

METTLER TOLEDO

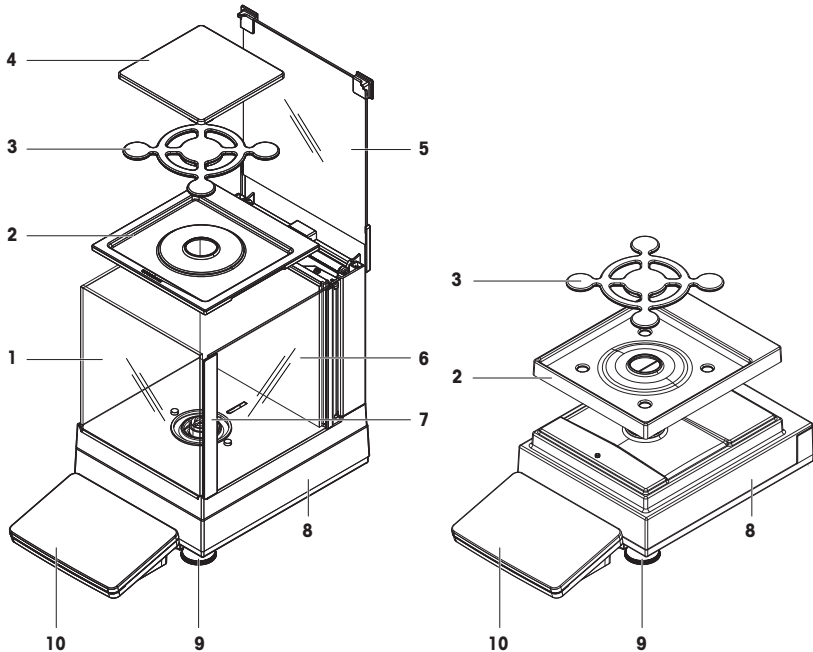


This User Manual provides brief instructions about the first steps to take with the instrument. This ensures safe and efficient handling. Personnel must have carefully read and understood this manual before performing any task.

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

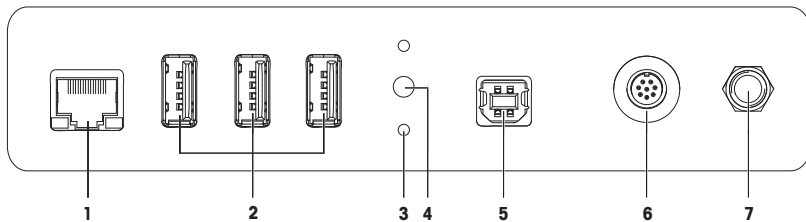
► www.mt.com/XSR-precision-RM

Overview balances with S weighing platform



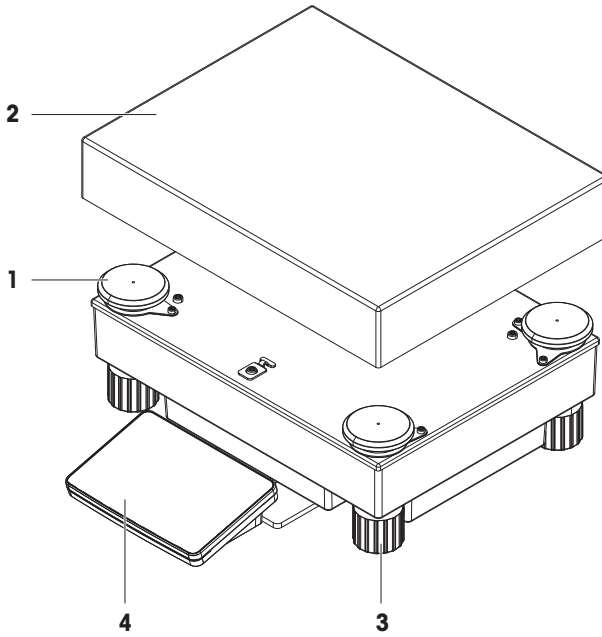
1	MagicCube draft shield	6	MagicCube draft shield side door
2	DripTray	7	MagicCube draft shield side door handler
3	SmartPan weighing pan	8	Weighing platform with protective cover
4	Weighing pan	9	Leveling foot
5	MagicCube draft shield top door	10	Terminal with protective cover

Overview interface board S weighing platform



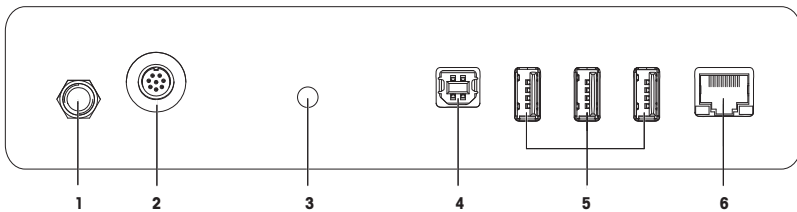
1	Ethernet port	5	USB-B port (to host)
2	USB-A ports (to device)	6	Socket for terminal connection cable
3	Fixations for optional terminal stand	7	Socket for AC/DC adapter
4	Service seal		

Overview balances with L weighing platform



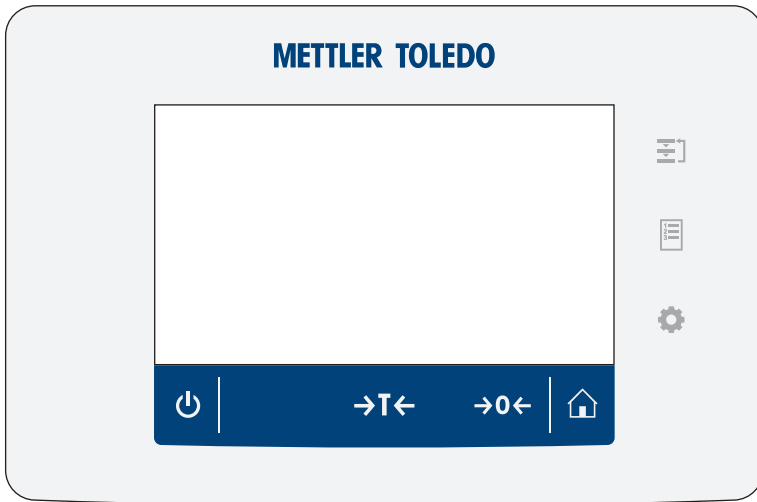
1	Weighing pan support cap	3	Leveling foot
2	Weighing pan	4	Terminal with protective cover

Overview interface board L weighing platform



1	Socket for AC/DC adapter	4	USB-B port (to host)
2	Socket for terminal connection cable	5	USB-A ports (to device)
3	Service seal	6	Ethernet port

Overview terminal



	Standby		Methods
	Tare		Results
	Zero		Balance menu
	Home screen		

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1 Introduction

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

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/XSR-precision

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

► www.mt.com/lab-cleaning-guide

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 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/XSR-precision-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

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



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 Function



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

► www.mt.com/XSR-precision-RM

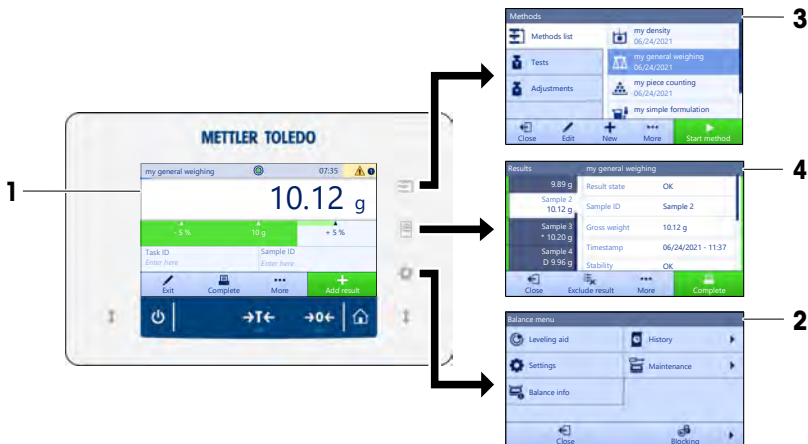
3.1 Overview

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 pressing the symbols on the terminal.



See also

Main weighing screen ▶ Page 6

3.2.2 Main weighing screen



	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 Add result	Adds the result to the Results list . Depending on the selected method, the button can have different functions.

	Name	Description
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	Method name	Shows the name of the current method.

4 Installation and Putting into Operaton

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

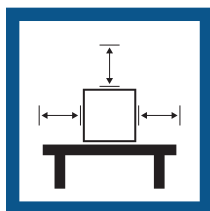
Ensure sufficient spacing

Level the instrument

Provide adequate lighting table



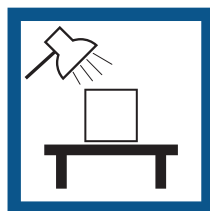
Avoid direct sunlight



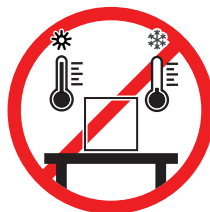
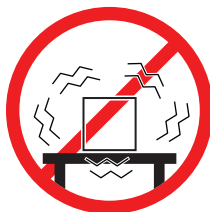
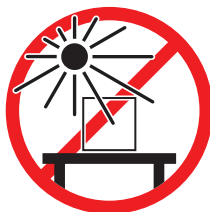
Avoid vibrations



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

Open the balance packaging and check for transportation damage or missing parts. Please inform a METTLER TOLEDO service representative in the event of missing or defective parts.

METTLER TOLEDO recommends retaining the original box with its packaging elements. Use the packaging elements to store and to transport the balance.

4.3 Scope of delivery

4.3.1 S weighing platform

Components	1 mg with MagicCube draft shield	1 mg without MagicCube draft shield	10 mg	100 mg
Weighing platform with protective cover	✓	✓	✓	✓
Terminal with protective cover	✓	✓	✓	✓
Terminal holder	✓	✓	✓	✓
Terminal connection cable (pre-assembled)	✓	✓	✓	✓
MagicCube draft shield with additional draft shield door and DripTray	✓	–	–	–
Weighing pan 127 × 127 mm	✓	–	–	–
Weighing pan 172 × 205 mm	–	–	✓	–
Weighing pan 190 × 223 mm	–	–	–	✓
SmartPan weighing pan	✓	✓	✓	–
Weighing pan support	–	–	–	✓
DripTray	✓	✓	✓	–
Weighing hook for below-the-balance weighing	✓	✓	✓	✓
AC/DC adapter	✓	✓	✓	✓
Power cable (country-specific)	✓	✓	✓	✓
User Manual	✓	✓	✓	✓
Production certificate	✓	✓	✓	✓
CE declaration of conformity	✓	✓	✓	✓

4.3.2 L weighing platform

Components	100 mg	1 g
Weighing platform	✓	✓
Terminal with protective cover	✓	✓
Terminal holder (pre-assembled)	✓	✓
Terminal connection cable	✓	✓
Weighing pan	✓	✓
AC/DC adapter	✓	✓
Power cable (country-specific)	✓	✓
User Manual	✓	✓
Production certificate	✓	✓
CE declaration of conformity	✓	✓

4.4 Installation

4.4.1 Balances with S weighing platform

4.4.1.1 Attaching the terminal to the weighing platform

The terminal is usually placed in front of the weighing platform on the terminal holder. Alternatively, the terminal can be placed next to the weighing platform, or attached to an additional terminal stand.



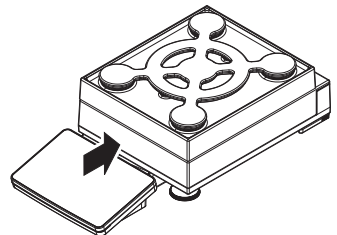
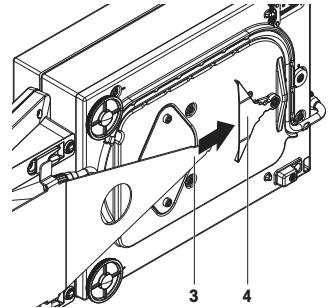
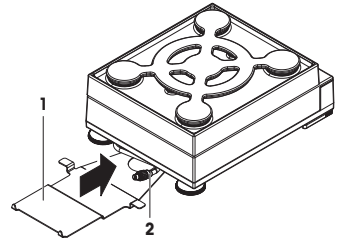
NOTICE

Damage to the balance

The weighing platform and the terminal are not safely fixed by the terminal holder and may fall off when carrying.

- Remove the terminal from the weighing platform and place it on the weighing pan when carrying the balance.

- 1 Place the weighing platform on a flat surface.
 - 2 Position the terminal holder (1) in front of the weighing platform. The plug of the pre-mounted terminal connection cable (2) must lie between the terminal holder (1) and the weighing platform.
 - 3 Push the terminal holder (3) towards the weighing platform. The far end of the terminal holder (3) must be pushed into the lock element (4) at the bottom of the weighing platform.
 - 4 Use the terminal connection cable to connect the terminal with the weighing platform.
 - 5 Place the terminal on top of the terminal holder.
 - 6 Push the terminal towards the weighing platform until the terminal locks into the terminal holder.
- ➔ The terminal is mounted and connected to the weighing platform.



4.4.1.2 Assembling balances 1 mg with MagicCube draft shield and SmartPan weighing pan



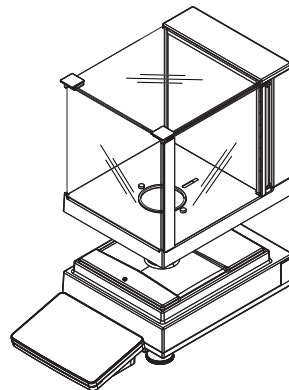
NOTICE

Damage to weighing platform and the MagicCube draft shield when carrying

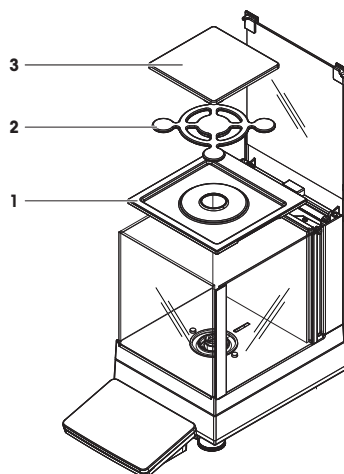
The U-shaped MagicCube draft shield glass is not fixed to the MagicCube draft shield housing.

- 1 Always close the cover before carrying the MagicCube draft shield.
- 2 Always hold the MagicCube draft shield on the housing underneath the glass. Always hold the MagicCube draft shield with both hands and on both sides and keep it in a horizontal position.

- 1 Place the MagicCube draft shield on top of the weighing platform.

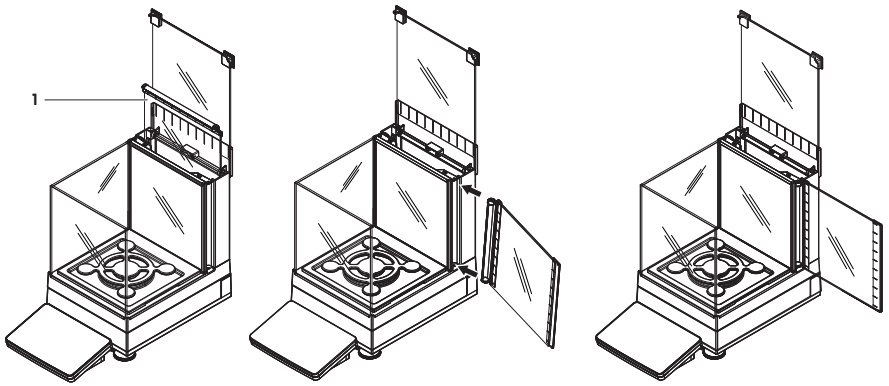


- 2 Open the MagicCube draft shield top door.
- 3 Place the DripTray (1) into the MagicCube draft shield.
- 4 Place the SmartPan weighing pan (2) into the MagicCube draft shield on top of the DripTray (1).
- 5 The weighing pan (3) is optional and can be placed into the MagicCube draft shield on top of the SmartPan weighing pan (2).

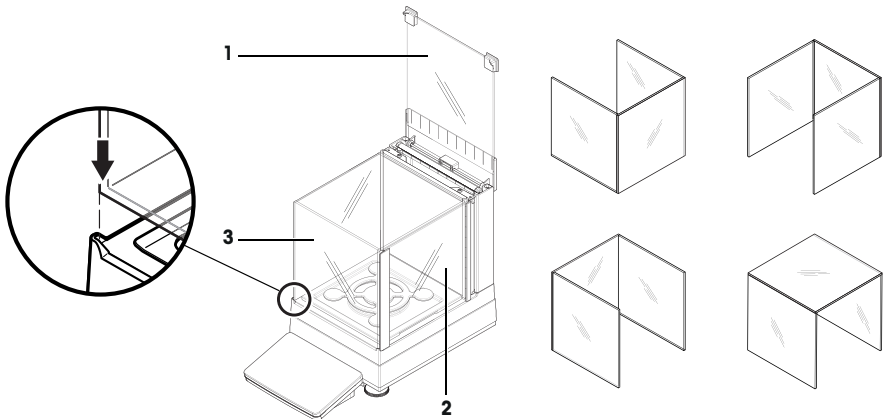


Options for installing the MagicCube draft shield

- 1 Open the MagicCube draft shield top door.
- 2 Take the additional MagicCube draft shield door (1) out of the rear panel.
- 3 Insert the additional MagicCube draft shield door into the housing from the left or the right side.
- 4 Insert the additional MagicCube draft shield door into the fixation holes at the bottom of the housing and then at the top of the housing.

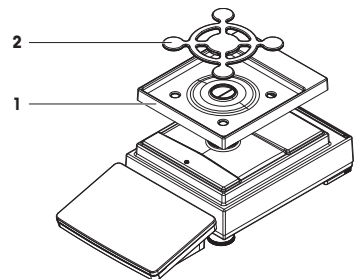


The MagicCube draft shield for XSR models consists of a fixed draft shield housing with top door (1), side door (2) and a flexible U-shaped draft shield glass (3). The U-shaped draft shield glass (3) can be placed individually on top of the draft shield housing. The side door can be found in the draft shield housing.



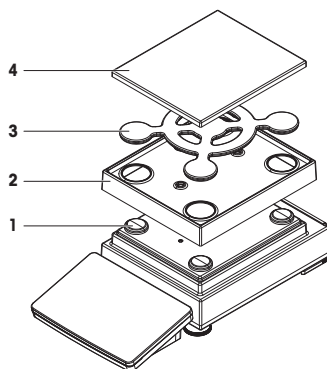
4.4.1.3 Assembling balances 1 mg with SmartPan weighing pan

- 1 Place the DripTray (1) on top of the weighing platform.
- 2 Place the SmartPan weighing pan (2) on top of the DripTray (1).
- 3 The weighing pan can be placed on top of the SmartPan weighing pan if needed.



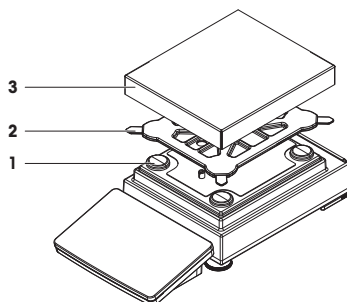
4.4.1.4 Assembling balances 10 mg with SmartPan weighing pan

- 1 Place the weighing pan support caps (1) on top of the weighing platform.
- 2 Place the DripTray (2) on top of the weighing platform.
- 3 Place the SmartPan weighing pan (3) on top of the 4 weighing pan support caps (1).
- 4 Place the weighing pan with the protective cover (4) on top of the SmartPan weighing pan (3).



4.4.1.5 Assembling balances 100 mg

- 1 Place the 4 pan support caps (1) on top of the weighing platform.
- 2 Place the weighing pan support (2) on top of the 4 weighing pan support caps (1).
- 3 Place the weighing pan with the protective cover (3) on top of the weighing pan support (2).

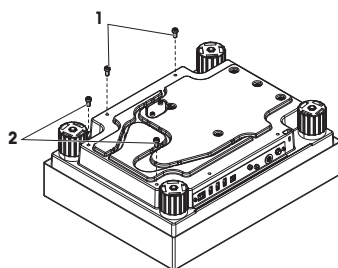


4.4.2 Balances with L weighing platform

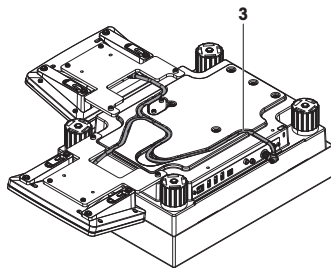
4.4.2.1 Attaching the terminal to the weighing platform

The terminal can be attached to the long side or to the short side of the L weighing platform.

- 1 Turn the weighing platform upside down.
- 2 Dismantle the screws (1) on the long side or the screws (2) on the short side of the weighing platform.
- 3 Connect the terminal to the weighing platform with the terminal connection cable.
- 4 Attach the terminal holder to the long side or to the short side of the weighing platform. Fix the terminal holder with the screws from the weighing platform.



- 5 Insert the terminal connection cable (3) into the cable channel.



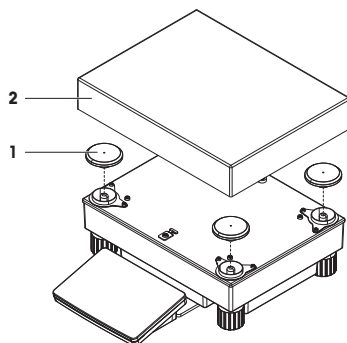
 **Note**

When inserting the terminal connection cable into the cable channel, the terminal connection cable must be inserted simultaneously from both directions. The terminal connection cable must not have any play between the plug and the cable channel (see picture).

- 6 Turn the weighing platform.

4.4.2.2 Assembling balances 100 mg and 1 g

- 1 Place the weighing pan support caps (1) on top of the weighing platform.
- 2 Place the weighing pan (2) on top of the weighing pan support caps (1).



4.5 Putting into operation

4.5.1 Connecting the balance



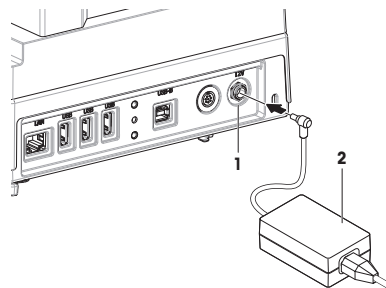
WARNING

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 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 (2) into the power inlet of the instrument (1).
 - 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.



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 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 Follow the instructions from the wizard.

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



Navigation:  Balance menu >  Leveling aid

4.5.4 Performing an internal adjustment


Navigation:  Methods >  Adjustments

- 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.

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 Zeroing the balance

- 1 Open the draft shield, if applicable.
- 2 Clear the weighing pan.
- 3 Close the draft shield, if applicable.
- 4 Press  **0**  to zero the balance.
 - ⇒ The balance is zeroed.

4.6.2 Taring the balance


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

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

4.6.3 Performing a weighing

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

4.6.4 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



NOTICE

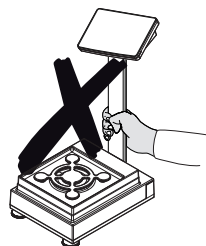
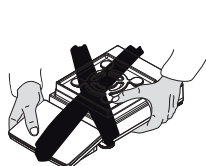
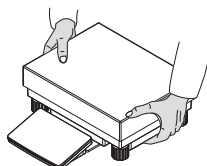
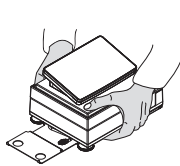
Damage to the draft shield, terminal or additional terminal stand

Do not hold the balance only by the glass draft shield, by the terminal or by the terminal stand when carrying the balance.





- Remove the terminal of the S weighing platform from the terminal holder and place the terminal on top of the weighing pan. Always hold the weighing platform with both hands when carrying the balance.

4.7.1 Transporting the balance over short distances

- 1 Disconnect the balance from the AC/DC adapter.
- 2 Unplug all interface cables if necessary.
- 3 Remove the terminal from the terminal holder and place the terminal on top of the weighing platform (only for S weighing platform).
- 4 Hold the weighing platform with both hands and carry the balance in horizontal position to the target location. Consider the requirements of the location.



See also

-  Selecting the location ▶ Page 7
-  Switching on the balance ▶ Page 14
-  Leveling the balance ▶ Page 14
-  Performing an internal adjustment ▶ Page 15

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.

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).

4.8 Installing devices

4.8.1 Connecting a printer via USB



NOTICE

Damage to the device from not following the instructions of the printer's manual.

- To use the printer, consult its User Manual.

- The USB cable is connected to the printer.
 - The printer is connected to the power outlet and switched on.
 - The main weighing screen is shown on the balance terminal.
- 1 Connect the USB cable to one of the USB-A ports of the balance.
 - ➔ The balance detects the printer automatically and the dialog **Add device** appears.
 - ➔ A message, e.g., "System has found a device of type: Printer P-XX" appears.
 - 2 Set a name for the printer, then tap → **Next**.
 - ➔ A message appears, informing the user that the device is ready to use.
 - 3 Tap ✓ **OK** to close the dialog.
 - ➔ The printer is connected and saved to the system.
 - ➔ The dialog **Printer settings** opens.
 - 4 If needed, configure the printer or print a test page.

Adding a printer via the balance settings

Another way to add a printer is through the balance settings.

Navigation: ⚙️ **Balance menu** > ⚙️ **Settings** > 🖨️ **Devices / Printers**

- The USB cable is connected to the printer.
 - The printer is connected to the power outlet and switched on.
- 1 Tap ➕ **Add device**.
 - ➔ The message "**Connect the device via USB.**" appears.
 - 2 Connect the device to one of the USB-A ports of the balance.
 - 3 Follow the instructions from the wizard.

4.8.2 Connecting a printer via Bluetooth

Navigation: ⚙️ **Balance menu** > ⚙️ **Settings** > 🖨️ **Devices / Printers**

- The printer is connected to the power outlet and switched on.
- 1 Connect the Bluetooth USB adapter to one of the USB-A ports of the balance.
- 2 Connect the Bluetooth RS adaptor to the printer.
- 3 Tap **➕Add device**.
 - ➔ The dialog **Add device** opens.
- 4 Select **Bluetooth connection** and tap **→Next**.
 - ➔ The dialog **"Searching for devices..."** opens and a list of possible Bluetooth devices is displayed.
- 5 Check the bottom of the Bluetooth RS adaptor at the printer for the MAC address (unique device address), select this one in the list and tap **→Next**.
- 6 The dialog **Authentication activated** opens and the **PIN Code** is displayed.
- 7 Tap **→Next** to confirm the Bluetooth connection.
 - ➔ The dialog closes, the printer is connected to the balance via Bluetooth.
 - ➔ The dialog **Printer settings** opens.
- 8 If needed, configure the printer or print a test page.



Note

If the USB adapter is removed from the balance and plugged in again, the Bluetooth connection will be detected automatically. This may take up to 30 seconds.



Note

The balance always pairs with the Bluetooth RS adaptor, but not with the printer that is attached to it. As soon as the user re-uses a Bluetooth RS adaptor for another printer, the user must remove the configured printer in the balance software and add the new one.

4.8.3 Connecting a USB device

This section describes how to connect USB devices without an own power adapter, e.g., a foot switch or an ErgoSens. The connection procedure is the same for all USB devices.



NOTICE

Damage to the device from not following the instructions of the USB device's manual.

- To use the USB device, consult its User Manual.

- The USB cable is connected to the USB device.
- The main weighing screen is shown on the balance terminal.
- 1 Connect the USB cable to one of the USB-A ports of the balance.
 - ➔ The balance detects the USB device automatically. The dialog **Add device** appears, informing the user that the system has found a specific device.
- 2 Set a name for the USB device, then tap **→ Next**.
 - ➔ A message appears, informing the user that the device is ready to use.
- 3 Tap **✓ OK** to close the dialog.
 - ➔ The USB device is connected and saved to the system.

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/XSR-precision-RM

5.1 Maintenance tasks

Maintenance action	Recommended interval	Remarks
Performing an internal adjustment	<ul style="list-style-type: none"> • Daily • After cleaning • After leveling • After changing the location 	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"> • After cleaning • After assembling the balance • After a software update • Depending on your internal regulations (SOP) 	see "Tests" in the Reference Manual
Cleaning	<ul style="list-style-type: none"> • After every use • After changing the substance • Depending on the degree of pollution • Depending on your internal regulations (SOP) 	see "Cleaning"
Updating the software	<ul style="list-style-type: none"> • Depending on your internal regulations (SOP). • After a new software release. 	see "Software update" in the Reference Manual

See also

 Cleaning ► Page 19

5.2 Cleaning

5.2.1 Cleaning the MagicCube draft shield

To clean the MagicCube draft shield, simply remove it from the weighing platform.

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

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

-  Leveling the balance ▶ Page 14
-  Technical Data ▶ Page 20
-  Performing an internal adjustment ▶ Page 15

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 4 hours after placing the instrument in the same location where it will be put into operation.
Warm-up time:	At least 30 minutes 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

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

 www.mt.com/GWP

www.mt.com/xsr-precision

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