Comparator Balances

XPE-S/XPE-L models
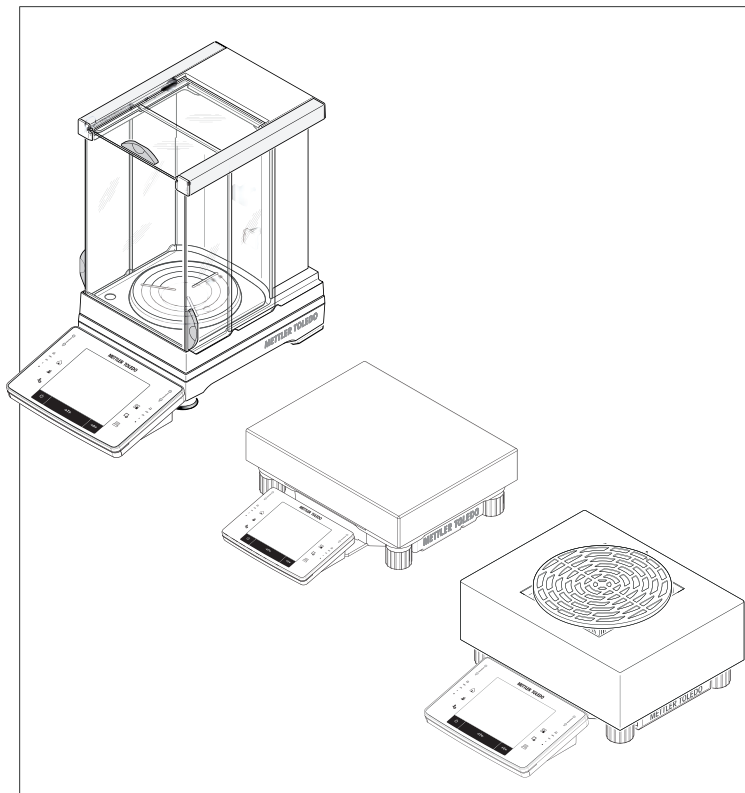
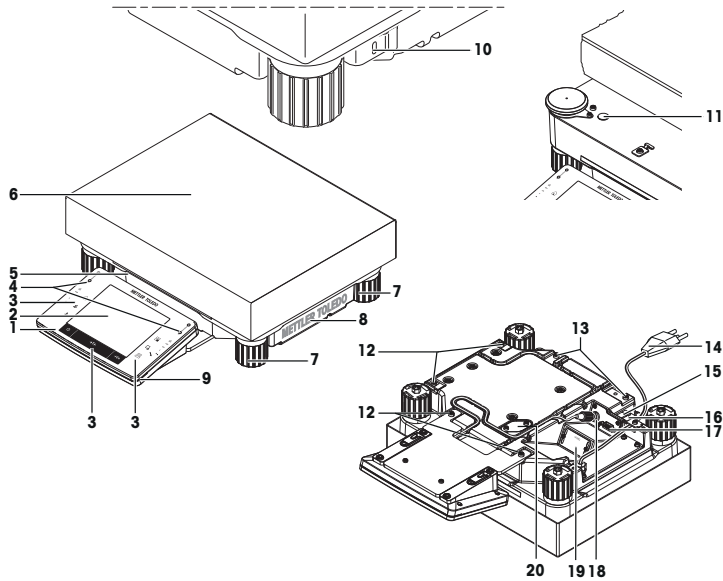**METTLER TOLEDO**

Overview XPE-S comparators
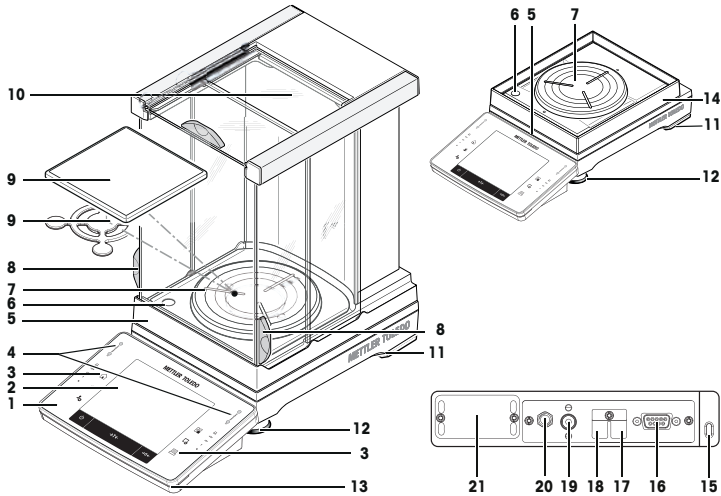
Legend XPE-S comparators

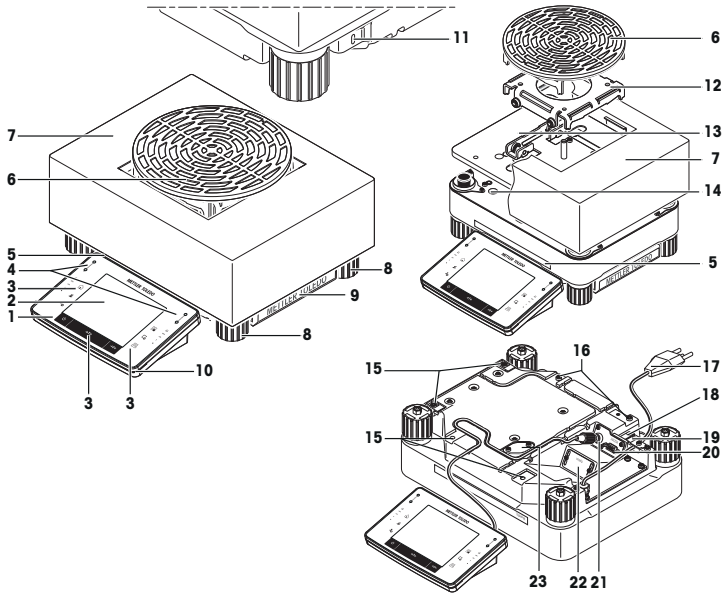|			
1	Terminal	**2**	Display "Touch screen"
3	Operating keys	**4**	SmartSens sensors
5	Type designation	**6**	Level indicator/Level sensor
7	Levelmatic	**8**	Handle for operation of the draft-shield door
9	SmartPan and weighing pan (XPE2003SC only)	**10**	Glass draft shield
11	Safety feet	**12**	Foot screws
13	StatusLight	**14**	Draft shield element (XPE10003SC only)
15	Fastening point for anti-theft device	**16**	RS232C serial interface
17	Aux 1 (connection for "ErgoSens", hand- or foot-switch)	**18**	Aux 2 (connection for "ErgoSens", hand- or foot-switch)
19	Fastening for auxiliary display stand or terminal stand (optional)	**20**	Socket for AC adapter
21	Slot for second interface (optional)		

Overview XPE-L comparators

Legend XPE-L comparators

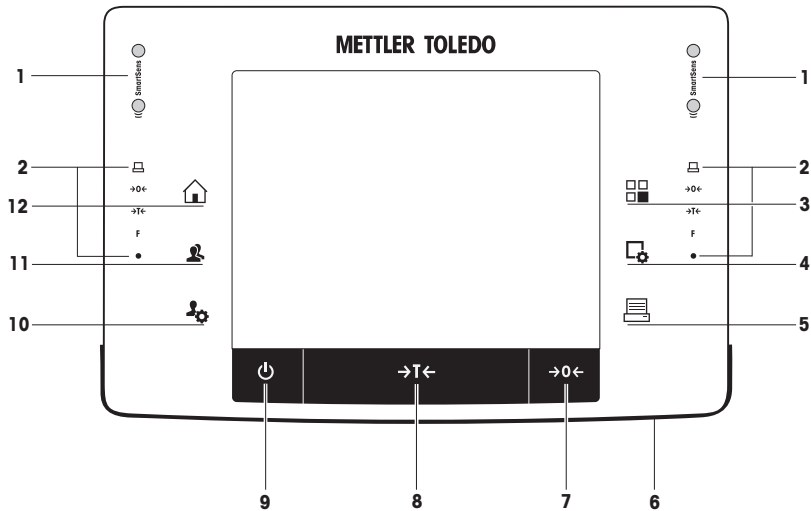|			
1	Terminal	**2**	Display "Touch screen"
3	Operating keys	**4**	SmartSens sensors
5	Type designation	**6**	Weighing pan
7	Foot screws	**8**	Cover
9	StatusLight	**10**	Fastening point for anti-theft device
11	Level indicator / level sensor	**12**	Points of attachment for terminal or cover
13	Fastening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

Overview XPE-L comparators with Levelmatic

Legend XPE-L comparators with Levelmatic

1	Terminal	**2**	Display "Touch screen"
3	Operating keys	**4**	SmartSens sensors
5	Type designation	**6**	Levelmatic weighing pan
7	Draft shield element	**8**	Foot screws
9	Cover	**10**	StatusLight
11	Fastening point for anti-theft device	**12**	Levelmatic secondary base
13	Adapter plate with Levelmatic base plate.	**14**	Level indicator / level sensor
15	Points of attachment for terminal or cover	**16**	Fastening for terminal stand (optional)
17	Power cable	**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	Connector for terminal cable	**22**	Slot for second interface (optional)
23	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	This key is used for setting a new zero point manually (only required if the balance is used for normal weighings).
8	→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.

Comparator Balances

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 Disclaimer for comparators

In this document "balance" is a terminology preamble and stands for comparators.

Due to the high resolutions and differential weighing application, comparators are tested with differential measurement only. Therefore the specification values defined are to be tested with differential methods only.

This information is valid for models of the line/s:

- XPE-SC
- XPE-LC

2 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.

2.1 Definition of signal words and warning symbols

Safety notes are marked with signal words and warning symbols. These show safety issues and warnings. Ignoring the safety notes may lead to personal injury, damage to the balance, malfunctions and false results.

Signal words

WARNING	for a hazardous situation with medium risk, possibly resulting in death or severe injury if not avoided.
CAUTION	for a hazardous situation with low risk, resulting in minor or moderate injury if not avoided.
NOTICE	for a hazardous situation with low risk, resulting in damage to the instrument, other material damage, malfunctions and erroneous results, or loss of data.
Note	(no symbol) for useful information about the product.

Warning symbols

General hazard   Electrical shock   Heavy object

2.2 Product safety information

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.

⚠ **WARNING**
Heavy object

Single person lift could cause injury.

1   Do not move or lift this equipment without assistance.
2   For moving this equipment ask your METTLER TOLEDO representative.

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.

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.

3 User interface

3.1 Display

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

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 [⊞].
	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.

Comparator Balances

Screen saver

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

3.2 Input dialog boxes

The keyboard dialog box is used to enter characters such as letters, numbers and special characters.
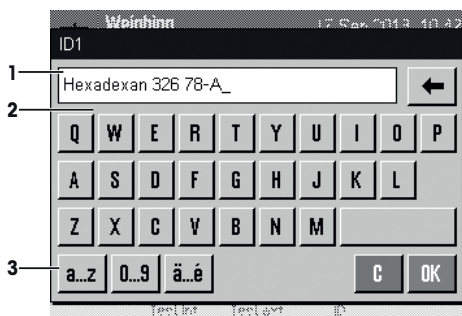
	Designation	Explanation
1	Data field	Displays (entered) alphanumeric and numeric characters.
2	Keyboard	Data input area
3	Selection	Select various keyboard layouts.

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.

3.3 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

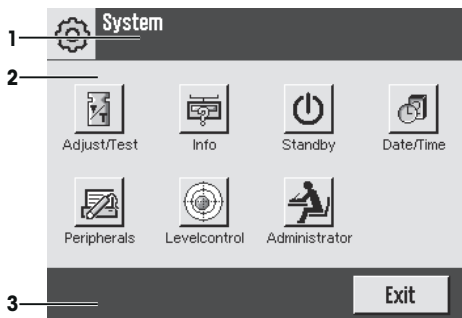A displayed menu can be left at any time by repressing the same menu key.

3.3.1 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.

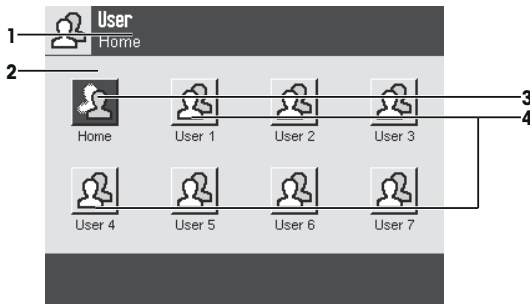**Navigation:** [⚙] > **System**

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**].

3.3.2 User profiles

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

Navigation: [👤]

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

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

3.3.3 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: [⚙]
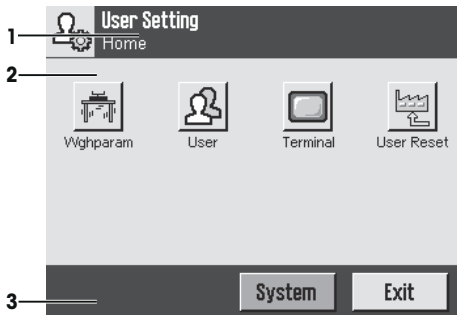
Applications

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.
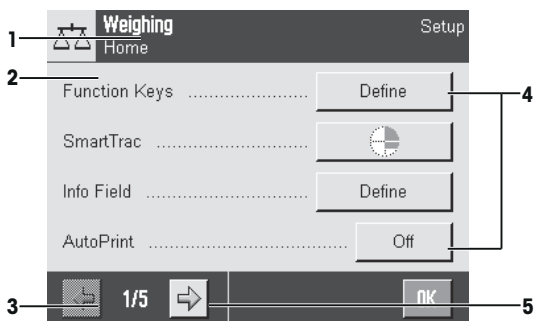
Navigation: [⊞▪]
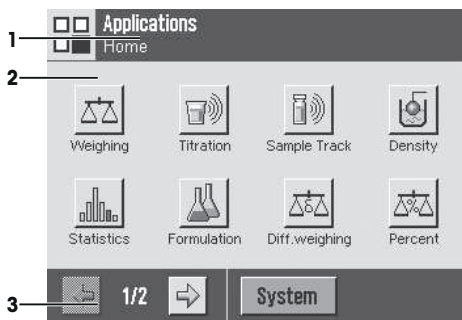
Application-specific settings

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**].

Comparator Balances

3.4 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

Finding more information

> ⚠ **WARNING**
>
> **Danger of death or serious injury due to electric shock!**
>
> The balance must be disconnected from the power supply before any set-up or instal-lation work, as well as when the housing of the weighing terminal is opened.

4.1 Unpacking

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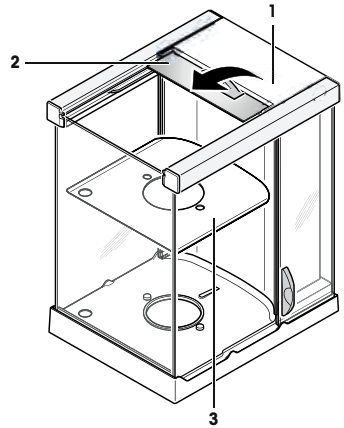
NOTICE

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

4.1.1 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 Insert the bottom plate (3).

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4.2 Scope of delivery

The standard scope of delivery contains the following items:

Components	XPE S platform				
	2004SC	5004SC	2003SC	5003SC	10003SC
Weighing platform	✓	✓	✓	✓	✓
RS232C interface	✓	✓	✓	✓	✓
Slot for second interface (optional)	✓	✓	✓	✓	✓
Feedthroughs for below-the-balance weighing	✓	✓	✓	✓	✓
Feedthroughs for antitheft device	✓	✓	✓	✓	✓
AC adapter	✓	✓	✓	✓	✓
Country-specific power cable	✓	✓	✓	✓	✓
Terminal	✓	✓	✓	✓	✓
Draft shield "Pro" with bottom plate	✓	✓	✓	✓	–
Draft shield "XP W12"	–	–	–	–	✓
Levelmatic ø 130 mm	✓	✓	–	✓	✓
Standard weighing pan 127 × 127 mm	✓	✓	✓	✓	✓
SmartPan	✓	✓	✓	✓	✓
Operating instructions or User Manual; printed or on CD-ROM, depending on country of use	✓	✓	✓	✓	✓
Production certificate	✓	✓	✓	✓	✓
CE declaration of conformity	✓	✓	✓	✓	✓

Components	XPE L platform				
	26003LC	32003LC	64003LC	64002LC	64002LC-T
Weighing platform	✓	✓	✓	✓	✓
RS232C interface	✓	✓	✓	✓	✓
Slot for second interface (optional)	✓	✓	✓	✓	✓
Feedthroughs for antitheft device	✓	✓	✓	✓	✓

Components	XPE L platform				
Country-specific power cable	✓	✓	✓	✓	✓
Terminal	✓	✓	✓	✓	✓
Terminal support	–	✓	–	✓	–
Protective cover for terminal	✓	✓	✓	✓	✓
Draft shield "XP W64"	✓	–	✓	–	–
Transport case	–	–	–	–	✓
Shipping lock (2 pieces)	✓	✓	✓	✓	✓
Levelmatic ø 220 mm and draft shield cover Weighing pan support	✓	–	✓	–	–
Weighing pan ø 220 mm and draft shield cover	–	–	–	–	✓
Weighing pan 280 × 360 mm	–	✓	–	✓	–
Operating instructions or User Manual; printed or on CD-ROM, depending on country of use	✓	✓	✓	✓	✓
Production certificate	✓	✓	✓	✓	✓
CE declaration of conformity	✓	✓	✓	✓	✓

4.3 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.
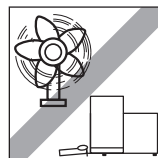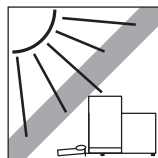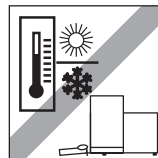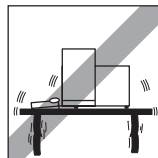
Further information can by found in Weighing the Right Way.

4.4 Assembling the balance

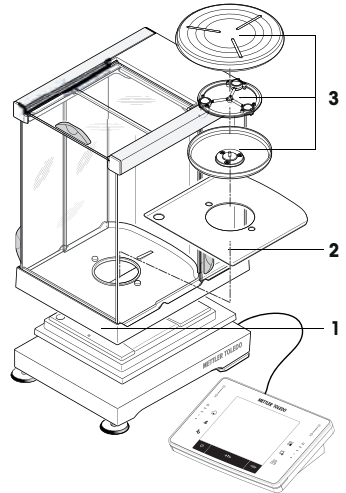#### 4.4.1 Installing the draft shield and weighing pan, S platform

> ⚠ **WARNING**
>
> **Damage of device**
> Always use both hands to hold the draft shield by the upper bars and in a vertical position.

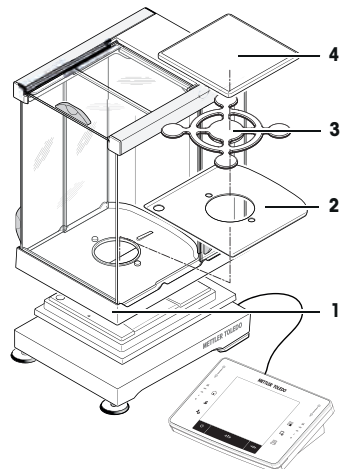Place the following components on the balance in the specified order:

1 Place the draft shield (1) on the balance.

2 Open the side doors.

3 Insert the bottom plate (2).

4 Place the Levelmatic (3) in position.

Model XPE2003SC

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

1 Place the draft shield (1) on the balance.

2 Insert the bottom plate (2).

3 SmartPan (3).

4 Standard weighing pan (4).

Model XPE10003SC

NOTICE

For installation of the draft shield on the XPE10003S comparator balance, separate installation instructions are enclosed.

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

1 Insert the centering plate (1).

2 Place the cover (2).

3 Place the Levelmatic (3) in position.

NOTICE

You can also work without the centering plate (1) and cover (2). However, depending on the ambient conditions, the display of the results may be slightly more unstable.
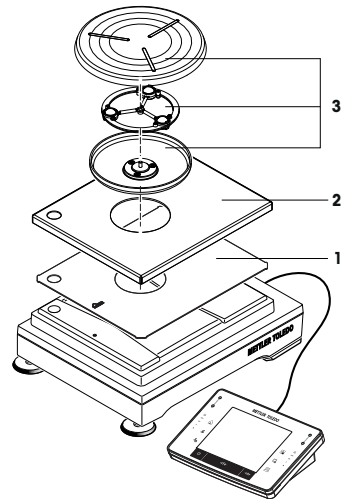
4.4.2 Installation of the standard weighing pan, L platform

– Mount the weighing pan.

4.4.3 Installing the Levelmatic, L platform

1 Place the attached adapter plate (2) on the housing base (1).

2 Put on the draft shield cover (3).

3 Place the secondary base (4) on the base plate.

4 Place the Levelmatic weighing pan (5) on top.
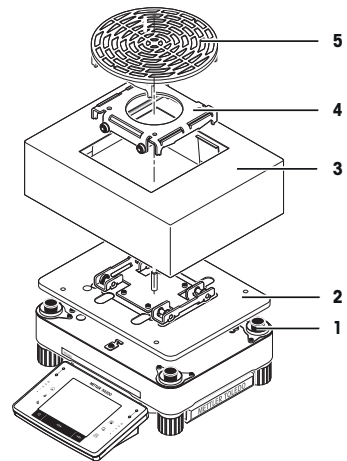
### 4.4.4 Placing the terminal on the L weighing platform

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

Comparator Balances

- Ensure that the transport arrestment is installed, Before attaching the terminal.
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.
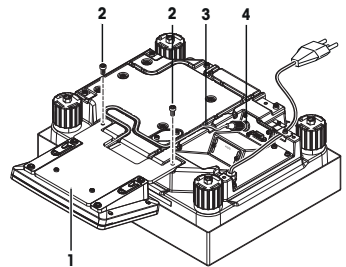4 Screw the terminal support (1) with the 2 screws (2) on the terminal firmly.
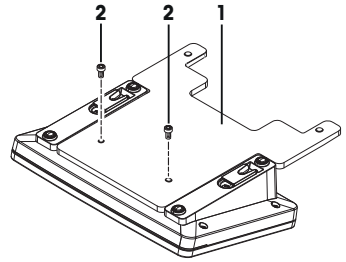
Attaching the terminal to the long side

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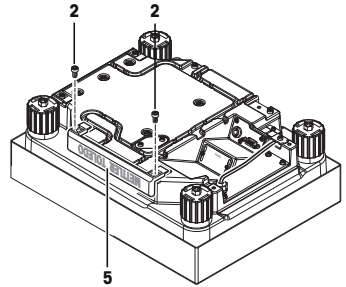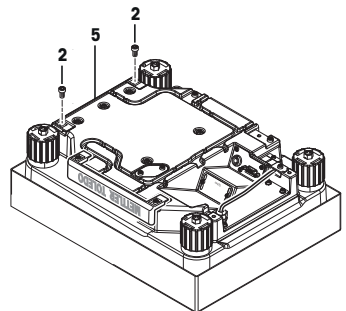
2 Attach the terminal support (1) with terminal as shown, using the screws (2) from the cover that was removed.
3 Insert the terminal cable (3) into the cable channel, as shown.
4 Screw the connector of the terminal cable into the socket (4).
5 Turn the balance back over into position.

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.
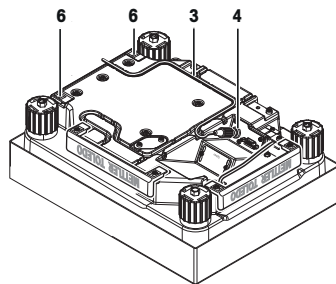
4.4.5   Removing/inserting the transport arrestments

1   Screw both transport arrestments out of the cell in counter-clockwise direction.

2   Cover the openings with the enclosed plastic covers.
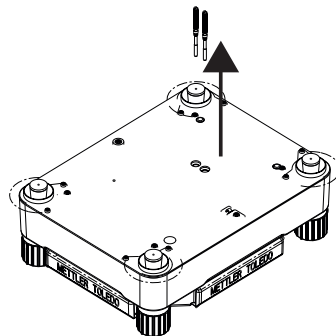
1   Reinsert both transport arrestments for all transports.

2   Tighten the transport arrestments only loosely.

Comparator Balances
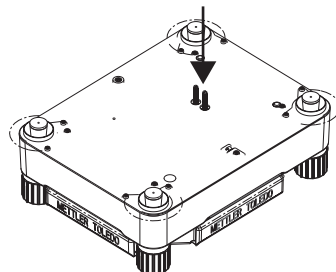
4.5 Connecting the balance

> ⚠️ **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.
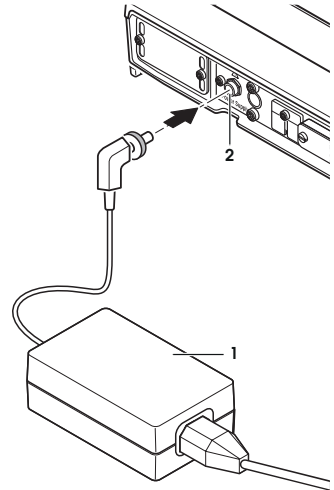
Connecting L weighing platform

⚠ 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.

4.6 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 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.

The pictures may vary from balance type to balance type.

Balances with safety feet

1 To start the leveling assistant, tap [**LevelGuide**] in the warning message.
    ⇨ Window with a graphical display is displayed.
2 Loosen the clamps for the safety feet by turning them outwards.
    ⇨ Window with level indicator is displayed in real-time.

3 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.
4 Turn the foot screw until the air bubble is located in the inner circle.
    ⇨ The bubble turs green with correct alignment.
    ⇨ The status indicator at the terminal turns green.

5 Tap [**Forward >**].
6 Lock the clamps for the safety feet in place by turning the clamps inward as far as they will go.
7 Tap [**OK**].
    ⇨ A message appears.
8 Tap [**Adjust.int**] to adjust the balance.
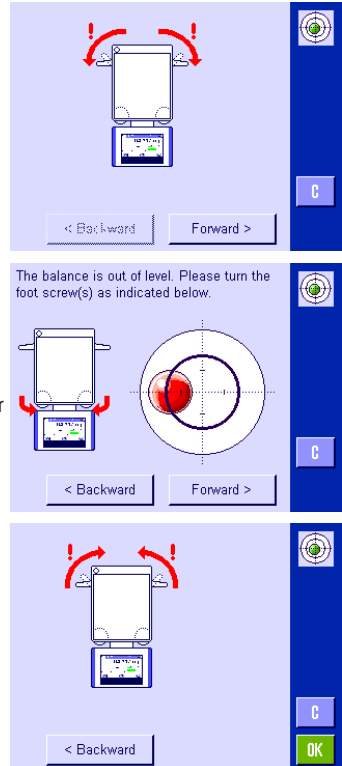
L weighing platform

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.
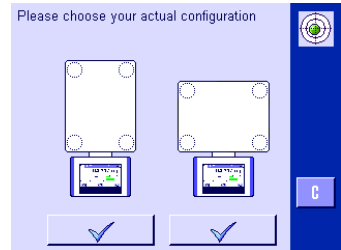
5 Observe the level indicator on the screen.
   ⇨ The air bubble in the level indicator shows red with incorrect alignment.
   ⇨ The arrows indicate the direction in which the two foot screws must be turned.

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 footscrew until it **lightly** touches the supporting surface.

9 Tap [**OK**].
   ⇨ A message appears.

10 Tap [**Adjust.int**] to adjust the balance.
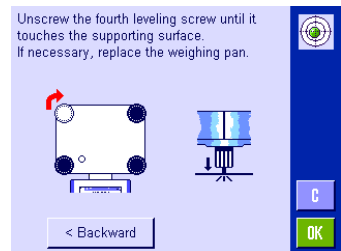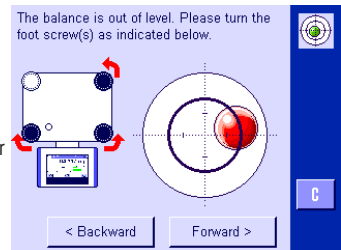
4.6.1 Performing a simple weighing

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.

5 Maintenance

5.1 Cleaning

Periodically clean the weighing pan, Levelmatic (depending on the model), draft shield (depending on the model), draft shield element (XP10003S only), bottom plate, 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**

Risk of electric shock

- The balance must be disconnected from the power supply.

- Balances located in the hazardous area must be damp-cleaned to prevent the risk of spark formation through dry rubbing on plastic parts.

- Make sure that no liquid penetrates the balance.

- Never open the balance or AC adapter. They do not contain any parts that can be cleaned, repaired or replaced by the user.

⚠ **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.

NOTICE

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 service life of your balance.

5.2 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
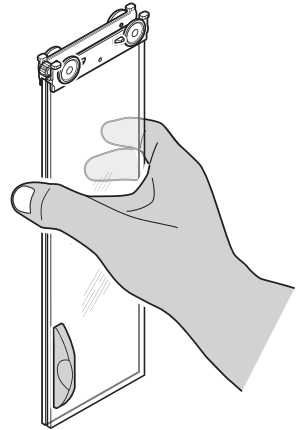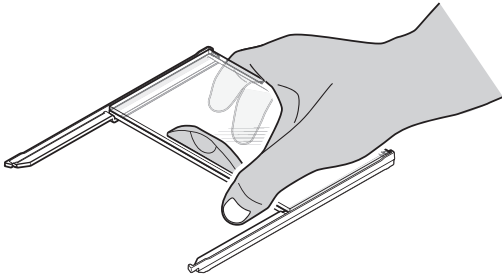Always hold the 2 **parallel** guided glasses (side glasses and top glasses) together with one hand.

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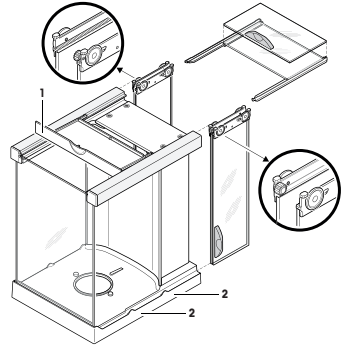
Insert glasses

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 oustside the projections (2).

5.3 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.

6 Technical Data

6.1 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 ±3%, 2.5 A (with electronic overload protection)
Cable for AC adapter:	3-core, with country-specific plug
Balance power supply:	12 V DC ±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:	18…27 °C ±0.3 °C / 1 h or 0.5 °C / 12 h respectively
Relative air humidity:	40 up to 60% ±5% / 4 h
Maximum air speed:	0.15 m/sec

Materials

Housing:	Die-cast aluminum, laquered, plastic and chrome steel
Terminal:	Die-cast zinc, chromed and plastics
Weighing pan:	Chrome steel X2CrNiMo-17-12-2
Draft shield:	Aluminium, plastic, chrome steel and glas
Draft shield element (XP10003S only):	Die-cast zinc, chromed
Levelmatic:	Chrome steel, plastic

6.2 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:	IP44, 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:	18…27 °C ±0.3 °C / 1 h or 0.5 °C / 12 h respectively
Relative air humidity:	40 up to 60% ±5% / 4 h
Maximum air speed:	0.15 m/sec

Materials

Housing:	Sheet aluminum, die cast, laquered, plastic and chrome steel
Terminal:	Die-cast zinc, chromed and plastic
Weighing pan:	Chrome-nickel steel X5CrNi18-10
Draft shield:	Plastic, chrome-nickel steel, aluminium and glas
Levelmatic:	Chrome-nickel steel and aluminium

Comparator Balances

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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