

# Weighing Platform



## **PBA639/PBD659**

Exceptional Hygienic Design

Pre-Calibrated, Ready to Use

Durable Construction

Hazardous Area Approved



## **Simplified Hygienic Weighing**

Designed for Wet Environments

**METTLER TOLEDO**

# PBA639/PBD659 Weighing Platforms

## Cleaning and Compliance Made Easy

**In regulated, hygienic environments, ease of equipment sanitation is as important as the operational performance. It is becoming increasingly important to streamline cleaning processes to not only eliminate contamination risk but also maximize productivity. The PBD659 /PBA639 stainless steel weighing platforms enable you to address these challenges with an optimized hygienic design.**



### Maximize equipment uptime

Protect your operation with the scale designed to withstand impacts and ensure peak performance in challenging environments, enabling increased uptime, reduced maintenance and maximized equipment longevity.



### Accelerate cleaning speed

Easily achieve higher hygienic standards and boost cleaning speed by up to 40% with less effort. The innovative open platter and stainless steel design prevent moisture accumulation and allow you to eliminate contamination risk in regulated environments.



### Prevent bad batches

The smart load cell used within the PBD platforms actively corrects and compensates for measurement errors caused by external and internal factors, which improves accuracy by up to 100% to prevent bad batches and reduce product waste.

### Meet the specific needs of your regulated environment:



#### Pharmaceutical industry

For pharmaceutical manufacturers, hygiene and accuracy are paramount. The PBA639/PBD659 hygienic weighing platforms prevent contamination and ensure accurate measurements so that you can deliver high quality products, boost throughput, and minimize cleaning time.



#### Food and beverage industry

The rapid advancements and increasing demand in the food and beverage industry require maximum process efficiency and reliable measuring results. To ensure you meet these requirements, these platforms offer durable construction, IP68/IP69k load cell protection, and easy-to-clean surfaces.



#### Chemical industry

In chemical production, corrosive materials and safety are top concerns. Maximize production uptime and ensure compliance in hazardous areas with these high-grade stainless steel platforms that are globally approved for Zone 2/22 and Zone 1/21 hazardous area use.



#### Biotech industry

Hygienic equipment is required in biotech environments to avoid contamination and extended downtime due to long cleaning cycles. The hermetically sealed load cell and unique hygienic design allow you to spend less time on washdown processes and to boost your productivity.



### We offer global and local partnership, no matter where you do business.

Whether you are a multinational business or a systems integrator serving customers worldwide, our globally approved weighing platforms enable you to standardize your weighing solutions to minimize procurement and engineering hours and deliver a reliable value to your customers or production facilities worldwide. Our comprehensive consulting and extensive weighing portfolio are available to help you simplify your job.

# Achieve Extraordinary Hygiene Engineered for Easy Cleanability

Manufacturing high quality products requires state-of-the-art equipment to ensure that your processes not only adhere to strict regulations but also that your final product is safe and meets your customers' expectations. This platform strictly adheres to hygienic design guidelines, facilitates quick and easy cleaning, and meets higher accuracy standards to optimize your processes and reduce costs.

Learn more about the PBA639/PBD659 .  
Visit the page: [www.mt.com/PBA639-PBD659](http://www.mt.com/PBA639-PBD659)

Discover 360° view  
360°



Click to show the platter  
on the platform frame

Open platter

Closed platter

# Technical Specifications - Metric

## Standard Configurations PBD659 Smart and PBA639 Analog Weighing Platforms

Metric (kg/m)

Model	Platform Size	Maximum Capacity							
		3 kg	6 kg	12 kg	30 kg	60 kg	120 kg	300 kg	600 kg
PBD659/PBA639-QA	228 x 228 [mm]	3 kg	6 kg						
PBD659/PBA639-A	240 x 300 [mm]	3 kg	6 kg	12/15 kg					
PBD659/PBA639-QB	305 x 305 [mm]			12/15 kg	30 kg	60 kg			
PBD659/PBA639-BB	300 x 400 [mm]				30 kg	60 kg			
PBD659/PBA639-B	400 x 500 [mm]				30 kg	60 kg	120/150 kg		
PBD659/PBA639-BC	500 x 650 [mm]					60 kg	120/150 kg	300 kg	
PBD659/PBA639-CC	600 x 800 [mm]					60 kg	120/150 kg	300 kg	600 kg

Load cell cable length: Optional 2.5 m or 5 m cable for PBA639; Standard 2.5 m cable for PBD659, and extension cables are in accessories.

## Weights and Measures - Legal for Trade Data

### OIML (International Organization of Legal Metrology)

OIML certification provides confidence that a weighing device complies with the OIML R76 regulation, which establishes the metrological characteristics required for weighing instruments and specifies methods and equipment for checking their conformity.

#### PBD659 - Smart Weighing Platform

OIML / Metric (kg/m)		Maximum Capacity							
		3 kg	6 kg	12 kg	30 kg	60 kg	120 kg	300 kg	600 kg
<b>Approved Accuracy Resolution Class III Single Range - 1 x 6,000e (*3,000e)</b>									
<b>Approved Readability (e min.)</b>	[g]	0.5	1	2	5	10	20	50	200*
<b>Minimum Capacity</b>	[g]	10	20	40	100	200	400	1,000	4,000

#### PBA639 - Analog Weighing Platform

OIML / Metric (kg/m)		Maximum Capacity							
		3 kg	6 kg	15 kg	30 kg	60 kg	150 kg	300 kg	600 kg
<b>Approved Resolution Class III Single Range - 1 x 3,000e</b>									
<b>Approved Readability (e min.)</b>	[g]	1	2	5	10	20	50	100	200
<b>Minimum Capacity</b>	[g]	20	40	100	200	400	1,000	2,000	4,000
<b>Approved Resolution Class III Multi-Range - 2 x 3,000e</b>									
<b>Approved Readability (Max1/e1)</b>	[kg/g]	n/a	3/1	6/2	15/5	30/10	60/20	150/50	300/100
<b>Approved Readability (Max2/e2)</b>	[kg/g]	n/a	6/2	15/5	30/10	60/20	150/50	300/100	600/200
<b>Minimum Capacity</b>	[g]	n/a	20	40	100	200	400	1,000	2,000

#### Weigh and Measure OIML General Thresholds

<b>Preload Range</b>	[%]	18% of Maximum Capacity
<b>Zero Setting Range</b>	[%]	2% of Maximum Capacity
<b>Taring Range</b>	[kg]	Subtractive from 0 to Maximum Capacity
<b>Temperature Range</b>	[°C]	-10°C...+40°C

## Glossary

Weighing Terms	Simple Definition
<b>Readability</b>	The smallest difference in mass that can be read on a weighing instrument. For instruments with a digital display, the readability is equal to the division value or actual scale interval of the display. Recommended readability (min.) is what is prescribed by the manufacturer; whereas, approved readability is prescribed (or mandated) by weights and measures authorities.
<b>Resolution</b>	Smallest difference between displayed indications that can be meaningfully distinguished - this is a non-technical expression for the number of scale intervals. Sometimes confused with readability.
<b>Minimum Capacity</b>	The lower range of a scale that should not be used, this range is mandated by weights and measures intended to eliminate excessive relative weighing errors. In industry, it is recommended to use minimum weight instead because it is considered a more accurate method that considers the customer's production tolerance.
<b>Repeatability</b>	Ability of a weighing instrument to provide results that agree one with the other when the same load is deposited several times in a practically identical way on the load receptor under reasonably constant test conditions. Repeatability is expressed as a standard deviation.
<b>Error of Indication at full load / half load</b>	The difference between the weight indicated on the display and the actual test weight (full load / half load) placed on the scale. The value represents the combined error of non-linearity, sensitivity offset and repeatability. Note: Sometimes this is wrongly referred to as sensitivity error, or span error.
<b>Minimum Weight</b>	Smallest (sample) weight required for a weighing to achieve a desired weighing tolerance. Weighing below the minimum weight threshold results in errors because the sample weight is too small to achieve the defined process tolerance.

## Weighing - Performance Data

Performance data or typical values are determined in production with no wind drafts and no vibration. Typical values represent the statistical mean value of all measured devices.

#### PBD659 - Smart Weighing Platform

Metric (kg/m)		Maximum Capacity							
		3 kg	6 kg	12 kg	30 kg	60 kg	120 kg	300 kg	600 kg
<b>Readabilities at max. Resolution (~60,000d/6,000e)</b>									
<b>Recommended Readability (min.)</b>	[g]	0.05	0.1	0.2	0.5	1	2	5	10
<b>Minimum Weight @ 1%</b>	[g]	6	8.2	16.4	41	104	182	440	1360
<b>Typical values</b>									
<b>Repeatability sd (at full load)</b>	[g]	0.033	0.033	0.08	0.14	0.52	0.91	2.20	6.80
<b>Error of indication typ. (at half load)</b>	[g]	0.08	0.10	0.25	0.50	1.50	6.00	9.00	21.00
<b>Error of indication typ (at full load)</b>	[g]	0.11	0.12	0.40	0.80	1.20	5.00	6.00	16.00

#### Max. Preload for non-approved platforms without Weighing Platter

Metric (kg/m)		Maximum Capacity								Weight Weighing Platter (kg)	
		3 kg	6 kg	12 kg	30 kg	60 kg	120 kg	300 kg	600 kg	Open	Closed
QA (228 x 228 mm)	[kg]	7.20	4.2							1.20	1.90
A (240 x 300 mm)	[kg]	7.20	4.2	9.2						1.50	2.40
QB (305 x 305 mm)	[kg]			8.5	28.5	38.5				1.80	2.80
BB (300 x 400 mm)	[kg]				28.0	38.0				2.30	3.50
B (400 x 500 mm)	[kg]				26.0	36.0	76.0			5.60	5.50
BC (500 x 650 mm)	[kg]					33.0	43.0	193.0		n/a	8.40
CC (600 x 800 mm)	[kg]					29.4	39.4	189.4	139.4	n/a	11.50 / 14.70*

\*600 kg Model

#### PBA639 - Analog Weighing Platform

Metric (kg/m)		Maximum Capacity							
		3 kg	6 kg	15 kg	30 kg	60 kg	150 kg	300 kg	600 kg
<b>Readabilities at max. Resolution (~30,000d/2x3,000e)</b>									
<b>Recommended Readability (min.)</b>	[g]	0.1	0.2	0.5	1	2	5	10	20
<b>Minimum Weight @ 1%</b>	[g]	8.2	16.4	41	82	164	410	820	1640
<b>Typical values</b>									
<b>Repeatability sd (at full load)</b>	[g]	0.04	0.04	0.12	0.28	0.80	1.30	1.90	7.10
<b>Error of indication typ. (at half load)</b>	[g]	0.15	0.15	0.70	1.50	1.60	9.10	14.20	29.70
<b>Error of indication typ (at full load)</b>	[g]	0.15	0.15	0.60	1.00	1.30	7.00	10.90	24.80

#### Max. Preload for non-approved platforms without Weighing Platter

Metric (kg/m)		Maximum Capacity								Weight Weighing Platter (kg)	
		3 kg	6 kg	15 kg	30 kg	60 kg	150 kg	300 kg	600 kg	Open	Closed
QA (228 x 228 mm)	[kg]	7.2	4.2							1.2	1.9
A (240 x 300 mm)	[kg]	7.2	4.2	6.2						1.5	2.4
QB (305 x 305 mm)	[kg]			5.5	28.5	38.5				1.8	2.8
BB (300 x 400 mm)	[kg]				28.0	38.0				2.3	3.5
B (400 x 500 mm)	[kg]				26.0	36.0	46.0			5.6	5.5
BC (500 x 650 mm)	[kg]					33.0	93.0	193.0		n/a	8.4
CC (600 x 800 mm)	[kg]					29.4	89.4	189.4	139.4	n/a	11.5 / 14.7*

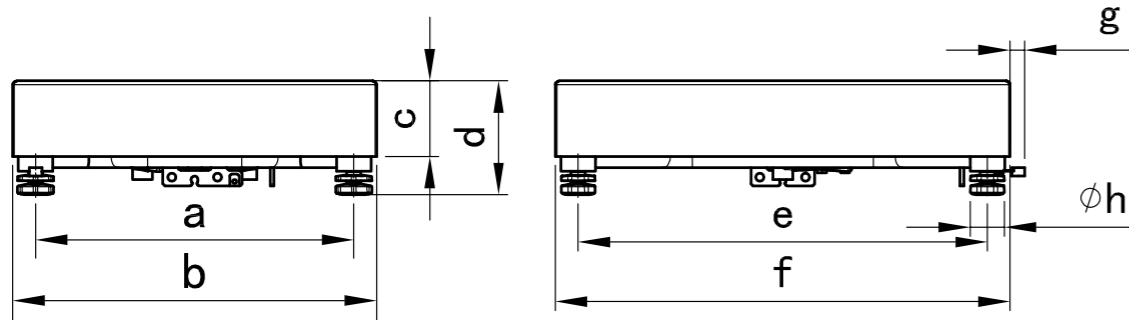
\*600 kg Model

For more technical information see the user manual.



## Technical Data

### Platform Dimensions



#### Dimensions in mm of PBA639 and PBD659 models

Dimensions		a	b	c	d min.	e	f	g	h
QA	mm	178	228	70	110	178	228	21	40
A	mm	190	240	70	110	250	300	21	40
QB	mm	255	305	70	110	255	305	21	40
BB	mm	250	300	70	110	350	400	21	40
B	mm	350	400	83	126	450	500	21	40
BC	mm	450	500	90	134	600	650	21	40
CC	mm	550	600	90	134	750	800	21	40
CC [600 kg]	mm	550	600	94	140.5	750	800	21	40

#### Dimensions in inch of PBA639 and PBD659 models

Dimensions		a	b	c	d min.	e	f	g	h
QA	inch	7.01	8.98	2.76	4.33	7.01	8.98	0.83	1.57
A	inch	7.48	9.45	2.76	4.33	9.84	11.81	0.83	1.57
QB	inch	10.04	12.01	2.76	4.33	10.04	12.01	0.83	1.57
BB	inch	9.84	11.81	2.76	4.33	13.78	15.75	0.83	1.57
B	inch	13.78	15.75	3.27	4.96	17.72	19.69	0.83	1.57
BC	inch	17.72	19.69	3.54	5.28	23.62	25.59	0.83	1.57
CC	inch	21.65	23.62	3.54	5.28	29.53	31.5	0.83	1.57
CC [600 kg]	inch	21.65	23.62	3.70	5.53	29.53	31.5	0.83	1.57

#### Construction per platform size



A = 240 × 300 mm / 9.5" × 11.8"  
QA = 228 × 228 mm / 9" × 9"



BB = 300 × 400 mm / 11.8" × 15.7"  
QB = 305 × 305 mm / 12" × 12"  
B = 400 × 500 mm / 15.7" × 19.7"



BC = 500 × 650 mm / 19.7" × 25.6"  
CC = 600 × 800 mm / 23.6" × 31.5"

## General Specifications

### PBA639

Ingress Protection	IP68/IP69k	
Material	Platform Frame: Stainless Steel (AISI304)	
	Load Plate: Stainless Steel (AISI304 or AISI316 optional)	
	Feet: TPA (FDA approved) / Load Cell Cables: PVC	
Surface	Load Plate: Ra ≤0.8um	
Load Cell	Hermetically sealed, Stainless steel	
Load Cell Cable Length	PBA639: Optional 2.5 m or 5 m PBD659: Standard 2.5 m, and extension cables are in the accessories	
Compliance	Metrology	OIML Class III, NTEP Class III
	EMC	10 V/m
Scale Interface	Analog	
Operating Temperature	Compensated	-10°C to +40°C / 14°F to 104°F)
	Operation (Safe Area)	-20°C...+65°C / -4°F...+149°F
Hazardous Area Approvals (Optional)	ATEX/IECEX	II 2G Ex ia IIC T6...T4 Gb II 2D Ex ia IIIC T80°C Db -40°C≤Ta≤60°C T5/T4; -40°C≤Ta≤40°C T6
		II 3G Ex ic IIC T6...T4 Gc -40°C≤Ta≤60°C T5/T4; -40°C≤Ta≤40°C T6 II 3G Ex ec IIC T6 Gc II 3D Ex tc IIIC T80°C Dc -40°C≤Ta≤60°C
	FMus	IS/I,II,III/1/ABCDEFG/T6...T4 Class I, Zone 1, AEx ia IIC T6...T4 Gb Class II,III, Zone 21, AEx ia IIIC T80°C Db -40°C≤Ta≤60°C T5/T4; -40°C≤Ta≤40°C T6" NI/I,II,III/2/ABCDEFG/T6 -40°C≤Ta≤60°C
FMc	IS/I,II,III/1/ABCDEFG/T6...T4 Class I, Zone 1, Ex ia IIC T6...T4 Gb Class II,III, Zone 21, Ex ia IIIC T80°C Db -40°C≤Ta≤60°C T5/T4; -40°C≤Ta≤40°C T6" NI/I,II,III/2/ABCDEFG/T6 -40°C≤Ta≤60°C Class I, Zone 2, Ex ec IIC T6 Gc; Class II,III, Zone 22, Ex tc IIIC T80°C Dc	
Suitable Indicators	Safe Area: all analogue Mettler-Toledo indicators	
	Hazardous area: select appropriate Ex Approved indicators per local Ex regulations	

### PBD659

Ingress Protection	IP68/IP69k	
Material	Platform Frame: Stainless Steel (AISI304)	
	Load Plate: Stainless Steel (AISI304 or AISI316 optional)	
	Feet: TPA (FDA approved) / Load Cell Cables: PVC	
Surface	Load Plate: Ra ≤0.8um	
Load Cell	Hermetically sealed, Stainless steel	
Compliance	Metrology	OIML Class III, NTEP Class III
	EMC	10 V/m
Scale Interface	SICSpro (RS422 for direct connection to process control unit (w/o indicator) Option: SICSpro-IDNet cable adaptor	
Update Rate	90 values per second	
Power Supply	6 to 18 VDC	
Operating Temperature	Compensated	-10°C to +40°C / 14°F to 104°F)
	Operation	-20°C...+65°C / -4°F...+149°F
Suitable Indicators	Safe Area: all SICSpro indicators, IDNet indicators: ID7, IND690, IND780, IND560	

## Hygienic Accessories

### Customize to Your Application



#### Closed platter

The closed platter is the standard option available for use with the PBD659 and PBA639. Choose between AISI 304 or AISI 316 Stainless Steel.



#### Open platter

Always keep the hygienic frame in view with this open platter AISI 316 stainless steel design. Easily spot contaminants and wash the platform down without having to remove the platter.



#### Sealed column

Using a completely sealed column with your indicator ensures that contaminants have nowhere to hide and makes cleaning even easier.



#### Open column

If you prefer easy access to all parts of the scale, choose the open column design. With rounded edges and large openings, cleaning is highly efficient.



#### Choose from a variety of indicators

Minimize contamination risks with one of the metal keypad indicators. The low surface roughness and IP69k protection of these fully stainless steel indicators enable easy operation and cleaning, making them ideal for hygienically sensitive environments. The metal keypads are available as an option with ICS429 and ICS689.



#### APR331 label printer

The stainless steel housing and optional rubber gasket that closes the paper opening facilitate fast, thorough and easy cleaning to save time and reduce contamination risk in hygienic environments.

#### Accessories

Article #	Designation	Description	Picture
30676281	Column open 330 mm / 13"	Fits for platform sizes. Fits for hazardous area.	
30676282	Column open 660 mm / 26"	Fits for all platform size. Fits for hazardous area.	
30676283	Column open 900 mm / 35.4"	Fits for all platform sizes larger than A-Size. Fits for hazardous area.	
30676284	Column closed 330 mm / 13"	Fits for platform sizes. Fits for hazardous area.	
30676285	Column closed 660 mm / 26"	Fits for all platform size. Fits for hazardous area.	
30676286	Column closed 900 mm / 35.4"	Fits for all platform sizes larger than A-Size. Fits for hazardous area.	
30253326	Roller track 400 x 500 mm / 15.7" x 19.7" stainless steel	Fits for 400x500mm platform. Roll to short side of platform.	
30253328	Roller track 500 x 650 mm / 19.7" x 25.6" stainless steel	Fits for 500x650mm platform. Roll to short side of platform.	
30253330	Roller track 600 x 800 mm / 23.6" x 31.5" stainless steel	Fits for 600x800mm platform. Roll to short side of platform.	
30253327	Roller track 400 x 500 mm / 15.7" x 19.7" stainless steel	Fits for 400x500mm platform. Roll to long side of platform.	
30253329	Roller track 500 x 650 mm / 19.7" x 25.6" stainless steel	Fits for 500x650mm platform. Roll to long side of platform.	
30253331	Roller track 600 x 800 mm / 23.6" x 31.5" stainless steel	Fits for 600x800mm platform. Roll to long side of platform.	
30640393	Roller track 400 x 500 mm / 15.7" x 19.7" stainless steel	Fits for hazardous area.	
30640394	Roller track 500 x 650 mm / 19.7" x 25.6" stainless steel	Fits for hazardous area.	
30640395	Roller track 600 x 800 mm / 23.6" x 31.5" stainless steel	Fits for hazardous area.	
72225939	Stainless steel cart BC	Fits for 500 x 650 mm platform.	
72225940	Stainless steel cart CC	Fits for 600 x 800 mm platform.	
30676290	Front mount bracket	Fit for ICS4_9 front mount.	
30676291	Front mount bracket	Fit for ICS689 front mount.	
22023696	Cable Extension (two M12 Plugs 6pin/6pin) 3 m	Load cell extension cables for the PBD659 platforms.	
30024759	Cable Extension (two M12 Plugs 6pin/6pin) 10 m		
22026963	ACC409	Adapter to convert SICSPRO signal into IDNet.	

# Explore Our Service Solutions

## Tailored to Fit Your Equipment Needs

METTLER TOLEDO Service delivers resources to enhance your efficiency, performance and productivity by providing service packages that fit your operational needs, maximize your equipment lifetime, and protect your weighing solution scale investment.

► [www.mt.com/IND-Service](http://www.mt.com/IND-Service)

### Start with professional installation



Installation services include support for your unique production situation:

- Professional IQ/OQ/PQ/MQ documentation
- Initial calibration and confirmation of fit-for-purpose
- Hazardous area installations

### Extend your warranty coverage



Add two years of preventive maintenance and repair coverage to protect your indicator or full system purchase and achieve maximum productivity and budget control.

### Maintain accuracy over time



Receive professional guidance (GWP Verification™), including a routine testing plan that specifies four key factors to maximize your efficiency and ensure quality:

- Tests to perform
- Weights to use
- Testing frequency
- Tolerances to apply

### Schedule maintenance



Full preventative maintenance plans offer inspection, functional testing, and proactive replacement of worn parts.

Health inspections offer a full assessment of current condition with professional maintenance recommendations.

### Calibrate for quality and compliance

**GWP®**

Professional Accuracy Calibration Certificate (ACC) determines measurement uncertainty in use over the entire weighing range. Corresponding annexes give a clear pass/fail statement for specific tolerances applied, such as fit-for-purpose (GWP®), OIML R76, NTEP HB44, or further regulations.

[www.mt.com/PBA639-PBD659](http://www.mt.com/PBA639-PBD659)

For more information

#### METTLER TOLEDO Group

Industrial Division

Local contact: [www.mt.com/contacts](http://www.mt.com/contacts)



Subject to technical changes

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