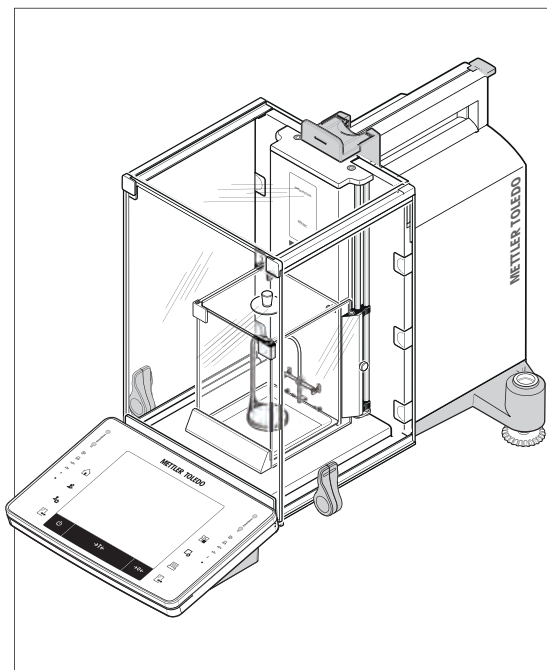User Manual

Comparator Balances

XPE56C/26C/205CDR/505C

METTLER TOLEDO

This User Manual is a brief instruction that provides information to handle with the first steps of the instrument in a safe and efficient manner. Personnel must have carefully read and understood this manual before performing any tasks.

For full information, always refer to the Reference Manual (RM).

▶ www.mt.com/XPE505C-RM
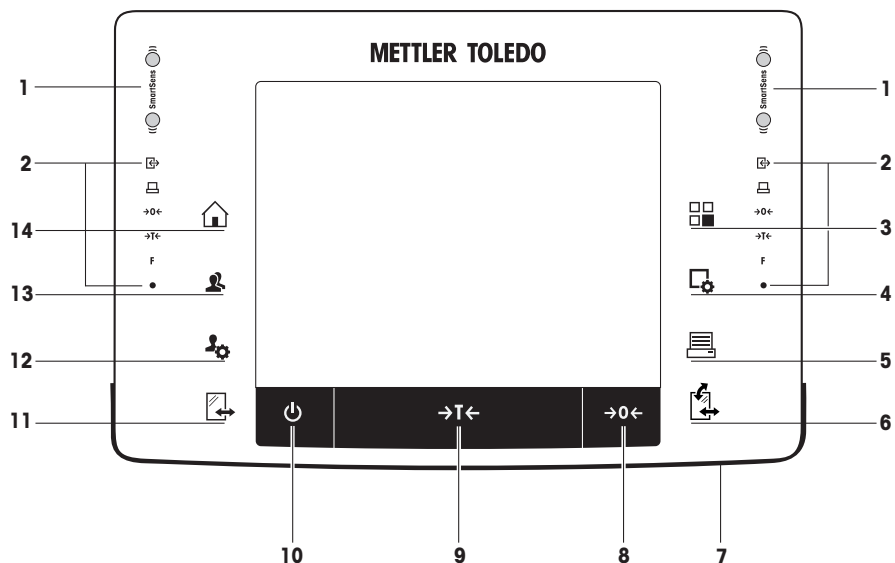
Overview XPE56C/XPE26C balances
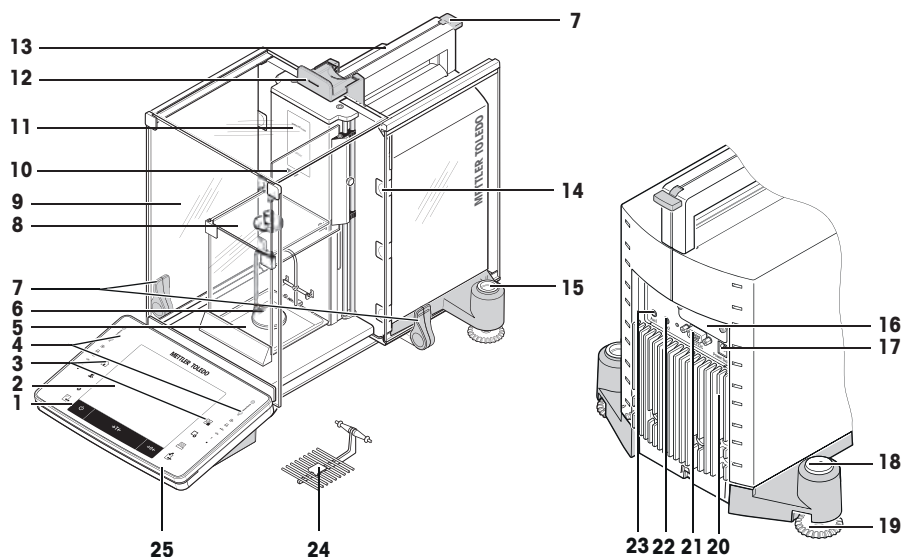
1	Terminal	**2**	Display "Touch screen"
3	Operating keys	**4**	SmartSens sensors
5	Drip tray	**6**	Hanging weighing pan
7	Handle/Coupling element for the operation of the outer draft-shield doors	**8**	Inner glass draft shield
9	Outer glass draft shield	**10**	StaticDetect light
11	Type designation	**12**	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**	Slot for second interface (optional)
17	Socket for AC adapter	**18**	Fastening point for anti-theft device
19	Foot screw	**20**	Cooling element (based on model)
21	RS232C serial interface	**22**	Aux 2 (connection for "ErgoSens", hand- or foot-switch)
23	Aux 1 (connection for "ErgoSens", hand- or foot-switch)	**24**	SmartGrid weighing pan
25	StatusLight		

Overview XPE205CDR/XPE505C balances
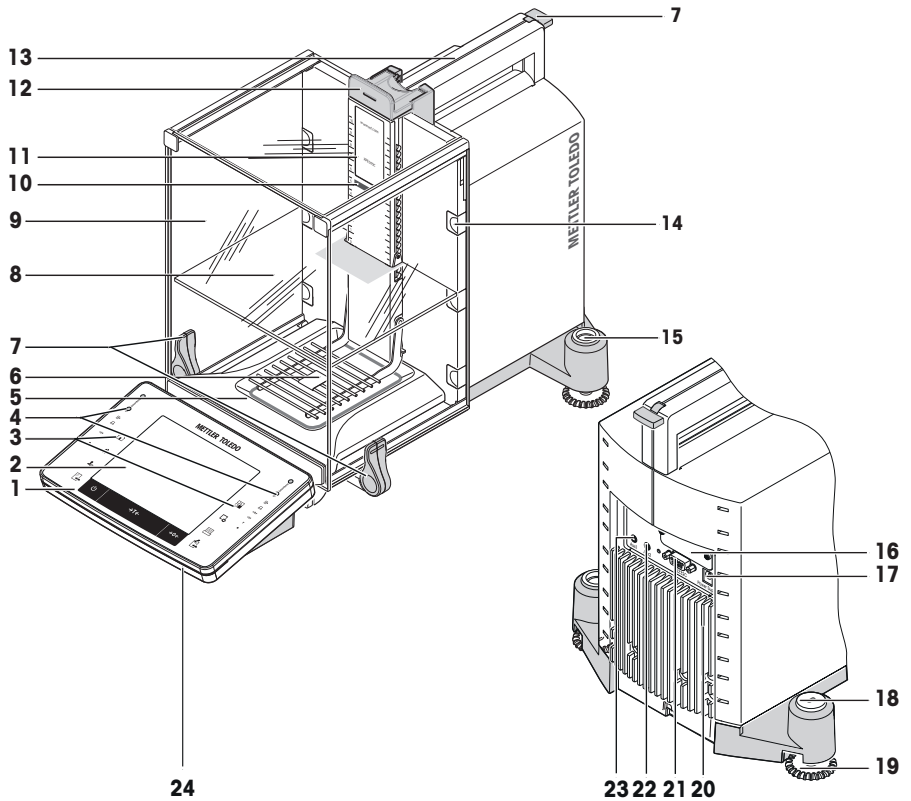
1	Terminal	2	Display "Touch screen"
3	Operating keys	4	SmartSens sensors
5	Drip tray	6	SmartGrid weighing pan
7	Handle/Coupling element for the operation of the outer draft-shield doors	8	Intermediate shelf
9	Glass draft shield	10	StaticDetect light
11	Type designation	12	Handle for operation of the outer draft-shield top door
13	Guide for top door of draft shield and handle for transport	14	Removable clips for feeding cables or hoses
15	Level indicator / Level sensor	16	Slot for second interface (optional)
17	Socket for AC adapter	18	Fastening point for anti-theft device
19	Foot screw	20	Cooling element (based on model)
21	RS232C serial interface	22	Aux 2 (connection for "ErgoSens", hand- or foot-switch)
23	Aux 1 (connection for "ErgoSens", hand- or foot-switch)	24	StatusLight

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		Open/Close	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.
			Note The key can have different functions if a powder module or autosampler is installed.
			• 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.
			Refer to your Powder Module Operating Instructions or Autosampler Operating Instructions for further information.
7		StatusLight	Indicates the current balance status. The status light shows that the balance is ready to use.
8	→0←	Zeroing	This key is used for setting a new zero point manually (only required if the balance is used for normal weighings).
9	→T←	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	For switching the balance on and off (standby mode). **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.
11		Open/Close	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. **Note** The key can have different functions if an autosampler is installed. • If the autosampler is defined as mounted, the key turns the autosampler on 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.

Table of Contents

1 Introduction

EULA

The software in this product is licensed under the METTLER TOLEDO End User
License Agreement (EULA) for Software.   ▶ www.mt.com/EULA

When using this product you agree to the terms of the EULA.

1.1 Further documents and information

This document is available in other languages online.

▶ www.mt.com/comparators

Search for software downloads   ▶ www.mt.com/labweighing-software-download

Search for documents   ▶ www.mt.com/library

For further questions, please contact your authorized METTLER TOLEDO dealer or service representative.

▶ www.mt.com/contact

1.2 Compliance information

National approval documents, e.g., the FCC Supplier Declaration of Conformity, are available online and/or
included in the packaging.

▶ http://www.mt.com/ComplianceSearch

For further information, consult the Reference Manual (RM).

▶ www.mt.com/XPE505C-RM

2 Safety Information

Two documents named "User Manual" and "Reference Manual" are available for this instrument.

- The User Manual is printed and delivered with the instrument.
- The electronic Reference Manual contains a full description of the instrument and its use.
- Keep both documents for future reference.
- Include both documents if you transfer the instrument to other parties.

Only use the instrument according to the User Manual and the Reference Manual. If you do not use the
instrument according to these documents or if the instrument is modified, the safety of the instrument may be
impaired and Mettler-Toledo GmbH assumes no liability.

2.1 Definitions of signal warnings and warning symbols

Safety notes contain important information on safety issues. Ignoring the safety notes may lead to personal
injury, damage to the instrument, malfunctions and false results. Safety notes are marked with the following
signal words and warning symbols:

Signal words

DANGER	A hazardous situation with high risk, resulting in death or severe injury if not avoided.
WARNING	A hazardous situation with medium risk, possibly resulting in death or severe injury if not avoided.
CAUTION	A hazardous situation with low risk, resulting in minor or moderate injury if not avoided.
NOTICE	A hazardous situation with low risk, resulting in damage to the instrument, other material damage, malfunctions and erroneous results, or loss of data.

Warning symbols

General hazard: read the User Manual or the Reference Manual for information about the hazards and the resulting measures.

Electrical shock

Notice

2.2 Product specific safety notes

Intended use

This instrument is designed to be used in laboratories by trained staff. The instrument is intended for weighing purposes.

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.

Responsibilities of the instrument owner

The instrument owner is the person holding the legal title to the instrument and who uses the instrument or authorizes any person to use it, or the person who is deemed by law to be the operator of the instrument. The instrument owner is responsible for the safety of all users of the instrument and third parties.

METTLER TOLEDO assumes that the instrument owner trains users to safely use the instrument in their workplace and deal with potential hazards. METTLER TOLEDO assumes that the instrument owner provides the necessary protective gear.

Protective equipment

Chemical-resistant gloves

Gloves

Lab coat

Safety notes

⚠ **WARNING**

Death or serious injury due to electric shock

Contact with parts that carry a live current can lead to death or injury.

1 Only use the METTLER TOLEDO power supply cable and AC/DC adapter designed for your instrument.
2 Connect the power cable to a grounded power outlet.
3 Keep all electrical cables and connections away from liquids and moisture.
4 Check the cables and power plug for damage and replace damaged cables and power plugs.

NOTICE

Damage to the instrument due to the use of unsuitable parts

Using unsuitable parts with the instrument can damage the instrument or cause it to malfunction.

– Only use parts from METTLER TOLEDO that are intended to be used with your instrument.

3 Overview and Functions

For further information, consult the Reference Manual (RM).

3.1 Overview

See the sections "Overview" (graphics and legend) at the very beginning of this manual.

## 3.2 User interface

3.2.1 Display

NOTICE

Damage to the touch screen due to pointed or sharp objects

– 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.

Legal-for-trade

Depending on country-specific requirements, non-calibrated decimal places are highlighted on approved balances.
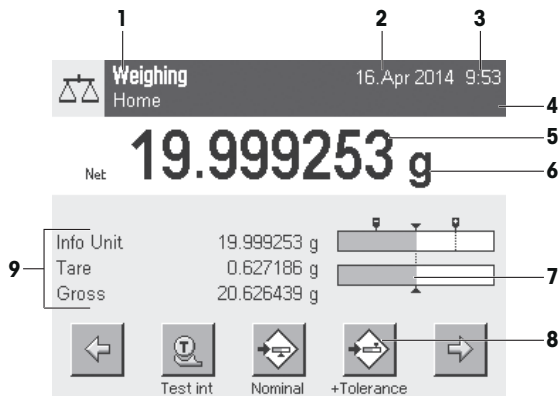
	Designation	Explanation
1	Application name	Select application.
		The application menu can be selected by tapping this zone. This menu can also be displayed by pressing [⊞].
	Current user profile	Displays the current user profile.
2	Date	The date can be changed by tapping this zone.
3	Time	The time can 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

📝 **Note**

This feature is not included in software versions V 2.23 or newer.

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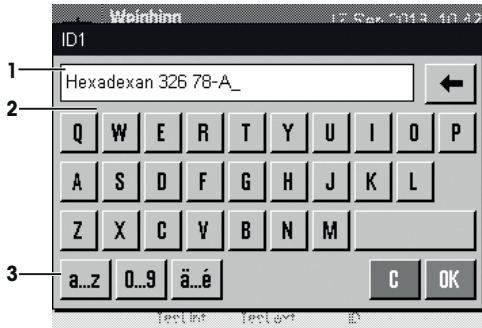
	Designation	Explanation
1	Data field	Displays (entered) alphanumeric and numeric characters.
2	Keyboard	Data input area
3	Selection	Select various keyboard layouts.

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

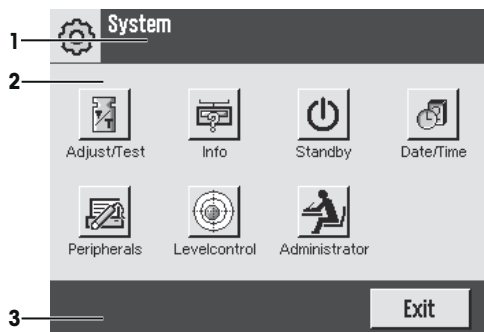A displayed menu can be left at any time by repressing the same menu key.

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.

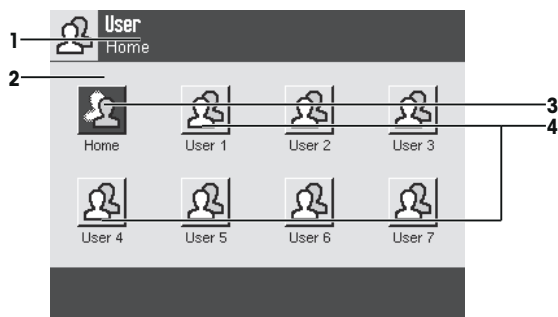**Navigation:** [♣] > **System**

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.

Comparator Balances

– 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: [⚙]
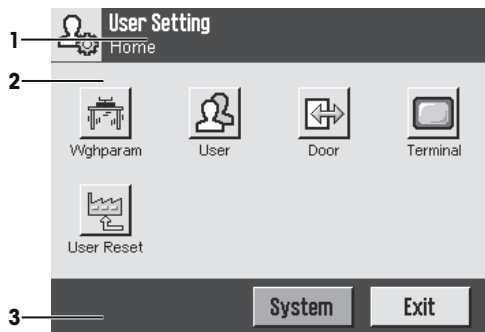
Applications

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.
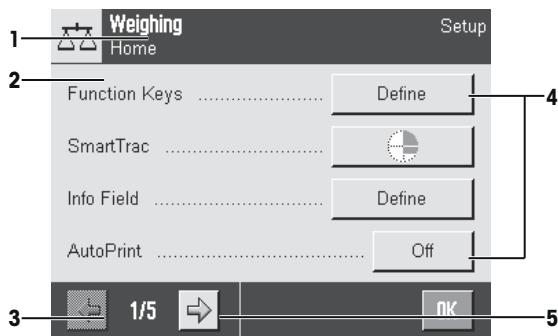
Navigation: [⊞]
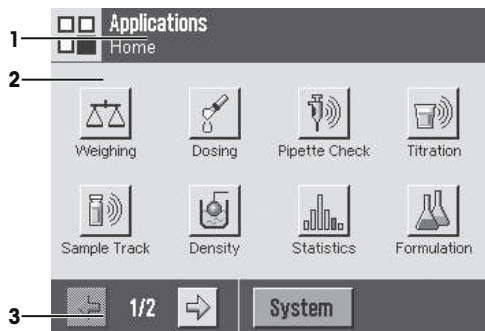
Application-specific settings

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: [⬚]

	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

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.

4   Installation and Putting into Operation

4.1   Selecting the location

A balance is a sensitive precision instrument. The location where it is placed will have a profound effect on the accuracy of the weighing results.

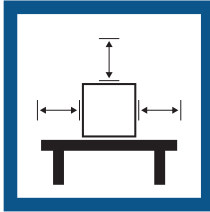### Requirements of the location

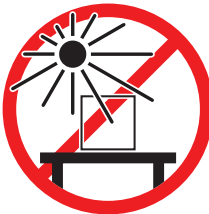| Place indoors on stable table	Ensure sufficient spacing	Level the instrument	Provide adequate lighting

Avoid direct sunlight	Avoid vibrations	Avoid strong drafts	Avoid temperature fluctuations

Sufficient spacing for balances: > 15 cm all around the instrument

Take into account the environmental conditions. See "Technical Data".

4.2   Unpacking the balance

Check the package, the packaging elements and the delivered components for damages. If any components are damaged, please contact your METTLER TOLEDO service representative.

Unpacking accessories

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.

– Remove the operating instructions (**2**).

1 Remove the set (**3**) with AC adapter, power supply cable, tweezers, and the set containing ErgoClip basket micro and SmartGrid cover micro.
2 Remove the set (**4**) with outer draft shield doors, intermediate shelf and terminal support.

Unpacking balance

1 Lift the package out using the lifting strap.
2 Remove the lifting strap (**1**).
3 Remove the top packaging (**2**).
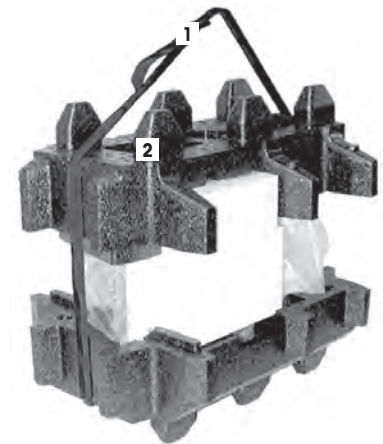
– Remove the set (**3**) with inner draft shield etc.

1 Carefully remove the terminal (**4**) from the bottom packaging (**5**).
2 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.

1 Place the terminal (**4**) at the front of the balance.
2 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**).
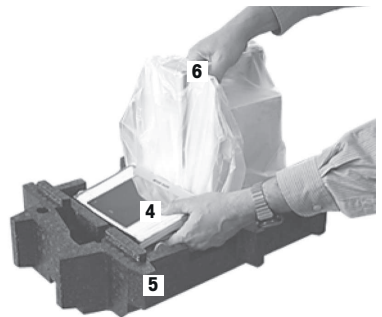
1 Place the balance with the terminal at the site of use.

2 Remove the cover from the balance.

3 Store all parts of packaging in a safe place for future use.

⇨ The weighing unit is ready for assembling.

4.3 Scope of delivery

Installation for all balance types is described in this chapter. Standard equipment for the various types of balances varies and also depends on the optional accessories. For this reason, installation steps may vary.

- Balance with terminal
  - RS232C interface
  - Slot for second interface (optional)
  - Feedthroughs for below-the-balance weighing and for antitheft device
- Set with inner & outer draft shield, drip tray, hanging weighing pan and terminal support for XPE26C and XPE56C comparator
  - Ergo Clip basket micro with support
  - SmartGrid cover micro (attachment for SmartGrid)
- Set with outer draft shield, intermediate shelf, drip tray and SmartGrid micro for XPE205CDR and XPE505C comparator
- Protective cover for the terminal
- AC/DC adapter with country-specific power cable
- Cleaning brush
- Production certificate
- Declaration of conformity
- User Manual

4.4 Assembling the balance

4.4.1 Inner draft shield for XPE56C and XPE26C comparator balances

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.
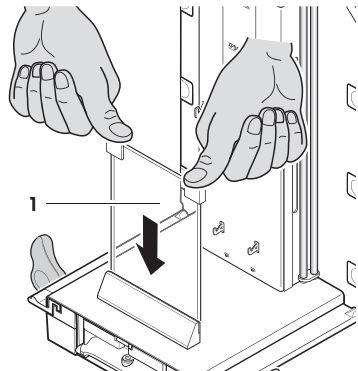
SmartGrid

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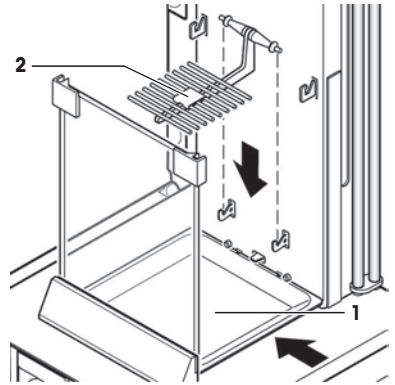
Hanging weighing pan

NOTICE

Danger of damage the hanging weighing pan!
When installing the hanging weighing pan, it is advisable to wear gloves.

1   Insert the drip tray (**1**).
2   Insert the support (**2**).
3   Check that the guide is correctly installed on both sides.
4   Place the hanging weighing pan (**3**) on the swivel bearing by the support (**2**).
    Note
5   After you have installed the hanging weighing pan (balance in operation) you must switch the balance off and then switch it on again [⏻] key.
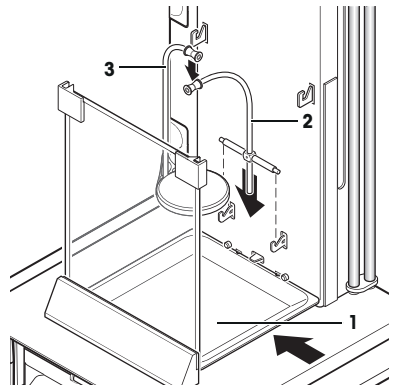
1   Insert the side window (**4**) of the inner draft shield.
2   At an angle of approximately 45 degrees to the final position, place the 2 black clips on the back guide shaft.
3   Push the window up until you can swivel it in over the front glass.
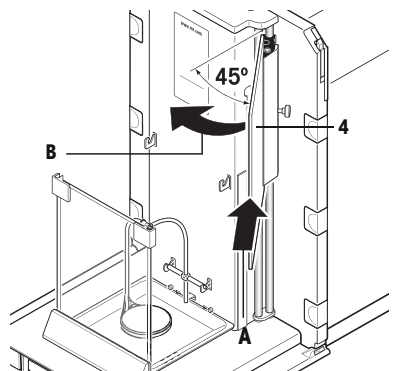
1. Insert the window (**4**) of the inner draft shield into the guide of the front glass and lower it to the floor.
2. The window must run easily.
3. Press the coupling pins (**5**) toward the inside.
4. Now insert the window on the other side of the inner draft shield. The procedure is the same.
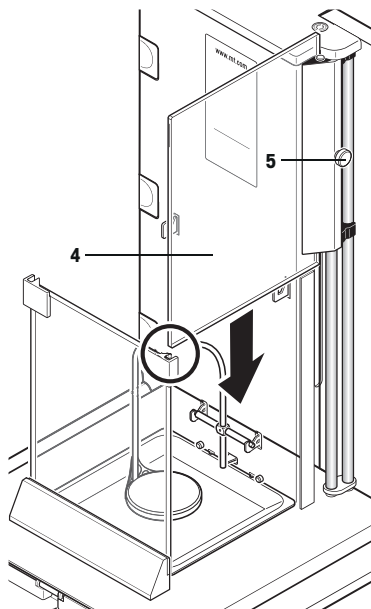
1. Put the top glass (**6**) on.
2. Insert the sealing cover (**7**).

Note

- The sealing cover closes the opening in the top glass through which you can pipette into a high container.
- Do not use the sealing cover to lift the top glass of the draft shield!
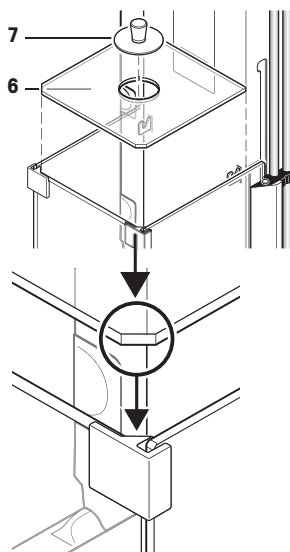
4.4.2 Outer draft shield

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.
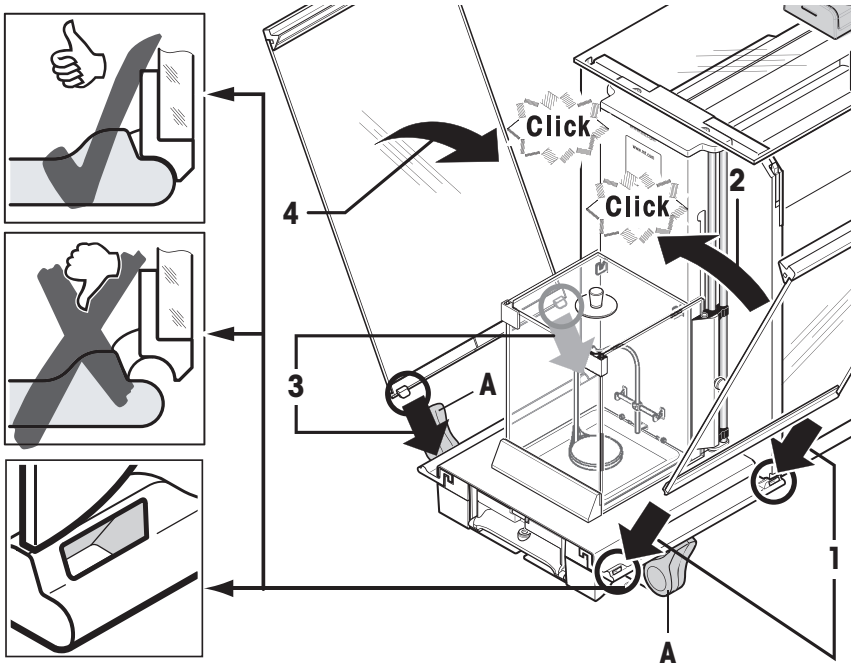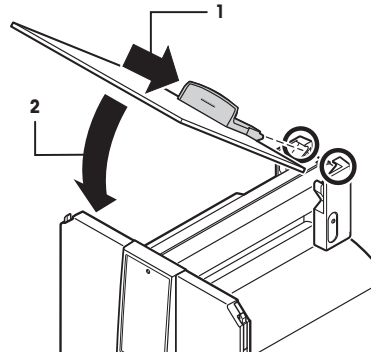
**Insert the front glass, terminal support and terminal**

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.
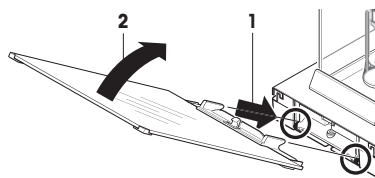
1 Insert the terminal support.

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.
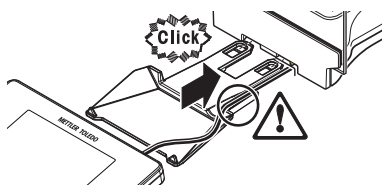
1 Mount the terminal.

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.
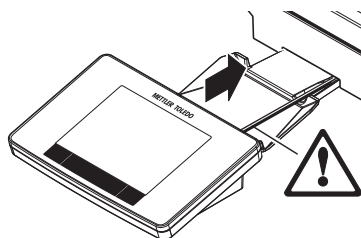
NOTICE

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.

4.4.3 Draft shield intermediate shelf for XPE205CDR and XPE505C comparator balances

The weighing chamber volume can be reduced with the optional intermediate shelf. This enables the balance to indicate weights more quickly. It is also possible to acclimatize the material on the intermediate shelf.

Inserting the intermediate shelf

1 Open all draft shield doors.
2 Lift the top draft shield door (**1**) at the front and remove from the guide.
3 Place the top draft shield door on a clean surface.
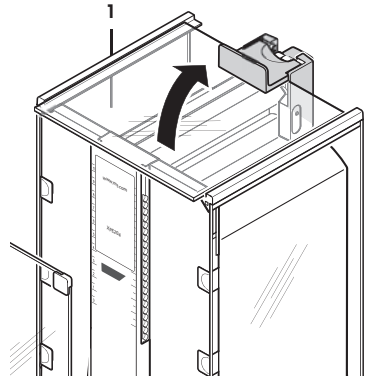
1 Guide the intermediate shelf (**2**) from above into the guides of the middle guide rail.
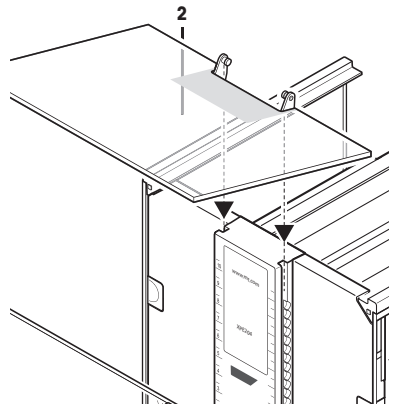
2 Position the intermediate shelf at the required height (**3**).
3 Mount the top draft shield door (**1**).

4.5 Putting into operation

4.5.1 Connecting the balance

⚠️ **WARNING**

Death or serious injury due to electric shock

Contact with parts that carry a live current can lead to death or injury.
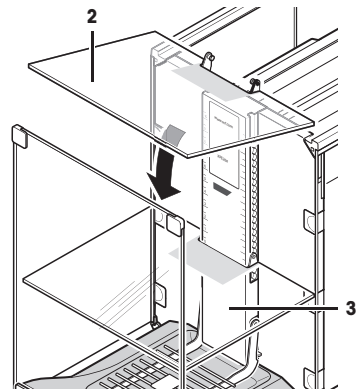
1 Only use the METTLER TOLEDO power supply cable and AC adapter designed for your instrument.
2 Connect the power cable to a grounded power outlet.
3 Keep all electrical cables and connections away from liquids and moisture.
4 Check the cables and the power plug for damage and replace damaged cables and power plugs.

NOTICE

Damage to the AC/DC adapter due to overheating

If the AC/DC adapter is covered or in a container, it is not sufficiently cooled and will overheat.

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

1 Install the cables in such a way that they cannot be damaged or interfere with operation.
2 Insert the plug of the AC/DC adapter (**1**) in the power inlet of the instrument.
3 Secure the plug by firmly tightening the knurled nut.
4 Insert the plug of the power cable into a grounded power outlet that is easily accessible.
⇨ After connecting the balance to power, the balance performs a self-test.
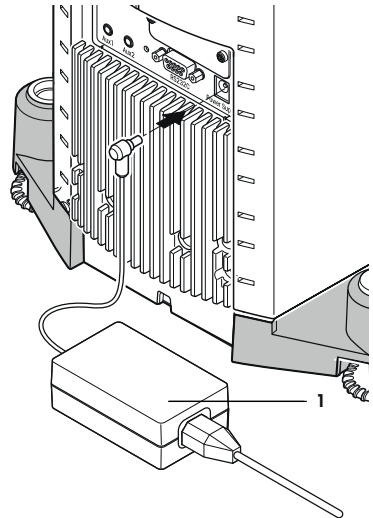
📝 **Note**

Always connect the AC/DC adapter to the balance before connecting to the power.

Do not connect the instrument to a power outlet controlled by a switch. After switching on the instrument, it must warm up before giving accurate results.

4.5.2 Switching on the balance

Warming up

Before the balance gives reliable results, it must warm up. This takes at least 120 minutes after connecting the balance. When the balance is switched on from standby, it is ready immediately.

- The balance has warmed up.
- Press ⏻.
  - ⇨ The main weighing screen appears.

When the balance is switched on, the main weighing screen appears. However, the display will always show the screen of the application last used before switching it off.

4.5.3 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 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.
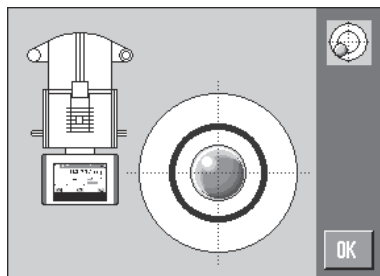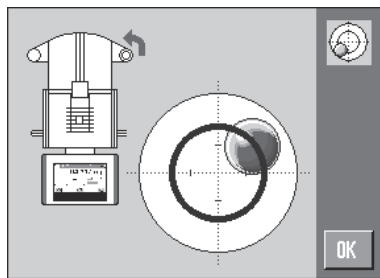
4.5.4 Operating of the outer draft shield and the inner draft shield

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 draft shield doors can be opened and closed by pressing [🔲 or 🔲], with the "SmartSens" sensors or manually .

Try different combinations by moving the 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 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 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.
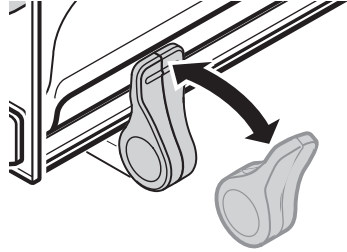
2 Move the handle for the top door into the horizontal position.

⇨ The door is automatically opened when required.
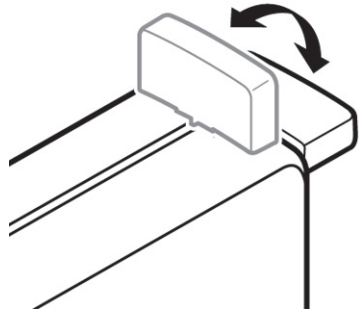
Manual door operation

The doors must be opened or closed manually. With the [🖿 or 🖿] 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 🖿].
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.

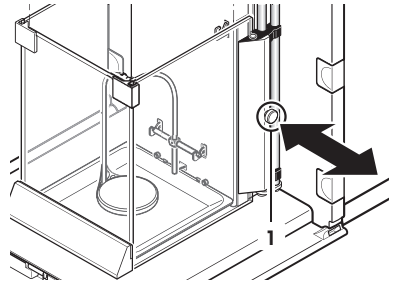You can also open the side doors of the inner draft shield only partway, with a choice of 25%, 50% or 75%.

4.5.5 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

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.

4.6 Transporting, packaging and storage

⚠ **CAUTION**

Injury due to sharp objects or broken glass

Instrument components, e.g., glass, can break and lead to injuries.

– Always proceed with focus and care.

1 Press and hold the ⏻ key.
2 Disconnect the balance from the AC/DC adapter.
3 Disconnect all interface cables.
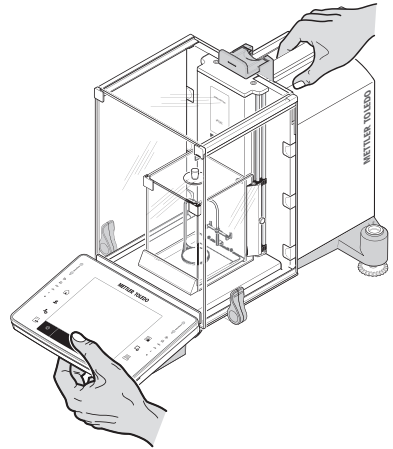
4.6.1 Transporting the balance over short distances

To move the balance over a short distance to a new location, follow the instructions below.

1 Hold the balance by the guide for the top draft shield door with one hand.

2 Hold the terminal with the other hand.
Since the terminal is not permanently connected to the balance, both the balance and terminal must always be held with one hand.

3 Carefully lift the balance and carry it to its new location.

If you want the balance put into operation, proceed as follows:

1 Connect in reverse order.

2 Level the balance.

3 Perform an internal adjustment.

4.6.2 Transporting the balance over long distances

METTLER TOLEDO recommends using the original packaging for transportation or shipment of the balance or balance components over long distances. The elements of the original packaging are developed specifically for the balance and its components and ensure maximum protection during transportation.

Remove the following parts

Models with hanging weighing pan or SmartGrid

1 Lift the terminal (**1**) out of the terminal support and place it next to the support.

2 Remove the terminal support (**2**) from the balance.

3 Swivel the front glass (**3**) of the outer draft shield away from the balance.

4 Carefully fold the side doors (**4** and **5**) against the respective handles and pull the side doors out of the guide.

5 Swivel the front ot the top door (**6**) of the outer draft shield up and pull the door out of the guide.
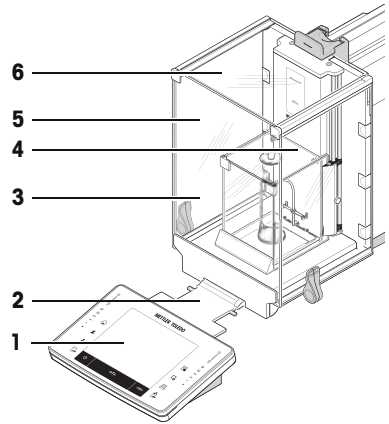
6 Remove the sealing cover (**7**).

7 Lift the top glass (**8**) of the inner draft shield off.

8 Pull both side doors (**9** and **10**) off. Pull up, turn to the side, and pull away.

9 Lift the hanging weighing pan or SmartGrid (**11**) and lift it out of the guides.

10 Remove the drip tray (**12**) out at the side.

11 Remove the front glass (**13**) up and away.
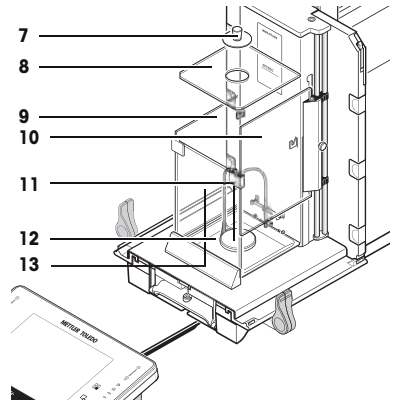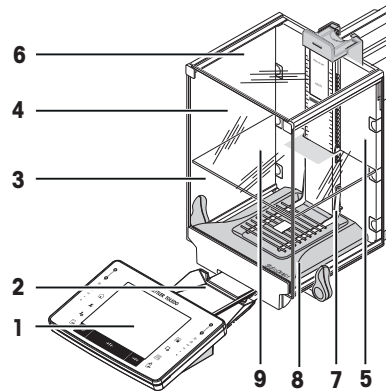
Models with draft shield intermediate shelf

1 Lift the terminal (**1**) out of the terminal support and place it next to the support.

2 Remove the terminal support (**2**) from the balance.

3 Tilt the draft shield front glass (**3**) away from the balance.

4 Carefully move the draft shield side doors (**4** and **5**) towards the respective handle and remove the side doors from the guide.

5 Lift the front of the top draft shield door (**6**) and remove it from the guide.

6 If the optional intermediate shelf (**9**) is installed, lift it at the front and remove it upwards.

7 Carefully lift the front of the SmartGrid (**7**) and lift it out of the guide.

8 Remove the drip tray (**8**).

Pack the outer draft shield, intermediate shelf and the terminal support (Pos. 3-6 and 2)

– Place these parts in the compartments provided in the original packaging.

Note

It is recommended to place paper between the side draft shield glass panels.
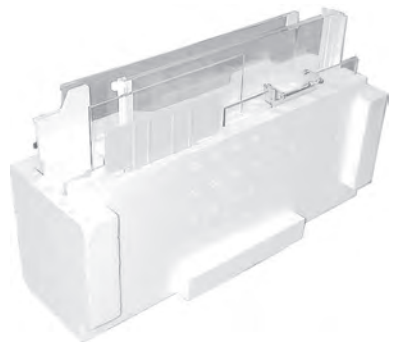
Pack the inner draft shield, the drip tray, and the SmartGrid (Pos. 7-13)

– Place these parts in the special compartments provided in the original packaging.

Pack the set with

- Hanging weighing pan and support (**1**)
- ErgoClip basket micro
    - Support (**2**)
    - Basket (**3**)
    - SmartGrid cover micro (**4**).
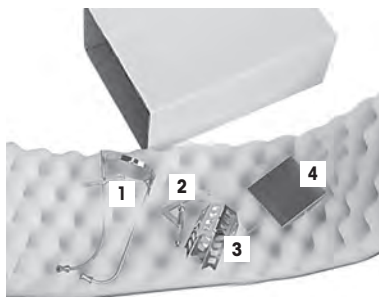
Pack the 2 sets (1 + 2)

- Set (**1**) with AC adapter, power cable, tweezers, and the set with the ErgoClip Basket micro and SmartGrid cover micro.
- Set (**2**) with the outer draft shield and terminal support.
- The Operating Instructions and other documents.

! NOTICE

Danger of damage to the balance due to improper packaging

Follow the instructions below to avoid damaging the balance or terminal when placing in the packaging.

1　Slide the transport protection along the weighing pan guide.
2　Move the guide of the top draft shield door to the front.
3　Move the handles for the draft shield side doors upwards and slide the doors to the front.

📝 Note

The protective covers supplied with the balance and terminal can be used for packing. These are not shown in the diagrams in order to illustrate how the individual components must be positioned. The use of these protective covers is recommended.

1　Place the terminal on the balance, **see** diagram.
2　Carefully place the balance in the bottom packaging.
3　Remove the terminal and place it in front of the packaging on the table.

4　Place the packaging set with the draft shield glass panels in the packaging, **see** diagram.

1   Place the set with the AC adapter in front of the set with
    draft shield glass panels.
2   Place the terminal in the packaging as illustrated.

1   Place the top packaging (**1**) in position.
    ⇨ Ensure that the packaging is correctly positioned.
2   Place the lifting strap (**2**) around both parts of the
    packaging, **see** diagram.
3   Tighten the strap around the packaging.
    ⇨ Lift the packed balance by the lifting strap (**2**) and
       place in the transport box.

–   Place the packaging with the outer draft shield and AC
    adapter sets on the balance in the transportation carton.

4.6.3 Packing and storing

Packaging

Store all parts of packaging in a save place. The elements of the original packaging are developed specifically for
the balance and its components to ensure maximum protection during transportation or storing.

Storage

Store the balance under following conditions:

- Indoor and in the original packaging.
- According to the environmental condition, see "Technical data".

5 Maintenance

To guarantee the functionality of the balance and the accuracy of the weighing results, a number of maintenance actions must be performed by the user.

For further information, consult the Reference Manual (RM).

▶ www.mt.com/XPE505C-RM

5.1 Maintenance tasks

Maintenance action	Recommended interval	Remarks
Cleaning	• After every use • After changing the substance • Depending on the degree of pollution • Depending on your internal regulations (SOP)	see "Cleaning"
Performing an internal adjustment	• Daily • After cleaning • After leveling • After changing the location	see "Adjustment/Test" in the Reference Manual
Performing routine tests (eccentricity test, repeatability test, sensitivity test). METTLER TOLEDO recommends to at least perform a sensitivity test.	• After cleaning • After assembling the balance • After a software update • Depending on your internal regulations (SOP)	see "Adjustment/Test" in the Reference Manual

5.2 Cleaning the balance

⚠ WARNING

Death or serious injury due to electric shock

Contact with parts carrying a live current can lead to injury and death.

1 Disconnect the instrument from the power supply prior to cleaning and maintenance.
2 Prevent liquid from entering the instrument, terminal or AC/DC adapter.

NOTICE

Damage due to improper cleaning

Improper cleaning can damage the load cell or other essential parts.

1 Do not use any cleaning agents other than the ones specified in the "Reference Manual" or "Cleaning Guide".
2 Do not spray or pour liquids on the instrument. Always use a moistened lint-free cloth or a tissue.
3 Always wipe out from inside to outside of the instrument.

Cleaning around the balance

– Remove any dirt or dust around the balance and avoid further contaminations.

Cleaning the terminal

– Clean the terminal with a damp cloth or a tissue and a mild cleaning agent.

Cleaning the removable parts

– Clean all removable non-coated parts of the outer draft shield with a damp cloth or a tissue and a mild cleaning agent or clean in a dishwasher up to 80 °C.

📝 **Note**

The sealing cover of the inner draft shield is **not** dishwasher safe.

Cleaning the weighing unit

1 Disconnect the balance from the AC/DC adapter.
2 Use a lint-free cloth moistened with a mild cleaning agent to clean the surface of the balance.
3 Remove powder or dust with a disposable tissue first.
4 Remove sticky substances with a damp lint-free cloth and a mild solvent, e.g., isopropanol or ethanol 70%.
5 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.
6 Carefully lift the front of the weighing pan and lift it out of the guide.
7 Remove the drip tray from the balance.
8 Ensure that these parts are correctly positioned when refitted.

📝 **Note**

Useful details to avoid soiling the instrument are described in the Mettler-Toledo GmbH "SOP for Cleaning a Balance".

5.2.1 Putting into operation after cleaning

1 Reassemble the balance.
2 Check that the draft shield doors (top, sides) open and close normally.
3 Check if the terminal is connected to the balance.
4 Reconnect the balance to the AC/DC adapter.
5 Check the level status, level the balance if necessary.
6 Respect the warm-up time specified in the "Technical Data".
7 Perform an internal adjustment.
8 Perform a routine test according to the internal regulations of your company. METTLER TOLEDO recommends to perform a sensitivity test after cleaning the balance.
9 Press →0← to zero the balance.
⇨ The balance is ready to be used.

See also

📄 Leveling the balance ▶ Page 21

Comparator Balances

6 Technical Data

6.1 General data

Power supply

AC/DC adapter:	Primary: 100 − 240 V AC, -15%/+10%, 50/60 Hz Secondary: 12 V DC ±3%, 2.5 A (with electronic overload protection)
Cable for AC/DC adapter:	3-core, with country-specific plug
Balance power consumption:	12 V DC ±3%, 2.25 A, maximum ripple: 80 mVpp
Polarity:	⊝—●—⊕

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:	Use only indoors in dry locations

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 **12** hours after connecting the balance to the power supply. The balance should **not** be switched into standby mode.

Materials

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

7 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, the content of this regulation must also be related.

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

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For more information

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