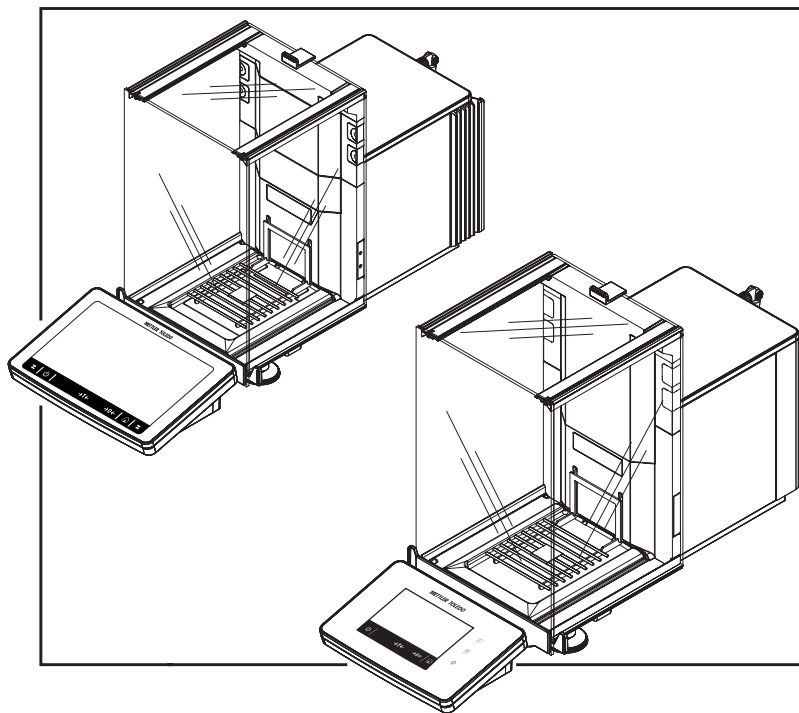


# Analytical Balances and Comparators

XPR & XSR



METTLER TOLEDO





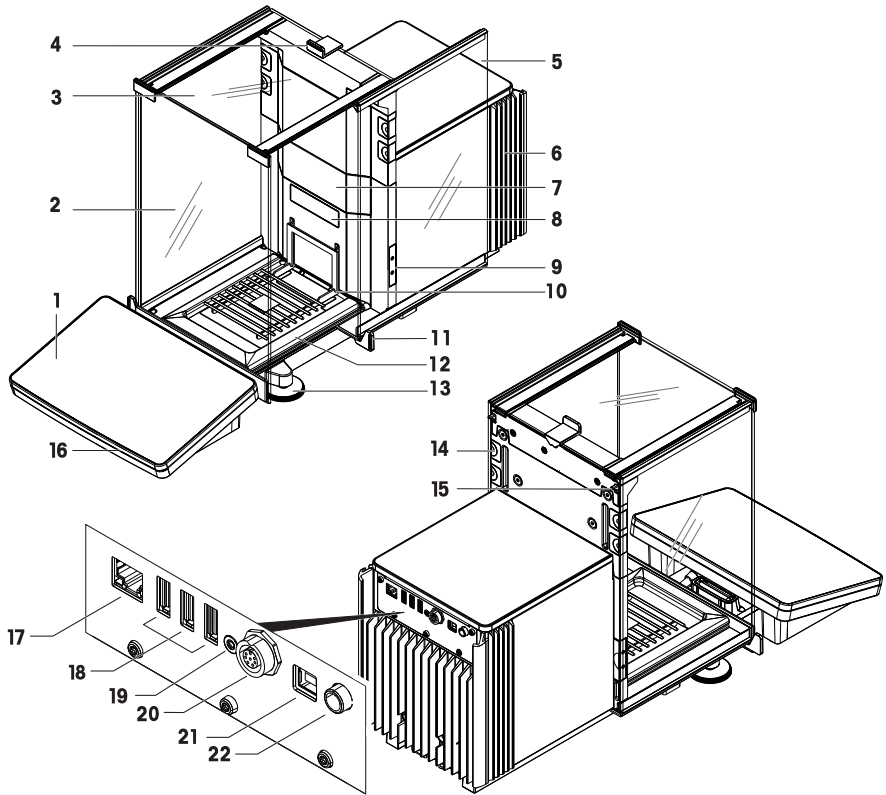
This User Manual provides brief instructions about the first steps to take with the instrument. This ensures safe and efficient handling. Personnel must have carefully read and understood this manual before performing any task.

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

▶ [www.mt.com/XPR-analytical-RM](http://www.mt.com/XPR-analytical-RM)

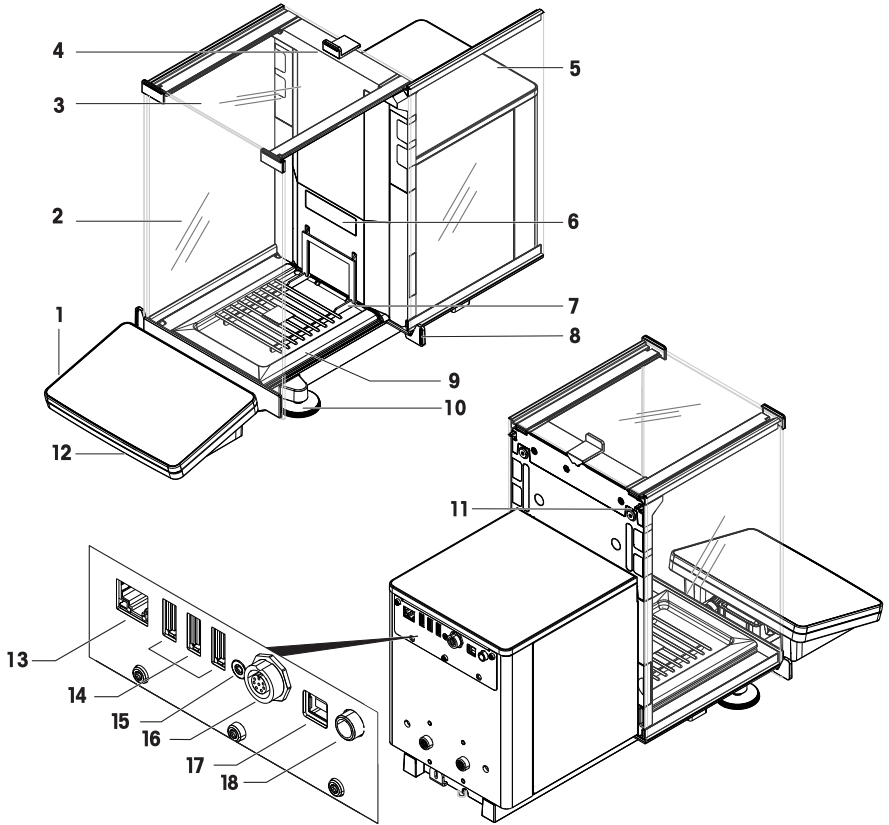
▶ [www.mt.com/XSR-analytical-RM](http://www.mt.com/XSR-analytical-RM)

## Overview XPR balance



1	Terminal	12	Drip tray
2	Front panel draft shield	13	Leveling feet
3	Top door draft shield	14	Removable clips
4	Handle for top door	15	Side door release lever
5	Side door draft shield (right/left)	16	StatusLight
6	Cooling unit	17	Ethernet port
7	Slot for the installation of an internal module e.g., ionizer module	18	USB-A ports (to device)
8	Balance type plate	19	Service seal
9	Optical sensor SmartSens	20	Socket for terminal connection cable
10	SmartGrid weighing pan	21	USB-B port (to host)
11	Door handle	22	Socket for AC/DC adapter

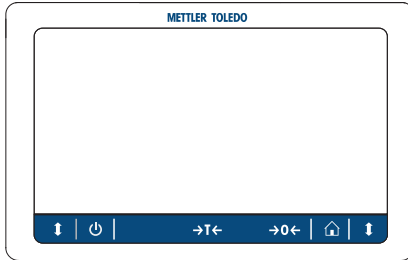
## Overview XSR balance



1	Terminal	10	Leveling feet
2	Front panel draft shield	11	Side door release lever
3	Top door draft shield	12	StatusLight
4	Handle for top door	13	Ethernet port
5	Side door draft shield (right/left)	14	USB-A ports (to device)
6	Balance type plate	15	Service seal
7	Weighing pan	16	Socket for terminal connection cable
8	Door handle	17	USB-B port (to host)
9	Drip tray	18	Socket for power adapter









## Overview terminal

XPR



XSR



XPR and XSR		XSR only	
	Standby		Methods
	Tare		Results
	Zero		Balance menu
	Home screen		
	Open/close door		

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# 1 Introduction

Thank you for choosing a METTLER TOLEDO balance. The balance combines high performance with ease of use.

## Disclaimer for comparators

In this document, the term "balance" is used to describe both balances and comparators.

Comparators are characterized by their higher resolution compared to balances and are mainly used for differential weighing application, such as the calibration of standard weights. Beside standard balance tests, comparators have also been tested with differential repeatability (ABA repeatability) during production.

## EULA

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

► [www.mt.com/EULA](http://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/XPR-analytical](http://www.mt.com/XPR-analytical)

► [www.mt.com/XSR-analytical](http://www.mt.com/XSR-analytical)

Instructions for cleaning a balance: "8 Steps to a Clean Balance"

► [www.mt.com/lab-cleaning-guide](http://www.mt.com/lab-cleaning-guide)

Search for software downloads

► [www.mt.com/labweighing-software-download](http://www.mt.com/labweighing-software-download)

Search for documents

► [www.mt.com/library](http://www.mt.com/library)

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

► [www.mt.com/contact](http://www.mt.com/contact)

### 1.2 Acronyms and abbreviations

Original term	Explanation
AC	Alternating Current
ASTM	American Society for Testing and Materials
DC	Direct Current
EMC	Electromagnetic Compatibility
FCC	Federal Communications Commission
GWP	Good Weighing Practice
HID	Human Interaction Device
ID	Identification
LED	Light-Emitting Diode
LPS	Limited Power Source
MAC	Media Access Control
MT-SICS	METTLER TOLEDO Standard Interface Command Set
NA	Not Applicable
OIML	Organisation Internationale de Métrologie Légale (International Organization of Legal Metrology)
RAM	Random Access Memory
RFID	Radio-frequency identification
RM	Reference Manual
SELV	Safety Extra Low Voltage

SOP	Standard Operating Procedure
SQC	Statistical Quality Control
UM	User Manual
USB	Universal Serial Bus
USP	United States Pharmacopeia

### 1.3 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/XPR-analytical-RM](http://www.mt.com/XPR-analytical-RM)

► [www.mt.com/XSR-analytical-RM](http://www.mt.com/XSR-analytical-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 words 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

<b>DANGER</b>	A hazardous situation with high risk, resulting in death or severe injury if not avoided.
<b>WARNING</b>	A hazardous situation with medium risk, possibly resulting in death or severe injury if not avoided.
<b>CAUTION</b>	A hazardous situation with low risk, resulting in minor or moderate injury if not avoided.
<b>NOTICE</b>	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



Notice

### 2.2 Product-specific safety information

#### Intended use

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

Any other type of use and operation beyond the limits of use stated by Mettler-Toledo GmbH without 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 GmbH assumes that the instrument owner trains users to safely use the instrument in their workplace and deal with potential hazards. Mettler-Toledo GmbH assumes that the instrument owner provides the necessary protective gear.

### 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 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 the power plug for damage and replace them if damaged.



#### NOTICE

##### Damage to the instrument or malfunction due to the use of unsuitable parts

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

A list of spare parts and accessories can be found in the Reference Manual.

## 3 Design and Functions



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

► [www.mt.com/XPR-analytical-RM](http://www.mt.com/XPR-analytical-RM)

► [www.mt.com/XSR-analytical-RM](http://www.mt.com/XSR-analytical-RM)

### 3.1 Overview

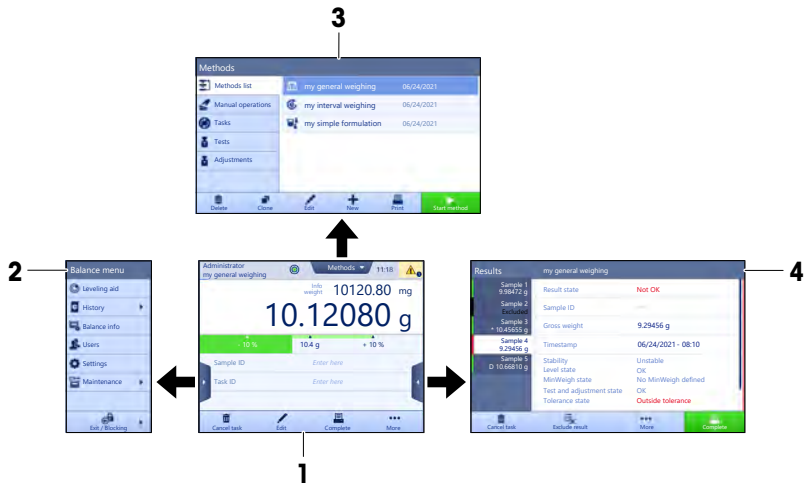
See the sections "Overview" (graphics and legend) at the very beginning of this manual.

### 3.2 User interface

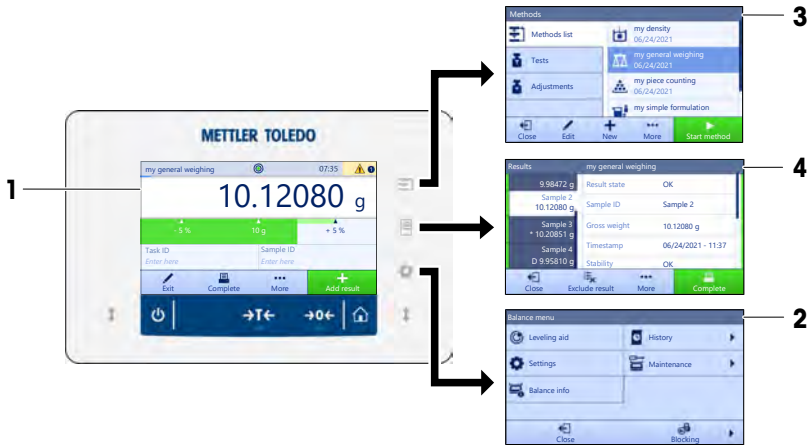
#### 3.2.1 Main sections at a glance

The main weighing screen (1) is the central navigation point where all the menus and settings can be found. The **Balance menu** (2), **Methods** (3) and **Results** (4) open when tapping the drawers along the main weighing screen (XPR) or when pressing the symbols on the terminal (XSR).

## Main sections XPR



## Main sections XSR



### 3.2.2 Main weighing screen XPR



	Name	Description
1	<b>User name</b>	Shows the name of the current user.
2	Weighing value field	Shows the current weighing value.
3	Level indicator	Indicates if the balance is leveled (green) or not (red).
4	<b>Methods</b> menu	Accesses the user-defined list of methods, tests, and alignments.
5	<b>Info weight</b>	Shows the current weighing value in another unit.
6	Warning and error message area	Shows current warning and/or error messages.
7	<b>Results list</b>	Shows the weighing results saved for this task.
8	Sample status <b>OK</b>	Result status indicator green: indicates that the result fulfills a set of criteria. For example: <ul style="list-style-type: none"> <li>The balance is in level.</li> <li>The internal adjustment was performed and ok.</li> <li>The weighing result is within the defined tolerance range (only if tolerance is defined).</li> </ul>
9	Sample status <b>Excluded</b>	Result status indicator black: indicates that the result was excluded from the <b>Results list</b> .
10	Sample status <b>Not OK</b>	Result status indicator red: indicates that the result criteria are not fulfilled, e.g., "The weighing result was out of the defined tolerances".
11	Button <b>Add result</b>	Adds the result to the <b>Results list</b> . Depending on the selected method, the button can have different functions.
12	Action bar	Contains actions referring to the current task.
13	<b>Balance menu</b>	Accesses the balance properties.
14	Method information area	Contains information about the sample, method or task IDs.
15	SmartTrac	Used as a weighing aid to define a target weight with upper and lower tolerances.
16	Weighing value area	Shows the results of the current weighing process.
17	<b>Method name</b>	Shows the name of the current method.

### 3.2.3 Main weighing screen XSR



	Name	Description
1	Weighing value field	Shows the current weighing value.
2	Level indicator	Indicates if the balance is leveled (green) or not (red).
3	Warning and error message area	Shows current warning and/or error messages.
4	Button <b>Add result</b>	Adds the result to the <b>Results list</b> . Depending on the selected method, the button can have different functions.
5	Action bar	Contains actions referring to the current task.
6	Method information area	Contains information about the sample, method or task IDs.
7	SmartTrac	Used as a weighing aid to define a target weight with upper and lower tolerances.
8	Weighing value area	Shows the results of the current weighing process.
9	<b>Method name</b>	Shows the name of the current method.

## 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.

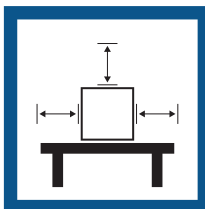
#### Requirements of the location

Place indoors on stable

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".

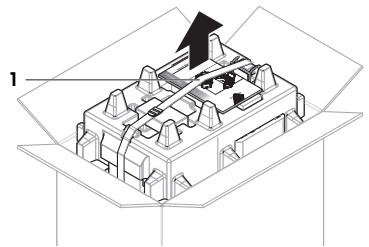
## 4.2 Unpacking the balance

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

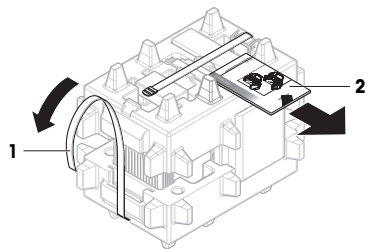
### Note

Depending on the balance model, the components may look different. The procedure is always the same.

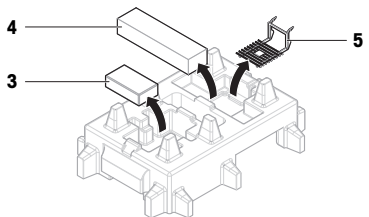
- 1 Open the box and lift the package out using the lifting strap (1).



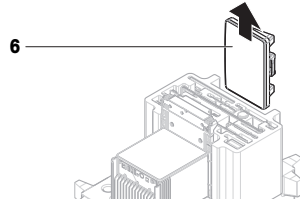
- 2 Open the lifting strap (1) and remove the User Manual (2).



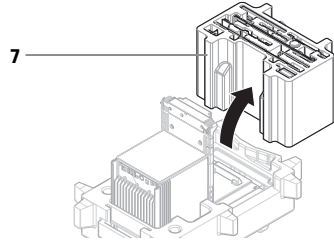
- 3 Remove the upper part of the package and remove the set with the AC adapter and power cable (3), the box containing several accessories (4), and the weighing pan (5).



4 Carefully remove the terminal (6).



5 Carefully remove the package set with the draft shield doors and the display holder (7).

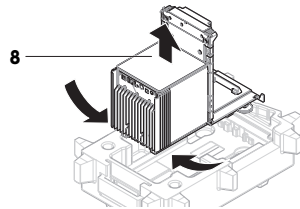


6 Carefully remove the weighing unit (8) from the bottom packaging.

7 Remove the protective bag.

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

➔ The weighing unit is ready for assembling.



## 4.3 Scope of delivery

### Balance

- Weighing unit
- Draft shield
- Drip tray and weighing pan
- Terminal with terminal holder and terminal connection cable
- AC/DC adapter with country-specific power cable
- MC Link Software (only comparators)

### Documentation

- User Manual
- Production certificate
- Declaration of Conformity

### Accessories

- ErgoClip basket
- SmartPrep, 2 pcs
- Brush

## 4.4 Installation

### 4.4.1 Attaching the terminal



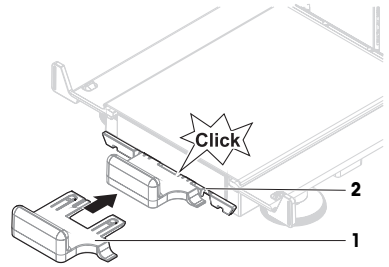
#### NOTICE

##### Damage to the cables due to careless handling

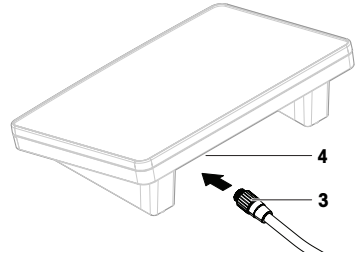
- Do not kink or twist the cables.



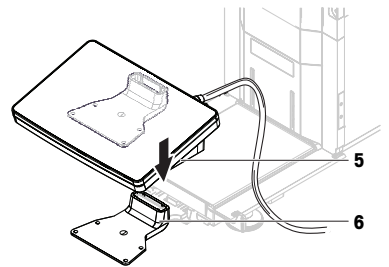
- 1 Insert the slides of the display holder (1) into the front of the weighing unit (2).



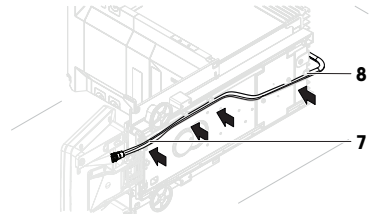
- 2 Connect the terminal cable (3) with the terminal (4). Consider the pin assignment.



- 3 Place the terminal (5) onto the terminal holder (6).

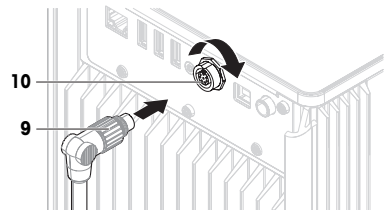


- 4 Carefully tilt the balance to its side.
- 5 Lead the cable (7) through the cable channel (8).
- 6 Carefully put the balance back on its feet.



- 7 Insert the terminal cable (9) into the socket of the balance (10). Consider the pin assignment.

➔ The terminal is ready.



#### 4.4.2 Assembling the balance



#### CAUTION

##### Injury due to sharp objects or broken glass

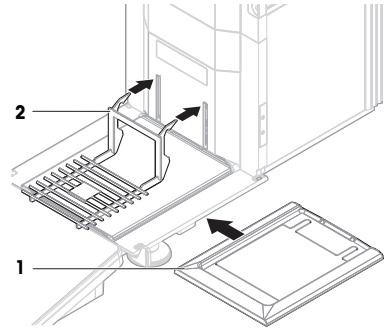
Instrument components, e.g., glass, can break and lead to injuries.

- Always proceed with focus and care.

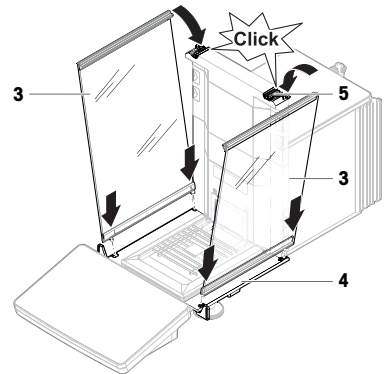
#### Note

Depending on the balance model, the components may look different. The procedure is always the same.

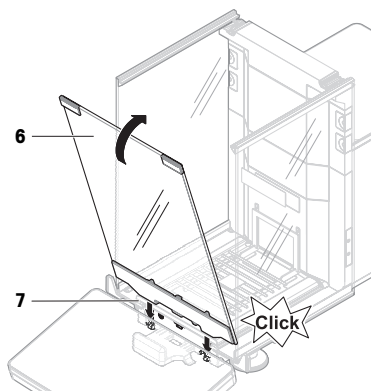
- 1 Insert the drip tray (1).
- 2 Carefully mount the weighing pan (2).



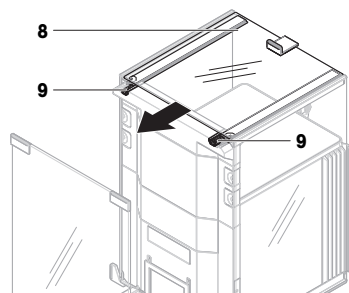
- 3 Place the side doors (3) into the grooves of the door slides (4) and tilt them up until they engage with the door lever (5). Consider the marks on the bottom frames (L = left / R = right).



- 4 Insert the front panel (6) into the grooves (7) and tilt it up until it engages.
- 5 Open the side doors.



- 6 Fit the top door (8) along the top frame of the side doors and into the rails of the back wall (9).
  - 7 Push the top door (8) towards the front.
  - 8 Close the side doors.
- ➔ The balance is assembled and ready to be put into operation.



## 4.5 Putting into operation

### 4.5.1 Connecting the balance



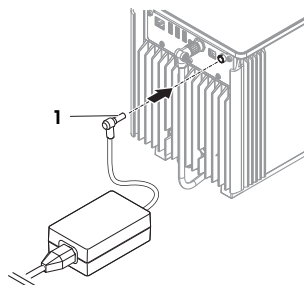
#### **⚠ WARNING**

##### **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 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 the power plug for damage and replace them if damaged.

- 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) into the power socket 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.
- ➔ The balance automatically switches on.
- ➔ The draft shield opens and closes for initialization.



## Note

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.

### See also

General data ▶ Page 20

## 4.5.2 Switching on the balance

When connected to the power supply, the balance automatically switches on.

### EULA (End User License Agreement)

When the balance is switched on the first time, the EULA (End User License Agreement) appears on the screen.

- 1 Read the conditions.
- 2 Tap **I accept the terms in the license agreement.** and confirm with **✓ OK.**
  - ➔ The main weighing screen appears.

### Acclimatization and warm up

Before the balance gives reliable results, it must:

- acclimatize to the room temperature
- warm up by being connected to the power supply

The acclimatization time and warm-up time for balances and comparators are available in "General data".

## Note

When the balance is exiting standby, it is ready immediately.

### See also

General data ▶ Page 20

Entering / Exiting standby mode ▶ Page 15

## 4.5.3 Leveling the balance

Exact horizontal and stable positioning are essential for repeatable and accurate weighing results.

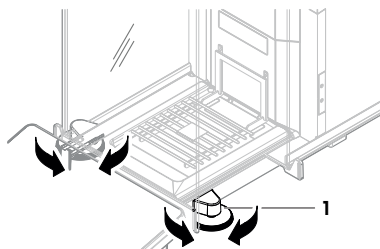
If the message **Balance is out of level** appears:

- 1 Tap **▶ Level the balance.**
  - ➔ The **Leveling aid** opens.
- 2 Turn both leveling feet **(1)** as instructed on the display until the dot is in the center of the level indicator.

The leveling aid can also be accessed through the **Balance menu**:

**Navigation XPR:** ▶ **Balance menu** > **Leveling aid**

**Navigation XSR:** **Balance menu** > **Leveling aid**



## 4.5.4 Performing an internal adjustment



- The adjustment **Strategy** is set to **Internal adjustment.**

- 1 Open the **Methods** section, tap **Adjustments**, select the adjustment, and tap **▶ Start**
  - or -
  - from the main weighing screen, tap **⋮ More** and tap **Start adjustment.**
    - ➔ **Internal adjustment** is being executed.
    - ➔ When the adjustment has been completed, an overview of the adjustment results appears.
- 2 Tap **Print** if you want to print the results.
- 3 Tap **✓ Finish adjustment.**
  - ➔ The balance is ready.


Navigation XPR: ▼ Methods > ⚙ Adjustments

Navigation XSR: ☰ Methods > ⚙ Adjustments

#### 4.5.5 Entering / Exiting standby mode

- 1 To enter standby mode, hold .  
⇒ The display is dark. The balance is still switched on.
- 2 To exit standby mode, press .  
⇒ The display is turned on.

#### 4.5.6 Switching off the balance

To completely switch off the balance, it must be disconnected from the power supply. By holding , the balance goes only into standby mode.

##### Note


When the balance was completely switched off for some time, it must warm up before it can be used.

##### See also

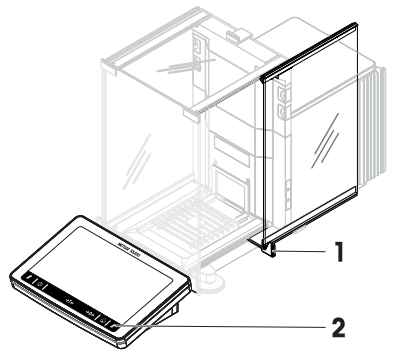
 Switching on the balance ▶ Page 14

### 4.6 Performing a simple weighing


#### 4.6.1 Opening and closing the draft shield doors

- Open the door manually with the door handle (1) or touch the key  on the terminal (2).

The doors can be configured to open and close in different ways.



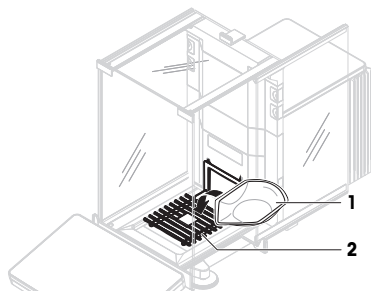
#### 4.6.2 Zeroing the balance

- 1 Open the draft shield.
- 2 Clear the weighing pan.
- 3 Close the draft shield.
- 4 Press  to zero the balance.  
⇒ The balance is zeroed.

### 4.6.3 Taring the balance

If a sample vessel is used, the balance must be tared.

- 1 Open the draft shield.
  - 2 Clear the weighing pan.
  - 3 Close the draft shield.
  - 4 Press **→0←** to zero the balance.
  - 5 Open the draft shield.
  - 6 Place the sample vessel (1) on the weighing pan (2).
  - 7 Close the draft shield.
  - 8 Press **→T←** to tare the balance.
- ➔ The balance is tared. The icon **Net** appears.



### 4.6.4 Performing a weighing

- 1 Open the draft shield.
  - 2 Place the weighing object into the sample vessel.
  - 3 Close the draft shield.
  - 4 Tap **+ Add result** if you want to report the weighing result.
- ➔ The result is added to the **Results list**.

### 4.6.5 Completing the weighing

- 1 To save the **Results list**, tap **Complete**.  
➔ The window **Complete task** opens.
- 2 Select an option to save or print the **Results list**.  
➔ The respective dialog opens.
- 3 Follow the instructions from the wizard.
- 4 Tap **✓ Complete**.  
➔ The **Results list** is saved/printed and then cleared.

## 4.7 Transporting, packing and storing

### 4.7.1 Transporting the balance over short distances

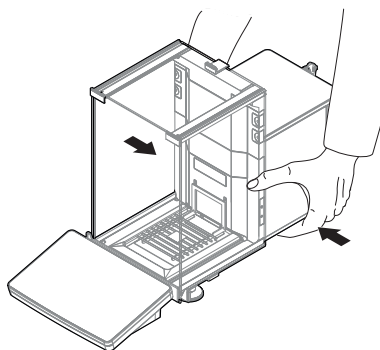
- 1 Disconnect the AC/DC adapter and unplug all interface cables.
- 2 Hold the weighing platform with both hands and carry the balance in horizontal position to the target location.  
Consider the requirements of the location.

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

- 1 Connect in reverse order.
- 2 Level the balance.
- 3 Perform an internal adjustment.

#### See also

- 📖 Selecting the location ▶ Page 8
- 📖 Switching on the balance ▶ Page 14



## 4.7.2 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.

### See also

 Unpacking the balance ▶ Page 9

## 4.7.3 Packing and storing

### Packing the balance

Store all parts of packaging in a safe place. The elements of the original packaging are developed specifically for the balance and its components, and ensures maximum protection during transportation and storage.

### Storing the balance

Only store the balance under the following conditions:

- Indoor and in the original packaging
- According to the environmental conditions, see "Technical Data"



### Note

When storing for longer than 6 months, the rechargeable battery may become empty (only date and time get lost).

### See also

 Technical Data ▶ Page 20

## 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/XPR-analytical-RM](http://www.mt.com/XPR-analytical-RM)

▶ [www.mt.com/XSR-analytical-RM](http://www.mt.com/XSR-analytical-RM)

### 5.1 Maintenance tasks

Maintenance action	Recommended interval	Remarks
Performing an internal adjustment	<ul style="list-style-type: none"><li>• Daily</li><li>• After cleaning</li><li>• After leveling</li><li>• After changing the location</li></ul>	see "Performing an internal adjustment"
Performing routine tests (eccentricity test, repeatability test, sensitivity test). METTLER TOLEDO recommends to at least perform a sensitivity test.	<ul style="list-style-type: none"><li>• After cleaning</li><li>• After assembling the balance</li><li>• After a software update</li><li>• Depending on your internal regulations (SOP)</li></ul>	see "Tests" in the Reference Manual
Cleaning	<ul style="list-style-type: none"><li>• After every use</li><li>• After changing the substance</li><li>• Depending on the degree of pollution</li><li>• Depending on your internal regulations (SOP)</li></ul>	see "Cleaning"

Maintenance action	Recommended interval	Remarks
Updating the software	<ul style="list-style-type: none"> <li>Depending on your internal regulations (SOP).</li> <li>After a new software release.</li> </ul>	see "Software update" in the Reference Manual

### See also

- Performing an internal adjustment ▶ Page 14
- Cleaning ▶ Page 18

## 5.2 Cleaning

### 5.2.1 Disassembling for cleaning



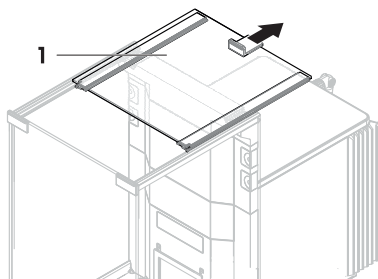
#### CAUTION

#### Injury due to sharp objects or broken glass

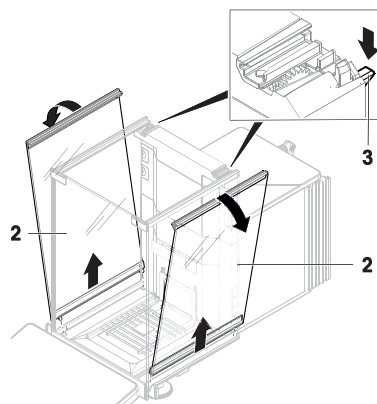
Instrument components, e.g., glass, can break and lead to injuries.

- Always proceed with focus and care.

- 1 Open the top door (1) and pull it all the way back, outside of the rails of the side doors. Shortly before the top panel drops out, you can feel a slight resistance. Just keep pulling a little bit tighter.

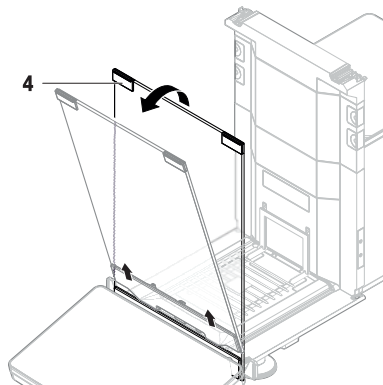


- 2 Hold the side doors (2) and push down the lever (3) to release them.
- 3 Carefully remove both side doors (2).

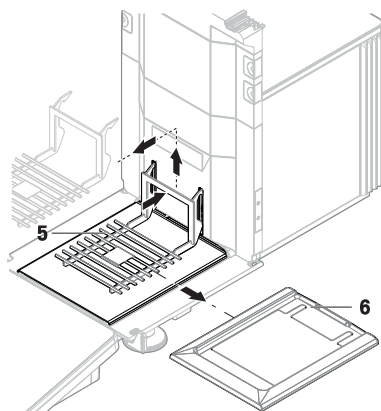




- 4 Tilt the front panel (4) to the front and remove it.



- 5 Carefully lift the weighing pan (5) to unhook it and pull it out.
  - 6 Remove the drip tray (6).
  - 7 Store all removed components in a safe place.
- ➔ The balance is ready for cleaning.



### 5.2.2 Cleaning the balance



#### NOTICE

##### Damage to the instrument due to inappropriate cleaning methods

If liquid enters the housing, it can damage the instrument. The surface of the instrument can be damaged by certain cleaning agents, solvents, or abrasives.

- 1 Do not spray or pour liquid on the instrument.
- 2 Only use the cleaning agents specified in the Reference Manual (RM) of the instrument or the guide "8 Steps to a Clean Balance".
- 3 Only use a lightly moistened, lint-free cloth or a tissue to clean the instrument.
- 4 Wipe off any spills immediately.



For further information on cleaning a balance, consult "8 Steps to a Clean Balance".

► [www.mt.com/lab-cleaning-guide](http://www.mt.com/lab-cleaning-guide)

#### 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 the removed part with a damp cloth or a tissue and a mild cleaning agent or clean in a dishwasher up to 80 °C.



### 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%.

## 5.2.3 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 performing a sensitivity test after cleaning the balance.
  - 9 Press **→0←** to zero the balance.
- ⇒ The balance is ready to be used.


### See also

-  Technical Data ▶ Page 20
-  Performing an internal adjustment ▶ Page 14

## 6 Technical Data

### 6.1 General data

#### Power supply

AC/DC adapter (model no. FSP060-DHAN3):	Input: 100 – 240 V AC ± 10%, 50 – 60 Hz, 1.8 A Output: 12 V DC, 5 A, LPS, SELV
AC/DC adapter (model no. FSP060-DIBAN2):	Input: 100 – 240 V AC ± 10%, 50 – 60 Hz, 1.5 A Output: 12 V DC, 5 A, LPS, SELV
Cable for AC/DC adapter:	3-core, with country-specific plug
Balance power consumption:	12 V DC ± 10%, 2.25 A
Polarity:	

#### Protection and standards

Overvoltage category:	II
Degree of pollution:	2
Standards for safety and EMC:	See Declaration of Conformity
Range of application:	Use only indoors in dry locations

### Environmental conditions

The limit values apply when the balance is used under the following environmental conditions:

Height above mean sea level:	Up to 5000 m
Ambient temperature:	+10 – +30 °C
Temperature change, max.:	5 °C/h
Relative air humidity:	30 – 70%, non-condensing
Acclimatization time:	At least <b>8 hours</b> after placing the instrument in the same location where it will be put into operation.
Warm-up time:	At least <b>120 minutes</b> after connecting the balance to the power supply. When switched on from standby, the instrument is ready for operation immediately.

The balance can be used under the following environmental conditions. However, the weighing performances of the balance may be outside the limit values:

Ambient temperature:	+5 °C – +40 °C
Relative air humidity:	20% to max. 80% at 31 °C, decreasing linearly to 50% at 40 °C, non-condensing

The balance can be disconnected and stored in its packaging under the following conditions:

Ambient temperature:	-25 – +70 °C
Relative air humidity:	10 – 90%, non-condensing

### Environmental conditions for comparators

Comparators need to be used under the following environmental conditions to reach the specified performances:

Air speed, max.:	0.15 m/s
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## 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™

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

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

 [www.mt.com/GWP](http://www.mt.com/GWP)

[www.mt.com/excellence-analytical](http://www.mt.com/excellence-analytical)

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