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
2 DripTray
3 SmartPan weighing pan
4 Weighing pan
5 MagicCube draft shield top door

6 MagicCube draft shield side door
7 MagicCube draft shield side door handler
8 Weighing platform with protective cover
9 Leveling foot
10 Terminal with protective cover

Overview interface board S weighing platform

1 Ethernet port
2 USB-A ports (to device)
3 Fixations for optional terminal stand
4 Service seal

5 USB-B port (to host)
6 Socket for terminal connection cable
7 Socket for AC/DC adapter
Overview balances with L weighing platform

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

Overview interface board L weighing platform

1. Socket for AC/DC adapter
2. Socket for terminal connection cable
3. Service seal
4. USB-B port (to host)
5. USB-A ports (to device)
6. Ethernet port
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods</td>
<td>Opens the section <strong>Methods</strong>.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Opens the section <strong>Protocol</strong>.</td>
</tr>
<tr>
<td>Balance menu</td>
<td>Opens the section <strong>Balance menu</strong>.</td>
</tr>
<tr>
<td>Home</td>
<td>To return from any menu level to the main weighing screen.</td>
</tr>
<tr>
<td>➔ 0 ← Zero</td>
<td>Zeroes the balance.</td>
</tr>
<tr>
<td></td>
<td>The balance must always be zeroed before starting the weighing process.</td>
</tr>
<tr>
<td></td>
<td>After zeroing, the balance sets a new zero point.</td>
</tr>
<tr>
<td>➔ T ← Tare</td>
<td>Tares the balance.</td>
</tr>
<tr>
<td></td>
<td>This function is used when the weighing process involves containers.</td>
</tr>
<tr>
<td></td>
<td>After taring the balance, the screen shows <strong>Net</strong> which indicates that all</td>
</tr>
<tr>
<td></td>
<td>displayed weights are net.</td>
</tr>
<tr>
<td>➔ Standby</td>
<td>By tapping ✈️, the balance is not completely switched off but goes into</td>
</tr>
<tr>
<td></td>
<td>standby mode.</td>
</tr>
<tr>
<td></td>
<td>To switch the balance completely off, it must be unplugged from the</td>
</tr>
<tr>
<td></td>
<td>power supply.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong></td>
</tr>
<tr>
<td></td>
<td>Do not disconnect the balance from the power supply unless the balance is</td>
</tr>
<tr>
<td></td>
<td>not used for an extended period of time. After switching on the instrument,</td>
</tr>
<tr>
<td></td>
<td>it must warm up before giving accurate results.</td>
</tr>
</tbody>
</table>
5.2.3 Putting into operation after cleaning

6 Technical Data
   6.1 General data

7 Disposal
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. 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.

Instructions for cleaning a balance: “8 Steps to a Clean Balance”

Search for software downloads

Search for documents

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

1.2 Acronyms and abbreviations

<table>
<thead>
<tr>
<th>Original term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM</td>
<td>American Society for Testing and Materials</td>
</tr>
<tr>
<td>EMC</td>
<td>Electromagnetic Compatibility</td>
</tr>
<tr>
<td>FCC</td>
<td>Federal Communications Commission</td>
</tr>
<tr>
<td>GWP</td>
<td>Good Weighing Practice</td>
</tr>
<tr>
<td>ID</td>
<td>Identification</td>
</tr>
<tr>
<td>LPS</td>
<td>Limited Power Source</td>
</tr>
<tr>
<td>MT-SICS</td>
<td>METTLER TOLEDO Standard Interface Command Set</td>
</tr>
<tr>
<td>NA</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>OIML</td>
<td>Organisation Internationale de Métrologie Légale (International Organization of Legal Metrology)</td>
</tr>
<tr>
<td>RFID</td>
<td>Radio-frequency identification</td>
</tr>
<tr>
<td>RM</td>
<td>Reference Manual</td>
</tr>
<tr>
<td>sd</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>SELV</td>
<td>Safety Extra Low Voltage</td>
</tr>
<tr>
<td>SOP</td>
<td>Standard Operating Procedure</td>
</tr>
<tr>
<td>SQC</td>
<td>Statistical Quality Control</td>
</tr>
<tr>
<td>UM</td>
<td>User Manual</td>
</tr>
<tr>
<td>USB</td>
<td>Universal Serial Bus</td>
</tr>
<tr>
<td>USP</td>
<td>United States Pharmacopeia</td>
</tr>
</tbody>
</table>

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

Precision Balances
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.
- 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).

**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 Protocol (4) open when pressing the symbols on the terminal.

![Main weighing screen](image)

![Balance menu](image)

![Methods](image)

![Protocol](image)
3.2.2 Main weighing screen

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

4 Installation and Putting into Operation

4.1 Selecting the location

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

Requirements of the location

Place indoors on stable table  Ensure sufficient spacing  Level the instrument  Provide adequate lighting
Avoid direct sunlight  Avoid vibrations  Avoid strong drafts  Avoid temperature fluctuations

Sufficient spacing for balances: > 15 cm all around the instrument
Take into account the environmental conditions. See "Technical Data".

4.2 Unpacking the balance
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

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

<table>
<thead>
<tr>
<th>Components</th>
<th>100 mg</th>
<th>1 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighing platform</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Terminal with protective cover</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Terminal holder (pre-assembled)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Terminal connection cable</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Weighing pan</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>AC/DC adapter</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Power cable (country-specific)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>User Manual</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Production certificate</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>CE declaration of conformity</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

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 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 performs a self-test after connection to the power supply and is then ready to use.

**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.

4.5.2 Switching on the balance

**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.
Warming up

Before the balance gives reliable results, it must warm up. This takes at least 30 minutes after connecting the balance. When the balance is switched on from standby, it is ready immediately.

- The balance has warmed up.
  - Press \( \text{O} \).
    \( \Rightarrow \) The main weighing screen appears.

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

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 \( \text{Level the balance} \).
   \( \Rightarrow \) The **Leveling aid** opens.
2. Follow the instructions from the wizard.

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

**Navigation:** \( \text{Balance menu} > \text{Leveling aid} \)

4.5.4 Performing an internal adjustment

**Navigation:** \( \text{Methods} > \text{Adjustments} \)

- The adjustment **Strategy** is set to **Internal adjustment**.
1. Open the **Methods** section, tap \( \text{Adjustments} \), select the adjustment, and tap \( \text{Start} \).
   - or -
   from the main weighing screen, tap \( \text{More} \) and tap **Start adjustment**.
   \( \Rightarrow \) **Internal adjustment** is being executed.
   \( \Rightarrow \) When the adjustment has been completed, an overview of the adjustment results appears.
2. Tap \( \text{Print} \) if you want to print the results.
3. Tap \( \text{Finish adjustment} \).
   \( \Rightarrow \) The balance is ready.

4.5.5 Setting the balance to standby mode

The balance can be set to standby mode by holding \( \text{O} \). Exit the standby mode by holding \( \text{O} \) again.

4.5.6 Switching off the balance

To completely switch off the balance, it must be disconnected from the power supply. By holding \( \text{O} \), 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**
\( \text{Switching on the balance} \) \( \text{Page 13} \)

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 \( \text{O} \) to zero the balance.
   \( \Rightarrow \) 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 \( \rightarrow O \leftarrow \) 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 \( \rightarrow T \leftarrow \) to tare the balance.

⇒ The balance is tared. The icon \( \text{Net} \) 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 \( \rightarrow \text{Add to protocol} \) if you want to report the weighing result.

⇒ The weight value is listed in the Protocol.

4.6.4 Completing the weighing

1. To save the Protocol, tap \( \equiv \text{Complete} \).
   ⇒ The window Complete task opens.
2. Select an option to save or print the Protocol.
   ⇒ The respective dialog opens.
3. Follow the instructions from the wizard.
4. Tap \( \checkmark \text{Complete} \).

⇒ The Protocol 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.
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).

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).

5.1 Maintenance tasks

<table>
<thead>
<tr>
<th>Maintenance action</th>
<th>Recommended interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performing an internal adjustment</td>
<td>• Daily</td>
<td>see &quot;Performing an internal adjustment&quot;</td>
</tr>
<tr>
<td></td>
<td>• After cleaning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• After leveling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• After changing the location</td>
<td></td>
</tr>
<tr>
<td>Performing routine tests (eccentricity test, repeatability test, sensitivity test).</td>
<td>• After cleaning</td>
<td></td>
</tr>
<tr>
<td>METTLER TOLEDO recommends to at least perform a sensitivity test.</td>
<td>• After assembling the balance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• After a software update</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Depending on your internal regulations (SOP)</td>
<td></td>
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</tbody>
</table>

www.mt.com/XSR-precision-RM
<table>
<thead>
<tr>
<th>Maintenance action</th>
<th>Recommended interval</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning</td>
<td>• After every use&lt;br&gt;• After changing the substance&lt;br&gt;• Depending on the degree of pollution&lt;br&gt;• Depending on your internal regulations (SOP)</td>
<td>see “Cleaning”</td>
</tr>
<tr>
<td>Updating the software</td>
<td>• Depending on your internal regulations (SOP).&lt;br&gt;• After a new software release.</td>
<td>see “Software update” in the Reference Manual</td>
</tr>
</tbody>
</table>

See also

Cleaning Page 17

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".

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%.

▶ [www.mt.com/lab-cleaning-guide](http://www.mt.com/lab-cleaning-guide)
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 \[ O \] to zero the balance.

\[ \Rightarrow \] The balance is ready to be used.

See also

- Technical Data  » Page 18
- Leveling the balance  » 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: \[ \rightarrow \]

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

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