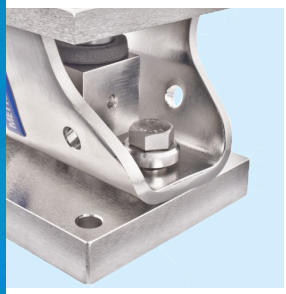
SWB605 PowerMount™

Right-the-First-Time Integration

Safe, Accurate, Smart



No Compromise on Safety

SWB605 weigh modules do not compromise on safety - all safety features are on board. Anti-uplift, down-stop protection and 360° checking are integrated in the weigh module design, to prevent damage in case of accidents.

Right the First Time

SWB605 PowerMount™ ensures correct scale system installation, right from the start. Service features including SafeLock™ provide easy and trouble free setup. Weigh modules are also designed for dynamic-loading applications such as conveyors, mixers and blender.

Load Cell

The POWERCELL® load cell has a rocker pin design that automatically aligns load forces for accurate weighing. This hermetically sealed load cell is rated IP68/IP69K and can be used in all environments. The load cell is easy to inspect or replace.

Condition Monitoring

SWB605 PowerMount™ monitors single load cells for overload, zero drift, foundation problems, etc.; prompting action before the system shuts down or measures incorrectly.

SWB605 PowerMount™

Know What's Ahead

Product 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 cell 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 or C10
- Zinc plated or stainless steel mounting hardware
- CalFree™ Plus: Precise calibration anytime
- EN1090 structural safety standard (Europe only)
- Smart condition monitoring enabled by POWERCELL® technology
- Standard M12 connector for easy cabling

Content

METTLER TOLEDO

SWB605 PowerMount™ Specifications – Weigh Module

Weigh Module		Unit of measure	Specification				
Model No.			SWB605 PowerMount™				
Size			2				3
Rated capacity (R.C.)		kg (lb, nominal)	220 (500)	550 (1250)	1100 (2500)	2200 (5000)	4400 (10000)
Max. rated forces [1]							
Max. compressive force, rated		kN (lb)	2.2 (500)	5.6 (1250)	11.1 (2500)	22.2 (5000)	44.5 (10000)
Max. horizontal force, rated	transverse	kN (lb)	7.5 (1685)				15 (3370)
	longitudinal						
Max. uplift force, rated		kN (lb)	16 (3600)				22.2 (5000)
Max. horizontal force (longitudinal) per stabilizer option, rated [7]		kN (lb)	5 (1120)				7.4 (1660)
Max. yield forces [2] [4]							
Max. compressiv force, yield		kN (lb)	3.2 (750)	8.1 (1875)	16.2 (3750)	23.3 (5120)	50 (11200)
Max. horizontal force, yield	transverse	kN (lb)	9.8 (2200)				22 (4950)
	longitudinal						
Max. uplift force, yield		kN (lb)	22 (4950)				34 (7640)
Max. ultimate forces [3] [4]							
Max. compressiv force, ultimate [5]		kN (lb)	90 (20000)				150 (33000)
Max. horizontal force, ultimate	transverse	kN (lb)	42 (9400)				48 (10750)
	longitudinal						
Max. uplift force, ultimate		kN (lb)	50 (11200)				55 (12350)
Restoring force		%A.L./mm (../in) [6]	4.4 (111)				5.5 (140)
Max. top plate travel	transverse	± mm (in)	3 (0.12)				3.5 (0.14)
	longitudinal [8]						
Weight (including load cell), nominal		kg (lb)	6.6 (14.5)			7 (15.4)	15.4 (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)	7.7 (16.98)				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 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 and longitudinal).
7) 1 or 2 per weigh module. Max permissible longitudinal force per stabilizer.
8) 0 with stabilizer.

SWB605 PowerMount™ Specifications – Load Cell

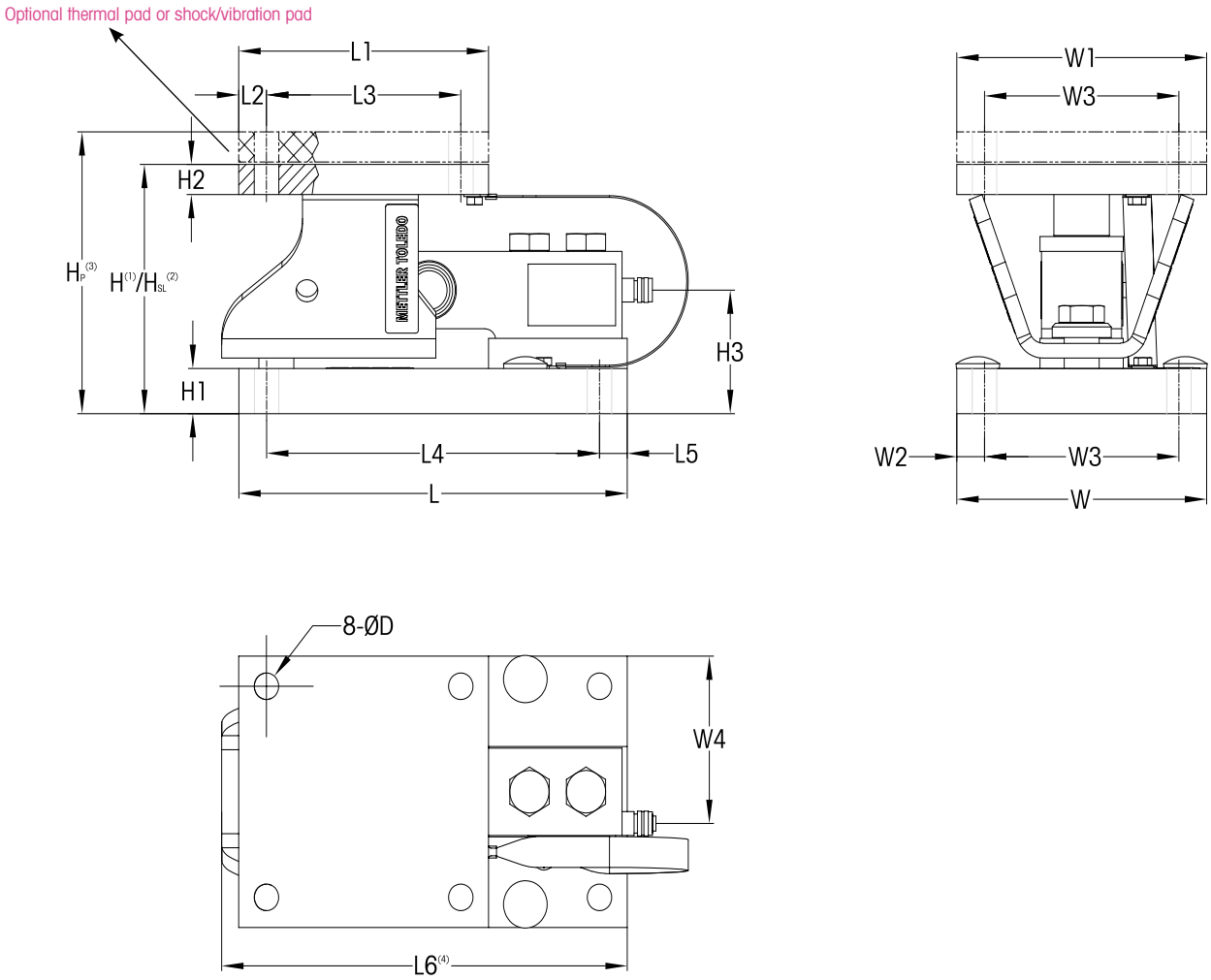
Load cell		Unit of measure	Specification													
Model No.			SLB615D POWERCELL® [12] [13]													
Rated capacity (R.C.)		kg (lb, nominal)	220 (500)			550 (1250)			1100 (2500)			2200 (5000)			4400 (10000)	
Min. increment size, typical [14]		g (lb)	4.4 (0.01)			11 (0.025)			22 (0.05)			44 (0.1)			88 (0.2)	
External resolution		Counts @ R.C.	220000			550000			1100000			2200000			440000	
External resolution tolerance		%	± 0.04	± 0.02		± 0.04	± 0.02		± 0.04	± 0.02		± 0.04	± 0.02		± 0.04	± 0.02
Zero load output		%R.C.	< 0.1													
Combined error [9] [10]		%R.C.	C3/IIIM n:5: ≤ 0.018 / C6/IIIM n:10: ≤ 0.012 / C10: ≤ 0.007													
Temperature effect on	Min. dead load output	%R.C./°C (../°F)	0.0014 (0.0008)	C3/IIIM n:5: ≤ 0.0011 (0.0006) / C6/IIIM n:10: ≤ 0.0007 (0.0004) / C10: ≤ 0.0007 (0.0004)												
	Sensitivity [10]	%A.L./°C (../°F)	C3/IIIM n:5: ≤ 0.001 (0.0006) / C6/IIIM n:10: ≤ 0.0005 (0.0003) / C10: ≤ 0.0003 (0.0002)													
Temperature range	Compensated	°C (°F)	-10 ~ +40 (+14 ~ +104)													
	Operating		-20 ~ +65 (-4 ~ +150)													
	Safe storage		-40 ~ +80 (-40 ~ +176)													
OIML / European approval [11]	Class		C3	C6	C10	C3	C6	C10	C3	C6	C10	C3	C6	C10	C3	C6
	nmax		3000	6000	10000	3000	6000	10000	3000	6000	10000	3000	6000	10000	3000	6000
	Vmin	g	20	10		37	25		70	50		150	100		290	250
NTEP approval [11]	Class		III M n:5	III M n:10	–	III M n:5	III M n:10	–	III M n:5	III M n:10	–	III M n:5	III M n:10	–	III M n:5	III M n:10
	nmax		5000	10000	–	5000	10000	–	5000	10000	–	5000	10000	–	5000	10000
	Vmin	lb	0.05	0.025	–	0.095	0.065	–	0.19	0.13	–	0.38	0.26	–	0.76	0.65
ATEX approval [11]	Rating		II 2 G Ex ib IIB T4 Gb / II 2 D Ex ib IIIC T130C Db / -40°C ≤ Ta ≤ +55°C / II 3 G Ex nA IIC T6 Gc / II 3 D Ex tc IIIC T85°C Dc													
IECEx approval [11]	Rating		Ex ib IIB T4 Gb / Ex ib IIIC T130°C Db / Ex nA IIC T6 Gc / Ex ec IIC T6 Gc / Ex tc IIIC T85°C Dc													
Factory mutual approval [11]	Rating, USA		IS / I, II, III / 1 / CDEFG / T4 Ta = -40°C to 55°C ; I / 1 / AEx ib / IIB / T4 Ta = -40°C to 55°C / Gb ; 21 / AEx ib / IIIC / T130°C Ta = -40°C to 55°C / Db NI / I, II, III / 2 / ABCDFG / T6 -40°C ≤ Ta ≤ 55°C													
	Rating, Canada		IS / I, II, III / 1 / CDEFG / T4 Ta = -40°C to 55°C ; 1 / Ex ib / IIB / T4 Ta = -40°C to 55°C; Gb ; 21 / Ex ib / IIIC / T130°C Ta = -40°C to 55°C; Db NI / I, II, III / 2 / ABCDFG / T6 -40°C ≤ Ta ≤ 55°C													
Supply voltage non-regulated	Range (nominal)	V DC	10 ~ 26													
Overvoltage protection	Max. tested (IEEE4-95)	A	2000 (no outdoor lightning conditions)													
Effective system update rate (4 load cells)		Hz	40													
Material	Spring element		Stainless steel													
Protection	Type		Welded													
	IP rating		IP68, IP69K													
	NEMA rating		NEMA 6/6P													
Deflection @ R.C., nominal		mm (in)	0.16 (0.006)			0.25 (0.01)			0.32 (0.013)			0.43 (0.017)			0.72 (0.028)	
Weight, nominal		kg (lb)	1 (2.2)									1.3 (2.9)			2.2 (4.9)	

[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.
[12] Max. number of load cells depends on the type of terminal.
[13] Max. total cable length 90-300m depending on no. of LC and terminal
[14] Calculate the scale's minimum increment size by multiplying this value by the square root of the number of load cells. For non Legal-For-Trade Applications

Home Run Cable POWERCELL® SLB615D

Colour	Function
Yellow	Shield
Blue	CAN_L
White	CAN_H
Red	+ V
Black	– V

SWB605 PowerMount™ Weigh Module with Optional Cable Protector 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
2	220 kg - 1.1 t (500 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 (3.50)	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)	66.6 (2.62)	11.2 (0.44)
	2.2 t (5 klb)																		69.7 (2.74)	
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)	91.7 (3.61)	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 WM is shorter than L.

SWB605 PowerMount download page, including 2D/3D drawings:
▸ **www.mt.com/ind-downloads-powermount**

SLB615D load cell download page:
▸ **www.mt.com/ind-downloads-slb615D**

Order Information SWB605 PowerMount™ – Weigh Module with Load Cell

SWB605 PowerMount™ – Weigh Module / SWB605 PowerMount™ EN1090 – Weigh Module (Europe Only)

Order information, weigh module assembly				Item No.		
				Material, weigh module		
Size	Rated capacity	Description	Class	CS	304	316
2	220kg / 500lb	Weigh module assembly	C3 / III M n:5	**30090741** **30263340**	**30090742** **30263341**	**30090743** **30263342**
			C6 / III M n:10	**30090753** **30263355**	**30090754** **30263356**	**30090755** **30263357**
			C10	**30096881** **30263370**	**30096882** **30263371**	**30096883** **30263372**
	550kg / 1,250lb		C3 / III M n:5	**30090744** **30263343**	**30090745** **30263344**	**30090746** **30263345**
			C6 / III M n:10	**30090756** **30263358**	**30090757** **30263359**	**30090758** **30263360**
			C10	**30096884** **30263373**	**30096885** **30263374**	**30096886** **30263375**
	1100kg / 2,500lb		C3 / III M n:5	**30090747** **30263346**	**30090748** **30263347**	**30090749** **30263348**
			C6 / III M n:10	**30090759** **30263361**	**30090760** **30263362**	**30090761** **30263363**
			C10	**30096887** **30263376**	**30096888** **30263377**	**30096889** **30263378**
	2200kg / 5,000lb		C3 / III M n:5	**30090750** **30263349**	**30090751** **30263350**	**30090752** **30263351**
			C6 / III M n:10	**30090762** **30263364**	**30090763** **30263365**	**30090764** **30263366**
			C10	**30096890** **30263379**	**30096891** **30263380**	**30096892** **30263381**
3	4400kg / 10000lb	Weigh module assembly	C3 / III M n:5	**30090765** **30263352**	**30090766** **30263353**	**30090767** **30263354**
			C6 / III M n:10	**30090768** **30263367**	**30090769** **30263368**	**30090770** **30263369**

Bolded entries are stocked

Order Information SWB605 PowerMount™ – Weigh Module without Load Cell

SWB605 PowerMount™ – Weigh Module without Load Cell / SWB605 PowerMount™ EN1090 – Weigh Module without Load Cell (Europe Only)

- SafeLock™ allows to install weigh module hardware without load cell to avoid sensor damage

Order information, weigh module kit		Item No.			Suitable load cells		
					Item No.		
Size	Rated capacity	Material, weigh module			Class		
		CS	304	316	C3 / III M n:5	C6 / III M n:10	C10
2	220 kg / 500 lb	**61043213 30263235**	**61043222 30263236**	**61046397 30263237**	**30450308**	**30450311**	**30450314**
	550 kg / 1250 lb				**30450317**	**30450320**	**30450323**
	1100 kg / 2500 lb				**30450326**	**30450329**	**30450332**
	2200 kg / 5000 lb	**61046636 30263238**	**61046637 30263239**	**61046638 30263240**	**30450335**	**30450338**	**30539636**
3	4400 kg / 10000 lb	**61043214 30263241**	**61043223 30263242**	**61046398 30263243**	**30450344**	**30450347**	-

Bolded entries are stocked

Order Information SWB605 PowerMount™ – Cables

	Item No.								
	Cable, material / length								
Description	PU / 2.5m (8.2ft)	PU / 5m (16.4ft)	PU / 10m (32.8ft)	PU / 15m (49.2ft)	PU / 20m (65.6ft)	PU / 30m (98.4ft)	PU / 50m (164ft)	PU / 100m (328ft)	PU / 200m (656ft)
Cable kit, 3 load cells	30382994	**30382990**	**30382991**	-	-	-	-	-	-
Cable kit, 4 load cells	30382995	**30382992**	**30382993**	-	-	-	-	-	-
Load cell Y-Cable	30382975	**30382976**	**30382977**	-	-	-	-	-	-
Home run cable	-	**30382980**	**30382981**	**30382982**	**30382983**	**30382984**	**30382985**	**30382986**	**30423113**
Extension cable	-	**30382987**	**30382988**	-	-	-	-	-	-
CAN termination	**30382989**								
Blind plug	**30417485**								
Cable gland for home run cable with IND780PDX	**30095639**								

Bolded entries are stocked

SWB605 PowerMount™ – Weigh Module Accessories

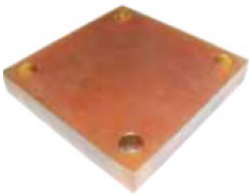
METTLER TOLEDO offers an extensive range of accessories for weighing modules and weighing cells. Correct installation is thus simplified and the consequences of harmful environmental influences reduced.

Stabilizers

Stabilizers[1] 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
220 - 2200 kg / 500 - 5000 lb	61046399	61046400	61046401
4400 kg / 10,000 lb	61046404	61046405	61046406

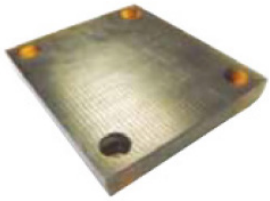
[1] 1 or 2 per weigh module.



Thermal Pads

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

Rated capacity		Item Nr.
80°C		
	220 - 2200kg / 500 - 5000lb	61010620
	4400 kg / 10,000 lb	61010621
170°C		
	220 - 2200kg / 500 - 5000lb	61024642
	4400 kg / 10,000 lb	61037510



Shock/Vibration Pad

Shock/Vibration pads 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
220 - 2200kg / 500 - 5000lb	61005965		
4400 kg / 10,000 lb	61005938		

Shim Set

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
220 - 2200 kg / 500 - 5,000 lb	30693512		
4400 kg / 10,000 lb	30693513		

SWB605 PowerMount™ – Weigh Module Accessories

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.

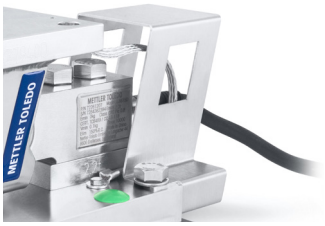
Mobility Kit can also be used as a service tool to lift top plate and unload the load cell for load cell installation or replacement.

Rated capacity	Item Nr.
220-2,200 kg / 500-5,000 lb	30801038

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 load 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
220 -1100 kg / 500-2,500 lb	61010624	61046402	61046403	68000714
2200 kg / 5,000 lb	61010624	61046402	61046403	61005963
4400 kg / 10,000 lb	61010625	61046407	61046408	61005964



Cable Protection Kit

Cable protection is mandatory to install in hazardous areas, as it protects the connectors from mechanical impacts. It is also recommended to install the Cable Protection Kit in other areas, it increases the operation safety of the tank scale, and prevents unnecessary downtime in case of unintended damage of the connector.

Rated capacity	Item Nr.		
-	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel
220 - 2200 kg / 500 - 5000 lb	30315554		
4400 kg / 10,000 lb	30315555		

Note: One cable protection kit is included in the standard delivery scope of SWB605 PowerMount™ Weigh Module.

Related Products

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 Industrial Transmitter:
www.mt.com/ind-act350

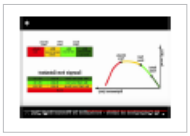
IND360 Industrial Indicator:
www.mt.com/ind360

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

PowerMount Installation Video
Watch the short how-to video for a weigh module installation overview. Details of the SafeLock™ plates and optional stabilizers are also explained.
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**

Service Offering

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 readyfor 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

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