Excellence Plus XP Precision balances from METTLER TOLEDO

Full Compliance High Productivity Amazing Solutions

That's the weigh!

The Power of Color

METTLER TOLEDO

Your wishes? Our solution.

As the world's leading manufacturer of laboratory balances, our goal is to make weighing easier with innovative solutions that focus on your needs. Because, in our opinion, technical progress is only true innovation if it gives our customers measurable benefits.









Many applications

Our balances are used in numerous industries and environments, including pharmaceuticals, food, cosmetics, research, quality assurance and production, for a multitude of applications. So, to ensure we address this diversity of needs, we talked to customers about their requirements during the development of our innovative new balance range.

One balance

With the Excellence Plus XP, the precision balance for high-end requirements, METTLER TOLEDO again sets the standard for weighing in the lab and in industry. Created for a broad spectrum of applications in a variety of industries, the XP provides full compliance in regulated environments, utmost productivity and unique flexibility when tailored solutions are required.





Regulated area

"In our pharmaceutical company, we work according to GLP/GMP, USP and internal work instructions. Authorities and customers regularly perform audits to verify conformity with these quality guidelines. Balances are some of the most important measuring instruments we use, and they have to comply 100% with these regulations. Because the **security** of our measurement values is vital for our success."

Production environment

"We print textiles with different patterns which are based on specific mixtures of dye. Because of our high daily production rate, the **speed** of our balances is very important. Also, to ensure consistent printing quality, it's essential to mix the dyes as **precisely** as possible."



Ideally, the balance should have hands-free operation and the printer should be placed outside the laminarflow bench. Then I would have both hands free to work safely and the printed records would be guaranteed free from contamination."

Julie Evans, USA

Céline Dubois, France

Ralf Sommer, Germany

The power of color

Touchscreen display for intuitive, easy operation

Clear user guidance with color for maximum security

□ 8 individually configurable user profiles in 7 languages

Easy operation

Balances are among the most commonly used instruments in the lab. So it's vital that they are easy to operate. With the Excellence Plus XP precision balance METTLER TOLEDO brings color into the world of weighing – for optimum userfriendliness and security.

Work smarter

SmartScreen, the unique color display with touchscreen operation, leads the way. Whether weighing parameters are being changed, samples identified or the date entered, the large, touch-sensitive display means operation of the Excellence Plus XP is easy and efficient.

Clear user guidance

Brilliant colors and high-resolution graphics guide the user through applications and warn if tolerance limits are violated. This prevents mistakes and guarantees safe routine operation of the XP.

Individual configuration

Up to eight users can save their individual settings, including color profile, in their own language and activate them effortlessly at the touch of a fingertip. Using your "own" balance guarantees settings are always correct – for more reliable results.

Touchscreen operation



And now start working. Everything is easy, clear, and functions reliably.

SmartScreen

brings color into the lab for more security thanks to clear user guidance.



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Color-coded user profiles

in the user's language give him the certainty of working with "his" balance - and always with the correct settings.



Full compliance

"My XP balance gives me security. The QM tools are very practical and help me to implement our quality guidelines in my daily work."

Julie Evans, USA

proFACT and BalanceCheck for utmost measurement certainty
LevelControl guarantees correct leveling at all times
User management and password protection for 8 users
Change/adjustment history makes settings and adjustments traceable
Reports compliant with GxP and other quality guidelines

Regulated environments

Is strict adherence to quality guidelines part of your daily work? Then your balances must offer 100% compliance – with no "ifs" or "buts". The Excellence Plus XP gives you outstanding support. With innovative QM tools which warn, remind and protect, the XP helps you achieve full regulatory compliance.

Precision redefined

Highly precise, repeatable results are the hallmark of the XP thanks to fully automatic temperature- and/or time-controlled internal adjustment with proFACT. And regular checking of the measurement certainty is assured with BalanceCheck – at the times you define and with the external weights you specify.

Programmed security

The personal settings of up to eight users can be stored in the menu and protected with a password. The XP opens up a new dimension in security: thanks to User Management the administrator can define individual access rights for each user and protect them against unwanted modification by means of a password – for programmed security at all levels.

Tailor-made documentation

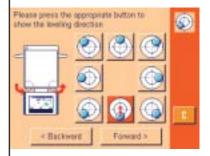
Adjustments and changes to protected settings are registered in the change/adjustment history. Thanks to four alphanumeric IDs, full traceability of samples is possible and all measurement results can be documented to conform to G x P.

Data management

If data management according to FDA 21 CFR Part 11 interests you, our LabX balance PC-based software offers the comprehensive solution for stand alone or networked balances. For more information visit <u>www.mt.com/LabX</u>



LevelControl



The XP warns if it is not correctly leveled, and also immediately indicates the easiest way to restore it to a level state.

- Weighing -28. Jan 2005 13:83 Quality Control Laboratory #-786 Balance Type XP60025-W Balance ID DC Balance 3 User Name Julie Evans Balance is levelled Substance Tranadol C-79634 Lot 5632784 Batch 630.00 9 0 264.83 g T н 365.17 g Signature Julie Exans

Seamless documentation

With the XP, GxP-compliant reports can be configured easily.



ChangeHistory

Who changed which settings when? This information is detailed in the ChangeHistory – fully traceable of course.

User management

Eight users, individual settings, specific applications, different authorizations – no problem. The administrator manages each user's access rights – for total security.

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Password protection

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No-one escapes the XP's alphanumeric password protection. Users' individual settings can be protected against unwanted changes.

BalanceCheck

If desired, BalanceCheck automatically prompts you to validate the measuring accuracy with an external weight – every time the SOP demands it.

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Productivity pays

"It's marvelous how fast I can work with my XP and thanks to MinWeigh never make a mistake when mixing the dyes. That cuts out waste and reduces downtime on our printing machines, so we save money."

Céline Dubois, France

- Cutting-edge weighing technology for fast, precise results
 Repeatable production processes with MinWeigh
 Rugged construction for use in harsh environments equivalent to IP54
- Easy cleaning thanks to straightforward design

Weighing time is money

Whether you print textiles, develop fragrances or manufacture screws, productivity is key for your company. This also applies to your work on the balance, which must be fast and faultless. The Excellence Plus XP provides outstanding measurement performance and process security – for utmost productivity in weighing.

Outstanding measurement performance

Cutting-edge weighing technology makes it possible: the weighing results of the XP stabilize very quickly. Thanks to intelligent software, environmental influences are minimised effectively, making the XP extremely stable even in harsh environments. proFACT adjusts the balance automatically for extremely precise and repeatable results. In short: with the XP you get your work done much faster – and more accurately.

Process security

If repeatability of your processes is crucial – for example when mixing dyes – the accuracy of small sample quantities is essential. If the defined minimum weight is not reached, the XP sends a MinWeighwarning to the display – thereby preventing process deviations and their associated costs.

Ruggedness to rely on

No matter where your balance is used, the rugged construction of the XP can be relied on. It also has uncompromizing protection against dust and water, which in use is equivalent to IP54.



Process security thanks to MinWeigh

The XP warns if the minimum weight is not reached. With red figures and the symbol in the display.

Designed to be cleaned

Thanks to its straightforward design with large, flat surfaces and removable terminal, the XP precision balance is fast and easy to clean.



Removable terminal, large and flat surfaces: the XP is designed for fast and easy cleaning.

Sealed interfaces, screw-in power cable. Keep water and dust out – protection equivalent to IP54.







Once level, always level – thanks to the stabilizing safety feet which are easy to lower and lock.



Outstanding measurement performance

A separate processor brings the MonoBloc^{HighSpeed} weighing cell up to maximum speed, and thanks to overload protection even heavy loads cannot damage the XP.

Always readable

20 mm high, brightly backlit figures – selectable at a touch.



Clear user guidance

prevents mistakes. Fast and certain dye mixing thanks to clear guidance in red and green.





One balance, many solutions

"My XP is just great! The hands-free operation makes weighing toxic substances easier and safer. And I've placed my wireless printer outside the laminar-flow bench so my printouts don't get contaminated."

Ralf Sommer, Germany

□ Freely placeable, adjustable-slope operating terminal
Separate weighing platforms for system integration
□ Built-in applications, comprehensive assortment

System integration

The weighing platform of the XP precision balance is also available separately. Compact, robust and with outstanding weighing performance, it is ideal for system integration.



Short of space?

The operating terminal can be placed next to the balance or above if.

Tailored solutions

Just as there are different users with individual needs, the demands placed on balances are different too. So it's good if your balance is sufficiently flexible. A variety of accessories, diversity of interfaces and practical software applications make the Excellence Plus XP the first choice when tailored solutions are called for.

Remote operation included

Wouldn't it be handy if you could operate the balance hands-free? Thanks to SmartSens, the two infrared sensors built into the XP's operating terminal, this is possible. A wave of the hand is sufficient to tare the balance or send your results to the printer – depending on which of the many functions you have assigned to the individually programmable sensors.

Visible ergonomics

The freely positionable ErgoSens infrared sensors, available as accessories, follow your instructions exactly and allow individual settings for up to eight users. You save two work steps per weighing, and always have both hands free, which makes handling toxic or sticky substances easier and safer.

Modularity to fit

The XP's operating terminal and weighing platform can be separated. The stand and mounting allow the terminal to be positioned above the balance or on the wall, which is ideal when weighing high containers or if space is limited.



Just practical: the stand for the XP which is available as an accessory.

ErgoSens

Freely placeable, individually configurable – for hands-free operation of the XP from a distance. The illuminated green symbol shows that ErgoSens is activated and set to "Print". I

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SmartSens

Brief movement of a hand over one of the sensors is all it needs: the programmed command is executed immediately. Without touching. Different functions can be individually programmed right and left for up to 8 users – smart work!

Bluetooth printer

> Thanks to wireless connection to the balance, the printer can be placed outside the laminar flow bench so that printouts are not contaminated.



Compact draft shield

The sliding doors are easy to open and allow free access to the weighing chamber as well as convenient cleaning. The doors never project beyond the back of the balance, which saves valuable space.

Connection guaranteed

"LabX, the intelligent software solution for 21 CFR Part 11." Julie Evans

Wireless at last – brilliant!" Ralf Sommer

"It's ideal how it connects to our network." **Céline Dubois**

- □ RS232C interface built-in as standard
- □ Optional second interface (7 types available)
- Bluetooth for wireless communication
- □ Ethernet for networked solutions
- $\hfill\square$ PS/2 for connection of commercial keyboards and barcode readers

The data flow grows

Quality guidelines demand seamless recording of sample and process data. Ideally, reading devices from different manufacturers need to be linked seamlessly, the balance easily integrated into networks and existing PC-based software solutions supported.

Total compatibility

The Excellence Plus XP was developed with the goal of effortless integration into a networked world. Whether trendsetting wireless communications based on the Bluetooth standard or network solutions via Ethernet: the flexible interface concept guarantees connection and compatibility.

Flexible interfaces

All balances are equipped as standard with a sealed RS232C interface, two auxiliary connections for various switches and a slot for a second, optional interface. Seven types of interface are available.

Optional interfaces

Ethernet	Supports dynamic IP addresses
BTS	Bluetooth standard option (point-point connection)
BT	Bluetooth option (addresses up to seven instruments)
RS232C	Allows connection of printer (RS-P42), PC and others
PS/2	Enables connection of commercial keyboards and barcode readers
LC	LocalCan interface from METTLER TOLEDO. Allows simultaneous connection of up to five peripheral devices.
MM	MiniMETTLER interface

USB is supported with a normal commercial converter.



Data management with LabX

The "LabX balance" PC-based software can control up to 30 instruments in a network and manage their data in compliance with FDA 21 CFR Part 11. With the XP, it's even possible to log in directly from the balance terminal.



The XP can wirelessly address up to seven instruments simultaneously from a distance of 10 meters. The choice ranges from a printer, bar code reader, or auxiliary display, to a PC.



Plug and weigh!

Commercial keyboards and barcode readers – wireless ones too – just plug in and start weighing. The flexible interface concept of the XP makes it possible.



Choice of second interface

Bluetooth, Ethernet or USB: the XP guarantees to connect. Choose one of seven possible auxiliary interfaces, plug it in – and that's it.

You will find further information in the Excellence Solution Guide at

www.mt.com/XP-precision

SOLIS SILLE

2009

Excellent values, complete program

Standard equipment

- Backlit color graphics display with touchscreen operation
- 2 infrared sensors for hands-free operation of the balance, with status display
- MonoBloc^{Highspeed} weighing cell with overload protection
- proFACT fully automatic temperature- and/or time-controlled internal adjustment
- Overload protection
- Weighing pan made from stainless steel, with draft ring or draft shield depending on resolution
- Fold-out stabilizing feet for all 10 mg and 0.01 g models
- RS232C interface and two auxiliary connections built in. Slot for second freely selectable interface (7 options)
- Protective cover for terminal and weighing platform
- Feedthrough for below-the-balance weighing
- Power supply with AC/DC adapter, primary 100–240V, -15%/+10%, 50/60Hz, 0.8A, secondary 12VDC ±5%, 2.25A (with electronic overload protection)



- Country-specific power cable
- Production certificate
- · LevelControl warns if the balance is not correctly leveled

All models can/have

- · Download software via the Internet
- Display different weighing units
- Be tared over the entire weighing range
- Be adapted to the environment
- Be adapted to the weighing type
- Statistics application with \pm and % display
- Piece-counting application with reference optimization
- Formula-weighing application with security check
- Application percent weighing
- Application dynamic weighing
- Application density determination
- Factor calculation
- 8 individually configurable user profiles
- User management and password protection for 8 users
- Change/adjustment history
- Prompting function for calibration with external weight
- MinWeigh, determined according to different methods
- Alphanumeric identification
- 4 IDs per sample
- Documentation to GxP
- Communicate in 7 languages: e, g, f, i, sp, jap, russ
- · All models available in approved versions

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	XP204S	XP404S	XP404SDR
Stand-alone weighing platform	X204S	X404S	_
Technical data (limit values)			
Maximum capacity	210 g	410 g	410 g
Maximum capacity, fine range	_	_	80 g
Readability	0.1 mg	0.1 mg	1 mg
Readability, fine range	_	_	0.1 mg
Repeatability (sd)	0.2 mg	0.1 mg	0.6 mg
Repeatability (sd), fine range	-	_	0.1 mg
Linearity	0.2 mg	0.2 mg	0.6 mg
Eccentric load deviation (test load)	0.3 mg (100 g)	0.3 mg (200 g)	1 mg (200 g)
Sensitivity offset	5x10 ⁻⁶	5x10 ⁻⁶	5x10 ⁻⁶
Sensitivity temperature drift 1)	1.5x10 ⁻⁶ /°C	1.5x10 ⁻⁶ /°C	1.5x10 ⁻⁶ /°C
Sensitivity stability ²⁾	2.5x10 ⁻⁶ /a	2.5x10⁻6/a	2.5x10 ⁻⁶ /a
Interface update rate	23 /s	23 /s	23 /s

Typical values for calculating the measurement uncertainty

Settling time, typical	2 s	2 s	2 s
Repeatability (sd), typical 3)	0.12 mg+1.5x10 ⁻⁷ •Rgr	0.06 mg+5 x10 ⁻⁸ •Rgr	0.4 mg+2.5 x10 ⁻⁷ •Rgr
Differential linearity deviation (sd), typical	$\sqrt{6x10^{-12}g}$ • Rnt	√3x10 ⁻¹² g•Rnt	$\sqrt{3 \times 10^{-12} \text{g} \cdot \text{Rnt}}$
Differential eccentric load deviation (sd), typical	4x10 ⁻⁷ •Rnt	2x10 ⁻⁷ •Rnt	2x10 ⁻⁷ •Rnt
Sensitivity offset (sd), typical	1 x10 ⁻⁶ ∙Rnt	6x10⁻ ⁷ •Rnt	6x10 ⁻⁷ •Rnt
Minimum weight (according to USP), typical 3)	360 mg + 4.5 x 10 ⁻⁴ • Rgr	180 mg+1.5 x10 ⁻⁴ •Rgr	1.2 g+7.5x10 ⁻⁴ •Rgr
Minimum weight (U=1%, 2 sd), typical ³⁾	24 mg+3 x10 ⁻⁵ •Rgr	12 mg+1 x10 ⁻⁵ •Rgr	80 mg+5 x10 ⁻⁵ •Rgr

Rar = aross weight, Rnt = net weight, sd = standard deviation, g = vegr (annum)

1) In temperature range from 10...30 °C

2) Stability of sensitivity as from first installation with proFACT automatic adjustment switched on

³⁾ Valid for compact objects; depends heavily on shape and size of weighing object and environmental conditions



	XP203S	XP603S	XP603SDR	XP1203S	XP2003SDR	XP5003SDR
Stand-alone weighing platform	X203S	X603S	X603SDR	X1203S	X2003SDR	X5003SDR
Technical data (Limit values)						
Maximum capacity	210 g	610 g	610 g	1210 g	2100 g	5100 g
Maximum capacity, fine range	_	-	120 g	_	500 g	1000 g
Readability	1 mg	1 mg	10 mg	1 mg	10 mg	10 mg
Readability, fine range	-	-	1 mg	_	1 mg	1 mg
Repeatability (sd)	0.9 mg	0.9 mg	6 mg	0.8 mg	6 mg	6 mg
Repeatability (sd), fine range	-	-	1 mg	_	1 mg	1 mg
Linearity	2 mg	2 mg	10 mg	2 mg	6 mg	6 mg
Eccentric load deviation (test load)	3 mg (200 g)	3 mg (200 g)	10 mg (200 g)	3 mg (500 g)	10 mg (1000 g)	10 mg (2000 g)
Sensitivity offset	2.5x10 ⁻⁵	7.5x10 ⁻⁶	1.5x10 ⁻⁵	5x10 ⁻⁶	5x10 ⁻⁶	4x10 ⁻⁶
Sensitivity temperature drift 1)	5x10 ⁻⁶ /°C	2x10-6/°C	2x10-6/°C	2x10-6/°C	3x10 ⁻⁶ /°C	3x10 ⁻⁶ /°C
Sensitivity stability 2)	2.5x10 ⁻⁵ /a	1 x10 ⁻⁵ /a	1 x10 ⁻⁵ /a	1 x10 ⁻⁵ /a	2.5x10 ⁻⁵ /a	1.5x10 ⁻⁵ /a
Interface update rate	23 /s	23 /s	23 /s	23 /s	23 /s	23 /s

Typical values for calculating the measurement uncertainty

Settling time, typical	1.5 s	1.5 s	1.5 s	1.5 s	2 s	2 s
Repeatability (sd), typical 3)	0.5 mg+1.5 x10 ⁻⁶ •Rgr	0.5 mg+5 x10 ⁻⁷ •Rgr	4 mg+1.5x10 ⁻⁶ •Rgr	0.4 mg+1.5x10 ⁻⁷ •Rgr	4 mg+5x10 ⁻⁷ •Rgr	4 mg+2x10 ⁻⁷ •Rgr
Differential linearity deviation (sd), typical	√6x10 ⁻¹⁰ g•Rnt	√2x10 ⁻¹⁰ g∙Rnt	$\sqrt{2x10^{-10}g}$ •Rnt	√1x10 ⁻¹⁰ g•Rnt	√6x10 ⁻¹¹ g•Rnt	√5x10 ⁻¹¹ g•Rnt
Differential eccentric load deviation (sd), typical	2x10 ⁻⁶ •Rnt	1.5x10 ⁻⁶ •Rnt	1.5x10 ⁻⁶ ∙Rnt	6x10 ⁻⁷ •Rnt	3x10 ⁻⁷ •Rnt	1.5x10 ⁻⁷ •Rnt
Sensitivity offset (sd), typical	8x10 ⁻⁶ •Rnt	2.5x10 ⁻⁶ •Rnt	5x10 ⁻⁶ •Rnt	1.2x10 ⁻⁶ •Rnt	8x10 ⁻⁷ •Rnt	1 x10 ⁶ •Rnt
Minimum weight (according to USP), typical ³⁾	1.5g+4.5x10 ⁻³ •Rgr	1.5g+1.5x10 ⁻³ •Rgr	12 g+4.5 x 10 ⁻³ •Rgr	1.2 g+4.5 x 10 ⁻⁴ •Rgr	12g+1.5x10 ⁻³ •Rgr	12g+6x10 ⁻⁴ •Rgr
Minimum weight (U=1%, 2 sd), typical ³⁾	100 mg+3 x10 ⁻⁴ •Rgr	100 mg+1 x10 ⁻⁴ •Rgr	800 mg+3 x10 ⁻⁴ •Rgr	80 mg+3 x10 ⁻⁵ •Rgr	800 mg+1 x10 ⁻⁴ •Rgr	800 mg+4 x10 ⁻⁵ •Rgr



	XP1202S	XP4002S	XP6002S	XP6002SDR	XP8002S	XP10002S	XP10002SDR
Stand-alone weighing platform	X1202S	X4002S	X6002S	X6002SDR	X8002S	X10002S	X10002SDR
Technical data (Limit values)							
Maximum capacity	1210 g	4100 g	6100 g	6100 g	8100 g	10100 g	10100 g
Maximum capacity, fine range	-	-	-	1200 g	-	-	2000 g
Readability	10 mg	10 mg	10 mg	100 mg	10 mg	10 mg	100 mg
Readability, fine range	-	-	-	10 mg	-	-	10 mg
Repeatability (sd)	8 mg	8 mg	8 mg	60 mg	8 mg	8 mg	60 mg
Repeatability (sd), fine range	-	-	-	8 mg	-	-	8 mg
Linearity	20 mg	20 mg	20 mg	100 mg	20 mg	20 mg	50 mg
Eccentric load deviation (test load)	20 mg (500 g)	30 mg (2000 g)	30 mg (2000 g)	100 mg (2000 g)	40 mg (5000 g)	40 mg (5000 g)	100 mg (5000 g)
Sensitivity offset	5x10 ⁻⁵	1.5x10 ⁻⁵	1x10 ⁻⁵	2.5x10 ⁻⁵	7.5x10 ⁻⁶	5x10 ⁻⁶	7.5x10 ⁻⁶
Sensitivity temperature drift 1)	3x10 ⁻⁶ /°C	3x10-6/°C	3x10 ⁻⁶ /°C	3x10 ⁻⁶ /°C	2.5x10 ⁻⁶ /°C	2.5x10 ⁻⁶ /°C	2.5x10 ⁻⁶ /°C
Sensitivity stability 2)	2.5x10 ⁻⁵ /a	1.5x10 ⁻⁵ /a	1.5x10 ⁻⁵ /a	1.5x10 ⁻⁵ /a	1.5x10 ⁻⁵ /a	1.5x10 ⁻⁵ /a	1.5x10 ⁻⁵ /a
Interface update rate	23 /s	23 /s	23 /s				

Typical values for calculating the measurement uncertainty

Settling time, typical	1.2 s	1.2 s	1.2 s	1.2 s	1.5 s	1.5 s	1.5 s
Repeatability (sd), typical 3)	4 mg+1.5 x10 ⁻⁶ •Rgr	4 mg+5 x10 ⁻⁷ •Rgr	4 mg+3x10 ⁻⁷ •Rgr	40 mg+1.5 x10 ⁻⁶ •Rgr	4 mg+2.5x10 ⁻⁷ •Rgr	4 mg+2 x10 ⁻⁷ •Rgr	40 mg+1 x10 ⁻⁶ •Rgr
Differential linearity deviation (sd), typical	√1x10 ⁻⁸ g•Rnt	√3x10 ⁻⁹ g∙Rnt	√2x10 ⁻⁹ g•Rnt	√2x10 ⁻⁹ g∙Rnt	√1.5x10 ⁻⁹ g•Rnt	√1x10 ⁻⁹ g•Rnt	√4x10 ⁻⁹ g∙Rnt
Differential eccentric load deviation (sd), typical	3x10 ⁻⁶ ∙Rnt	1.5x10 ⁻⁶ •Rnt	1.5x10 ⁻⁶ •Rnt	1.5x10 ⁻⁶ •Rnt	8x10 ⁻⁷ •Rnt	8x10 ⁻⁷ •Rnt	8x10 ⁻⁷ •Rnt
Sensitivity offset (sd), typical	1x10⁻⁵∙Rnt	4x10-6•Rnt	2.5x10 ⁻⁶ •Rnt	2.5x10 ⁻⁶ •Rnt	2x10 ⁻⁶ •Rnt	1.5 x10 ⁻⁶ ∙Rnt	1.5x10 ⁻⁶ •Rnt
Minimum weight (according to USP), typical ³⁾	12g+4.5x10 ⁻³ •Rgr	12g+1.5x10 ⁻³ •Rgr	12g+9x10 ⁻⁴ •Rgr	120g+4.5x10 ⁻³ •Rgr	12g+7.5x10 ⁻⁴ •Rgr	12g+6x10 ⁻⁴ •Rgr	120g+3x10 ⁻³ •Rgr
Minimum weight (U=1%, 2 sd), typical 3)	800 mg+3x10 ⁻⁴ •Rgr	800 mg+1 x10-4•Rgr	800 mg+6x10 ⁻⁵ •Rgr	8g+3x10 ⁻⁴ •Rgr	800 mg+5 x10 ⁻⁵ •Rgr	800 mg+4 x10 ⁻⁵ •Rgr	8g+2x10-4•Rgr

 Rgr = gross weight, Rnt = net weight, sd = standard deviation, a = year (annum)

 ¹⁾ In temperature range from 10...30 °C

 ²⁾ Stability of sensitivity as from first installation with proFACT automatic adjustment switched on

 ³⁾ Valid for compact objects; depends heavily on shape and size of weighing object and environmental conditions



	XP4001S	XP6001S	XP8001S	XP10001S
Stand-alone weighing platform	X4001S	X6001S	X8001S	X10001S
Technical data (Limit values)				
Maximum capacity	4100 g	6100 g	8100 g	10100 g
Maximum capacity, fine range	-	_	_	_
Readability	100 mg	100 mg	100 mg	100 mg
Readability, fine range	-	_	_	_
Repeatability (sd)	80 mg	80 mg	80 mg	80 mg
Repeatability (sd), fine range	-	-	-	-
Linearity	60 mg	60 mg	100 mg	100 mg
Eccentric load deviation (test load)	200 mg (2000 g)	200 mg (2000 g)	200 mg (5000 g)	200 mg (5000 g)
Sensitivity offset	6x10 ⁻⁵	4x10 ⁻⁵	7.5x10 ⁻⁵	5x10 ⁻⁵
Sensitivity temperature drift 1)	1.5x10 ⁻⁵ /°C	1.5x10 ⁻⁵ /°C	1.5x10 ⁻⁵ /°C	1.5x10 ⁻⁵ /°C
Sensitivity stability 2)	5x10 ⁻⁵ /a	5x10 ⁻⁵ /a	5x10 ⁻⁵ /a	5x10 ⁻⁵ /a
Interface update rate	23 /s	23 /s	23 /s	23 /s

Typical values for calculating the measurement uncertainty

Settling time, typical	0.8 s	0.8 s	l s	l s
Repeatability (sd), typical 3)	40 mg+5 x10 ⁻⁶ •Rgr	40 mg+3 x10 ⁻⁶ •Rgr	40 mg+2.5x10 ⁻⁶ •Rgr	40 mg+2 x10 ⁻⁶ •Rgr
Differential linearity deviation (sd), typical	√2.5x10 ⁻⁸ g•Rnt	√1.5x10 ⁻⁸ g∙Rnt	√3.5x10 ⁻⁸ g∙Rnt	√3x10 ⁻⁸ g•Rnt
Differential eccentric load deviation (sd), typical	8x10 ⁻⁶ •Rnt	8x10 ⁻⁶ •Rnt	3x10 ⁻⁶ •Rnt	3x10 ⁻⁶ •Rnt
Sensitivity offset (sd), typical	2x10 ⁻⁵ •Rnt	1.2x10 ⁻⁵ ∙Rnt	2x10 ⁻⁵ •Rnt	1.5x10 ⁻⁵ •Rnt
Minimum weight (according to USP), typical $^{3)}$	120g+1.5x10 ⁻² •Rgr	120g+9x10 ⁻³ •Rgr	120g+7.5x10 ⁻³ •Rgr	120g+6x10 ⁻³ •Rgr
Minimum weight (U=1%, 2 sd), typical $^{3)}$	8g+1x10 ⁻³ •Rgr	8g+6x10 ⁻⁴ •Rgr	8g+5x10 ⁻⁴ •Rgr	8g+4x10 ⁻⁴ •Rgr

 $\begin{array}{l} Rgr = gross \ weight, \ Rnt = net \ weight, \\ sd = standard \ deviation, \ a = year \ (annum) \end{array}$

- $^{1)}\,$ In temperature range from $10...30\,^{o}\text{C}$
- Stability of sensitivity as from first installation with proFACT automatic adjustment switched on
 Valid for compact objects; depends heavily on
 - Valid for compact objects; depends heavily on shape and size of weighing object and environmental conditions

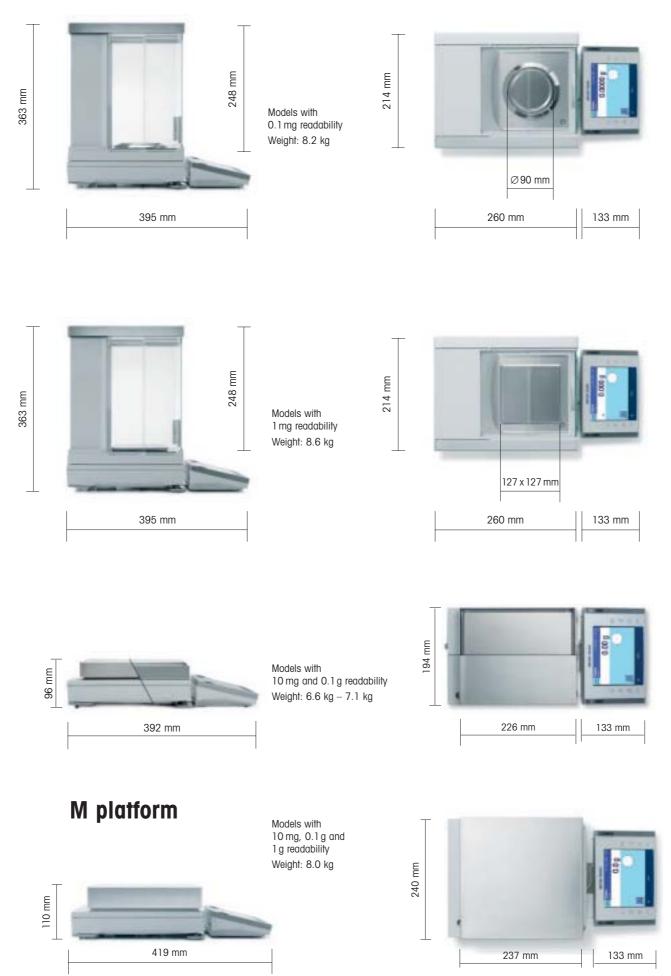


	VERREAL	~~~~~~~~~~	~~~~	~~~~	~~~~	~~~~~
	XP6002MDR	XP12002MDR	XP8001M	XP8001MDR	XP12001M	XP12000M
Stand-alone weighing platform	-	X12002MDR	X8001M	-	X12001M	X12000M
Technical data (Limit values)						
Maximum capacity	6100 g	12100 g	8100 g	8100 g	12100 g	12100 g
Maximum capacity, fine range	1200 g	2400 g	_	1600 g	_	_
Readability	100 mg	100 mg	100 mg	1000 mg	100 mg	1000 mg
Readability, fine range	10 mg	10 mg	_	100 mg	_	_
Repeatability (sd)	60 mg	60 mg	80 mg	600 mg	80 mg	600 mg
Repeatability (sd), fine range	10 mg	10 mg	_	80 mg	_	_
Linearity	60 mg	60 mg	100 mg	600 mg	100 mg	600 mg
Eccentric load deviation (test load)	100 mg (2000 g)	100 mg (5000 g)	200 mg (5000 g)	1000 mg (5000 g)) 200 mg (5000 g)	1000 mg (5000 g)
Sensitivity offset	2.5x10 ⁻⁵	8x10 ⁻⁶	7.5x10 ⁻⁵	7.5x10 ⁻⁵	5x10 ⁻⁵	5x10 ⁻⁵
Sensitivity temperature drift 1)	3x10 ⁻⁶ /°C	2.5x10 ⁻⁶ /°C	1.5x10 ⁻⁵ /°C	1.5x10 ⁻⁵ /°C	1.5x10 ⁻⁵ /°C	1.5x10 ⁻⁵ /°C
Sensitivity stability 2)	1.5x10⁻⁵/a	1.5x10⁻⁵/a	5x10 ⁻⁵ /a	5x10 ⁻⁵ /a	5x10⁻5/a	5x10 ⁻⁵ /a
Interface update rate	23 /s	23 /s	23 /s	23 /s	23 /s	23 /s

Typical values for calculating the measurement uncertainty

Settling time, typical	1.5 s	1.8 s	1.2 s	1.2 s	1.2 s	1 s
Repeatability (sd), typical 3)	40 mg+1.5 x10 ⁻⁶ •Rgr	40 mg+8 x10 ⁻⁷ •Rgr	40 mg+2.5 x10 ⁻⁶ •Rgr	400 mg+1.2 x10 ⁻⁵ •Rgr	40 mg+1.5x10 ⁻⁶ •Rgr	400 mg+8 x10 ⁻⁶ •Rgr
Differential linearity deviation (sd), typical	√2x10 ⁻⁹ g•Rnt	√1x10 ⁻⁹ g∙Rnt	$\sqrt{4 \times 10^{-8} \text{g} \cdot \text{Rnt}}$	$\sqrt{4 \times 10^{-8} \text{g} \cdot \text{Rnt}}$	√2.5x10 ⁻⁸ g∙Rnt	√2.5x10 ⁻⁸ g•Rnt
Differential eccentric load deviation (sd), typical	2.5x10 ⁻⁶ •Rnt	1x10⁻6∙Rnt	3x10 ⁻⁶ •Rnt	3x10 ⁻⁶ •Rnt	3x10 ⁻⁶ ∙Rnt	3x10 ⁻⁶ •Rnt
Sensitivity offset (sd), typical	5x10 ⁻⁶ •Rnt	2.5x10 ⁻⁶ ∙Rnt	2x10 ⁻⁵ •Rnt	2x10 ⁻⁵ •Rnt	1.2x10 ⁻⁵ •Rnt	1.2x10 ⁻⁵ •Rnt
Minimum weight (according to USP), typical ³⁾	120g+4.5x10 ⁻³ •Rgr	120g+2.4x10 ⁻³ •Rgr	120g+7.5x10 ⁻³ •Rgr	1200g+3.6x10 ⁻² •Rgr	120g+4.5x10 ⁻³ •Rgr	1200g+2.4x10 ⁻² •Rgr
Minimum weight (U=1%, 2 sd), typical $^{3)}$	8g+3x10 ⁻⁴ •Rgr	8g+1.6x10 ⁻⁴ •Rgr	8g+5x10 ⁻⁴ •Rgr	80g+2.4x10 ⁻³ •Rgr	8g+3x10 ⁻⁴ •Rgr	80g+1.6x10 ⁻³ •Rgr

S platform



Accessories

Weights for testing and adjusting. Guaranteed traceability. - www.mt.com/weights



	Article	Part Numb
Sensors	ErgoSens, infrared sensor for hands-free operation of the balance, with status bar, freely positionable (0.6 m cable)	11132601
Neighing pans (S platform)	Magnetic Shield Protection weighing pan for 0.1 g models 190 x 223 mm	11132625
weighning hans (s hianonni)	Magnetic Shield Protection weighing pan for 10 mg models 170 x 205 mm	11132626
	Weighing pan 190 x 223 mm, incl. pan support	11132655
	Weighing pan 170 x 205 mm, incl. pan support and draft ring	11132660
Draft shield	MagiCube draft shield for 1 mg models, effective height 175 mm	11131650
	Plastic draft shield for 1 mg and 0.1 mg models (food industry), effective height 248 mm	11131652
	Draft shield for 0.1 g and 10 mg models (S platform), effective height 175 mm	11131653
		11134430
Printer	Draft shield for complete balance, dimensions (WxDxH) 300 x 450 x 450 mm BT-P42 printer with wireless connection to balance via Bluetooth wireless network	11132540
FIIIIei	RS-P42 printer with RS232C connecting cable to balance	229265
Optional interfaces	BT option: Bluetooth auxiliary interface to address up to 7 peripheral devices	11132530
Sphonar intenaces		
	BTS option: Bluetooth auxiliary interface to address 1 peripheral device	11132535
	Ethernet option: second interface Ethernet for connection to an Ethernet network	11132515
	PS/2 option: second interface for connection of commercial keyboards and barcode readers	11132520
	RS232C option: second interface for connection of a printer (RS-P42), computer or titrator	11132500
	LocalCan option: second interface for connection of up to five LC (LocalCan) based instruments	11132505
	MiniMettler option: second interface MiniMettler, for connection to older systems	11132510
ELink network interface	eLink IP65 EB01, Ethernet connection with IP65 protection	11120003
Protective covers	Protective cover for XP terminal	11132570
	Protective cover XP weighing platform for 10 mg and 0.1 g models (S platform)	11133034
	Protective cover XP weighing platform for M platform	11132574
Stand and wall mountings	Terminal stand for placement of the XP terminal 30 cm above the weighing pan	11132636
	Terminal wall mounting	11132665
P54 AC adapter protection	IP54 AC adapter protection	11132550
Barcode scanner	RS232C barcode scanner	21900879
	AC adapter for barcode scanner 230V EUR	21900882
	AC adapter for barcode scanner 115V USA	21900883
Viscellaneous applications	LV11 small-items transporter for automatic loading of the balance with small items	21900608
	Door for draft shield for LV11 (0.1 mg and 1 mg models)	11132711
	Density determination kit for 0.1 mg and 1 mg models	11132680
	Thermometer for density determination, certified	11132685
	Dynamic weighing kit for 10 mg and 0.1 g models	11132657
Antitheft device	Steel cord	11600361
nterface cable	RS99-RS9, connecting cable to computer or RS-P42 printer (DB9m/DB9f, length 1 m)	11101051
	RS9-RS25, connecting cable to computer (IBM-XT compatible) (DB9m/DB9f, length 1 m)	11101052
	RS9-RS9, connecting cable to computer or RS-P42 printer, suitable for industrial balances	01050000
	(DB9m/DB9m, length 1 m)	21250066
	LC-RS9, connecting cable to PC such as IBM-AT and compatibles (DB9f, length 2 m)	229065
	LC-RS25, connecting cable to PC such as IBM-XT and compatibles (DB25, f/m, length 2 m)	229050
	LC-RS open, connecting cable to MTComBus system (length 4 m)	21900640
	LC-CL, connecting cable to instrument with METTLER TOLEDO CL interface (length 2 m)	229130
	LC-LC03. extension cable for LocalCAN 0.3 m	239270
	LC-LC2, extension cable for LocalCAN 2 m	229115
	LC-LC5, extension cable for LocalCAN 5 m	229116
	LC-LCT, T-junction for LocalCAN	229118
	MM-RS9, connecting cable from MiniMettler option to RS232 instruments	210493
erminal cable	Terminal extension cable, 4,5 m	11600517
C switchbox	For connection of up to three balances simultaneously to one LC-P45 printer	229220
.C-I/O box	Relay interface for control of up to 8 external instruments from the balance	21202217
oot switch	LC-FS foot switch with programmable function for balances with LocalCan universal interface	229060
Auxiliary displays	BT-BLD (Bluetooth) auxiliary display, for benchtop mounting. Wireless connection from balance	
	to display by means of Bluetooth wireless network with backlit LCD display.	11132558
	Auxiliary RS/LC-BLDS for mounting on benchtop or balance.	
	Connection by means of RS232C cable with backlit LCD display.	11132630
	LC-AD auxiliary display on benchtop stand with fluorescent display	229140
	LC-ADS auxiliary display on high benchtop stand with fluorescent display	229150
	RS/LC-BLD auxiliary display on benchtop stand with backlit LC display	224200
Transport case	Transport case for XP precision balance 10 mg/0.1 g models (S platform) with space for printer	11132595

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- Attain regulatory compliance

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- Optimize your productivity

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