

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



Tank Weighing

SWC615 PowerMount™ weigh modules offer rugged construction and many features for easy installation and accurate and reliable tank weighing. Included as standard are 360° stops and two lift-off bolts to cope with wind forces, while two vertical down-stops provide additional safety.



Easy Maintenance

For very high capacity tank scales, the 200t and 300t weigh modules allow the installation and replacement of load cells without lifting the tank. A dedicated cut-out for standard hydraulic cylinders supports the installation process.



Smart Load Cells

POWERCELL® load cells have a rocker-pin design that automatically aligns load forces for accurate weighing. These hermetically sealed load cells are rated IP68/IP69K and can be used in all environments. The load cells are easy to inspect or replace.



Condition Monitoring

Monitor individual load cells for overload, temperature extremes, zero drift, and more. Breach detection warns if the load cell's hermetic seal has been broken. This enables reaction before the system weighs incorrectly or shuts down completely.



SWC615 PowerMount™ 90t, 200t and 300t Capacities

SWC615 PowerMount™ features ensure correct scale system installation, right from the start. PowerMount does not compromise on safety – all safety features are provided as standard. The rocker-pin design provides the highest level of weighing accuracy. Installation features including SafeLock™ ensure easy and trouble free installation.

SWC615 PowerMount™ features:

- Dual integrated lift-off protection
- Dual vertical safety down-stop
- Full 360° integrated checking
- Ground strap – welding protection
- SafeLock™ – Weigh module locked for installation
- SafeLock™ – Load cell protected for installation
- POWERCELL® load cell
- All load cells with IP68/IP69K and fully stainless steel
- Global approvals standard on each load cell
- Zinc plated mounting hardware
- CalFree™ Plus: Calibration w/o test weights at your finger tip

Technical Specifications

SWC615 PowerMount™ 90t, 200t, 300t

Weigh Module		Unit of measure	Specification		
Model No.			SWC615 PowerMount™		
Size			3A	4	5
Rated Capacity (R.C.)		t (klb, nominal)	90 (198)	200 (440)	300 (660)
Max. Rated Forces ⁽¹⁾					
Max. Compressive Force, Rated		kN (klb)	880 (198)	1960 (423)	2940 (635)
Max. Horizontal Force, Rated	transverse	kN (klb)	100 (22)	260 (56)	300 (65)
	longitudinal				
Max. Uplift Force, Rated		kN (klb)	190 (43)	255 (55)	400 (86)
Max. Horizontal Force (longitudinal) per stabilizer option, Rated ⁽⁶⁾		kN (klb)	50 (11.2)	n/a	
Max. Yield Forces ⁽²⁾⁽⁴⁾					
Max. Compressive Force, Yield		kN (klb)	1756 (388)	3430 (740)	5150 (1543)
Max. Horizontal Force, Yield	transverse	kN (klb)	140 (31)	360 (78)	420 (91)
	longitudinal				
Max. Uplift Force, Yield		kN (klb)	265 (60)	355 (77)	560 (120)
Max. Ultimate Forces ⁽³⁾⁽⁴⁾					
Max. Compressive Force, Ultimate		kN (klb)	2648 (582)	5885 (1270)	8830 (1908)
Max. Horizontal Force, Ultimate	transverse	kN (klb)	400 (88)	815 (175)	895 (193)
	longitudinal				
Max. Uplift Force, Ultimate		kN (klb)	485 (109)	710 (153)	950 (205)
Restoring Force		%A.L./mm (./in) ⁽⁵⁾	1.6 (41)	1.6 (40)	2.5 (63)
Max. Top Plate Travel	transverse	± mm (in)	± 5 (0.2)	± 6 (0.24)	± 6 (0.24)
	longitudinal		± 5 (0.2)	± 6 (0.24)	± 6 (0.24)
Weight (including load cell), nominal		kg (lb)	110 (242)	152 (335)	232 (511)
Material			carbon steel / 304 stainless steel	carbon steel	
Finish			Zinc Plated / Electropolished	Zinc Plated	
Shipping Dimensions (L x W x H)		cm (in)	48 x 36 x 51 (18.9 x 14.2 x 20)	54.4 x 42.2 x 52.6 (21.4 x 16.6 x 20.7)	60.4 x 46.4 x 63.1 (23.8 x 18.3 x 24.8)
Shipping Weight		kg (lb)	110 (242)	168 (370)	255 (562)

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

Load Cell		Unit of measure	Specification			
Model No.			POWERCELL® PDX® SLC820			
Item No.			72238150	72238147	30220694	30314022
Rated Capacity (R.C.)		f (klb,nominal)	90 (198)		200(440)	300 (660)
Min. Increment Size, typical ⁽¹¹⁾		kg (lb)	1.8 (4)		4 (8.8)	6 (13.2)
Zero load Output		%R.C.	≤ 0.1			
Combined Error ^{(8),(9)}		%R.C.	≤ 0.018	≤ 0.015	≤ 0.026	
Repeatability Error		%A.L.	≤ 0.01	≤ 0.008	≤ 0.02	
Creep, 30 minute		%A.L.	≤ 0.015	≤ 0.0125	≤ 0.05	≤ 0.05
Min. Dead Load Output Return (DR), 30 min.		%A.L.	≤ 0.015	≤ 0.0125	≤ 0.05	≤ 0.05
Temperature Effect on	Min. Dead load Output	%R.C./°C (./°F)	≤ 0.0014 (0.0008)	≤ 0.001 (0.0006)	0.0016 (0.0009)	
	Sensitivity ⁽⁹⁾	%A.L./°C (./°F)	≤ 0.001 (0.0006)	≤ 0.0008 (0.0004)	≤ 0.002 (0.0012)	
Temperature Range	Compensated	°C (°F)	-10 to +40 (+14 to +104)			
	Operating		-30 to +55 (-22 to +131)			
	Safe Storage		-40 to +80 (-40 to +176)			
OIML / European Approval ⁽¹⁰⁾	Class		C3	C4	C1	
	nmax		3000	4000	1000	
	Vmin	kg	8.1	6.3	20	30
NTEP Approval ⁽¹⁰⁾	Class		IIIL M	-	IIIL M n:5	
	nmax		10000	-	5000	
	Vmin	lb	7.1	-	17	25
ATEX Approval ⁽¹⁰⁾	Cat 2		II 2 G Ex ib IIB T4 Gb / II 2 D Ex ib IIIC T130° C Db		II 3 G Ex nA IIC T6 Gc / II 3 D Ex tc IIIC T85°C Dc IP6X	
	Cat 3		II 3 G Ex nA nC IIC T6 Gc / II 3 G Ex ec nC IIC T6 Gc / II 3 D Ex tc IIIC T85°C Dc			
IECEx Approval ⁽¹⁰⁾			Ex ib IIB T4 Gb / Ex ib IIIC T130°C Db Ex nA nC IIC T6 Gc / Ex ec nC IIC T6 Gc / Ex tc IIIC T85°C Dc		Ex nA IIC T6 Gc / Ex tc IIIC T85°C Dc IP6X	
FM Approval ⁽¹⁰⁾	Div. 1 US		IS / I, II, III / 1 / CDEFG ; I / 1 / AEx ib / IIB / T4 / Gb ; 21 / AEx ib / IIIC / T130°C / Db		n/a	
	Div. 1 Canada		IS / I, II, III / 1 / CDEFG / T4 ; 1 / Ex ib / IIB / T4 / Gb ; 21 / Ex ib / IIIC / T130°C ; Db			
	Div. 2 US		n/a			
	Div.2 Canada		n/a			
UL /cUL Approval ⁽¹⁰⁾	Rating		I, II, III, Division 2, Groups C, D, F, G, T6		I, II, III, Division 2, Groups C, D, F, G, T6	
Supply Voltage Non-regulated	Typical / Reccomended	V DC	12-24 (external supply)			
Overvoltage Protection		A	> 80000			
Effective System Update Rate		Hz	83 (with 4 cells), 50 (with 6 cells), 25 (with 14 cells), 15 (with 24 cells)			
Material	Spring Element		Stainless Steel			
Protection	Type		welded			
	IP Rating		IP68, IP69K			
	NEMA Rating		NEMA 6/6P			
Deflection @ R.C., nominal		mm (in)	1.02 (0.04)	0.71 (0.028)	n/a	
Weight, nominal		kg (lb)	7.5 (16.6)	3.2 (7.0)	12.8 (28.2)	29 (63.9)

⁸⁾ Error due to the combined effect of non-linearity and hysteresis.

⁹⁾ 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.

¹⁰⁾ See certificate for complete information.

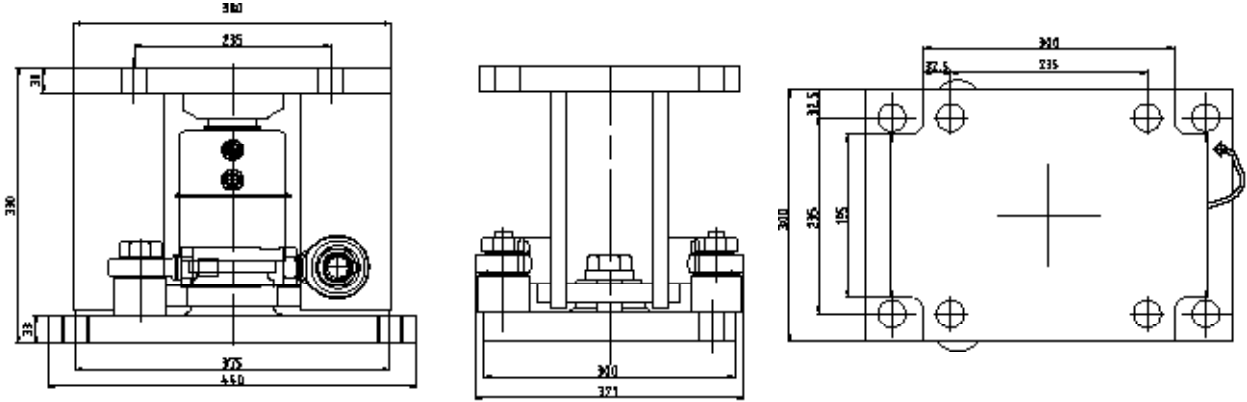
¹¹⁾ Calculate the scale's minimum increment size by multiplying this value by the square root of the number of load cells. For non legal-for-trade applications.



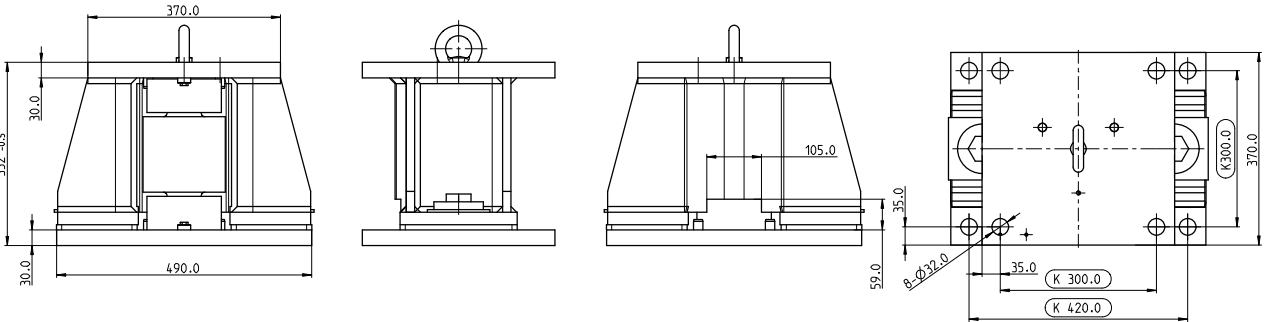
Weigh Module Dimensions mm [in]

SWC615 PowerMount™ 90t, 200t, 300t

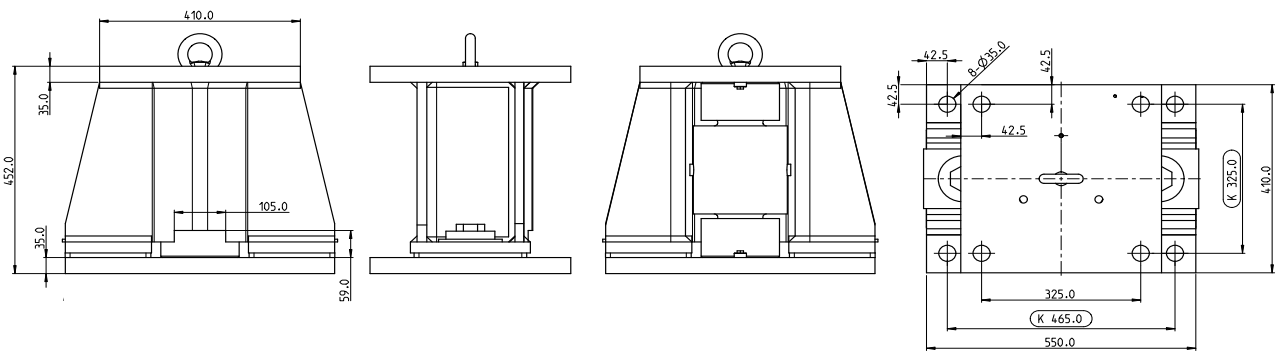
90t – Size 3A



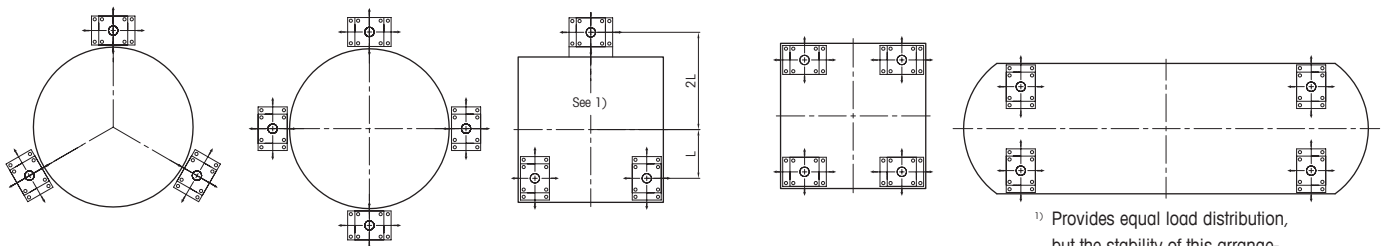
200t – Size 4



300t – Size 5



SWC615 PowerMount™ 90t, 200t, 300t Weigh Module Arrangements



For more information:



SWC615 PowerMount™ Download page, including 2D/3D drawings:
www.mt.com/ind-swc615-downloads



More information on SLC820 load cell:
<https://www.mt.com/ind-download-SLC820>

¹⁾ Provides equal load distribution, but the stability of this arrangement must be assured.

Order Information SWC615 PowerMount™ 90t, 200t, 300t – Weight Module including Load Cell

Order information, weigh module assembly				Item No.		
Size	Rated capacity	Description	Class	Material, weigh module		
				Zinc plated	304	Region
3A	90 t / 198 klb	Weigh module assembly	C3 / IILL M n:10	30057238	30057237	All regions
		Weigh module assembly EN1090		30263218	30263219	Europe only
4	200t / 440klb	Weigh module assembly	OIML C1	30459518	-	All regions
		Weigh module assembly EN1090		30459520		Europe only
5	300 t / 660klb	Weigh module assembly	OIML C1	30459519	-	All regions
		Weigh module assembly EN1090		30459521		Europe only

Bolded entries are stocked

Order Information SWC615 PowerMount™ 90t, 200t, 300t – Cables

Order information, cables	Item No.							
	Cable, material / length							
Description	PU / 3 m (10 ft)	PU / 5 m (16.4 ft)	PU / 10 m (32.8 ft)	PU / 20 m (65.5 ft)	PU / 30 m (100 ft)	PU / 50 m (166 ft)	PU / 100 m (333 ft)	PU / 150 m (500 ft)
Cable kit, 3 load cells	30302750	30302751	30302752	30302753	-	-	-	-
Cable kit, 4 load cells	30302754	30302755	30302756	30302757	-	-	-	-
Load cell – load cell cable	30302766	30302767	30302768	30302769	-	-	-	-
Home run cable	-	30302758	30302759	30302760	30302761	30302762	30302763	30302764
Braided cable kit, 3 load cells	-	61045291	61045292	-	-	-	-	-
Braided cable kit, 4 load cells	-	61045293	61045294	-	-	-	-	-
Braided home run cable	-	-	61044730	61044731	61044732	610444734	61044739	61044749
Cable extension adapter	30220628							
CAN termination load cell	30302770							
Blind cap connector load cell	30302771							

Order Information SWC615 PowerMount™ 90t, 200t, 300t – Weigh Module without Load Cell

- SafeLock™ allows installation of weigh module hardware without load cell to avoid sensor damage
- Combine weigh module with other load cells (with C4, special cable lengths, etc.)
- Use weigh module with dummy load cell for level detection systems

Order information, weigh module kit			Item No.			Suitable load cells	
Size	Rated capacity	Description	Material, weigh module		Region	Class	Item No.
			Zinc plated	304			
3A	90 t / 198 klb	Weigh module kit	30069755	30069754	All regions	C3 / IILL M n:10	72238150
					All regions		72238147
		Weigh module kit EN1090	30263195	30263196	All regions	C3 / IILL M n:10	72238150
					Europe only		72238147
4	200t / 440klb	Weigh module kit	30459462	-	All regions	OIML C1	30220694
		Weigh module kit EN1090	30459512		Europe only		
5	300 t / 660klb	Weigh module kit	30459471	-	All regions	OIML C1	30314022
		Weigh module kit EN1090	30459513		Europe only		

Bolded entries are stocked

Weigh Module Accessories

SWC615 PowerMount™ 90t, 200t, 300t

METTLER TOLEDO offers an extensive range of accessories for weigh modules and load cells. These help to ensure proper installation and minimize the risk of downtime due to environmental influences.

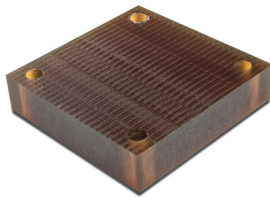


Stabilizers

Stabilizers are used to stabilize a scale subject to heavy vibration, high torque, or in-motion weighing. Each 90-ton weigh module can host one or two stabilizers. With stabilizers installed, thermal expansion is still possible, so that you can achieve 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, linked on page 4 of this datasheet.

Rated Capacity	Item Nr.	
	-	Zinc Plated
90 t / 198 klb	72248970	72248971

* **Bolded entries are stocked**

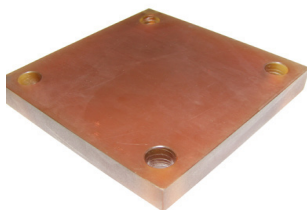


Shock/vibration pad

These pads are used to protect weigh modules from shock loading of the scale and to dampen vibrations that might be transmitted from scale to weigh module.

Rated Capacity	Item Nr.	
	-	Zinc Plated
90 t / 198 klb	72255078	72255081

* **Bolded entries are stocked**



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	Zinc Plated
Thermal isolation pad 80 °C ²⁾	72255079	72255082
170°C	Zinc Plated	304
Thermal isolation Pad 170 °C ²⁾	72255080	72255083

* **Bolded entries are stocked**

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 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



METTLER TOLEDO Service

Our extensive service network is among the best in the world and ensures maximum uptime and optimized performance of your weighing solution. RapidCal™ from METTLER TOLEDO offers an economical tank scale calibration method that is traceable and achieved without using test weights or purified liquids.



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



METTLER TOLEDO Service

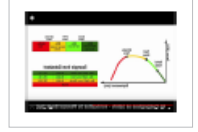
Weigh Module Knowledge Base



Weigh Module Proven Safety Video

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

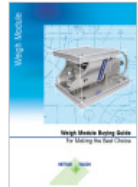
► <https://www.youtube.com/watch?v=jmOzLrB9HdA>



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



PinMount/PowerMount Installation Video

Watch the short how-to video for a weigh module installation overview. Details of the SafeLock™ plates and optional stabilizers for the 90t/100t capacity weigh modules are also explained.

► <https://www.youtube.com/watch?v=SczV-KZQ0aY>



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

METTLER TOLEDO Group

Industrial Division

Local contact: www.mt.com/contacts

www.mt.com

For more information



Subject to technical changes

© 09/2022 METTLER TOLEDO. All rights reserved

Document No. 30577736

MarCom Industrial