≥ 383							384 ± 10						
	Output		350 ± 1							350 ± 2						
Material	Spring element		Stainless steel							Stainless steel						
	Type		Welded							Welded						
	IP rating		IP68, IP69K							IP68, IP69K						
	NEMA rating		NEMA 6/6P							NEMA 6/6P						
Weight, nominal		kg (lb)	0.6 (1.3)							0.9 (2)		1.3 (2.9)		2 (4.4)		
Cable length	Lenght	m (ft)	3 / 5 (9.8) / (16.4)							PU: 2 (6.6), 3 (9.8), 5 (16.4), 10 (32.8) / FEP: 3 (9.8), 5 (16.4), 10 (32.8)						
	Diameter	mm (in)	5.8 (0.23)							PU: 5.2 (0.2) / FEP: 5.3 (0.21)						

⁽⁹⁾ Error due to the combined effect of non-linearity and hysteresis.

⁽¹⁰⁾ 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.

⁽¹¹⁾ See certificate for complete information.

SWB505 MultiMount™ Cable Colour MTB

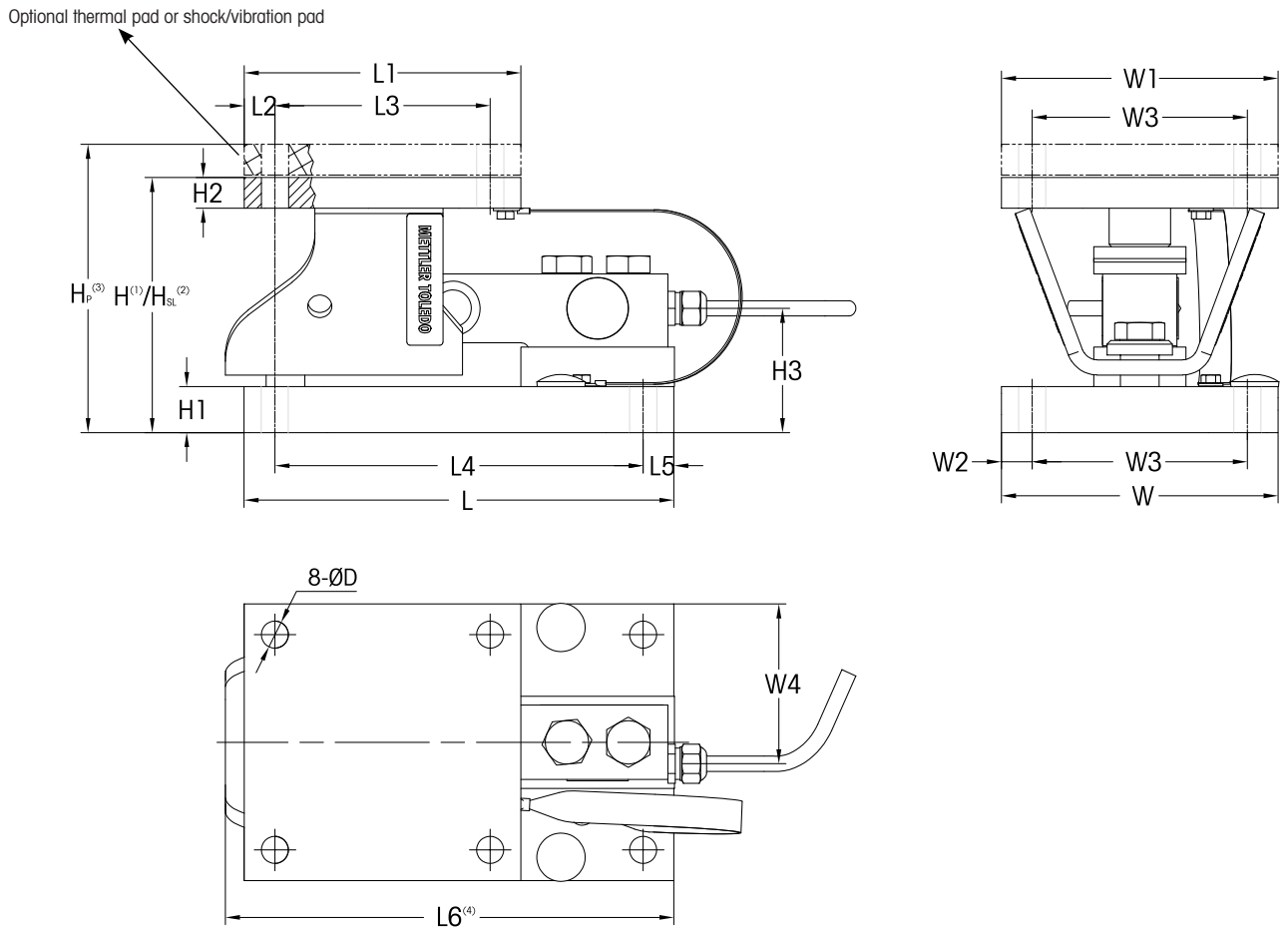
Colour	Function
Green	+ Excitation
Black	- Excitation
White	+ Signal
Red	- Signal
Yellow	+ Sense
Blue	- Sense
Yellow (long)	Shield

SWB505 MultiMount™ Cable Colour 0745A

Colour	Function
Green	+ Excitation
Black	- Excitation
White	+ Signal
Red	- Signal
Yellow	Shield



SWB505 MultiMount™ Weigh Module Dimensions mm [in]



Size	Capacity	Location and Dimensions																		
		H ⁽¹⁾	H _{SL} ⁽²⁾	H _P ⁽³⁾	H1	H2	H3	L	L1	L2	L3	L4	L5	L6	W	W1	W2	W3	W4	D
1	5–300kg (11 ~ 661 lb)	83.9 (3.30)	85.7 (3.37)	109.3 (4.30)	12.7 (0.50)	8.0 (0.3)	41.0 (1.63)	165.0 (6.50)	102.0 (4.02)	10.0 (0.39)	82.0 (3.23)	145.0 (5.71)	10.0 (0.39)	-	102.0 (4.02)	102.0 (4.02)	10.0 (0.39)	82.0 (3.23)	61.5 (2.42)	10.0 (0.39)
	110 kg -1.1 t (250 lb - 2.5 klb)	105.2 (4.14)	106.8 (4.20)	130.6 (5.14)	19.1 (0.75)	12.7 (0.50)	51.4 (2.02)	177.8 (7.00)	114.4 (4.50)	12.7 (0.50)	89.0 (3.5)	152.4 (6.00)	12.7 (0.50)	185.6 (7.31)	114.4 (4.50)	114.4 (4.50)	12.7 (0.50)	89.0 (3.50)	66.1 (2.60)	11.2 (0.44)
2	2.2 t (5 klb)						52.1 (2.05)												68.1 (2.68)	
3	4.4t (10 klb)	136.6 (5.38)	138.1 (5.44)	162.0 (6.38)	25.4 (1.00)	19.1 (0.75)	70.2 (2.76)	235.0 (9.25)	152.4 (6.00)	25.4 (1.00)	101.6 (4.00)	184.2 (7.25)	25.4 (1.00)	-	152.4 (6.00)	152.4 (6.00)	25.4 (1.00)	101.6 (4.00)	90.2 (3.55)	17.5 (0.69)

Note:

- 1) H Height when activating weigh module by removing SafeLock™ plates
- 2) H_{SL} Height when shipping or mounting weigh module with SafeLock™ plates
- 3) H_P Height when using thermal pad or shock/vibration pad
- 4) L6 This dimension of some Weigh Modules is shorter than L.



SWB505 MultiMount download page, including 2D/3D drawings:
www.mt.com/ind-downloads-sw505



0745A load cell download page:
www.mt.com/ind-download-0745a



MTB load cell download page:
www.mt.com/ind-downloads-mtb

Order Information SWB505 MultiMount™ – Weigh Module with Load Cell

SWB505 MultiMount™ – Weigh Module / SWB505 MultiMount™ EN1090 – Weigh Module (Europe Only)

SWB505 MultiMount™

Order information, weigh module assembly					Item No.		
Size	Rated capacity	Description	Class / description	Cable, material/lenght	Material		
					CS	304	316
1	5kg / 11lb	Weigh module assembly	0.05%	PVC / 3 m (9.8ft)	30040372	30040863	30040920
					30263244	30263245	30263246
	10kg / 22lb		C3 / III s n:3 / III M n:5		30040373	30040864	30040921
					30263247	30263248	30263249
	20kg / 44lb		C3 / III s n:3 / III M n:5		30040374	30040865	30040922
					30263250	30263251	30263252
	30kg / 66lb		C6		30219963	30219968	30219973
					30263440	30263441	30263442
	50kg / 110lb		C3 / III s n:3 / III M n:5		30040375	30040866	30040923
					30263253	30263254	30263255
			C6		30219964	30219969	30219974
					30263443	30263444	30263445
	100kg / 220lb		C3 / III s n:3 / III M n:5		30040376	30040867	30040924
					30263256	30263257	30263258
			C6		30219965	30219970	30219975
					30265354	30265355	30265356
200kg / 440lb	C3 / III s n:3 / III M n:5	30040861	30040868	30040925			
		30263259	30263260	30263261			
	C6	30219966	30219971	30219976			
		30265357	30265358	30265359			
300kg / 661lb	C3 / III s n:3 / III M n:5	30040862	30040869	30040926			
		30263262	30263263	30263264			
	C6	30219967	30219972	30219977			
		30265360	30265361	30265362			
2	110kg / 250lb	Weigh module assembly	0.03%	PU / 5 m (16.4ft)	61043206	61043215	61046391
					30263265	30263266	30263267
	220kg / 500lb		C3 / III M n:5		61043207	61043216	61046392
					30263268	30263269	30263270
			C6 / III M n:10		30096895	30131902	30131907
					30263283	30263287	30263291
	550kg / 1,250lb		C3 / III M n:5		61043208	61043217	61046393
					30263271	30263272	30263273
			C6 / III M n:10		30096896	30131903	30131908
					30263284	30263288	30263292
	1100kg / 2,500lb		C3 / III M n:5		61043209	61043218	61046394
					30263274	30263275	30263276
	C6 / III M n:10	30096897	30131904	30131909			
		30263285	30263289	30263293			
2200kg / 5,000lb	C3 / III M n:5	61043210	61043219	61046395			
		30263277	30263278	30263279			
	C6 / III M n:10	30096898	30131905	30131910			
		30263286	30263290	30263294			
3	4400kg / 10,000lb	Weigh module assembly	C3 / III M n:5	PU / 10 m (32.8ft)	61043211	61043220	61046396
					30263280	30263281	30263282
			C6 / III M n:10	PU / 10 m (32.8ft)	30131911	30131912	30131913
				30263307	30263308	30263309	

Bolded entries are stocked

SWB505 MultiMount™ – Weigh Module Accessories

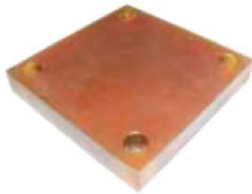
METTLER TOLEDO offers an extensive range of accessories for weighing modules and load cells. Correct installation is thus simplified and the consequences of harmful environmental influences reduced.



Stabilizers

Stabilizers are used to stabilize a scale subject to heavy vibration, high torque, or in-motion weighing. Each weigh module can host one or two stabilizers. With stabilizers installed, thermal expansion is still possible, guaranteeing the best weighing performance. Stabilizers (and weigh modules) shall be installed perpendicular to the direction of thermal expansion/contraction, for details see the Installation Guide on the product download page.

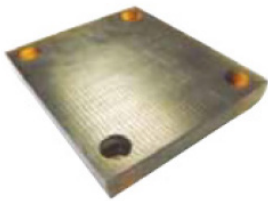
Rated capacity	Item Nr.		
	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel
-			
5-300 kg / 11-661 lb	30040930		30040931
110-2200 kg / 250-5,000 lb	61046399	61046400	61046401
4400 kg / 10,000 lb	61046404	61046405	61046406



Thermal Pads

Thermal pads are used in the case of hot tanks. They protect the load cell from temperature load caused by convection, thereby increasing accuracy and the lifespan of the system.

Rated capacity	Item Nr.	
	80°C	5-300 kg / 11-661 lb
	110-2200 kg / 250-5,000 lb	61010620
	4400 kg / 10,000 lb	61010621
170°C	5-300 kg / 11-661 lb	30040935
	110-2200 kg / 250-5,000 lb	61024642
	4400 kg / 10,000 lb	61037510



Shock/Vibration Pad

Shock/vibration pad are used for reducing load peaks in the case of decreasing loads or vibrations. This effect is achieved through the installation of a relatively soft material with high internal damping.

Rated capacity	Item Nr.		
	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel
-			
5-300 kg / 11-661 lb	30040932		
110-2200 kg / 250-5,000 lb	61005965		
4400 kg / 10,000 lb	61005938		

SWB505 MultiMount™ – Weigh Module Accessories



Shim Kit

For optimal weigh module alignment thin plates of metal can be used to level the tank scale and evenly distribute the load.

Each Shim Set contains 3x 0.5mm and 3x 1mm plates.

Rated capacity	Item Nr.		
	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel
-			
5-300 kg / 11-661 lb	30693511		
110-2200 kg / 250-5,000 lb	30693512		
4400 kg / 10,000 lb	30693513		

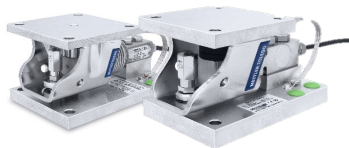


Fixed bearings, dummy weighing cell

Fixed bearings are mechanical clones of weighing modules without movable or active parts. Fixed bearings can be used when monitoring the filling level of liquids. Dummy weighing cells are mechanical clones of the weighing cell without metrological features, therefore also excluding cables. They are used to protect the weighing cells during the installation stage.



Rated capacity	Item Nr.			
	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel	Dummy Cell
-				
5-300 kg / 11-661 lb	30025909	30025913	30025913	30025910
110-1100 kg / 250-2,500 lb	61010624	61046402	61046403	68000714
2200 kg / 5,000 lb	61010625	61046407	61046408	61005963
4400 kg / 10,000 lb				61005964



Mobility Kit

Mobility Kit is designed to protect the load cell during movement of mobile vessels which are common in many industries. The weigh module top plate is lifted with the load cell unloaded for safe movement of mobile tank vessels or reactors. It protects the load cell from shock loads and maintains a consistent weighing performance before and after movement

Mobility Kit can also be used as a service tool to lift top plate and unload the load cell for load cell installation or replacement.



Rated capacity	Item Nr.
5-300 kg/11-661 lb	30801037
110-2,200 kg / 250-5,000 lb	30801038

SWB505 MultiMount™ – Related Products

Precision Junction Boxes

Precision junction boxes connect the load cells and transfer the indicator or transmitter.



Junction Box:

▶ www.mt.com/ind-downloads-precision-junctionbox



Weighing Indicators and Transmitters

METTLER TOLEDO offers a complete family of weighing indicators, controllers and transmitters for applications from simple weighing to filling, stock control, batching, formulation, counting, or checkweighing.



ACT350 Weight Transmitter:

▶ www.mt.com/ind-act350



IND360 Automation Indicator:

▶ www.mt.com/ind360



IND570 Industrial Indicator:

▶ www.mt.com/ind570



IND780 Industrial Indicator:

▶ www.mt.com/ind780



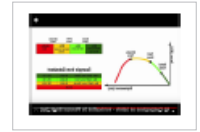
Weigh Module Knowledge Base



Weigh Module Proven Safety Video

Watch the video to understand how force ratings are tested and mechanical safety of weigh modules are ensured.

► <https://www.youtube.com/watch?v=jmOzLrB9HdA>



Weigh Module Buying Guide

Ensure that you make the proper weigh module selection with the support of our free Weigh Module Buying Guide.

► www.mt.com/ind-wm-buying-guide



Dos and Don'ts

Discover best practices for weigh module installation and integration in custom scales with straightforward, real-world examples.

► www.mt.com/ind-wm-dos-donts



Tank Scale Calibration Methods

In this document, we discuss the six common methods to calibrate tank scales and then illustrate each method with practical use cases.

► www.mt.com/ind-tankscalecalibration



MultiMount Installation Video

Watch the short how-to video for a weigh module installation overview. Details of the SafeLock™ plates and optional stabilizers.

► <https://www.youtube.com/watch?v=7a5eJLxWZ2s>



Further Readings

Safety-Related Force Ratings:

www.mt.com/ind-wp-safety

Weighing Accuracy in Tank Scales:

www.mt.com/ind-weighing-accuracy-brochure

Analog and PowerMount™ Weigh Modules:

www.mt.com/ind-modern-weigh-modules-WP

Weigh Module Systems Handbook:

www.mt.com/ind-system-handbook

Weightless Tank Scale Calibration:

www.mt.com/ind-weightless-tank-scale-calibration-WP

RapidCal™ Tank Scale Calibration:

www.mt.com/ind-rapidcal

Explore Our Service Solutions

Maximize the Value of Your Tank Weighing Systems

METTLER TOLEDO helps to increase the value of your tank scales, maximize your equipment lifetime, and protect your investment. Leverage our unique RapidCal™ calibration technology to improve your efficiency, performance, and productivity.



Designing and installing tank weighing systems

RapidCal™ is a fast, hassle-free calibration method for most tank, reactor, hopper, and silo scales. Design your tanks ready for RapidCal to increase your efficiency during site acceptance tests, and win more business by offering unique benefits to your customer, including minimized downtime for calibration, simplified compliance, and less material waste.

With minimal implementation effort, step-by-step guidance, and technical drawings, you can take your systems to the next level and strengthen your customer relationships.



Operating tank weighing systems

Tank weighing systems in production must be calibrated for quality and compliance at regular intervals. METTLER TOLEDO's RapidCal™ calibration takes only about one hour to complete and helps you to achieve your sustainability goals because it does not require expensive substitution materials. RapidCal is also available as ISO17025 accredited calibration service in select countries.



Learn more about RapidCal™:
www.mt.com/IND-rapidcal



METTLER TOLEDO Service

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

www.mt.com

For more information

METTLER TOLEDO Group
 Industrial Division
 Local contact: www.mt.com/contacts

Subject to technical changes
 © 09/2023 METTLER TOLEDO. All rights reserved
 Document No. 30572489
 MarCom Industrial

