XPE Weighing Solutions

Fast and reliable results

Easy compliance

Sustainable investment

Reliable Results for Years to Come

Follow the Green Light

METTLER TOLEDO

Reliable Results
Begin with Accurate Weighing

Achieving reliable analytical results is dependent on the accuracy of the initial sample. Any error in sample preparation will be simply perpetuated, or even magnified, in downstream processing. With up to 60% of laboratory time spent preparing samples, you need weighing solutions that ensure you get accurate results first time to avoid out-of specification errors and costly reworking.

Whether you want to weigh several kilograms or just a few milligrams, XPE weighing and dosing solutions offer you outstanding weighing performance and innovative technologies to help make your daily tasks easier, error-free and compliant.

XPE Weighing and Dosing Solutions – delivering reliable results

Electrostatic issues addressed

To overcome this major challenge in analytical weighing, StaticDe-tect™ technology detects electro-static charge on the sample and/ or its container. The weighing error is measured and a warning is given if the user-defined limit is exceeded. Antistatic measures can then be employed.

Fast and stable performance

The extraordinary stability pro-vided by the innovative Smart-Pan™ weighing pan enables you to weigh-in with 1 mg readability without a draft shield. Even in a fume cupboard, 5 and 10 mg models deliver results up to twice as fast. Repeatability is improved up to two-fold.

Consistently accurate dosing

To achieve the highest level of safety and accuracy in handling and preparing samples, balances can be upgraded with Quantos automated powder and liquid dispensing modules. Gravimetric sample preparation eliminates variability and errors, and com-plies with USP 841.

Data integrity

LabX automatically saves all results and process information securely in a central database. This ensures full traceability and assists with FDA 21 CFR Part 11 compliance. There is no longer any need to document results manually and therefore transcription errors are completely eliminated.

Reliable Results for Years to Come

Follow the Green Light

Follow the Green Light
For Compliant Results

XPE sets a new benchmark for performance, reliability and compliance in laboratory weighing. Intelligent features and innovative technologies combine to ensure ease of use as well as deliver results you can trust.

The innovative built-in StatusLight™ at the front of the balance terminal lets you see at a glance if you have the green light for weighing: balance calibration and routine tests are up to date, the balance is level, and functional tests are satisfied – simply follow the green light!

The know-one-know-all terminal makes it easy to change between using different balances as well as other METTLER TOLEDO analytical instruments.

Balances	XPE Precision	XPE Precision	XPE Precision
Weighing pan	Large	Small (includes SmartPan)	Small
Max capacity	10 kg – 64 kg	1.2 kg – 10 kg	200 g – 5 kg
Readability	0.01 g – 0.1 g	0.005 g – 0.01 g	0.1 mg – 1 mg
	The best possible weighing performance for high capacity loads.	High stability with SmartPan for loads up to 10 kg.	Integrated draft shield and SmartPan for accurate weighing up to 5 kg.
	▸ **High capacity weighing**	▸ **Extraordinarily stable**	▸ **Small sample weighing**

USP Ready

Chapter	With XPE:
<41>	Smallest net weight
<841>	Volumetric and/or gravimetric sample preparation
<1058>	Validation and qualification (optional services)
<1251>	Built-in routine testing tools - services and support also available

XPE Analytical

SmartGrid™
100 g – 500 g
0.005 mg – 0.1 mg

Outstanding performance supporting high process security.

▸ **Secure analytical weighing**

XPE Micro-analytical

SmartGrid micro
20 g – 50 g
1 µg – 2 µg

Unique 50 g capacity – weigh directly into tare vessels.

▸ **Very small samples**

Quantos automated dosing

50 g – 200 g
1 µg – 1 mg

Automated powder and liquid dosing with smallest minimum weights.

▸ **Highest accuracy and safety**

Meeting Your Needs Today –
and Tomorrow

An investment in an XPE balance ensures you get the accurate weighing results you want today. To protect your investment, these flexible balances enable you to adapt your balance over time through the addition of accessories, extra peripheral devices, LabX and even Quantos dosing modules. Be ready for today as well as prepared for the years to come.

- Automated powder and liquid dosing – Quantos
- Data management and process security – LabX
- Efficient applications – accessories and peripheral devices

Upgrade your XPE balance

This example shows how you can upgrade your XPE balance over time with useful accessories, LabX or Quantos automated powder and liquid dosing modules and autosampler.

Quantos liquid dosing module

XPE206DR analytical balance

Quantos powder dosing
module with autosampler

Quantos liquid and powder
dosing modules

Instrument upgrade
High-end automated solutions
for preparing highly accurate
solutions using valuable sub-
stances.

LabX Laboratory Software
SOP user guidance on the instrument,
automatic data handling, bidirectional
integration with ERP systems.

Useful accessories
Optimize processes with e.g. ErgoClip
container holders and convenient stand,
MinWeigh Door with dosing window

Green MT

- Selection of non-critical materials
- PVC-free, mercury-free
- Energy efficient manufacturing and
  logistics

Pioneering Innovations
Deliver Results You Can Trust

With so many laboratory analyses beginning with sample preparation on the balance, obtaining reliable weighing results is absolutely essential.

Thanks to METTLER TOLEDO's extensive weighing competence and years of expertise in manufacturing laboratory instruments, XPE weighing and dosing solutions incorporate a multitude of pioneering technologies so that you can rely on accurate and repeatable results.

Electrostatic detection

StaticDetect checks for electrostatic charge on the sample and/or its container. Weighing error is measured and a warning is given if the user-defined limit is exceeded. Antistatic measures can then be employed.

Unique weighing grid

SmartGrid minimizes air turbulence in the weighing chamber for fast and stable results and avoids weighing error from spilled substances. SmartGrid, the tray underneath and the complete draftshield are easily cleaned in the dishwasher.

Automated dosing

Quantos safely dispenses free-flowing, toxic, and even hard-to-handle static powders accurately and directly into target vessels. Minimum sample weight can be reduced by up to 30%.

Wind defying weighing pan

SmartPan minimizes the effects of air currents on the weighing cell to dramatically improve accuracy and stabilization times. Spillages remain inside the pan base for safe disposal and cleaning.

RFID solutions

Smart Tag RFID labels enable data exchange between your XPE balances and your titrator, and assist you to keep track of dispensed/available samples. EasyScan™, for XPE analytical balances, checks testing and calibration dates on RFID tagged pipettes.

LabX for process security

By implementing your SOP workflows in LabX you can be sure that users always follow the correct procedures. All data and process information is saved securely in a central database providing full traceability and assisting in compliance with FDA 21 CFR Part 11.

XPE Micro-analytical Balances
Very Small Samples

Are your samples very valuable? Are they only available in small quantities or effective in just the tiniest of doses? Or perhaps you want to weigh with a larger tare container? XPE micro-analytical balances display unsurpassed accuracy even with the smallest of samples.

The XPE56 micro-analytical balance has a unique maximum capacity of 52 g with a readability of 1 µg, providing a resolution of over 50 million digits. Highly sensitive, and yet robust, the XPE56 is perfect for weighing the smallest samples directly into larger tare containers.

Fast results

XPE are the only micro-analytical balances in the world with a hanging weighing pan. With minimal air turbulence in the weighing chamber, stabilization time is reduced and results are faster. Particularly beneficial when used in a fume cupboard or safety cabinet.

Save valuable samples

With 52 g capacity on the XPE56, you can weigh directly into larger tare containers and avoid the typical sample loss when transferring from weighing paper.
And with a minimum weight of just 1.4 mg, you can use just the smallest quantities of your valuable samples.

Thermal stability

Thermoelectric cooling using a Peltier element ensures the internal temperature of the balance remains steady to provide accurate results. This robust technology is extremely durable and ensures best weighing cell performance for years to come.

Flexible access with dual motorized doors

XPE micro-analytical balances have motorized doors on both the outer and the smaller inner draft shields. It's easy to set up one SmartSens sensor to open both sets of doors for when you want to place your tare container on the balance – just wave your hand over it to activate. To keep air disturbance to a minimum for dosing, the other sensor can be used to open just the outer door. Left and right dosing possible.

Printouts fade-proof
up to **25** years

Flexible printing and labeling
The P-56 and P-58 universal thermal printers offer fast and error-free results documentation as well as label printing with barcodes.

▶ **www.mt.com/micro**

XPE Analytical Balances
Secure Analytical Weighing

XPE analytical balances provide outstanding performance in analytical weighing and support the highest requirements for security, efficiency and ease of compliance.

Automatic electrostatic detection combats one of the biggest challenges in analytical weighing – weighing errors caused by electrostatic influences. Innovative features, such as SmartGrid and StatusLight plus RFID capabilities combine to give you absolutely reliable results. Connecting your balance to LabX provides full data security to easily meet the strictest regulations.

Secure weighing

The SmartTrac weighing-in guide ensures you dose within tolerance. StatusLight shows green so you can rest assured that all routine tests are up to date. StaticDetect provides you with a warning if static charges are detected. You get results you can trust!

Safe routine operation

For safe cleaning, the draft shield, SmartGrid and drip tray are dismantled in seconds and all parts are dishwasher proof. When working with hazardous samples, disposable terminal covers provide additional protection for users and help avoid cross-contamination.

Seamless integration

Connect your balance to LabX for seamless integration with your existing information systems e.g. ELNs and LIMS. Manual transcription is no longer needed since all data is saved securely, easily accessed for report generation or further data analysis.
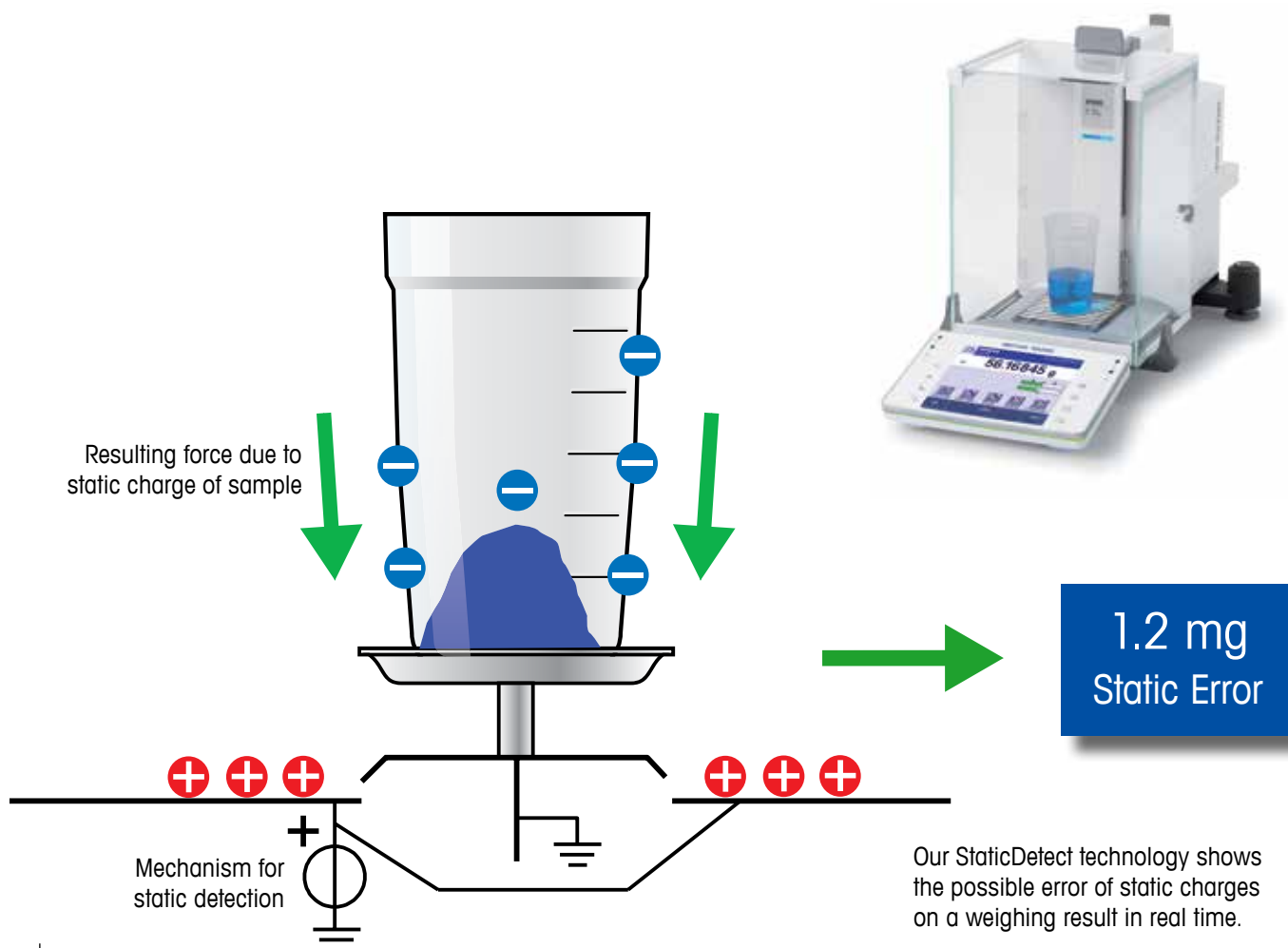
ErgoClip container holders

Weighing directly into the tare container eliminates transfer errors and saves money by minimizing sample loss. Even unusual shaped containers are held securely in place. In combination with the MinWeigh Door™ accessory, ErgoClips help you achieve the lowest possible minimum weight. Left and right dosing possible.

▶ **www.mt.com/xpe-analytical**

Solving the Electrostatic Challenge
Detection and Elimination

Electrostatic charge is one of the major challenges faced in analytical weighing. Through normal handling, containers and samples can easily become charged, leading to weighing errors. The charge may also cause particles from powdered samples to be scattered, creating additional problems when handling valuable or toxic substances.

XPE micro-analytical and analytical balances are the only balances in the world with revolutionary technology which analyzes the weighing signal to determine the weighing error caused by electrostatic charge. If this error exceeds the user defined limit, the blue StaticDetect light is illuminated. Antistatic measures can then be employed: the point electrode, which attaches to the side of the balance, or freestanding antistatic devices are also available.

Resulting force due to static charge of sample

1.2 mg
Static Error

Mechanism for static detection

Our StaticDetect technology shows the possible error of static charges on a weighing result in real time.

DeltaRange®

Max   81 g / 220 g
d =   0.01 mg / 0.1 mg

StaticDetect

Trusted results

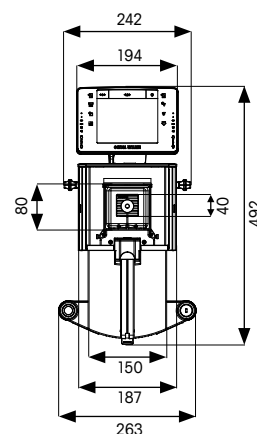"Now I know I can trust my results. My XPE lets me know immediately if I have an issue with electrostatic charges."
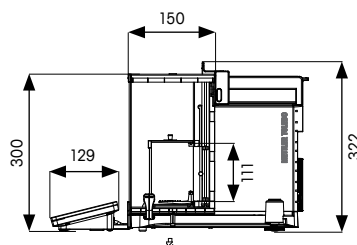
Try our self-diagnosis test on your own balance and download the white paper:
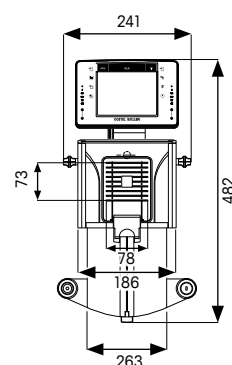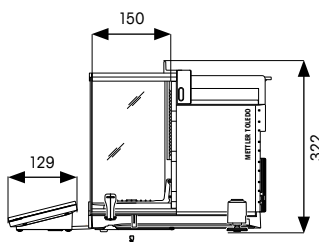▶ **www.mt.com/xpe-analytical**

Technical Specifications
Micro-analytical and Analytical Balances

XPE Micro-analytical
Readability 1 µg – 2 µg

XPE Analytical
Readability 0.005 mg – 0.1 mg

All dimensions are given in mm.

XPE Micro-analytical		XPE26	XPE26DR	XPE56	XPE56DR
Maximum capacity (fine range/full range)		22 g	5.1 / 22 g	52 g	11 / 52 g
Readability	full range	0.001 mg	0.01 mg	0.001 mg	0.01 mg
	fine range		0.002 mg		0.002 mg
Repeatability* (5% load)		0.0007 mg	0.0012 mg	0.0007 mg	0.0012 mg
Settling time		3.5 s	2.5 / 3.5 s	3.5 s	2.5 / 3.5 s
Minimum weight* (U=1.0%, k=2, 5% load)		0.14 mg	0.24 mg	0.14 mg	0.24 mg
USP minimum weight* (U=0.10%, k=2, 5% load)		1.4 mg	2.4 mg	1.4 mg	2.4 mg

* = typical value

XPE Analytical

XPE Analytical	XPE206DR	XPE105	XPE105DR	XPE205	XPE205DR
Maximum capacity (fine range/full range)	81 / 220 g	120 g	41 / 120 g	220 g	81 / 220 g
Readability full range	0.01 mg	0.01 mg	0.1 mg	0.01 mg	0.1 mg
fine range	0.005 mg		0.01 mg		0.01 mg
Repeatability* (5% load)	0.005 mg	0.007 mg	0.007 mg	0.007 mg	0.007 mg
Settling time* (fine range/full range)	2.5 / 3.5 s	2.5 s	1.5 / 2.5 s	2.5 s	1.5 / 2.5 s
Minimum weight* (U=1.0%, k=2, 5% load)	1.0 mg	1.4 mg	1.4 mg	1.4 mg	1.4 mg
USP minimum weight* (U=0.10%, k=2, 5% load)	10 mg	14 mg	14 mg	14 mg	14 mg

	XPE204	XPE304	XPE504	XPE504DR
Maximum capacity (fine range/full range)	220 g	320 g	520 g	101 / 520 g
Readability full range	0.1 mg	0.1 mg	0.1 mg	1 mg
fine range				0.1 mg
Repeatability* (5% load)	0.04 mg	0.04 mg	0.04 mg	0.04 mg
Settling time* (fine range/full range)	1.5 s	1.5 s	1.5 s	1.5 / 1.5 s
Minimum weight* (U=1.0%, k=2, 5% load)	8.2 mg	8.2 mg	8.2 mg	8.2 mg
USP minimum weight* (U=0.10%, k=2, 5% load)	82 mg	82 mg	82 mg	82 mg

* = typical value

Features – XPE Micro-analytical and Analytical

Accurate Results	High resolution technology
	StaticDetect
	proFACT Advanced internal adjustment
	Lowest minimum weight
	Internal temperature control
Efficient Operation	Large TFT Plus color touchscreen
	ErgoClip ready
	SmartGrid hanging weighing pan
	SmartTrac dosing guide
	Big numbers on display
	Easy cleaning
	Automatic draft shield doors
Quality Assurance	SmartSens for touch-less operation
	StatusLight
	Graphical leveling guide
	TestManager embedded software
	MinWeigh function
	FACT and GWP history
	proFACT Advanced documentation
	Password protection
	Admin history
Seamless Process	User management
	LabX ready
	Calibry ready
	EasyScan™ ready (RFID Pipette)
	SmartSample ready (RFID Titration)**
	Quantos upgrade ready**
	RFID SampleTrack
	New compact antistatic kit ready

** not valid for XPE Micro-analytical

Embedded Applications

Simple weighing, statistics, formulation, totalization, piece counting, percent weighing, density determination, differential weighing, underfloor weighing, pipette check, titration application, RFID SampleTrack and routine testing.

Quantos Automated Dosing
Highest Accuracy and Safety

Automated dosing with Quantos powder and liquid dispensing modules enables you to achieve the highest level of accuracy and safety in sample preparation, and can reduce minimum weight by up to 30%.

When working with valuable or toxic substances, this means only the minimum amount of substance necessary is used. Sample preparation via gravimetric addition of the right amount of solvent to reach the target concentration eliminates variability and out-of-specification errors, and complies with USP 841.

Ideal for:
• Sample and standard preparation
• Routine powder dispensing and bottling
• Capsule and bottle filling
• Formulation and stability testing
• Materials research
• Weighing hazardous compounds

Smallest minimum weight

Automated dosing and weighing reduces the minimum sample weight of your balance by up to 30%. Nanoparticles, fine powders, granules and heterogeneous mixes are all suitable for dispensing.

Protects users

Operator exposure to hazardous and toxic substances is minimized by attaching the Quantos dosing head directly to the sample container. The powder is then dispensed directly into the target vial.

Contamination-free weighing

One powder dosing head is dedicated to one substance or lot number for the duration of its lifetime to avoid cross contamination. Heads are disposed of after use.

Boost productivity with the autosampler which can dose into up to 30 vials in one fully automated run (powder and liquid dosing).

Secure processes

Connect your Quantos system to LabX and benefit from user guidance, full traceability, guaranteed adherence to SOPs, automatic calculations and customizable reports. All data and process information is saved securely assisting in compliance with FDA 21 CFR Part 11.

Container flexibility

By simply adjusting the height of the dosing head, Quantos can be used for filling vials, bottles, tubes, capsules, stability pouches, ampules, syringes and more.

QUANTOS

Perfect Dosing

▶ **www.mt.com/quantos**

Technical Specifications
Quantos Automated Dosing Systems

Preparing samples is a labor-intensive task influenced by many factors including the environment and user skill. Automated dosing with Quantos powder and liquid dispensing modules enables you to achieve the highest level of accuracy and safety in sample preparation.

The Quantos system is modular, depending on your specific dosing needs. Below, typical Quantos systems are depicted.

Quantos liquid system
XPE205
QL2 Liquid Dosing Module
QLX45 Dispensing module

The Quantos liquid dosing module and dispensing unit enables extremely accurate gravimetric addition of liquids and solvents. The XPE205 analytical balance can still be used in the usual way.

Quantos powder and liquid system
XPE206DR
Q2 Powder Dosing Module
QL2 Liquid Dosing Module

Both the Quantos powder and liquid dosing modules can be added to the XPE206DR analytical balance to create the perfect setup for accurate standard preparation.

Quantos autosampler system
XPE206DR
Q2 Powder Dosing Module
QS30 Autosampler

Add the Quantos powder dosing module and autosampler to the XPE206DR to allow up to 30 samples to be accurately dispensed in one automated run.

Quantos	XPE56Q	XPE206DR	XPE205	XPE205DR	XPE105
Maximum capacity (fine range/full range)	52 g	81 / 220 g	220 g	81 / 220 g	120 g
Readability　　　　full range 　　　　　　　　fine range	0.001 mg	0.01 mg 0.005 mg	0.01 mg	0.1 mg 0.01 mg	0.01 mg
Repeatability* (5% load)	0.0007 mg	0.005 mg	0.007 mg	0.007 mg	0.007 mg
Settling Time*	3.5 s	2.5 / 3.5 s	2.5 s	1.5 / 2.5 s	2.5 s
Minimum weight* (U=1.0%, k=2, 5% load)	0.14 mg	1.0 mg	1.4 mg	1.4 mg	1.4 mg
USP minimum weight* (U=0.10%, k=2, 5% load)	1.4 mg	10 mg	14 mg	14 mg	14 mg
Automated minimum weight* (U=1.0%, k=2, 5% load)	0.1 mg	0.7 mg	1 mg	1 mg	1 mg
Automated USP minimum weight* (U=0.10%, k=2, 5% load)	1.0 mg	7 mg	10 mg	10 mg	10 mg
Lowest concentration* (in combination with Quantos liquid system) according automated USP minimum weight**	0.04 mg / g	0.07 mg / g	0.1 mg / g	0.1 mg / g	0.2 mg / g

Compatibility

Q2 Powder Dosing Module	yes	yes	yes	yes	yes
QL2 Liquid Dosing Module	yes	yes	yes	yes	yes
QLL1000 (bottle and volume up to 3 per QL2)	yes	yes	yes	yes	yes
QLX45 Liquid Upgrade Kit	no	(required when Q2 not incl.)			
QS30 Autosampler	no	yes	yes	yes	yes

* = typical value

	XPE105DR	XPE204	XPE304	XPE504	XPE504DR
Maximum capacity (fine range/full range)	41 / 120 g	220 g	320 g	520 g	101 / 520 g
Readability　　　　full range 　　　　　　　　fine range	0.1 mg 0.01 mg	0.1 mg	0.1 mg	0.1 mg	0.1 mg 1 mg
Repeatability* (5% load)	0.007 mg	0.04 mg	0.04 mg	0.04 mg	0.04 mg
Settling time*	1.5 / 2.5 s	1.5 s	1.5 s	1.5 s	1.5 / 1.5 s
Minimum weight* (U=1.0%, k=2, 5% load)	1.4 mg	8.2 mg	8.2 mg	8.2 mg	8.2 mg
USP Minimum weight* (U=0.10%, k=2, 5% load)	14 mg	82 mg	82 mg	82 mg	82 mg
Automated minimum weight* (U=1.0%, k=2, 5% load)	1 mg	8.2 mg	8.2 mg	8.2 mg	8.2 mg
Automated USP minimum weight* (U=0.10%, k=2, 5% load)	10 mg	82 mg	82 mg	82 mg	82 mg
Lowest concentration* (in combination with Quantos liquid system) according automated USP minimum weight**	0.2 mg / g	0.82 mg / g	0.42 mg / g	0.33 mg / g	0.33 mg / g

Compatibility

Q2 Powder Dosing Module	yes	yes	yes	yes	yes
QL2 Liquid Dosing Module	yes	yes	yes	yes	yes
QLL1000 (bottle and volume up to 3 per QL2)	yes	yes	yes	yes	yes
QLX45 Liquid Upgrade Kit	(required when Q2 not incl.)				
QS30 Autosampler	yes	yes	no	no	no

* = typical value
** = Quantos lowest concentrations are calculated using assumed liquid dosing up to 50% of the capacity of the balance, taking into account average tare vessel weights.

XPE Precision Balances
Small Samples up to 5 kg

XPE precision balances offer high readability and excellent repeatability for weighing small samples all the way up to 5 kg. With the smallest footprint of all our precision balances, touch-less operation and fast, efficient weighing processes, these balances are a practical addition to any laboratory.

The innovative SmartPan™ weighing pan is supplied as standard on all 1, 5 and 10 mg readability models and works by minimizing the effects of air currents on the weighing cell. The extraordinary stability provided by SmartPan enables you to weigh-in with 1 mg readability without a draft shield even where moderate drafts may occur. In a fume cupboard, 5 and 10 mg models with SmartPan delivers results up to twice as fast as with a standard pan.

Compact draft shield

The compact draft shield allows easy access from all sides for handling large items and to make dosing easy. When open, the doors do not extend beyond the rear of balance so you don't waste valuable bench space.

Touch-less operation

The SmartSens infrared sensors built into the terminal enable you to perform selected balance operations at the wave of a hand e.g. weigh, tare, or even send results to the printer. Weighing processes are more ergonomic and cross contamination is avoided.

Unrivalled versatility

All 1 mg models are available with or without a draft shield. The draft shield offers additional protection against drafts, whilst, with easy access from the sides and top, weighing and dosing remain convenient and comfortable. It's dishwasher proof and dismantles in seconds too.

High readability – economical on space

With maximum capacity up to 410 g, our 0.1 mg readability XPE precision balances give you high performance on a small footprint.

▶ **www.mt.com/xpe-precision**

XPE Precision Balances
Samples up to 10 kg

Thanks to the innovative SmartPan weighing pan, small platform XPE precision balances demonstrate up to two times faster stabilization times with repeatability improved up to two-fold when compared to a traditional weighing pan.

It's now possible to weigh-in with 5 mg readability without the need for a draft shield. SmartPan enables all users to quickly achieve stable weight values and better repeatability, even within the turbulent environment of a fume cupboard. In addition, thanks to unique quality management features such as StatusLight, the requirements of highly regulated environments are fully supported.

Ergonomic operation

Avoid stresses and strains from working for long periods in front of the balance by placing your terminal on a stand and adjusting the tilt to suit your height; the display is easier to read and good posture is maintained. Touch-less operation with SmartSens makes weighing even more comfortable.

Easy cleaning

SmartPan dismantles easily and any spilled substances remain in the tray underneath for safe disposal and easy cleaning. All parts are dishwasher safe. Smooth surfaces and rounded edges make the whole balance easy to clean.
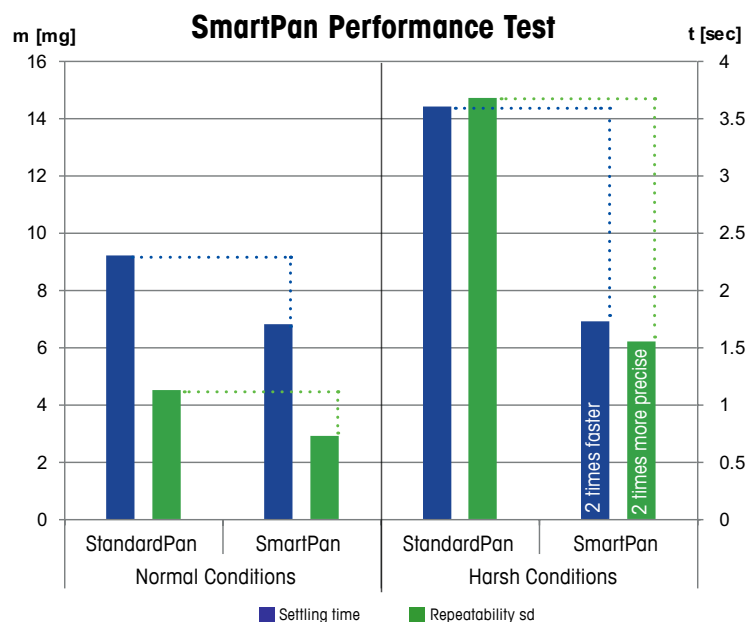
Robust performance

With IP54 in-use, the weighing cell is protected against dust and splashing liquids. Combined with a full metal housing, which protects against damage from harsh chemicals, you can be assured of a long balance lifetime.

The graph below indicates the dramatic improvement in settling time and repeatability when using SmartPan under both normal and harsh weighing conditions. Tests made using an XPE6003SD5 (6100 g maximum capacity and 5 mg readability).

SmartPan Performance Test

m [mg] / t [sec]

Settling time · Repeatability sd

StandardPan | SmartPan | StandardPan | SmartPan
Normal Conditions | Harsh Conditions

2 times faster · 2 times more precise

Prof. Peter Ryser,
Head of Microtechnology Institute,
Ecole Polytechnique Fédérale de Lausanne (EPFL)

The independent white paper from Prof. Ryser details the improvement in accuracy and stability in XPE precision balances thanks to the unique design of the new weighing pan.

▸ **www.mt.com/xpe-precision**

XPE Precision Balances
Large Samples up to 64 kg

Large platform XPE precision balances provide the best weighing performance for high capacity loads and offer a level of security suitable for highly regulated environments.

The large weighing platform is ideally suited to applications involving large containers, large sample sizes or when many ingredients need to be added to the same container e.g. formulation and buffer preparation. With 0.1 g readability up to 64 kg and 0.01 g readability up to 20 kg, small sample quantities can be weighed into the same container. Considerable cost savings are made by eliminating the need to have a second balance, and processes are more efficient too. The robust design, including IP54 in-use protection, means these balances are perfect for use in production environments.

Extremely durable

With the built-in overload protection, which ensures the weighing cell is fully safeguarded against excessive loads, these robust balances can withstand even the toughest of working environments.

Optimized processes

Connect a barcode reader for easy sample identification, send results to a wireless printer outside your immediate working area, or exchange data using RFID technology. Connectivity options enable you to optimize working processes to be more ergonomic and efficient. E.g. RS232, Ethernet, Bluetooth, RFID.

Chemical resistant

The high quality AISI 316L stainless steel weighing pan and the solid metal housing protect the balance against damage from dirt and chemicals. Disposable covers protect the display and prevent cross contamination.
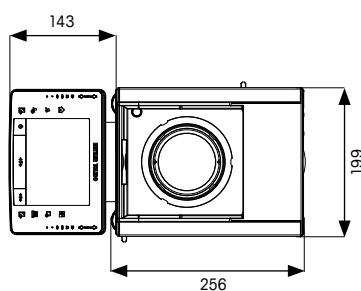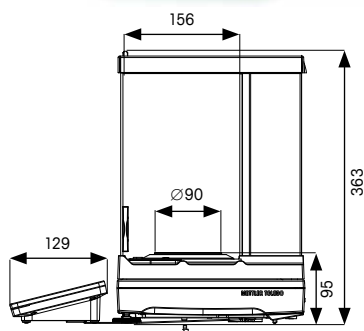
Weighing flexibility

The two new models feature 10 mg readability enabling both small and large quantities of formulation ingredients to be weighed directly into the same container. SmartPan is accessed by lifting off the center pan and provides fast and stable results even when weighing in harsh conditions.
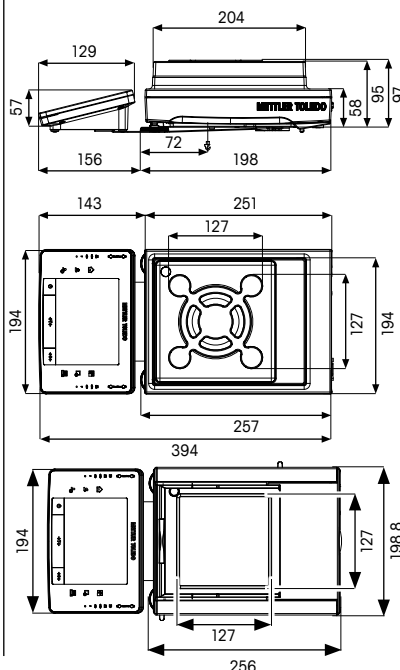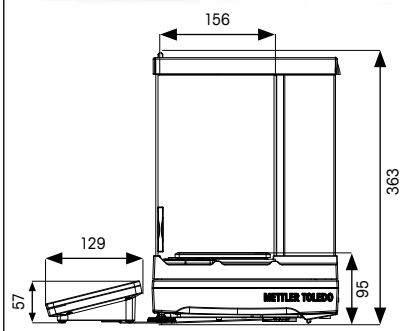
▶ **www.mt.com/xpe-precision**

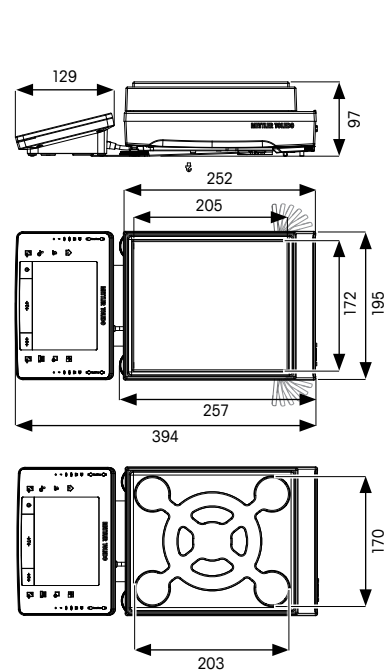# Technical Specifications
Precision Balances

XPE Precision S-Platform
Readability 0.1 mg

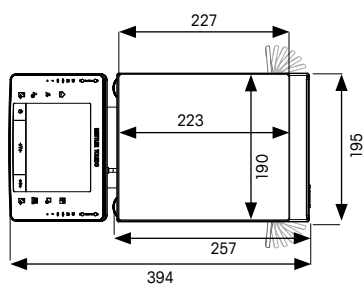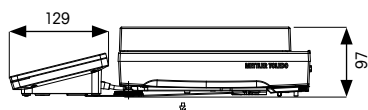

XPE Precision S-Platform
Readability 1 mg

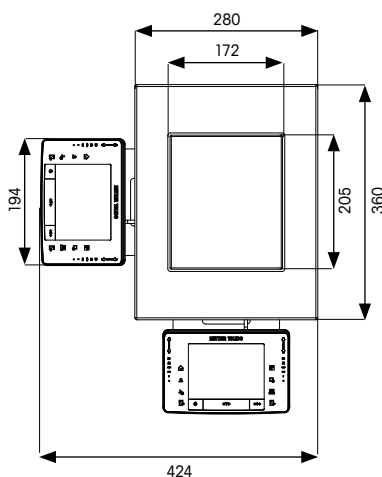### XPE Precision S-Platform
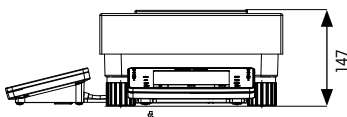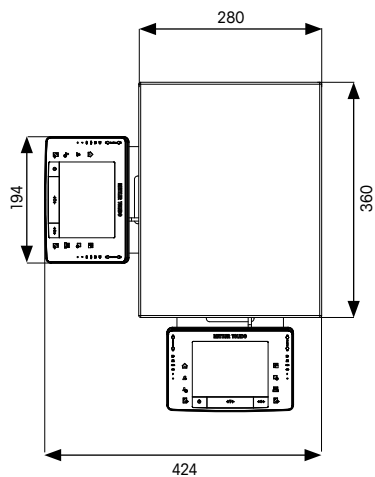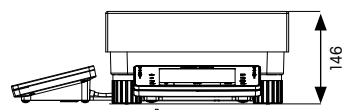### Readability 0.01 g – 0.005 g

All dimensions are given in mm.

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XPE Precision S-Platform
Readability 0.1 g – 1 g

XPE Precision L-Platform
Readability 0.01 g

XPE Precision L-Platform
Readability 0.1 g – 1 g

XPE Precision Balances

	XPE204S	XPE404S	XPE303S	XPE303SN**
Maximum capacity (fine range/full range)	210 g	410 g	310 g	310 g
Readability full range	0.1 mg	0.1 mg	1 mg	1 mg
fine range				
Repeatability*	0.12 mg	0.06 mg	0.5 mg	0.5 mg
Settling time*	2 s	2 s	1.5 s	1.5 s
Minimum weight* (U=1.0%, k=2, 5% load)	24 mg	12 mg	100 mg	100 mg
USP minimum weight* (U=0.10%, k=2, 5% load)	240 mg	120 mg	1 g	1 g

* = typical value
** = XPE303SN, XPE603SDRN, XPE603SN are supplied without draft-shield (available separately)

	XPE603SDR	XPE603SDRN**	XPE603S	XPE603SN**
Maximum capacity	120 / 610 g	120 / 610 g	610 g	610 g
Readability	10 mg	10 mg	1 mg	1 mg
	1 mg	1 mg		
Repeatability*	0.8 mg	0.8 mg	0.5 mg	0.5 mg
Settling time*	1.5 s	1.5 s	1.5 s	1.5 s
Minimum weight* (U=1.0%, k=2, 5% load)	160 mg	160 mg	100 mg	100 mg
USP minimum weight* (U=0.10%, k=2, 5% load)	1.6 g	1.6 g	1 g	1 g

* = typical value
** = XPE303SN, XPE603SDRN, XPE603SN are supplied without draft-shield (available separately)

	XPE1203S	XPE3003S	XPE5003S	XPE3003SD5	XPE6003SD5
Maximum capacity	1210 g	3.1 kg	5.1 kg	3.1 kg	6.1 kg
Readability	1 mg	1 mg	1 mg	5 mg	5 mg
Repeatability*	0.4 mg	0.6 mg	1 mg	3 mg	3 mg
Settling time*	1.5 s	2 s	2 s	2 s	2 s
Minimum weight* (U=1.0%, k=2, 5% load)	82 mg	120 mg	200 mg	600 mg	600 mg
USP minimum weight* (U=0.10%, k=2, 5% load)	820 mg	1.2 g	2 g	6 g	6 g

* = typical value

	XPE1202S	XPE2002S	XPE4002S	XPE6002SDR	XPE6002S
Maximum capacity (fine range/full range)	1210 g	2.1 kg	4.1 kg	1.2 / 6.1 kg	6.1 kg
Readability full range	10 mg	10 mg	10 mg	100 mg	10 mg
fine range				10 mg	
Repeatability*	4 mg	4 mg	4 mg	5 mg	4 mg
Settling time*	1.2 s	1.2 s	1.2 s	1.2 s	1.2 s
Minimum weight* (U=1.0%, k=2, 5% load)	820 mg	820 mg	820 mg	1 g	820 mg
USP minimum weight* (U=0.10%, k=2, 5% load)	8.2 g	8.2 g	8.2 g	10 g	8.2 g

* = typical value

	XPE8002S	XPE10002S	XPE15002L	XPE20002L-DR	XPE4001S
Maximum capacity (fine range/full range)	8.1 kg	10.1 kg	15.1 kg	4.2 / 20.1 kg	4.1 kg
Readability full range	10 mg	10 mg	10 mg	100 mg	100 mg
fine range				10 mg	
Repeatability*	4 mg	4 mg	10 mg	20 mg	40 mg
Settling time*	1.5 s	1.5 s	1.5 s	1.5 s	0.8 s
Minimum weight* (U=1.0%, k=2, 5% load)	820 mg	820 mg	2 g	4 g	8.2 g
USP minimum weight* (U=0.10%, k=2, 5% load)	8.2 g	8.2 g	20 g	40 g	82 g

* = typical value

XPE Precision Balances

	XPE6001S	XPE8001S	XPE10001S	XPE10001L	XPE16001L
Maximum capacity	6.1 kg	8.1 kg	10.1 kg	10.1 kg	16.1 kg
Readability	100 mg	100 mg	100 mg	100 mg	100 mg
Repeatability*	40 mg	40 mg	40 mg	40 mg	40 mg
Settling time*	0.8 s	1 s	1 s	1 s	1.5 s
Minimum weight* (U=1.0%, k=2, 5% load)	8.2 g	8.2 g	8.2 g	12 g	8.2 g
USP minimum weight* (U=0.10%, k=2, 5% load)	82 g	82 g	82 g	120 g	82 g

* = typical value

	XPE32001L	XPE64001L	XPE32000L	XPE64000L
Maximum capacity	32.1 kg	64.1 kg	32.1 kg	64.1 kg
Readability	100 mg	100 mg	1 g	1 g
Repeatability*	40 mg	40 mg	0.4 g	0.4 g
Settling time*	1.5 s	1.8 s	1.2 s	1.5 s
Minimum weight* (U=1.0%, k=2, 5% load)	8.2 g	8.2 g	82 g	82 g
USP minimum weight* (U=0.10%, k=2, 5% load)	82 g	82 g	820 g	820 g

* = typical value

Features – XPE Precision S and L Platforms

Accurate Results	High resolution technology
	proFACT Advanced (internal adjustment)
	Lowest minimum weight
Efficient Operation	Large TFT Plus color touchscreen
	SmartPan**
	SmartTrac dosing guide
	Big numbers on display
	Easy cleaning
Quality Assurance	SmartSens for touch-less operation
	StatusLight
	Graphical leveling guide
	TestManager embedded software
	MinWeigh Function
	FACT and GWP history
	proFACT Advanced documentation
	Password protection
	Admin history
Seamless Process	User management
	LabX ready
	Calibry ready
	RFID exchange with titrators
	RFID SampleTrack

Embedded Applications
Simple weighing, statistics, formulation, totalization, piece counting, percent weighing, density determination, differential weighing, underfloor weighing, dynamic weighing, pipette check, titration application, SampleTrack and routine testing.

** = available only for 5 and 10 mg models

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From evaluating your needs to select the right balance, through to daily routine operation in your lab, the METTLER TOLEDO Sales & Service Team can accompany you every step of the way. Our expertise means you can enjoy excellent performance, maximum uptime and full compliance with the norms and standards relevant to your industry.

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Good Weighing Practice™

METTLER TOLEDO developed GWP® (Good Weighing Practice™) as a standardized scientific methodology for the secure selection, operation and calibration of weighing equipment. GWP® is applicable to all weighing equipment from any manufacturer.

Our GWP® Recommendation service helps you select the right balance according to your specific process and quality requirements. Documentary evidence is provided to show that the selected balance meets metrological, environmental and regulatory requirements.

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Balance calibration is at the core of accurate weighing results. Each calibration certificate declares the balance's minimum weight and measurement uncertainty – essential information for reliable weighing processes.

Routine operation

GWP® Verification provides clear guidance for performance verification of your balance to save you time and money. Included is an optimal routine testing and calibration schedule, specifications of the required test weights, and the ideal maintenance plan.

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with Smart Accessories and Options

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SmartPrep™ single-use, antistatic funnels enable safe and fast weighing-in of powders. Simply weigh, transfer and rinse.
Fits nearly any standard
5 – 250 mL flask.

Safe data exchange

The EasyScan-Flex RFID reader/writer enables error-free exchange of sample data with titrators and assists you to keep track of dispensed/available substances.

Easy documentation

The P-50 printers generate fast, high quality printouts on paper, self-adhesive labels and continuous self-adhesive paper (including barcodes).

Protect results from static

The compact point electrode removes electrostatic charge on samples and containers. Free-standing units are also available.

Comfortable operation

Place your terminal on a stand which is quickly mounted at the back of your balance. The display is easier to read and good posture is maintained.

Protect your balance

Disposable terminal covers protect your balance and help avoid cross-contamination. When not in use, a dust cover shields your balance against soiling.

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- Step-by-step SOP user guidance on the balance
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- All data stored centrally
- Know-one-know-all interface (also compatible with titrators, density meters, refractometers and melting point instruments)

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• Balance Safety Features
• Antistatic Technology
• Data Integrity
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