

Micro Balances

XPE56/XPE26 models

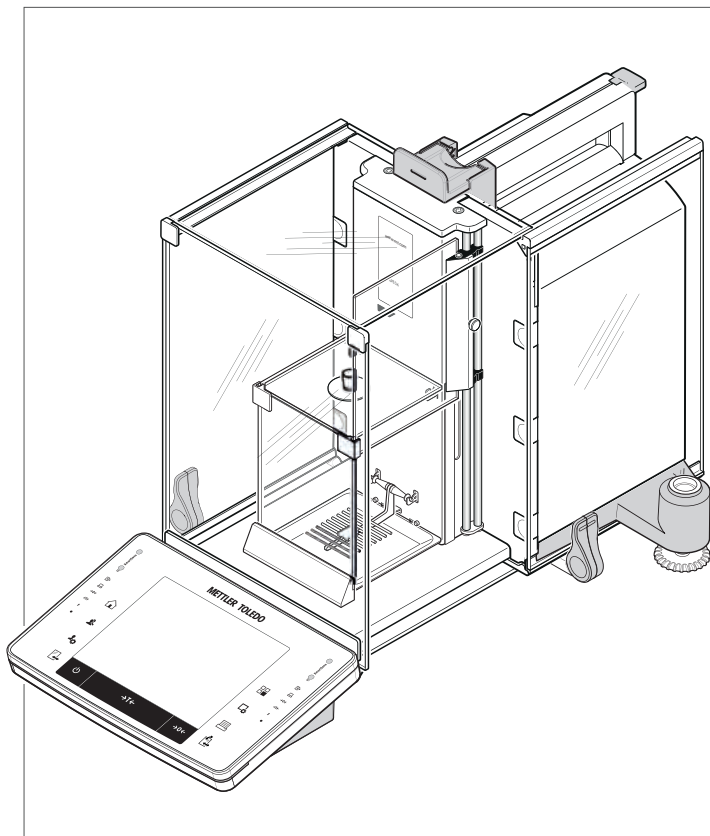


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1 Introduction

Thank you for choosing a METTLER TOLEDO balance.

The balances offers numerous weighing and adjustment options with exceptional operating convenience.

The different models have different characteristics regarding equipment and performance. Special notes in the text indicate where this makes a difference to operation.

METTLER TOLEDO is a leading manufacturer of balances for laboratory and production use as well as analytical measuring instruments. A globally present customer service network with highly trained personnel is always available to assist with the selection of accessories or provide advice on the optimal use of the balance.

The balance conforms to current standards and directives. It supports requirements, work techniques and protocols as specified by all international quality assurance systems, e.g. GLP (Good Laboratory Practice), GMP (Good Manufacturing Practice). The balance has a CE Declaration of Conformity and METTLER TOLEDO, as the manufacturer, is certified to ISO 9001 and ISO 14001. This provides the assurance that your capital investment is protected in the long term by high product quality and a comprehensive service package (repairs, maintenance, servicing, adjustment service).

Finding more information

► www.mt.com/micro

More detailed information is in the Operating Instructions on the CD-ROM.

Software version

The operating instructions are based on the initially installed terminal firmware (software) version V 2.00.

2 Safety Information

2.1 Explanation of warnings and symbols

Safety notes are indicated by signal words and warning symbols and contain warnings and information about safety issues. Ignoring safety notes can lead to personal injury, damage to the instrument, malfunctions and erroneous results.

Signal words

WARNING	for a hazardous situation with medium risk, possibly resulting in severe injuries or death if not avoided.
CAUTION	for a hazardous situation with low risk, resulting in damage to the device or the property or in loss of data or minor or medium injuries if not avoided.
Attention	(no symbol) for important information about the product.
Note	(no symbol) for useful information about the product.

Warning symbols



General hazard



Electrical shock

Mandatory signs



Gloves must be worn

2.2 Product safety information

Intended use

Your balance is used for weighing. Use the balance exclusively for this purpose. Any other type of use and operation beyond the limits of technical specifications without written consent from Mettler-Toledo AG, is considered as not intended.



It is not permitted to use the instrument in explosive atmosphere of gases, steam, fog, dust and flammable dust (hazardous environments).

General safety information

This balance complies with current industry standards and the recognized safety regulations; however, it can constitute a hazard in use. Do not open the balance housing: The balance contains no user-serviceable parts. In the event of problems, please contact a METTLER TOLEDO representative.

Always operate and use your instrument only in accordance with the instructions contained in this manual. The instructions for setting up your new instrument must be strictly observed.

If the instrument is not used according to these Operating Instructions, protection of the instrument may be impaired and METTLER TOLEDO assumes no liability.

Staff safety

These operating instructions must be read and understood before using the balance. These operating instructions must be retained for future reference.

The balance must not be altered or modified in any way. Only use METTLER TOLEDO original spare parts and accessories.

Safety notes



WARNING

Risk of electric shock

Use only the original universal AC adapter delivered with your balance, and check that the voltage printed on it is the same as your local power supply voltage. Only plug the adapter into a socket which is grounded.



CAUTION

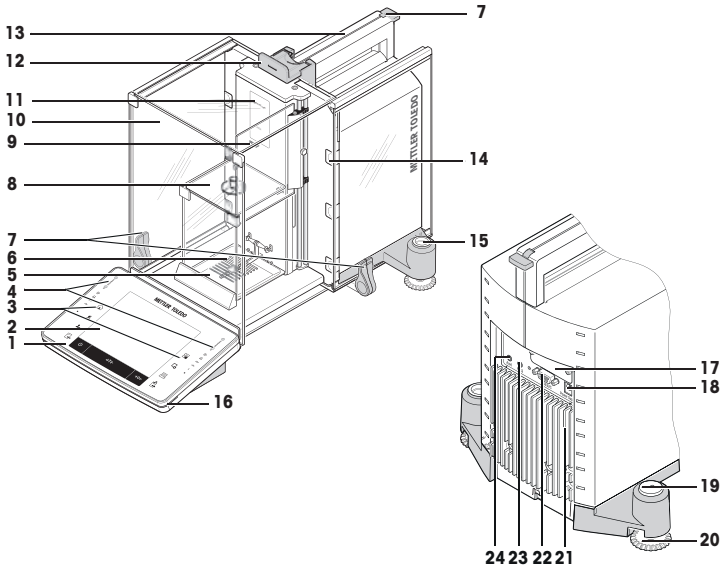
Damage to the balance

- a) Only use indoors in dry locations.
- b) Do not use pointed objects to operate the touch screen!
The balance is of a very sturdy design, but is still a precision instrument. It must be handled with care.
- c) Do not open the balance:
The balance contains no user-serviceable parts. In the event of problems, please contact a METTLER TOLEDO representative.
- d) Only use METTLER TOLEDO original accessories and peripheral devices for the balance.
These are specifically designed for the balance.

3 Design and Function

3.1 Overview

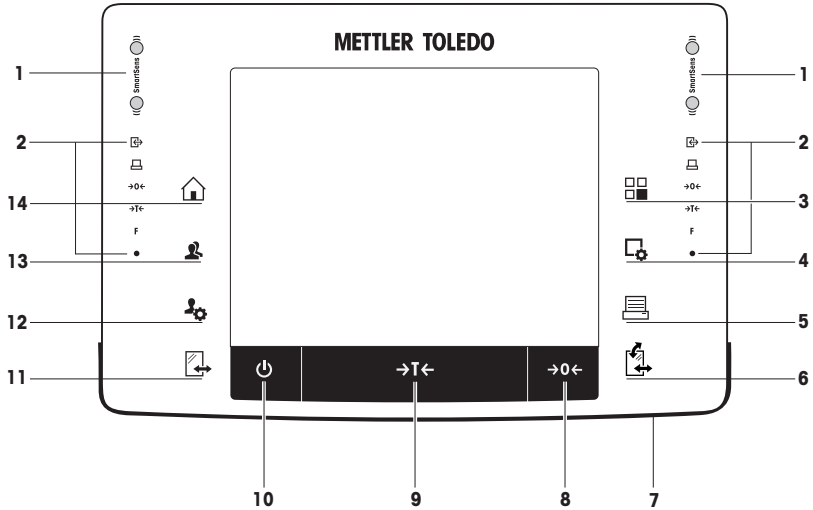
3.1.1 Balance






1	Terminal	2	Display "Touch screen"
3	Operating keys	4	SmartSens sensors
5	Drip tray	6	SmartGrid weighing pan
7	Handle/Coupling element for the operation of the outer draft-shield doors	8	Inner glass draft shield
9	StaticDetect light	10	Outer glass draft shield
11	Type designation	12	Handle for operation of the outer draft-shield top door
13	Guide for top door of draft shield and handle for transport	14	Removable clips for feeding cables or tubes
15	Level indicator/Level sensor	16	StatusLight
17	Slot for second interface (optional)	18	Socket for AC adapter
19	Fastening point for anti-theft device	20	Foot screw
21	Cooling element (based on model)	22	RS232C serial interface
23	Aux 2 (connection for "ErgoSens", hand- or foot-switch)	24	Aux 1 (connection for "ErgoSens", hand- or foot-switch)









3.1.2 Terminal

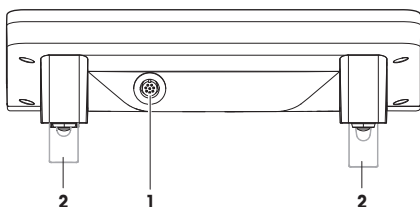
Key assignments and terminal connection.



1: Front view

		Designation	Explanation
1		SmartSens	Two hands-free sensors. Both of these hands-free sensors can be assigned a specific function (e.g. zeroing, printing or display resolution adjustment). See settings for SmartSens and ErgoSens in the respective applications.
2		Status bar	The green icons in the status bar indicate the functions assigned to the SmartSens left or SmartSens right . The F symbol represents a function key. SmartSens is deactivated when no green symbol is illuminated. The yellow LED at the bottom of the status bar lights up briefly when a key is selected or a menu function is initiated.
3		Select application	This key is used to select a required application.
4		Configuration	For displaying menus for the configuration of a current application. The application can be adjusted to a specific task via numerous settings.
5		Print	This key is used to transfer data via the interface, e.g. to a printer. Other devices, e.g. a PC can also be connected. The data to be transferred can be freely defined.

6		Open/Close	<p>For opening and closing the glass draft shield doors. For convenient right and left-handed operation, one of these keys is provided on both sides of the terminal.</p> <p>Note The key can have different functions if a powder module or autosampler is installed.</p> <ul style="list-style-type: none"> • If powder module and front door are defined as mounted, the key operates the front door. • If powder module is defined as mounted and front door is defined as unmounted, the key operates the side doors. • If autosampler and front door are defined as mounted, the key operates the front door. • If autosampler is defined as mounted and front door is defined as unmounted, the key turns the autosampler clockwise by 1 magazine = 5 positions. <p>Refer to your Autosampler Operating Instructions for further information.</p>
7		StatusLight	Indicates the current balance status. The status light shows that the balance is ready to use.
8		Zeroing	This key is used for setting a new zero point manually (only required if the balance is used for normal weighings).
9		Tare	This key is used to tare the balance manually (only necessary for normal weighings). When the balance has been tared, the Net symbol is displayed to indicate that all displayed weights are net.
10		On/Off	<p>For switching the balance on and off (standby mode).</p> <p>Note It is recommended not to disconnect the balance from the power supply unless it is not going to be used for an extended period.</p>
11		Open/Close	<p>For opening and closing the glass draft shield doors. For convenient right and left-handed operation, one of these keys is provided on both sides of the terminal.</p> <p>Note The key can have different functions if an autosampler is installed.</p> <ul style="list-style-type: none"> • If the autosampler is defined as mounted, the key turns the autosampler counterclockwise by 1 magazine = 5 positions.
12		Settings for user profiles	For defining basic settings for each user profile. These settings apply to all user applications.
13		User profile	This key is used to display a specific user profile. Different settings can be saved in a user profile. This allows the balance to be adjusted to a specific user or weighing task.
14		Home	This key is used to return to the user profile Home from any menu level in any application.



1	System connection (terminal cable)	2	Height adjustable feet
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3.2 User interface

3.2.1 Display

The illuminated, color display of the terminal is a touch screen, i.e. a touch-sensitive screen. It can be used for displaying data, entering settings and selecting functions by tapping the screen.

Note

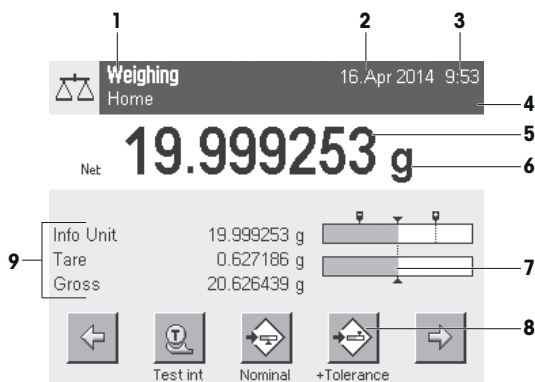
Depending on country-specific requirements, non-calibrated decimal places are highlighted on approved balances.




CAUTION

Do not touch the touch screen with pointed or sharp objects!

This may damage the touch screen.



	Designation	Explanation
1	Application name	Select application. The application menu can be selected by tapping this zone. This menu can also be displayed by pressing  .
	Current user profile	Displays the current user profile.
2	Date	The date can be changed by tapping this zone.
3	Time	The time can be changed by tapping this zone.
4	Status icons	These status icons indicate special balance statuses (e.g. service due, adjustment required, battery replacement, out of level). If you tap the icon, the function is explained.
5	Weight value	Tapping the weight displays a window showing the result in a large format. This is useful for reading a weight from a certain distance.
6	Weighing unit	The required weighing unit can be changed by tapping the weighing unit, e.g. from mg to g .
7	SmartTrac	SmartTrac is a graphic weighing-in aid, which shows at a glance an already used and still available weighing range.
8	Function keys	This area is reserved for Function Keys enabling direct access to frequently required functions and application settings. If more than 5 function keys are activated, these can be selected with the arrow keys.
9	Information fields	This area is used for displaying additional information (Information fields) relating to an active application. Tapping the information field enables Information fields and Function Keys to be displayed directly via menu selection. The leveling assistant can also be started.

Large display

By pressing the function key **[Display]**, the weighing result can be displayed larger and still allow the use of the terminal function keys.

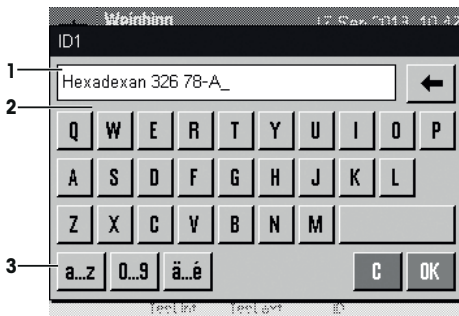


Screen saver

If the balance is not used for 15 minutes, the display is automatically dimmed and the pixels are inverted about every 15 seconds. When the balance is used again (e.g. load weight, press key), the display returns to a normal state.

3.2.2 Input dialog boxes

The keyboard dialog box is used to enter characters such as letters, numbers and special characters.



	Designation	Explanation
1	Data field	Displays (entered) alphanumeric and numeric characters.
2	Keyboard	Data input area
3	Selection	Select various keyboard layouts.

- 1 Enter the designation.
- 2 Confirm with **[OK]**.

	Function
	Delete last character Tap once to place the cursor at the end of the data field.

3.2.3 Firmware

The firmware controls all balance functions. It enables the balance to be adjusted to a specific working environment. The firmware is divided as follows:

- System settings
- User profiles
- User-specific settings
- Applications

- Application-specific settings

Note

A displayed menu can be left at any time by repressing the same menu key.

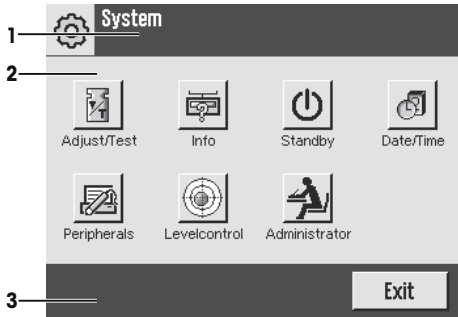
3.2.3.1 System settings

System settings (e.g. settings for peripheral devices) are independent of the user profiles and applications and apply to the entire weighing system. System settings can be displayed by pressing [**⚙**] or [**☰**] and then the [**System**] button.

Navigation: [**⚙**] > **System**

or

Navigation: [**☰**] > **System**



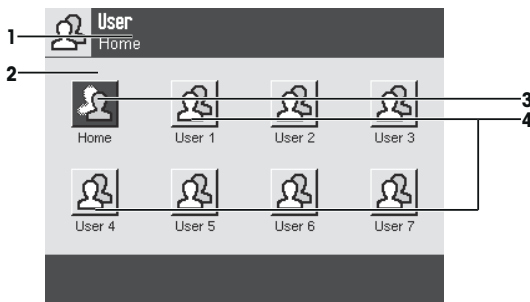
	Designation	Explanation
1	Title bar	The title bar displays elements for user orientation and information.
2	Contents area	The contents area is the main work area for menus and applications. The contents depend on the specific application or initiated action.
3	Action bar	The action bar contains action buttons for performing specific actions required in the active dialog box and are available (e.g. [Exit], [STD], [C], [OK]).

- 1 Settings can be changed by tapping the respective button.
- 2 To leave the settings, tap [**Exit**].

3.2.3.2 User profiles

User profiles are used to adjust the balance to suit specific applications and personal work techniques or specific weighing tasks. A user profile is a collection of user defined settings that can be selected at the press of a button. The last active user profile is automatically loaded when the balance is switched on.

Navigation: [**👤**]



	Designation	Explanation
1	Title bar	The title bar displays elements for user orientation and information.

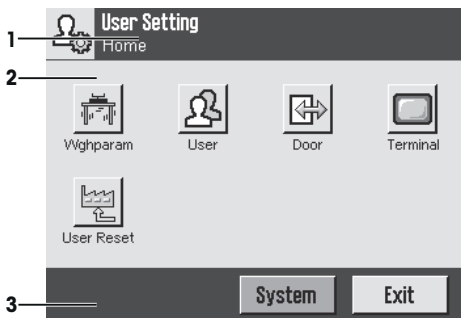
2	Contents area	The contents area is the main work area for menus and applications. The contents depend on the specific application or initiated action.
3	Home	The Home profile is a starting point that can be returned to at any time by pressing the [⏠] key. It contains factory settings for all users. These settings can be changed as required. It is recommended not to change the Home profile factory settings, but make adjustments in further user profiles.
4	User profiles	Settings in further user profiles can be changed as required. All settings made in an active user profile are saved under this profile. This includes both application and user-specific settings. The system settings are not changed.

- A user profile can be changed by tapping the respective button.

3.2.3.3 User-specific settings

These settings can be used to adjust the balance to suit the tasks and work techniques of individual users. The settings can be defined separately for each user profile and for the **Home** profile. When a user profile is selected, the corresponding user-specific settings are automatically loaded.

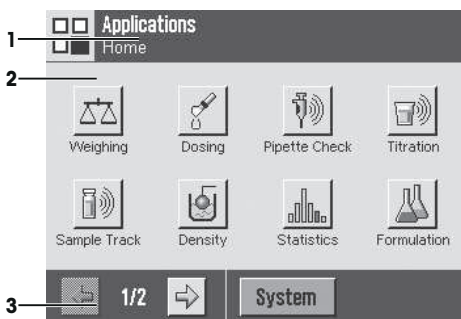
Navigation: [⚙️]



Applications

Applications are firmware modules for performing specific weighing tasks. The balance is delivered with various applications pre-installed. After switching on the balance, the last active user profile and last used application are loaded. The applications are available under the [⏠] key. Instructions for working with standard applications are provided in the respective sections.

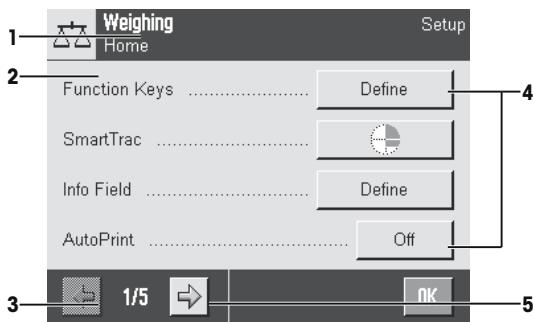
Navigation: [⏠]



Application-specific settings

These settings can be used to adjust the applications to suit individual user requirements. The available setting options depend on the selected application. Pressing [⏠] opens the multipage menu with settings for a currently active application. Information on the individual setting options is provided in the section relating to the respective application. Settings can be defined separately for each user profile and for the **Home** profile. When a user profile is selected, the corresponding application-specific settings are automatically loaded.

Navigation: [L5]



	Designation	Explanation
1	Title bar	The title bar displays elements for user orientation and information.
2	Contents area	The contents area is the main work area for menus and applications. The contents depend on the specific application or initiated action.
3	Action bar	The action bar contains action buttons for performing specific actions required in the active dialog box and are available (e.g. [Exit], [STD], [C], [OK]).
4	Button	Edit/Select settings (e.g. [Define], [On], [Off]). The contents depend on the application.
5	Arrow	The arrow buttons are used to page forward or back.

1 Settings can be changed by tapping the respective button.

2 Confirm with [OK].

3 To leave the settings, select [Exit].

4 To change the system settings, tap [System].

3.2.4 Security system

The balance has a comprehensive security system with which individual access rights can be defined at administrator and user level. Settings that may be changed can be defined for each individual user profile. Access to protected menu areas requires the entry of identification (ID) and a password. On delivery of the balance, only the [Administrator] settings in the system settings are protected.

When an ID and password protected menu area is selected, an alphanumeric keyboard is initially displayed for entry of the ID.



CAUTION

Remember IDs and passwords!

Protected menu areas cannot be accessed without ID or password.

- a) Note IDs and passwords and keep them in a safe place.

1 Enter your ID.

- Case sensitive, tap the [a...z] and [A...Z] button to switch between upper and lower case.

- To enter numbers, tap the [0...9] button.

- Incorrect entries can be deleted character by character with the arrow key [←].

Note

Entry can be interrupted at any time by tapping [C].

2 After entering the full ID, tap [OK].

- ⇒ A further dialog box is displayed for entering the password.

3 Enter the password (for security reasons, this is displayed with asterisks instead of plain text) and confirm with [OK].

- ⇒ If the ID and password are correct, the selected menu area is displayed or the required action initiated. If these are incorrect, an error message is displayed with a request to enter them again.

4 Installation and Putting into Operation

4.1 Unpacking

Open the balance packaging. Check the balance for transport damage. Immediately inform a METTLER TOLEDO representative in the event of complaints or missing accessories.

Note

Retain all parts of the packaging. This packaging offers the best possible protection for transporting the balance.

- 1 Open the outer packaging box.
- 2 Remove it from the packaging the Unpacking and packing instructions.
- 3 Lift the cardboard box (1) out of the packaging.
- 4 Remove the operating instructions (2).

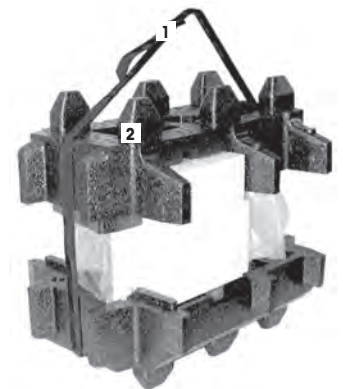


- 5 Remove the set (3) with AC adapter, power supply cable, tweezers, and the set containing ErgoClip basket micro and SmartGrid cover micro.
- 6 Remove the set with outer draft shield doors (4) and terminal support.



- Use the lifting strap to lift the balance out of the packaging box.

- 1 Remove the lifting strap (1).
- 2 Remove the top packaging (2).



3 Remove the set (3) with inner draft shield etc.



4 Carefully remove the terminal (6) from the bottom packaging.

5 Remove the protective cover.

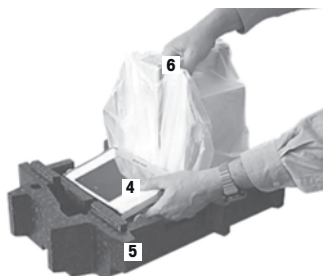
Note

Since the terminal is connected to the balance with a cable, only withdraw the balance slightly from the packaging in order to remove the protective cover.



6 Place the terminal (4) at the front of the balance.

7 Hold the balance (6) by the guide or handle. Hold the terminal firmly with the other hand. Pull out both components together from the bottom packaging (5).



8 Place the balance with the terminal at the site of use.

9 Remove the cover from the balance.



4.2 Scope of delivery

The standard scope of delivery contains the following items:

- Balance with terminal
 - RS232C interface
 - Slot for second interface (optional)
 - Feedthroughs for below-the-balance weighing and for anti-theft device

- Set with outer draft shield and terminal support
- Set with inner draft shield, drip tray and SmartGrid micro
- Set with:
 - Ergo Clip basket micro with support
 - SmartGrid cover micro (attachment for SmartGrid)
- Protective cover for the terminal
- AC adapter with country-specific power cable
- Tweezers
- Cleaning brush
- Production certificate
- CE declaration of conformity
- Operating instructions or Quick Guide, printed or on CD-ROM, depending on country of use

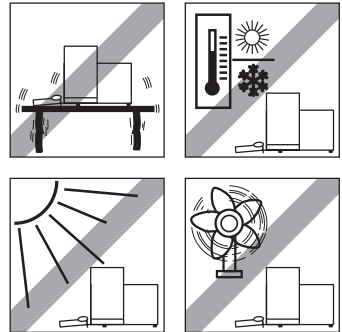
4.3 Location

An optimal location will ensure accurate and reliable operation of the balance. The surface must be able to safely take the weight of the balance when fully loaded. The following local conditions must be observed:

Note

If the balance is not horizontal at the outset, it must be leveled during commissioning.

- The balance must only be used indoors and up to a maximum altitude of 4,000 m above sea level.
- Before switching on the balance, wait until all parts are at room temperature (+5 to 40 °C).
The humidity must be between 10% and 80% non-condensing.
- The power plug must be accessible at all times.
- Firm, horizontal and vibration-free location.
- Avoid direct sunlight.
- No excessive temperature fluctuations.
- No strong drafts.

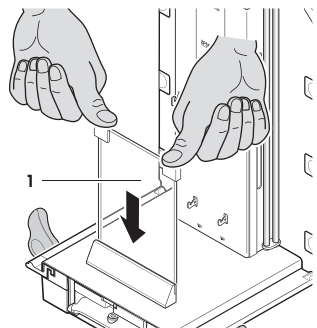


Further information can be found in Weighing the Right Way.

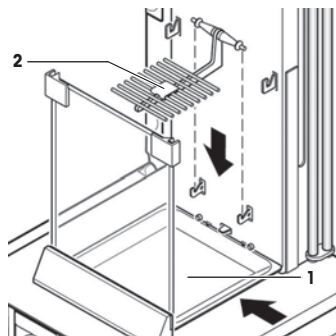
4.4 Assembling the balance

4.4.1 Inner draft shield

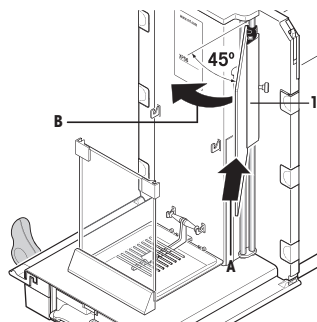
- 1 Insert the front glass (1) of the inner draft shield.
- 2 Ensure the glass is centered and pushed in as far as the stop.



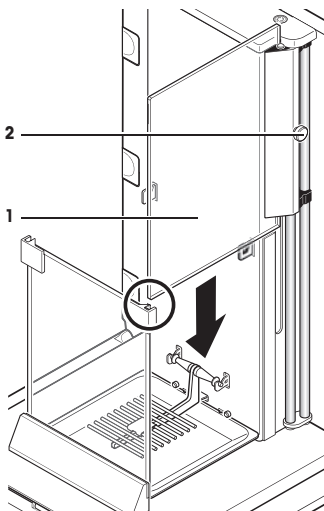
- 3 Insert the drip tray (1) from the side under the upper 2 pins. The notches must be positioned by the springs.
- 4 Insert the SmartGrid (2) from above.
- 5 Check that the SmartGrid is correctly hooked in on both sides.



- 1 Insert the side window (1) of the inner draft shield. At an angle of approximately 45 degrees to the final position, place the 2 black clips on the back guide shaft.
- 2 Push the window up until you can swivel it in over the front glass.



- 3 Insert the window (1) of the inner draft shield into the guide of the front glass and lower it to the floor.
- 4 The window must run easily.
- 5 Press the coupling pins (2) toward the inside.
- 6 Now insert the window on the other side of the inner draft shield. The procedure is the same.



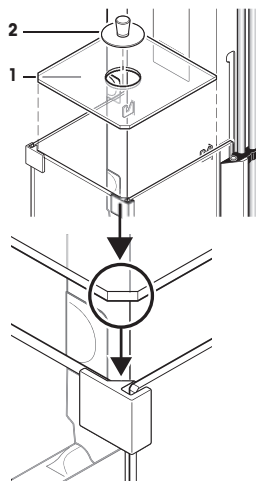
- 1 Put the top glass (1) on.
- 2 Insert the sealing cover (2).

Note

The sealing cover closes the opening in the top glass through which you can pipette into a high container.

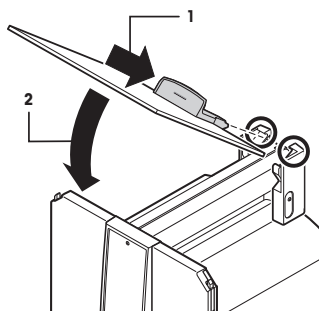
Attention

Do not use the sealing cover to lift the top glass of the draft shield!

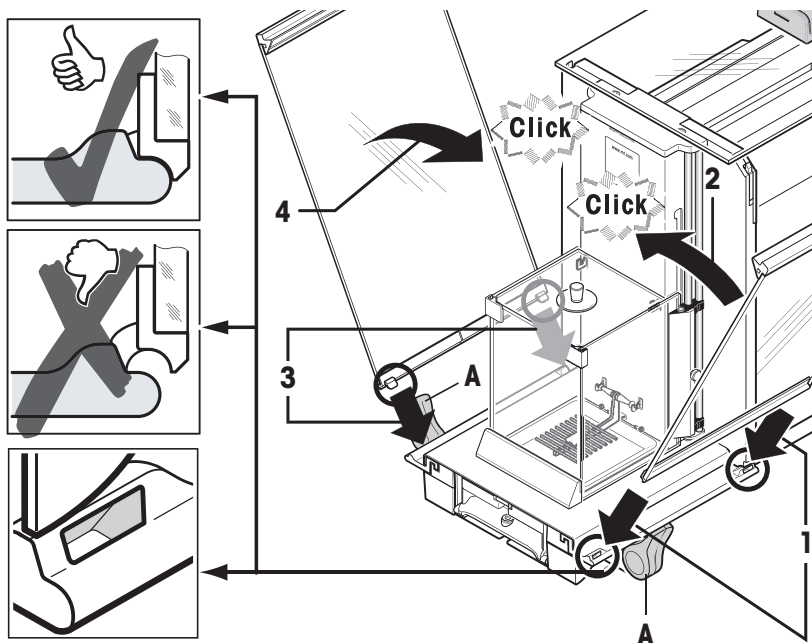


4.4.2 Outer draft shield

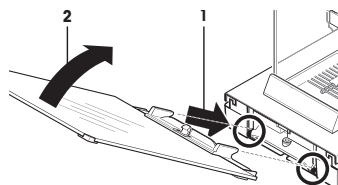
- 1 Insert the top draft shield door (1) at an angle (slightly below 30 degrees) into the **rear** guide.
- 2 Carefully fold the draft shield door (2) downwards, **see** figure.



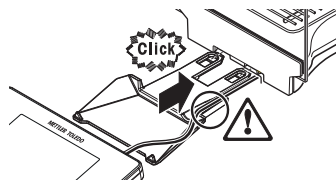
- The handles (A) must be turned toward the outside to allow installation of the side draft shield doors!
- 1 Insert the side doors of the draft shield according to the following instructions, **see** figure below.
 - 2 Insert the side door at an angle of approx. 30° into the 2 openings, **see** figure.
 - 3 Check that the side door is correctly inserted as shown!
 - 4 Swivel the side door up against the balance until it engages with a click.
 - 5 The side door must run easily, otherwise it is not correctly inserted.
 - 6 Insert the second side door of the draft shield.
⇒ The procedure is identical.
 - 7 Push the side doors completely to the back.



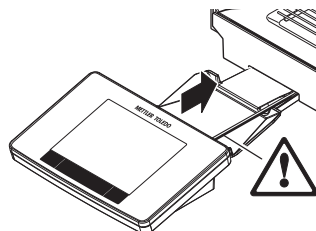
- 1 Insert the front glass (2) of the draft shield.
- 2 In the bottom part of the balance at the front, move at an angle from the top toward the bottom until the two hooks of the front glass of the draft shield lie on the rollers (1).
- 3 Swivel the front glass of the draft shield up until it engages.



- 1 Insert the terminal support.
- 2 Place the cable in the guide of the terminal support.
- 3 Insert the terminal support into the opening in the front draft shield glass.
 - ⇒ The terminal support must engage with a click.



- 1 Mount the terminal.
- 2 Place the terminal in the center of the support.
- 3 Push the terminal against the balance until it folds down easily at the front of the terminal support.
- 4 Insert the cable into the balance.



Attention

The balance and terminal are not connected by the terminal support! Always hold the balance and terminal firmly during transport.

Note

The Terminal cable is of sufficient length to allow repositioning of the terminal in the area around the balance.

4.5 Connecting the balance



WARNING

Risk of electric shock

- a) To connect the balance, only use the supplied three-core power cable with equipment grounding conductor.
- b) Only connect the balance to a three-pin power socket with earthing contact.
- c) Only standardized extension cable with equipment grounding conductor must be used for operation of the balance.
- d) Intentional disconnection of the equipment grounding conductor is forbidden.

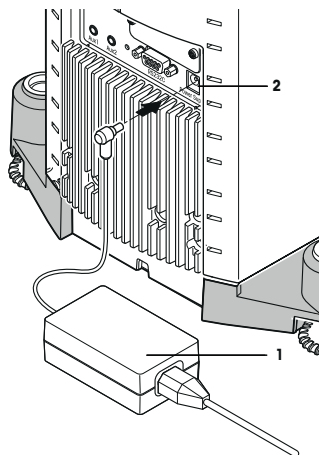
The balance is supplied with an AC adapter and country-specific power cable. The AC adapter is suitable for use with the following voltage range:

100 – 240 V AC, 50/60 Hz.

Attention

- Check whether your local power supply falls within this range. If this is not the case, under no circumstances connect the AC adapter to the power supply, but contact a METTLER TOLEDO representative.
- The power plug must be accessible at all times.
- Prior to use, check the power cable for damage.
- Route the cable in such a way that it cannot be damaged or cause a hindrance when working.
- Ensure that no liquid comes into contact with the AC adapter.

- Balance and terminal are at the final location.
- 1 Connect the AC adapter (1) to the connection socket (2) at the rear of the balance.
 - 2 Connect the AC adapter (1) to the power supply.
- ⇒ The balance performs a self-test after connection to the power supply and is then ready to use.



4.6 Setting up the balance

4.6.1 Weighing for the first time

After commissioning the new balance, the first weighing can be carried out. This will also familiarize you with the operation of the balance.

If the balance is not exactly level, a warning text is generated after switching on the balance with the request to level the balance.

4.6.1.1 Switching on the balance

- Balance is connected to the power supply.
 - Terminal and balance are interconnected.
- To switch on, press [⏻].
- ⇒ Display appears.
- ⇒ Balance is ready to use.



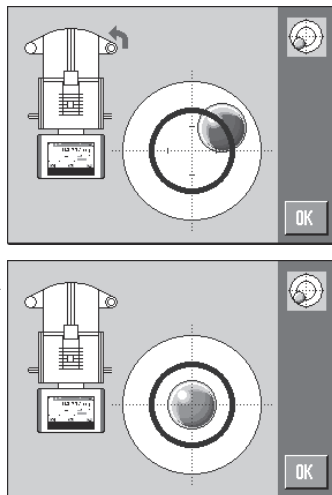
4.6.1.2 Leveling the balance

The balance has a built-in level sensor which permanently monitors correct horizontal alignment.

If the level sensor detects incorrect leveling, the status light at the terminal shows red. A warning text is displayed and an audible warning generated. A status icon also appears in the top right corner of the display.



- 1 To start the leveling assistant, tap **[LevelGuide]** in the warning message.
 - ⇒ Window with level indicator is displayed in real-time.
- 2 Observe the level indicator on the screen.
 - ⇒ The air bubble in the level indicator shows red with incorrect alignment.
 - ⇒ The leveling assistant indicates with red arrows the direction in which the two foot screws at the rear of the balance must be turned.
- 3 Turn the foot screw until the air bubble is located in the inner circle of the level indicator.
 - ⇒ The air bubble in the level indicator shows green with correct alignment.
 - ⇒ The status light at the terminal shows green.
- 4 Tap **[OK]**.
 - ⇒ A message recommending adjustment of the balance is displayed.
- 5 Tap **[Adjust.int]** to adjust the balance.



4.6.1.3 Performing a simple weighing

To perform a simple weighing, only the keys in the lower part of the terminal are required. The balance has separate keys for zeroing **[→0←]** and taring **[→T←]**.

Zeroing

- Press **[→0←]**.
- ⇒ Zeroing

After zeroing, all weights also the tare weight apply to this new zero point and the following apply: tare weight = 0, net weight = gross weight = 0.

Taring

Note

A negative weight is not permitted. An error message is generated. When the stability detector icon extinguishes (small ring left of the weight display), the indication is stable. The weight is displayed.

- If a weighing container is used, the balance must first be set to zero.

- 1 Place the container on the balance.
- 2 Press **[→T←]**.
 - ⇒ The balance is tared.
 - ⇒ The weight of the container is set as the new tare weight and the previous tare (if available) is overwritten.
 - ⇒ The **Net** display signals that all indicated weights are net weights.



Congratulations!

The first weighing is now complete. The following sections contain further information about the extensive functions and applications of this balance.

4.6.2 Operating of the outer draft shield and the inner draft shield

Outer draft shield

The outer draft shield of the balance can be adjusted to the ambient conditions, weighing method and material to be weighed.

The outer glass draft shield doors can be opened and closed by pressing **[↕]**, with the "SmartSens" sensors or manually.

Try different combinations by moving the 3 handles upwards/inwards and downwards/outwards. We recommend aligning the glass draft shield so that only those parts are opened that are required for loading. The balance then operates faster due to less disturbing air flows than with a fully open glass draft shield.

Note

It is recommended to make connections when the draft shield is closed.

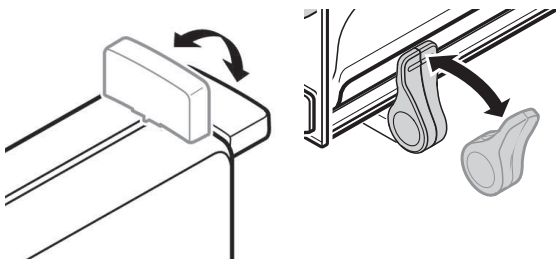
Motorized operation

The automatic door function opens and closes the doors of the glass draft shield automatically when required.

Example

- Doors open automatically for loading the tare weight when [→T←] is pressed.
 - When a request is made to load the adjustment weight while adjusting the balance, the doors open automatically. The doors close automatically when the weight is loaded.
 - The glass draft shield closes automatically for all weighings to achieve a stable weight indication.
 - For different operations (e.g. piece counting), the doors open and close automatically as required by the application.
- Handles are locked.

- 1 Move the handles for the side doors inwards.
 - 2 Move the handle for the top door into the horizontal position.
- ⇒ The door is automatically opened when required.



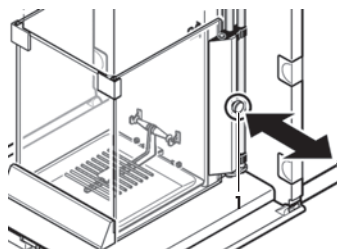
Manual door operation

The doors must be opened or closed manually. With the [↔] keys, via SmartSens or manually.

- Handles are unlocked.
- 1 Move the handles for the side doors outwards.
 - 2 Move the handle for the top door into the vertical position.
 - 3 Press [↔].
or
Move the hand over the SmartSens sensor.
- ⇒ The door is opened.

Inner draft shield

- For **motorized operation** of the inner draft shield the coupling bolts (1) must be pressed **inward**.
⇒ The two side doors can be controlled separately.
- You can also open the side doors of the inner draft shield only partway, with a choice of 25%, 50% or 75%.



5 Maintenance

5.1 Cleaning

Periodically clean the weighing pan, the drip tray, the housing, and the terminal of your balance using the brush supplied with it. The maintenance interval depends on your standard operating procedure (SOP).

Please observe the following notes:



WARNING

Risk of electric shock

- a) Disconnect the balance from the power supply prior to cleaning and maintenance.
- b) Only use METTLER TOLEDO power cable, if these need to be replaced.
- c) Ensure that no liquid comes into contact with the balance, terminal or AC adapter.
- d) Do not open the balance, terminal or AC adapter. These contain no user-serviceable parts.



CAUTION

Damage to balance

Under no circumstances use cleaning agents containing solvents or abrasive agents, as this can damage the terminal overlay.

Cleaning

Your balance is made from high quality, resistant materials and can therefore be cleaned with a commercially available, mild cleaning agent.

Note

All removable non-coated parts of the outer draft shield are dishwasher safe to 80 degrees. The sealing cover of the inner draft shield is **not** dishwasher safe.

- 1 To clean the weighing chamber thoroughly, move the draft shield glass panels (including intermediate shelf) away from the balance and remove them from their fastenings.
- 2 Carefully lift the front of the weighing pan and lift it out of the guide.
- 3 Remove the drip tray from the balance.
- 4 Ensure that these parts are correctly positioned when refitted.

Note

Contact a METTLER TOLEDO representative to find about the service options available – regular maintenance by an authorized service engineer will ensure consistent weighing accuracy over the long term and extend the service life of the balance.

5.2 Disposal

In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment. If you have any questions, please contact the responsible authority or the distributor from which you purchased this device. Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.




6 Technical Data

6.1 General data



CAUTION

Only use an approved AC adapter with a current-limited SELV output.
Ensure correct polarity 

Power supply

AC adapter:	Primary: 100 – 240 V AC, -15%/+10%, 50/60 Hz Secondary: 12 V DC $\pm 3\%$, 2.5 A (with electronic overload protection)
Cable for AC adapter:	3-core, with country-specific plug
Balance power supply:	12 V DC $\pm 3\%$, 2.25 A, maximum ripple: 80 mVpp

Protection and standards

Overvoltage category:	II
Degree of pollution:	2
Protection:	Protected against dust and water
Standards for safety and EMC:	See Declaration of Conformity
Range of application:	For use only in closed interior rooms

Environmental conditions

Height above mean sea level:	Up to 4000 m
Ambient temperature:	5–40 °C
Relative air humidity:	Max. 80% up to 31 °C, linearly decreasing to 50% at 40 °C, noncondensing
Warm-up time:	At least 120 minutes after connecting the balance to the power supply; when switched on from standby-mode, the balance is ready for operation immediately

Materials

Housing:	Die-cast aluminum, plastic, chrome steel and glass
Terminal:	Die-cast zinc, chromed and plastics
SmartGrid:	Chrome-Nickel-Molybdenum steel X2CrNiMo17

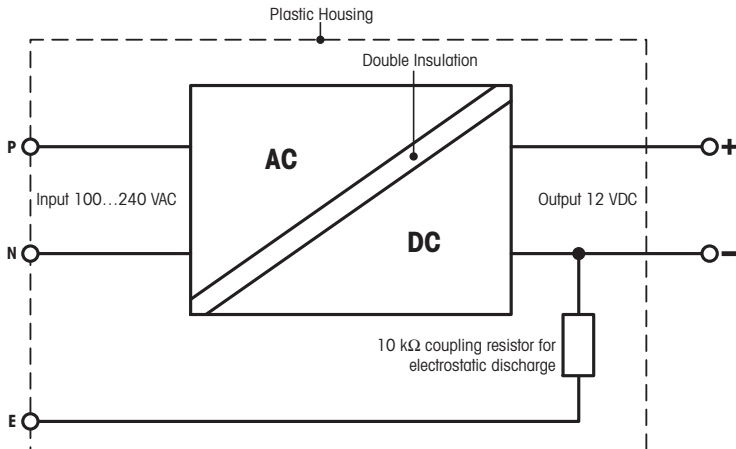
6.2 Explanatory notes for the METTLER TOLEDO AC adapter

The certified external power supply which conforms to the requirements for Class II double insulated equipment is not provided with a protective earth connection but with a functional earth connection for EMC purposes. This earth connection IS NOT a safety feature. Further information about conformance of our products can be found in the brochure "Declaration of Conformity" which is coming with each product.

In case of testing with regard to the European Directive 2001/95/EC the power supply and the balance have to be handled as Class II double insulated equipment.

Consequently an earth bonding test is not required. Similarly it is not necessary to carry out an earth bonding test between the supply earth conductor and any exposed metalwork on the balance.

Because the balance are sensitive to static charges a leakage resistor, typically 10 kΩ, is connected between the earth connector and the power supply output terminals. The arrangement is shown in the equivalent circuit diagram. This resistor is not part of the electrical safety arrangement and does not require testing at regular intervals.



2: Equivalent circuit diagram

6.3 Model-specific data

More detailed information is in the Operating Instructions on the CD-ROM.

		XPE26	XPE26DR
Limit values			
Maximum capacity		22 g	22 g
Readability		1 µg	0.01 mg
Tare range (from...to)		0 ... 22 g	0 ... 22 g
Maximum capacity in fine range		–	5.1 g
Readability in fine range		–	0.002 mg
Repeatability (at nominal load)	sd	0.0025 mg (20 g)	0.008 mg (20 g)
Repeatability (at low load)	sd	0.0015 mg (1 g)	0.005 mg (1 g)
Repeatability in fine range (at low load)	sd	–	0.002 mg (1 g)
Linearity deviation		0.006 mg	0.01 mg
Eccentricity deviation (test load) ¹⁾		0.02 mg (10 g)	0.025 mg (10 g)
Sensitivity offset (test weight)		0.08 mg (20 g)	0.1 mg (20 g)
Sensitivity temperature drift ²⁾		0.0001%/°C	0.0001%/°C
Sensitivity stability ³⁾		0.0001%/a	0.0001%/a
Typical values			
Repeatability	sd	0.0007 mg (1 g)	0.004 mg (1 g)
Repeatability in fine range	sd	–	0.0012 mg (1 g)
Automated, repeatability	sd	–	–
Linearity deviation		0.002 mg	0.005 mg
Eccentricity deviation (test load) ¹⁾		0.003 mg (10 g)	0.004 mg (10 g)
Sensitivity offset (test weight)		0.02 mg (20 g)	0.03 mg (20 g)
Minimum weight (according to USP)		1.4 mg	8.2 mg
Minimum weight (according to USP) in fine range		–	2.4 mg
Automated, USP minimum weight (U=0.10%, k=2, 5% load)		–	–
Minimum weight (U=1%, k=2)		0.14 mg	0.82 mg
Minimum weight (U=1%, k=2) in fine range		–	0.24 mg

Automated, minimum weight (U=1.0%, k=2, 5% load)		–	–
Settling time		3.5 s	2.5 s
Settling time in fine range		–	3.5 s
Interface update rate		23 1/s	23 1/s
Usable height of draft shield		235 mm	235 mm
Weight of balance		11.9 kg	11.9 kg
Number of built-in reference weights		2	2
Dimensions			
Balance dimensions (W × D × H)		263 × 493 × 322 mm	263 × 493 × 322 mm
Weighing pan dimensions		40 × 40 mm (W × D)	40 × 40 mm (W × D)
Weights for routine testing			
OIML CarePac		20 g F1, 1 g E2 #11123006	20 g F1, 1 g E2 #11123006
	Weights		
ASTM CarePac		20 g 1, 1 g 1 #11123106	20 g 1, 1 g 1 #11123106
	Weights		

sd = Standard deviation

¹⁾ According to OIML R76

²⁾ In the temperature range 10 ... 30 °C

³⁾ After putting into operation for the first time, with the self-adjustment function activated (ProFACT or FACT)

More detailed information is in the Operating Instructions on the CD-ROM.

		XPE56	XPE56DR	XPE56Q
Limit values				
Maximum capacity		52 g	52 g	52 g
Readability		1 µg	0.01 mg	1 µg
Tare range (from...to)		0 ... 52 g	0 ... 52 g	0 ... 52 g
Maximum capacity in fine range		–	11 g	–
Readability in fine range		–	0.002 mg	–
Repeatability (at nominal load)	sd	0.005 mg (50 g)	0.014 mg (50 g)	0.005 mg (50 g)
Repeatability (at low load)	sd	0.0015 mg (2 g)	0.006 mg (2 g)	0.0015 mg (2 g)
Repeatability in fine range (at low load)	sd	–	0.002 mg (2 g)	–
Linearity deviation		0.02 mg	0.03 mg	0.02 mg
Eccentricity deviation (test load) ¹⁾		0.03 mg (20 g)	0.035 mg (20 g)	0.03 mg (20 g)
Sensitivity offset (test weight)		0.125 mg (50 g)	0.15 mg (50 g)	0.125 mg (50 g)
Sensitivity temperature drift ²⁾		0.0001%/°C	0.0001%/°C	0.0001%/°C
Sensitivity stability ³⁾		0.0001%/a	0.0001%/a	0.0001%/a
Typical values				
Repeatability	sd	0.0007 mg (2 g)	0.004 mg (2 g)	0.0007 mg (2 g)
Repeatability in fine range	sd	–	0.0012 mg (2 g)	–
Automated, repeatability	sd	–	–	0.0007 mg (2 g)
Linearity deviation		0.006 mg	0.008 mg	0.006 mg
Eccentricity deviation (test load) ¹⁾		0.01 mg (20 g)	0.008 mg (20 g)	0.01 mg (20 g)
Sensitivity offset (test weight)		0.03 mg (50 g)	0.04 mg (50 g)	0.03 mg (50 g)
Minimum weight (according to USP)		1.4 mg	8.2 mg	–
Minimum weight (according to USP) in fine range		–	2.4 mg	–
Automated, USP minimum weight (U=0.10%, k=2, 5% load)		–	–	1.4 mg (2 g)
Minimum weight (U=1%, k=2)		0.14 mg	0.82 mg	–
Minimum weight (U=1%, k=2) in fine range		–	0.24 mg	–
Automated, minimum weight (U=1.0%, k=2, 5% load)		–	–	0.14 mg (2 g)

Settling time		3.5 s	2.5 s	3.5 s
Settling time in fine range		–	3.5 s	–
Interface update rate		23 1/s	23 1/s	23 1/s
Usable height of draft shield		235 mm	235 mm	235 mm
Weight of balance		11.9 kg	11.9 kg	11.9 kg
Number of built-in reference weights		2	2	2
Dimensions				
Balance dimensions (W × D × H)		263 × 493 × 322 mm	263 × 493 × 322 mm	263 × 493 × 322 mm
Weighing pan dimensions		40 × 40 mm (W × D)	40 × 40 mm (W × D)	40 × 40 mm (W × D)
Weights for routine testing				
OIML CarePac		50 g F2, 2 g E2	2 g E2, 0.1 g E2	50 g F2, 2 g E2
	Weights	#11123003	#11123004	#11123003
ASTM CarePac		50 g 1, 2 g 1	2 g 1, 0.1 g 1	50 g 1, 2 g 1
	Weights	#11123103	#11123104	#11123103

sd = Standard deviation

¹⁾ According to OIML R76

²⁾ In the temperature range 10 ... 30 °C

³⁾ After putting into operation for the first time, with the self-adjustment function activated (ProFACT or FACT)

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- Choose the appropriate balance or scale
- Calibrate and operate your weighing equipment with security
- Comply with quality and compliance standards in laboratory and manufacturing

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