# Designed for Automation
High-Precision Weighing Platforms

Smart Weigh Module Technology
The weigh module, with Monobloc technology, is at the core of the PBK-Series weighing platforms and guarantees the highest precision and reliability. A robust weigh module housing features integrated overload protection and durable mechanical interfaces. This ensures stable weight values for many years of intensive use.
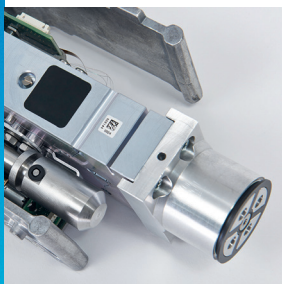
High Resolution
PBK weighing platforms have a resolution up to 750'000 points. With this high precision, it is possible to measure even the slightest change in the weight; thus unnecessary waste can be minimized and cost savings realized by optimizing the material quantity.

Connect to PLC
All weighing platforms can easily be connected to METTLER TOLEDO transmitters for easy integration into automated environments. This allows machine builders to standardize on PBK weighing platforms for weighing connected to PLC systems.

Hazardous Environments
When working in a hazardous environment, safety is key. The PBK weighing platforms are approved for the use in hazardous areas for category 2 and 3 as well as FM division 1 and 2 for top performance in gaseous and dusty environments.

PBK9-APW Bench Platforms
Accurate – Reliable – Robust – Versatile

Accurate weighing helps you manage raw materials, ensure compliance with regulations and improve your product quality. For bench scale applications that require reliability with the best accuracy available, the PBK9 weighing platforms provide industry-leading performance. The wide range of platforms with nine nominal capacities from 3 to 300 kilograms in four different sizes makes it suitable for a variety of applications and industries. The PBK9 Weighing platforms provide benefits such as

• Up to 750'000d resolution
• Directly connects to control systems
• Increases speed of filling processes with up to 92 updates per second
• For safe as well as hazardous areas category 3 / division 2 and category 2 / division 1
• IP66/IP68 ingress protection
• Minimizes downtimes by checking the platform periodically with the internal weight

METTLER TOLEDO

Model Specific Weighing Data

Models		A		AB			B		CC	
	Unit	A3	A6	AB15	AB30	AB60	B60	B120	CC150	CC300
Nominal capacity / nominal load	kg	3	6	15	30	60	60	120	150	300
Resolution										
Non-approved, single range										
750'000d / 600'000d	g	0.005	0.01	0.02	0.05	0.1	0.1	0.2	0.2	0.5
300'000d / 240'000d	g	0.01	0.02	0.05	0.1	0.2	0.2	0.5	0.5	1
75'000d / 60'000d	g	0.05	0.1	0.2	0.5	1	1	2	2	5
Zero-setting and preload range										
Zero-setting range	kg ±	full range								
Preload range	kg	0.54	1.08	2.7	5.4	10.8	10.8	21.6	27	54
Maximum static safe load										
Central load	kg	20	20	50	50	80	150	150	500	500
Side load	kg	15	15	40	40	60	100	100	300	300
Corner load	kg	10	10	30	30	40	50	50	150	150
Typical values [1]										
Repeatability (s) (@nominal load) [2]	g	0.007	0.01	0.02	0.05	0.1	0.15	0.3	0.3	0.5
Linearity deviation (@1/2 nominal load)	g	±0.028	±0.04	±0.08	±0.2	±0.4	±0.6	±1.2	±1.2	±2
Eccentric deviation (@1/3 nominal load in the middle of one quadrant)										
Single range	g	0.07	0.14	0.35	0.7	1.4	1.6	3.5	3.5	7

[1] at room temperature and stable environmental conditions without vibration and draft, with automated weight placement
[2] s= standard deviation (68% of weighing results within ± s)

General Data

Models			A	AB	B	CC
Material						
Weighing platform material	Stainless steel AISI304	Standard	•	•	•	•
	Mild steel powder coated, blue	Standard			•	•
Weighing platform surface	Stainless steel models: glass bead blasted Ra < 5 µm	Standard	•	•	•	•
	Stainless steel: brushed Ra < 1 µm	Standard				
Load plate material	Stainless steel AISI304	Standard	•	•	•	•
	Stainless steel AISI316	Option	•	•	•	•
Load plate surface	Brushed Ra < 1 µm	Standard	•	•	•	•
Shock absorber	Nitrile Butadiene Rubber (NBR)	Standard	•	•	•	•
Foot	Chloroprene - Caoutchouc (CR)	Standard	•	•		
	Ethylene Propylene Diene Monomer Rubber (EPDM)	Standard			•	•
Membrane	Silicone	Standard	•	•	•	•
Connecting cable safe area	Polyurethane (PU)	Standard	•	•	•	•
Connecting cable hazardous area cat. 2, div. 1 and cat. 3, div. 2	Thermoplastic Polyether Polyurethan TPE-U	Standard	•	•	•	•
Weigh module	Stainless steel (AISI304), brushed, e-polished	Standard	•	•	•	•
Power supply voltage						
12 to 24 V DC nominal (10 – 29 V DC)						
Ingress protection						
All PBK-APW weighing platforms	IP66/68	Standard	•	•	•	•

Hazardous area approval [1]

ATEX / IECEx	3G / 3D - Load Cell MPGI: BVS 17 ATEX E 131 X* / IECEx BVS 16.0064X* II 3G Ex nA IIC T6 Gc, II 3D Ex tc IIIC T60°C Dc, -10°C ≤ Ta ≤ +40°C	Option	•	•	•	•
	2G / 2D - Load Cell MPXI: BVS 10 ATEX E 026 X* / IECEx BVS 17.0018X* II 2G Ex ib IIC T4 Gb, II 2D Ex ib IIIC T50°C Db, -10°C ≤ Ta ≤ +40°C	Option	•	•	•	•
CFMUS	Division 2 / Zone 2/22 Load Cell MPGI: FM17US0139X* / FM17CA0075X* NI Class I, II, III Division 2 Groups A, B, C, D, E, F, G T6 Class I Zone 2 IIC T6 Zone 22 IIIC T60°C -10°C ≤ Ta ≤ +40°C	Option	•	•	•	•
	Division 1 / Zone 1/21 Load Cell MPXI: FM17US0324X* / FM17CA0163X* IS Class I Division 1 Groups A, B, C, D T4 IS Class II, III Division 1 Groups E, F, G T6 Class I Zone 1 AEx/Ex ib IIC T4 Zone 21 AEx/Ex ib IIIC T50°C -10°C ≤ Ta ≤ +40°C	Option	•	•	•	•

* Compliance document download: **www.mt.com/PCDS**

Resolution (The resolution is dependent on the weighing platform model.)

Non-approved, 1 x 60'000d / 1 x 75'000d	Standard	•	•	•	•
Non-approved, 1 x 300'000d / 1 x 240'000d	Option	•	•	•	•
Non-approved, 1 x 600'000d / 1 x 750'000d	Option	•	•	•	•

Temperature range
Non-approved application

In operation	-20 °C to 60 °C (-4 °F to 140 °F)		•	•	•	•
In operation cat. 2 div. 1	-10 °C to 40 °C (14 °F to 104 °F)		•	•	•	•
For storage	-20 °C to 70 °C (-4 °F to 158 °F)		•	•	•	•

Warm-up time (dependent on resolution)
Typically 30 min.

Scale interfaces

RS232, RS422	MT – SICS command set	Standard	•	•	•	•

Cable length

| Safe area: cable M12, 12-pin – open leads, 10 m	Option	•	•	•	•
Cat. 2 / div. 1: cable M12, 6-pin, 5 m, 10 m, 20 m	Option	•	•	•	•
Cat. 3 / div. 2: cable M12, 12-pin – open leads, 10 m	Option	•	•	•	•

Model designation examples:

PBK989APW-AB15 Bench platform with frame in stainless steel, direct connectivity version, AB-size (280 mm x 350 mm), nominal capacity 15 kg

PBK987APW-CC300 Bench platform with frame in mild steel powder coated, direct connectivity version, CC-size (600 mm x 800 mm), nominal capacity 300 kg

[1] In the hazardous area, you can use powder coated platforms only if intense electrostatic charges do not accumulate on the platform during the application or process.
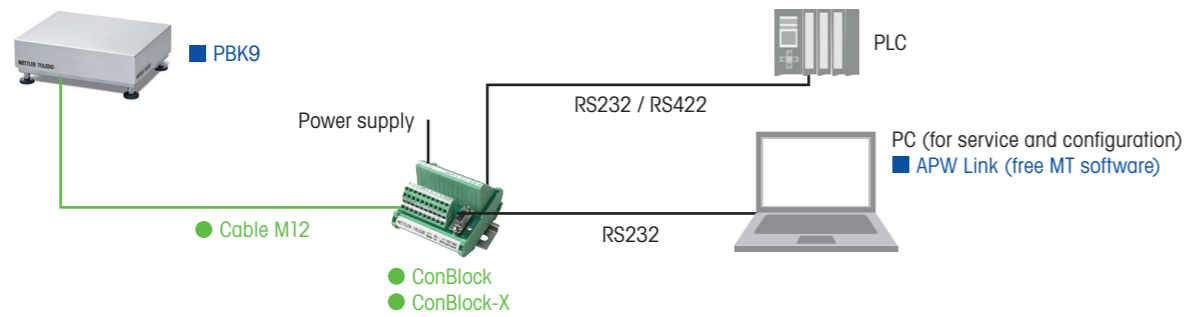
Drawings (mm)
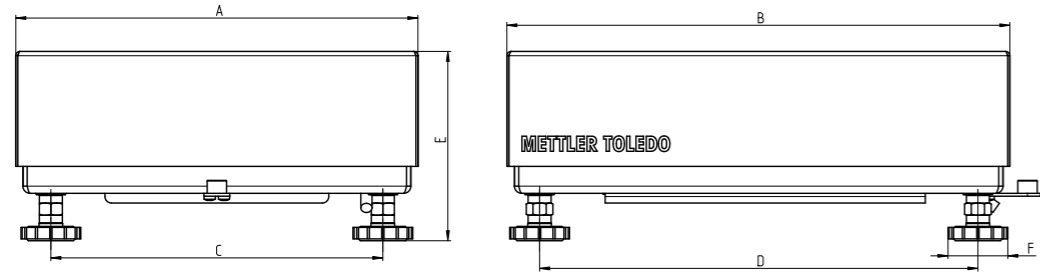
Dimensions (mm)	A Weighing platform	A Load plate	AB	B	CC
A	275	240	280	402	600
B	345	300	350	503	800
C	231	–	231	337	503
D	305	–	305	431	724
E	135 – 147	–	132 – 144	127 – 152	130 – 155
F	40	–	40	35	35

Typical Configurations

Safe area

Serial interface configuration

- PBK9
- Cable M12
- ConBlock
- ConBlock-X
- Power supply
- RS232 / RS422
- RS232
- PLC
- PC (for service and configuration)
  - APW Link (free MT software)

Automation network configuration

- PBK9
- ACT350 Precision
- Cable M12
- Power supply
- PROFINET or EtherNet/IP
- PLC
- TCP/IP
- PC (for service and configuration)
  - Web server (included in optional ACT350 Precision)
  - APW Link (free MT software)
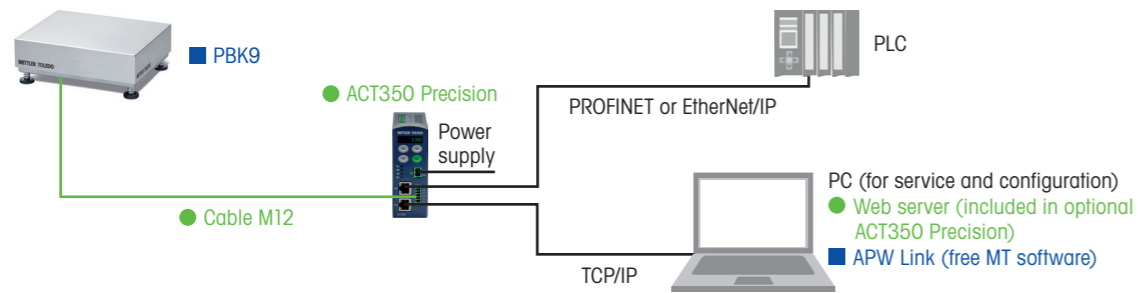
- ■ Scope of delivery
- ● Accessories from METTLER TOLEDO

Hazardous area

Consult the applicable certificate of conformity for compliant hazardous area installation. Contact your MT representative for further information.

ATEX zone 2/22 automation network configuration

Hazardous area ATEX zone 2/22 | Safe area

- PBK9 Ex (Cat. 3)
- Cable M12 (Cat. 3)
- PC (for service and configuration)
  - APW Link (free MT software)
  - Web server (included in ACT350 Precision)
- PROFINET or EtherNet/IP
- TCP/IP
- Power supply
- ACT350 Precision
- PLC

- ■ Scope of delivery
- ● Accessories from METTLER TOLEDO
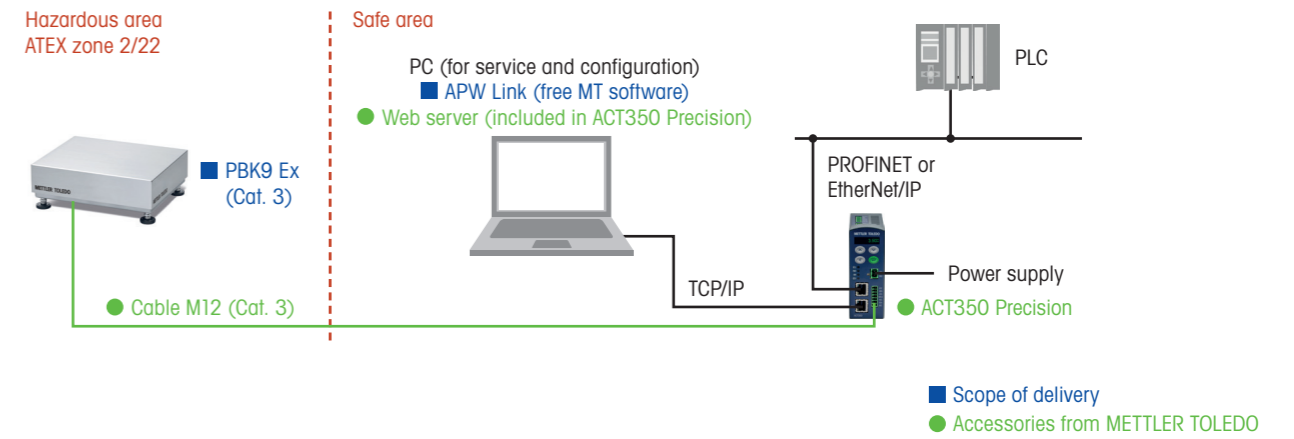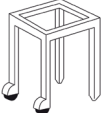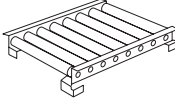
ATEX zone 2/22 serial interface configuration

Hazardous area ATEX zone 2/22 | Safe area

- PBK9 Ex (Cat. 3)
- Cable M12 (Cat. 3)
- Power supply
- ConBlock-X
- RS232 / RS422
- PLC
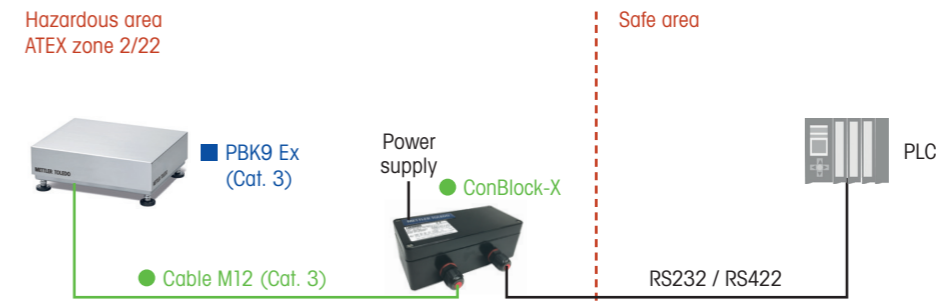
ATEX zone 1/21 and FM division 1 configuration

Explosive atmosphere ATEX zone 1/21 FM division 1 | Safe area

- PBK9 Ex (Cat. 2)
- Cable M12 (Cat. 2)
- Power supply
- APS768x
- ACM200 (incl. cable to APS768x)
- Power supply
- RS232 / RS422
- TCP/IP
- PC (for service and configuration)
  - APW Link (free MT software)
  - Web server (included in ACT350 Precision)
- PROFINET or EtherNet/IP
- Power supply
- ACT350 Precision
- PLC
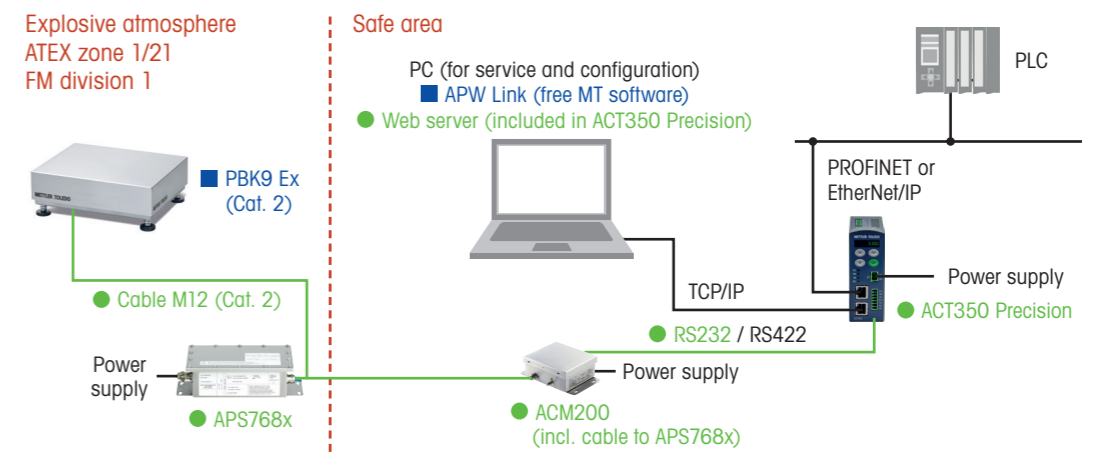
Accessories

Item	Description	Item number	Picture
Cable M12	12p 10 m (M12f 90° – open leads)	302 444 46	
Cable M12	12p 0.3 m (M12f 90° – M12m 180°)	305 248 74	
Cable M12	Y-Cable 12p 1.9 m (M12f 90° – DE-9 and DC Jack Ø5.5/2.5 mm)	304 895 64	
Cable M12 (cat. 3)	12p 10 m (M12f 90° – open leads) – zone 2/22, division 2	302 444 47	
Cable M12 (cat. 2)	6p 5 m (M12f 90° – open leads) – zone 1/21, division 1	302 671 59	
Cable M12 (cat. 2)	6p 10 m (M12f 90° – open leads) – zone 1/21, division 1	302 671 90	
Cable M12 (cat. 2)	6p 20 m (M12f 90° – open leads) – zone 1/21, division 1	303 371 09	
ConBlock	Connection module	111 520 00	
ConBlock-X	Connection module IP66 cat. 2 (zone 1/21) Note: METTLER TOLEDO uses/recommends the ConBlock-X only for zone 2/22 (Cat. 3) applications!	303 740 66	
APS768x	Power supply unit (120 V AC) FM approved / Division 1	220 267 24	
APS768x	Power supply unit (230 V AC) ATEX / IECEX approved (Zone 1/21)	220 267 28	
ACM200	Interface converter (CL - serial) DC supply / RS232	220 266 92	
ACM200	Interface converter (CL - serial) DC supply / RS422, RS485	220 266 93	
ACM200	Interface converter (CL - serial) AC supply / RS232	220 266 95	
ACM200	Interface converter (CL - serial) AC supply / RS422, RS485	220 266 96	
Cable Ex-i	APS768x - ACM200 (up to 100 m)	220 167 91	
Bench Stand	For B-Model: powder coated	005 036 31	
	For B-Model: stainless steel	005 036 32	
	For CC-Model: powder coated	005 048 53	
	For CC-Model: stainless steel	005 048 54	
Roller Track	For B-Model: Roller track 400x500 galvanized	306 403 96	
	For B-Model: Roller track 400x500 stainless	306 403 93	
	For CC-Model: Roller track 600x800 galvanized	306 407 98	
	For CC-Model: Roller track 600x800 stainless	306 403 95	
Smart Weighing Platter A3/A6	Smart Platter as accessory for installed based. Please note: technician needed to reset the zero point of the existing scale.	305 491 66	

Order Information

The PBK9 models are individually configured for each application.
Please contact your local MT representative for configuration support and orders.

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/PBK9

For more information