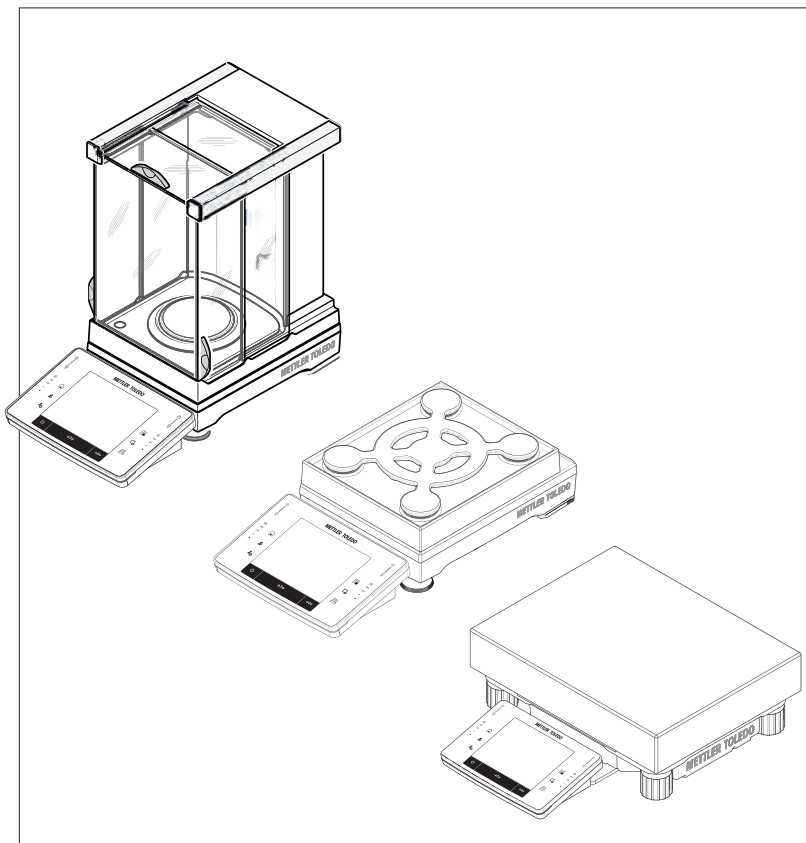


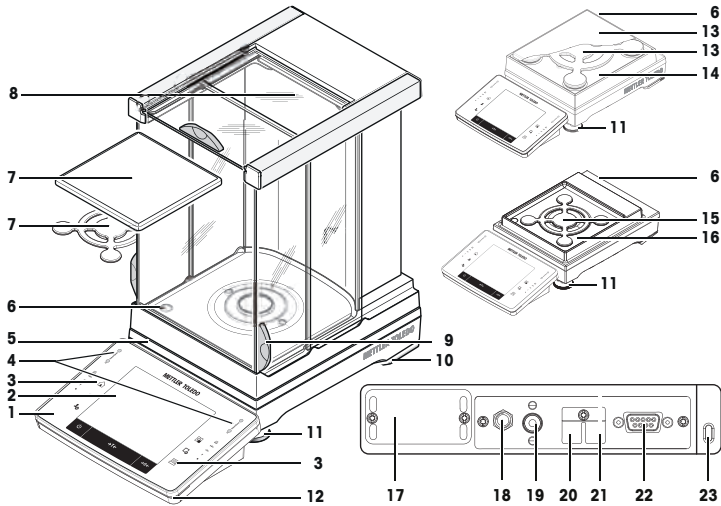
Precision Balances

XPE models



METTLER TOLEDO

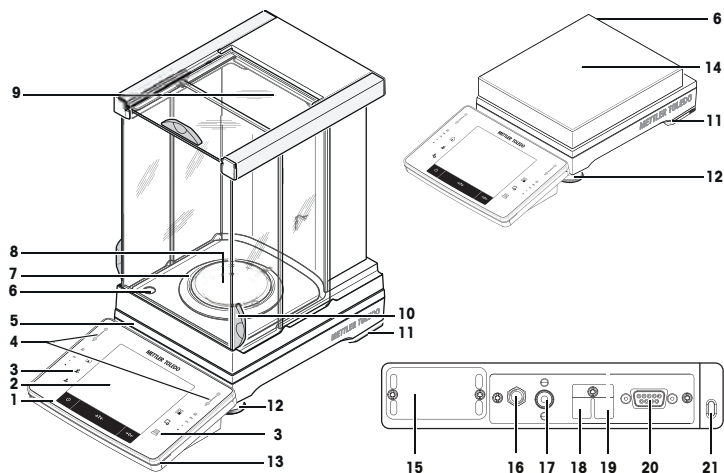
Overview Balances S weighing platform with SmartPan



Legend S weighing platform with SmartPan

1	Terminal	2	Display "Touch screen"
3	Operating keys	4	SmartSens sensors
5	Type designation	6	Level indicator/Level sensor
7	SmartPan and weighing pan for 1 mg models	8	Glass draft shield
9	Handle for operation of the draft-shield door	10	Safety feet
11	Foot screws	12	StatusLight
13	SmartPan and standard weighing pan for 5 mg and 10 mg models	14	Drip tray for 5 mg and 10 mg models
15	SmartPan for 1 mg models	16	Drip tray for 1 mg models
17	Slot for second interface (optional)	18	Socket for AC adapter
19	Fastening for auxiliary display stand or terminal stand (optional)	20	Aux 1 (connection for "ErgoSens", hand- or foot-switch)
21	Aux 2 (connection for "ErgoSens", hand- or foot-switch)	22	RS232C serial interface
23	Fastening point for anti-theft device		

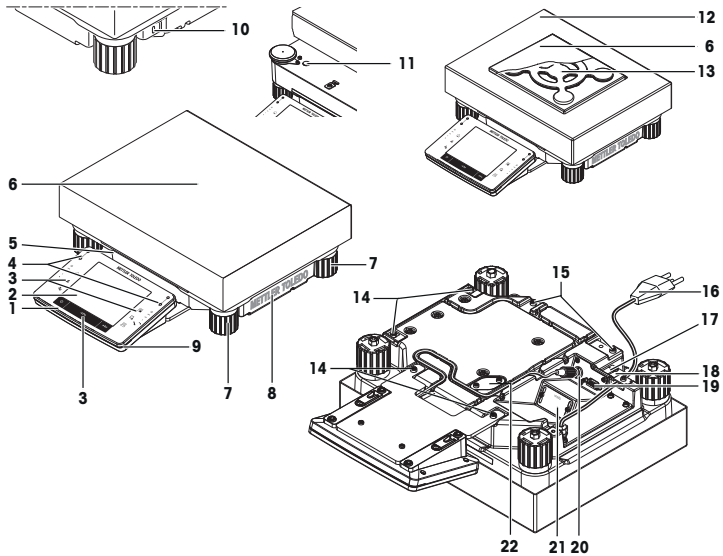
Overview S weighing platform



Legend S weighing platform

1	Terminal	2	Display "Touch screen"
3	Operating keys	4	SmartSens sensors
5	Type designation	6	Level indicator/Level sensor
7	Draft shield element	8	Weighing pan for 0.1 mg models
9	Glass draft shield	10	Handle for operation of the draft-shield door
11	Safety feet	12	Foot screws
13	StatusLight	14	Weighing pan for 0.1 g and 1 g models
15	Slot for second interface (optional)	16	Socket for AC adapter
17	Fastening for auxiliary display stand or terminal stand (optional)	18	Aux 1 (connection for "ErgoSens", hand- or foot-switch)
19	Aux 2 (connection for "ErgoSens", hand- or foot-switch)	20	RS232C serial interface
21	Fastening point for anti-theft device		

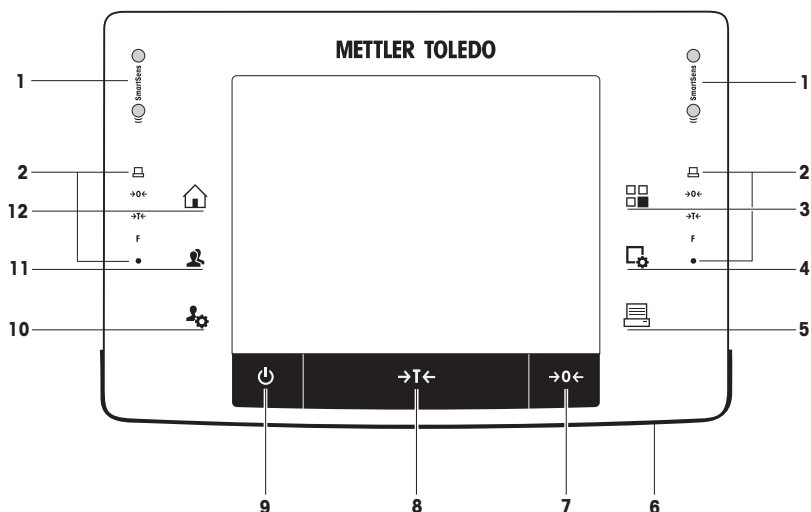
Overview Balances L weighing platform



Legend L weighing platform





1	Terminal	2	Display "Touch screen"
3	Operating keys	4	SmartSens sensors
5	Type designation	6	Weighing pan
7	Foot screws	8	Cover
9	StatusLight	10	Fastening point for anti-theft device
11	Level indicator / level sensor	12	Draft shield element
13	SmartPan	14	Points of attachment for terminal or cover
15	Fastening for terminal stand (optional)	16	Power cable
17	Aux 1 (connection for "ErgoSens", hand- or foot-switch)	18	Aux 2 (connection for "ErgoSens", hand- or foot-switch)
19	RS232C serial interface	20	Connector for terminal cable
21	Slot for second interface (optional)	22	Cover plate for below-the-balance weighing (hook optional)

Overview Terminal



Key assignments and terminal connection.

	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	StatusLight	Indicates the current balance status. The status light shows that the balance is ready to use. See Status light.
7	→0←	Zeroing
8	→T←	Tare
		This key is used for setting a new zero point manually (only required if the balance is used for normal weighings).
		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.

9		On/Off	For switching the balance on and off (standby mode). Important It is recommended not to disconnect the balance from the power supply unless it is not going to be used for an extended period.
10		Settings for user profiles	For defining basic settings for each user profile. These settings apply to all user applications.
11		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.
12		Home	This key is used to return to the user profile Home from any menu level in any application.

1 Safety Information

- Read and understand the instructions in this manual before you use the balance.
- Keep this manual for future reference.
- Include this manual if you pass on the balance to other parties.

If the balance is not used according to the instructions in this manual or if it is modified, the safety of the user may be impaired and Mettler-Toledo GmbH assumes no liability.

1.1 Definition of signal words and warning 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.

NOTICE (no symbol)
for important information about the product.

Note (no symbol)
for useful information about the product.

Warning symbols



General hazard



Electrical shock

1.2 Product specific safety notes

Your balance represents state-of-the-art technology and complies with all recognized safety rules, however, certain hazards may arise in extraneous circumstances. Do not open the housing of the balance; it does not contain any parts that can be maintained, repaired or replaced by the user. If you experience problems with your balance, contact your authorized METTLER TOLEDO dealer or service representative.

The balance has been tested for the experiments and intended purposes documented in the appropriate manual. However, this does not absolve you from the responsibility of performing your own tests of the products supplied by us regarding their suitability for the methods and purposes you intend to use them for.

Intended use

This balance is designed to be used in analytical laboratories by qualified staff. 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 GmbH, is considered as not intended.

Site requirements

The balance has been developed for indoor operation in a well-ventilated area. Avoid the following environmental influences:

- Conditions outside of the ambient conditions specified in the technical data
- Powerful vibrations
- Direct sunlight
- Corrosive gas atmosphere
- Explosive atmosphere of gases, steam, fog, dust and flammable dust
- Powerful electric or magnetic fields

Staff qualification

Incorrect use of the balance or the chemicals used in the analysis can lead to death or injury. The following experience is needed for operating the balance.

- Knowledge and experience in working with toxic and caustic substances.
- Knowledge and experience in working with standard laboratory equipment.
- Knowledge and experience in working in accordance with general lab safety rules.

Responsibilities of the balance owner

The balance owner is the person that uses the balance for commercial use or places the balance at the disposal of his staff. The balance owner is responsible for product safety and the safety of staff, user(s) and third party.

The operator has the following responsibilities:

- Know the rules for safety at the workplace that are in effect and enforce them.
- Ensure that only qualified staff uses the balance.
- Define the responsibilities for installation, operation, cleaning, troubleshooting and maintenance and ensure that the tasks are done.
- Train the staff in regular intervals and inform them about dangers.
- Provide the necessary protective gear for the staff.

Shut down of the balance in emergency situations

- Pull the plug from the electrical outlet.

Protective clothing

Wear protective clothing in the laboratory when working with hazardous or toxic substances.



Use appropriate gloves when handling chemicals or hazardous substances and check their integrity before use.

Safety notes



WARNING

Danger of death or serious injury due to electric shock!

Contact with parts that contain a live current can lead to injury and death. If the balance cannot be shut down in an emergency situations, people can be injured or the balance can be damaged.

- 1 Only use the supplied three-core power cable with equipment grounding conductor to connect your balance.
- 2 Check that the voltage printed on it is the same as your local power supply voltage.
 - ⇒ If this is not the case, under no circumstances connect the AC adapter to the power supply, but contact a METTLER TOLEDO representative.
- 3 Only connect the balance to a three-pin power socket with earthing contact.
- 4 Only standardized extension cable with equipment grounding conductor must be used for operation of the balance.
- 5 Do not disconnection the equipment grounding conductor.
- 6 Check the cables and the plug for damage and replace damaged cables and plugs.
- 7 Make sure that the cables are arranged so that they cannot be damaged or interfere with the operation.
- 8 Keep all electrical cables and connections away from liquids.
- 9 Make sure that the power plug is accessible at all times.



NOTICE

Environment

Only use indoors in dry locations.



NOTICE

Danger of damaging the touch screen with pointed or sharp objects!

Do not use pointed or sharp objects to navigate on the touch screen. This may damage the surface of the touch screen.

- Operate the touch screen with your fingers.



NOTICE

Danger of damage to the balance!

Never open the balance. The balance contains no user-serviceable parts.

- In the event of problems, please contact a METTLER TOLEDO representative.



NOTICE

Danger of damage to the balance due to incorrect parts!

Using incorrect parts with the balance can damage the balance or cause the balance to malfunction.

- Only use parts supplied with the balance, listed accessories and spare parts from Mettler-Toledo GmbH.

Finding more information



Refers to an external document.

FCC Rules

This device complies with Industry Canada licence-exempt RSS standard(s) and part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

2 User interface

2.1 Display



NOTICE

Danger of damaging the touch screen with pointed or sharp objects!

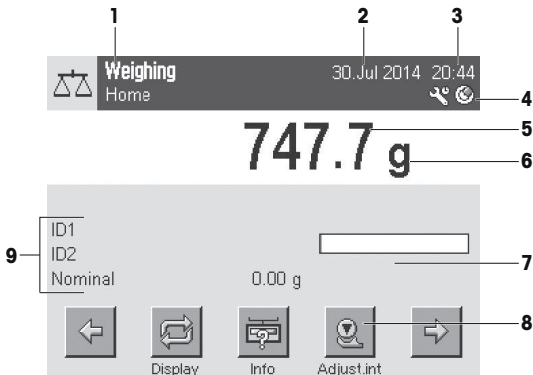
Do not use pointed or sharp objects to navigate on the touch screen. This may damage the surface of the touch screen.

- Operate the touch screen with your fingers.

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.

Important

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



	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 [F6].
	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.

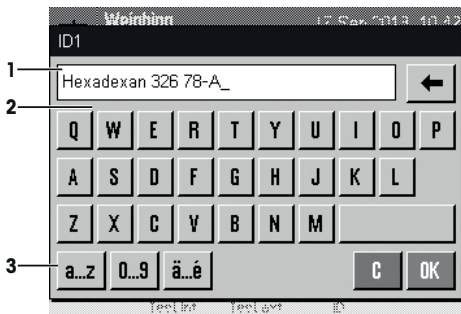


Screen saver

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.

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.

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.

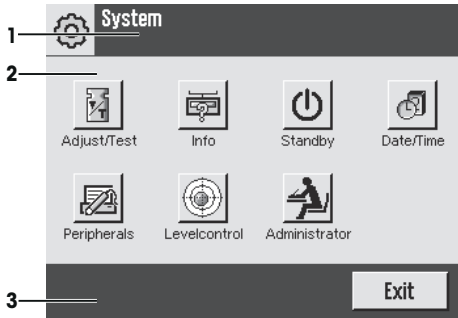
2.3.1 System settings

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 **[F4]** or **[F5]** and then the **[System]** button.

Navigation: **[F4]** > **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]).

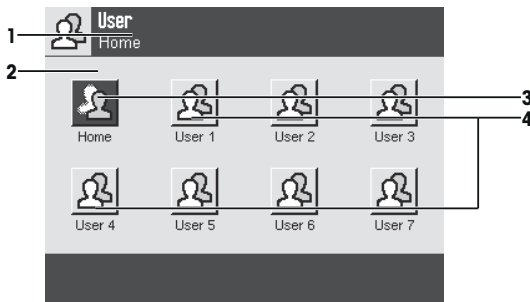
1 Settings can be changed by tapping the respective button.

2 To leave the settings, tap [Exit].

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.

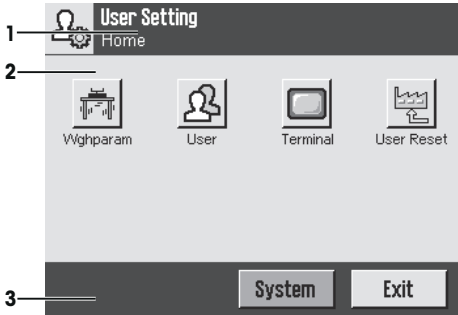
4	User profiles	Settings in further user profiles can be changed as required. All settings made in an active user profile are saved under this profile. This includes both application and user-specific settings. The system settings are not changed.
---	---------------	---

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

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.

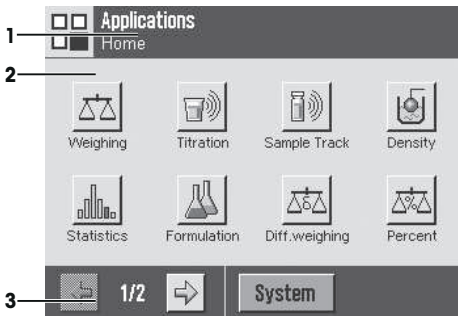
Navigation: [F4]



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 [F4] key. Instructions for working with standard applications are provided in the respective sections.

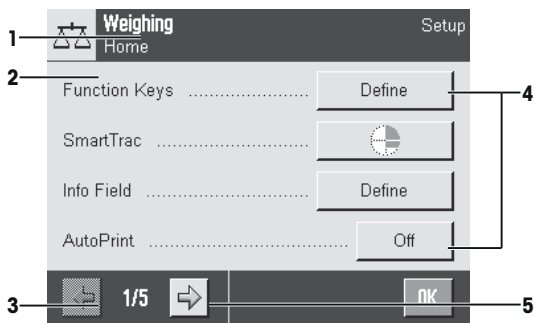
Navigation: [F4]



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 [F4] 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: [↔]



	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].

2.4 Security system



NOTICE

Remember IDs and passwords!

Protected menu areas cannot be accessed without ID or password.

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

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.

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.

3 Installation and Putting into Operation

Finding more information

► www.mt.com/xpe-precision



WARNING

Danger of death or serious injury due to electric shock!

The balance must be disconnected from the power supply when carrying out all setup and mounting work.

3.1 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.

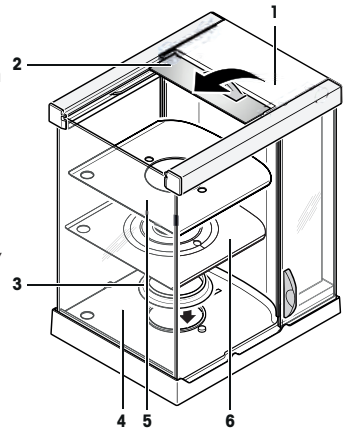
Important

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

3.1.1 Unpacking the draft shield Pro (model dependent)

The draft shield Pro is only for balances with the S weighing platform.

- 1 Place the draft shield on a clean surface.
- 2 Turn so the cover (1) is vertically on top.
- 3 Lift the carton (2) off over the handle and the pull the carton off toward the back.
- 4 Hold the glass panels firmly so they do not get pulled off and fall to the floor.
- 5 Close the cover (1) again.
- 6 Push all the glass panels as far as they will go to the back.
- 7 Installing ring seal (3) for balances with 0.1 mg readability, **see** below.
- 8 Insert the bottom plate (5) or (6) for balances with SmartPan.



Installation ring seal, 0.1 mg models only

- 1 Place the ring seal (3) into the draft shield base (4) from above.
- 2 Push the complete ring seal (3) through the opening in the draft shield base.
- 3 Pull the top edge upward through the opening until the edge lies flat and tight all the way round.
- 4 Check by running a finger all the way round that the seal ring (3) is fitted tightly into the opening in the draft shield base (4).
- 5 Insert the bottom plate (5).



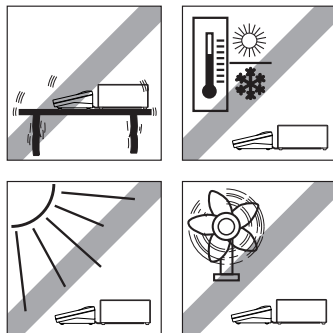
3.2 Selecting the location

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:

Important

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.



3.3 Assembling the balance

The terminal is identical for all balances. The size of the weighing pan depends on the readability and maximum capacity of the balance.

3.3.1 Placing the terminal on the S weighing platform

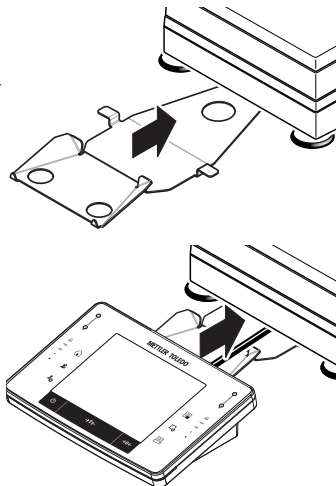
- 1 Slide the terminal support in "horizontally" with it lying on the table under the front of the weighing platform.

Note

For this process, the weighing platform must not be lifted but should ideally be placed at the weighing location.

⇒ The terminal support must engage with a click.

- 2 Place the terminal in the center of the terminal support.
- 3 Slide it towards the weighing platform until the terminal tilts slightly downwards.



NOTICE

Danger of damage to the terminal!

The balance and terminal are not connected by the terminal support!

- Always hold the balance and terminal firmly during transport.

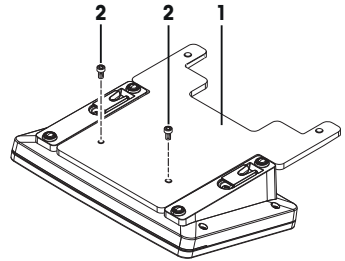
Note

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

3.3.2 Placing the terminal on the L weighing platform

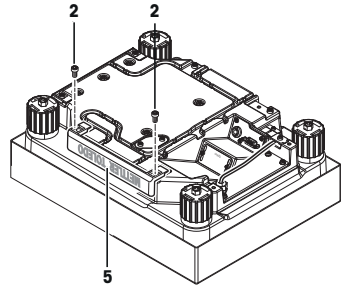
The terminal can be attached to the long or short side of the balance.

- 1 Mount the weighing pan.
- 2 Carefully turn the weighing platform over onto the weighing pan.
- 3 Remove the 2 knurled screws on the terminal base.
- 4 Screw the terminal support (1) with the 2 screws (2) on the terminal firmly.

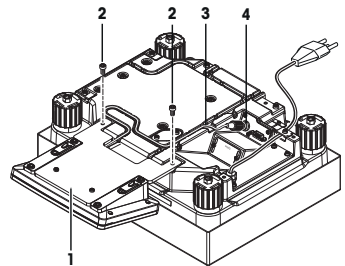


Attaching the terminal to the long side

- 1 Dismantle the cover (5) by removing the 2 screws (2).

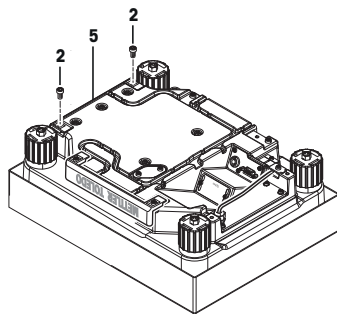


- 2 Attach the terminal support (1) with terminal as shown, using the screws (2) from the cover that was removed.
- 3 Insert the terminal cable (3) into the cable channel, as shown.
- 4 Screw the connector of the terminal cable into the socket (4).
- 5 Turn the balance back over into position.

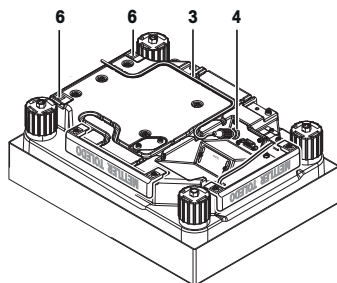


Attaching the terminal to the short side

- 1 Dismantle the cover (5) by removing the 2 screws (2).



- 2 Attach the terminal support with terminal to the points of attachment (6) with the screws (2).
- 3 Insert the terminal cable (3) into the cable channel, as shown.
- 4 Screw the connector of the terminal cable into the socket (4).
- 5 Turn the balance back over into position.



3.3.3 Installing the draft shield and weighing pan to the S weighing platform

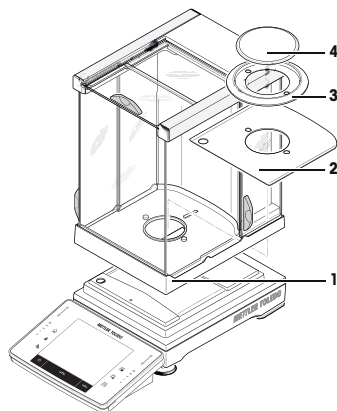
Balances with readability of 0.1 mg with draft shield

- Place the following components on the balance in the specified order:

Important

Push the side glass back as much as possible. Grasp the draft shield with both hands on the bars at the top.

- Draft shield (1) with ring seal inserted
- Bottom plate (2), if not already inserted
- Draft shield element (3)
- Weighing pan (4)



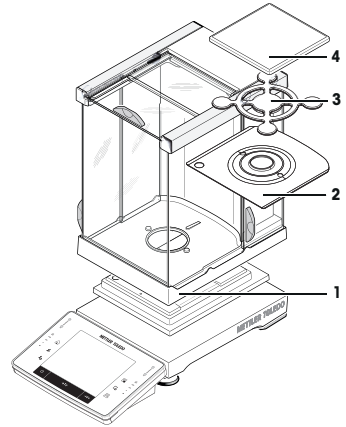
Balances with readability of 1 mg with draft shield and SmartPan

- Place the following components on the balance in the specified order:

Important

Push the side glass back as much as possible. Grasp the draft shield with both hands on the bars at the top.

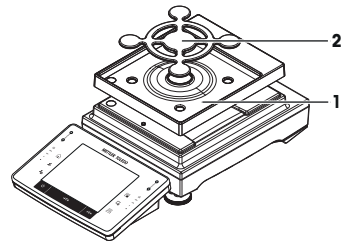
- Draft shield (1) inserted
- Bottom plate (2), if not already inserted
- SmartPan (3)
- Weighing pan (4) (optional)



Balances with readability of 1 mg with SmartPan

- Place the following components on the balance in the specified order:

- Drip tray (1)
- SmartPan (2)



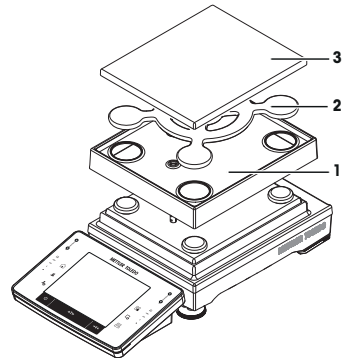
Balances with readability of 5 mg and 10 mg with SmartPan

- Place the following components on the balance in the specified order:

- Drip tray (1)
- SmartPan (2)
- Standard weighing pan (3) (optional)

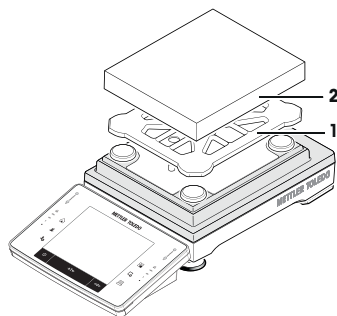
Note

For the minimization of the air drafts, faster stabilization time and improved reproducibility, work without standard weighing pan.



Balances with readability of 0.1 g

- Place the following components on the balance in the specified order:
 - Weighing pan support (1)
 - Weighing pan (2)



3.4 Connecting the balance



⚠ WARNING

Danger of death or serious injury due to electric shock!

Contact with parts that contain a live current can lead to injury and death. If the balance cannot be shut down in an emergency situations, people can be injured or the balance can be damaged.

- 1 Only use the supplied three-core power cable with equipment grounding conductor to connect your balance.
- 2 Check that the voltage printed on it is the same as your local power supply voltage.
 - ⇒ If this is not the case, under no circumstances connect the AC adapter to the power supply, but contact a METTLER TOLEDO representative.
- 3 Only connect the balance to a three-pin power socket with earthing contact.
- 4 Only standardized extension cable with equipment grounding conductor must be used for operation of the balance.
- 5 Do not disconnection the equipment grounding conductor.
- 6 Check the cables and the plug for damage and replace damaged cables and plugs.
- 7 Make sure that the cables are arranged so that they cannot be damaged or interfere with the operation.
- 8 Keep all electrical cables and connections away from liquids.
- 9 Make sure that the power plug is accessible at all times.



NOTICE

Danger of damage to the AC adapter due to overheating!

If the AC adapter is covered or in a container, it is not sufficiently cooled and overheats.

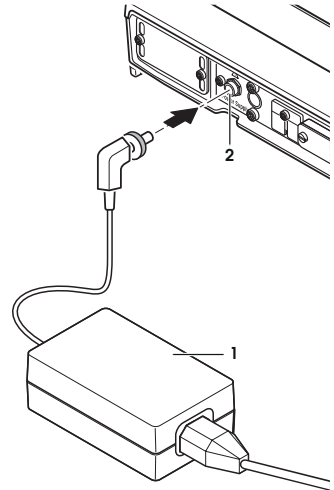
- 1 Do not cover the AC adapter.
- 2 Do not put the AC adapter in a container.

Connecting S weighing platform

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

100 – 240 V AC, 50/60 Hz.

- 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.



Connecting L weighing platform



⚠ WARNING

Danger of death or serious injury due to electric shock!

Contact with parts that contain a live current can lead to injury and death. If the balance cannot be shut down in an emergency situations, people can be injured or the balance can be damaged.

- 1 Check that the voltage printed on it is the same as your local power supply voltage.
 - ⇒ If this is not the case, under no circumstances connect the balance to the power supply, but contact a METTLER TOLEDO representative.
- 2 Check the cables and the plug for damage and replace damaged cables and plugs.
- 3 Make sure that the cables are arranged so that they cannot be damaged or interfere with the operation.
- 4 Keep all electrical cables and connections away from liquids.
- 5 Make sure that the power plug is accessible at all times.

The balance is supplied with a country-specific power cable.

- Balance and terminal are at the final location.
- Connect the balance to the power supply.
- ⇒ The balance performs a self-test after connection to the power supply and is then ready to use.

3.5 Setting up the balance

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.



Leveling the balance

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

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

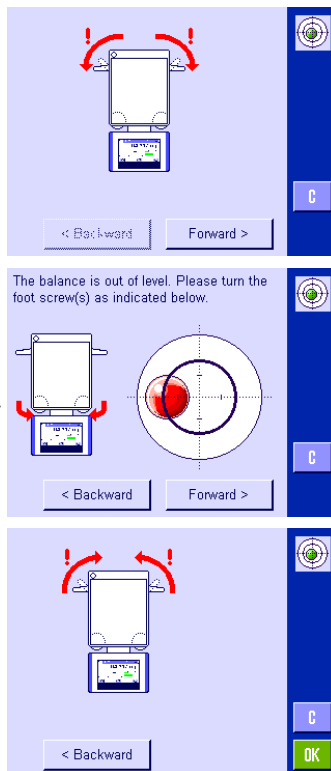
If the level sensor detects incorrect leveling, the status light of the terminal shows red. A warning text is displayed and an audible warning generated. A status icon also appears in the top right corner of the display.



The pictures may vary from balance type to balance type.

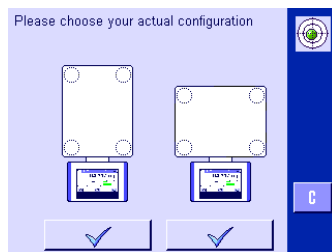
Balances with safety feet

- To start the leveling assistant, tap [**LevelGuide**] in the warning message.
 - ⇒ Window with a graphical display is displayed.
- Loosen the clamps for the safety feet by turning them outwards.
 - ⇒ Window with level indicator is displayed in real-time.
- Observe the level indicator on the screen.
 - ⇒ The air bubble in the level indicator shows red with incorrect alignment.
 - ⇒ The arrows indicate the direction in which the two foot screws must be turned.
- Turn the foot screw until the air bubble is located in the inner circle.
 - ⇒ The bubble turns green with correct alignment.
 - ⇒ The status indicator at the terminal turns green.
- Tap [**Forward >**].
- Lock the clamps for the safety feet in place by turning the clamps inward as far as they will go.
- Tap [**OK**].
 - ⇒ A message appears.
- Tap [**Adjust.int**] to adjust the balance.



L weighing platform

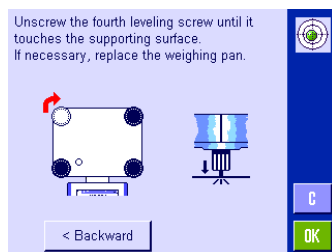
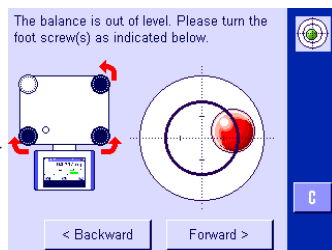
- 1 To start the leveling assistant, tap [**LevelGuide**] in the warning message.
- 2 Touch the button that matches your site and your configuration.
- 3 Turn the leveling foot all the way up, in the direction of the red arrow.
- 4 Tap [**Forward >**].
 - ⇒ Window with level indicator is displayed in real-time.



- 5 Observe the level indicator on the screen.
 - ⇒ The air bubble in the level indicator shows red with incorrect alignment.
 - ⇒ The arrows indicate the direction in which the two foot screws must be turned.
- 6 Turn the foot screw until the air bubble is located in the inner circle.
 - ⇒ The bubble turns green with correct alignment.
 - ⇒ The status indicator at the terminal shows green.



- 7 Tap [**Forward >**].
- 8 Unscrew the foot screw until it **lightly** touches the supporting surface.
- 9 Tap [**OK**].
 - ⇒ A message appears.
- 10 Tap [**Adjust.int**] to adjust the balance.



3.5.1 Performing a simple weighing

After commissioning of the new balance, the first weighing can be performed.

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

Important

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.

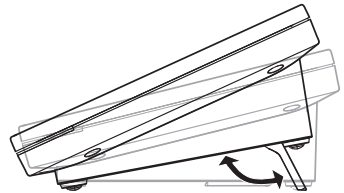
⇒ The **Net** display signals that all indicated weights are net weights.



3.5.2 Setting the reading angle and positioning the terminal

3.5.2.1 Changing the reading angle

To change the reading angle, fold out both tilting feet.



3.5.2.2 Place terminal separately

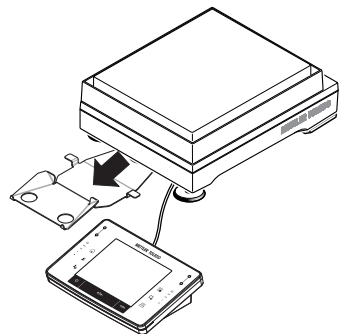
The terminal is connected to the balance with a cable. For ease of use, the terminal can be separated from the balance and positioned in a different location.

Note

The cable can also be led out from the rear of the balance. If this is more convenient, contact a METTLER TOLEDO representative who will help to modify the balance.

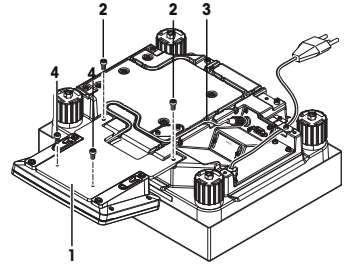
S weighing platform

- 1 Switch off the balance by pressing [**⏻**].
- 2 Carefully lift the terminal off the terminal support. The terminal support can be left on the balance or removed.
- 3 Carefully remove the cable from the balance if this is possible.
- 4 Position the balance in the required location.
- 5 Switch on the balance by pressing [**⏻**].



L weighing platform

- 1 Switch off the balance by pressing [⏻].
- 2 Disconnect power cable from the power supply.
- 3 Carefully turn the weighing platform over onto the weighing pan.
- 4 Carefully pull the terminal cable (3) out of the cable channel.
- 5 Remove the screws (2).
- 6 Lift the terminal with terminal support (1) off the weighing platform.
- 7 Remove the 2 screws (4) and detach the terminal support.
- 8 Place the terminal in the desired position.
- 9 If possible, insert the terminal cable (3) back into the cable channel.
- 10 Turn the balance back over into position.
- 11 Connect the balance to the power supply.
- 12 Switch on the balance by pressing [⏻].



3.6 Transporting the balance



NOTICE

Danger of damage to the balance

Never lift the balance by the terminal stand, as this can cause damage! The terminal stand is not fastened to the balance.

- 1 Always carry the balance on the housing.
- 2 Never hold the balance by the stand.

Observe the following instructions to transport your balance to a new location.

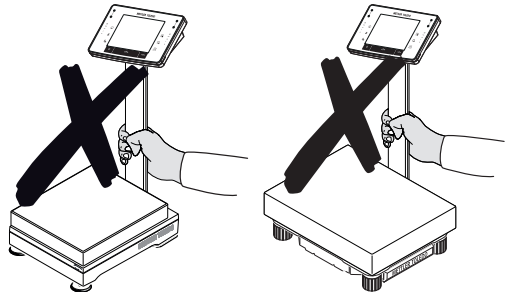
Switching off the balance

- 1 Press and hold [⏻] until **Off** appears in the display.
- 2 Disconnect the balance from the power supply.
- 3 Disconnect all interface cables.



NOTICE

Always carry the housing of the balance.
Do not hold the balance by the stand.



4 Maintenance

4.1 Cleaning

Periodically clean the weighing pan, draft shield element, bottom plate, draft shield (depending on the model), housing and terminal of your balance using a damp cloth. The maintenance interval depends on your standard operating procedure (SOP).

Please observe the following notes



⚠ WARNING

Danger of death or serious injury due to electric shock!

Contact with parts that contain a live current can lead to injury and death. If the balance cannot be shut down in an emergency situations, people can be injured or the balance can be damaged.

- 1 Disconnect the balance from the power supply prior to cleaning and maintenance.
- 2 Only use METTLER TOLEDO power cable, if these need to be replaced.
- 3 Make sure that no liquid enters into the balance, terminal or AC adapter.
- 4 Do not open the balance, terminal or AC adapter.
These contain no user-serviceable parts.



⚠ CAUTION

Damage of balance

On no account use cleaning agents which contain solvents or abrasive ingredients, as this can result in damage to 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.

Important

All removable non-coated parts of the outer draft shield are dishwasher safe to 80 degrees.

- 1 Remove the draft shield for thoroughly cleaning the draft shield glasses.
- 2 When you replace these parts, make sure they are in the correct position.

Note

Please contact your METTLER TOLEDO dealer for details of the available service options. Regular servicing by an authorized service engineer ensures constant accuracy for years to come and prolongs the life of your balance.

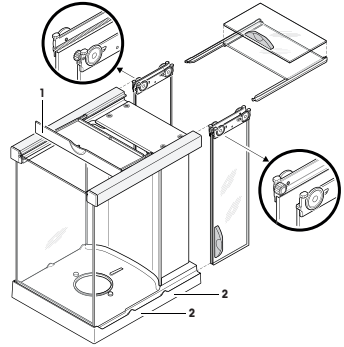
4.2 Cleaning the draft shield (0.1 mg and 1 mg models)

- 1 Remove the weighing pan, draft-shield element (0.1 mg models), pan support (1 mg models).
- 2 Lift the draft shield off the balance and place it on a clean surface.
- 3 Remove the bottom plate.
- 4 Push all the glasses back as far as they will go.
- 5 Turn the cover (1) to the front.
- 6 Pull the top glass toward the back and off.
- 7 Pull the side glasses toward the back and off.

Important

Always hold the 2 **parallel** guided glasses (side glasses and top glasses) together with one hand.

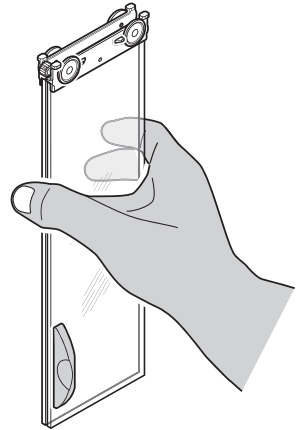
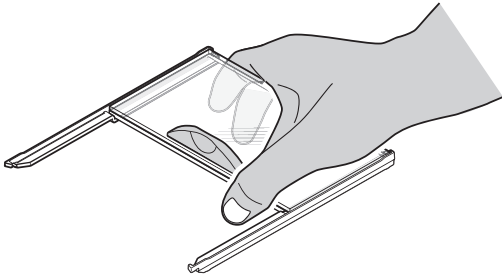
- 8 Clean all parts then reassemble the draft shield in the reverse order.



Insert glasses

Important

Always hold the 2 **parallel** guided glasses (side glasses and top glasses) together and parallel with one hand. The side glasses must not be placed outside the projections (2).



4.3 Disposal

In conformance with the European Directive 2012/19/EU 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.



5 Technical Data

5.1 General data S weighing platform



CAUTION

Use only with a tested AC Adapter with SELV output current.
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 30 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, lacquered, plastic and chrome steel
Terminal:	Die-cast zinc, chromed and plastics
Weighing pan:	Chrome-nickel steel X2CrNiMo-17-12-2
SmartPan with drip tray	Die-cast zinc, chromed (5 mg and 10 mg models)
Draft shield:	Aluminum, plastic, chrome steel and glass
Draft shield element:	Chrome steel X2CrNiMo-17-13-2 (0.1 mg models)

5.2 General data L weighing platform

Power supply

Power supply:	100 – 240 V AC, -15%/+10%, 50/60 Hz, 0.4 A
Power cable:	3-core, with country-specific plug

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 **30** minutes after connecting the balance to the power supply; when switched on from standby-mode, the balance is ready for operation immediately

Materials

Housing:

Sheet aluminum, die cast, lacquered, plastic and chrome steel

Terminal:

Die-cast zinc, chromed and plastics

Weighing pan:

Chrome-nickel steel X5CrNi18-10

SmartPan with drip tray

Die-cast zinc, chromed (10 mg models)

GWP®

Good Weighing Practice™

GWP® is the global weighing standard, ensuring consistent accuracy of weighing processes, applicable to all equipment from any manufacturer. It helps to:

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

 www.mt.com/GWP

www.mt.com/xpe-precision

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