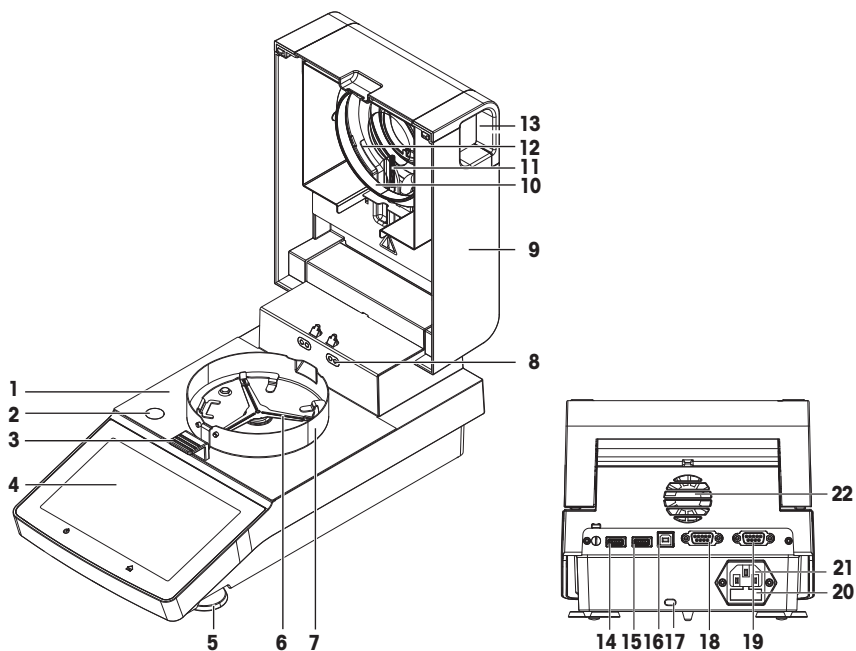


METTLER TOLEDO

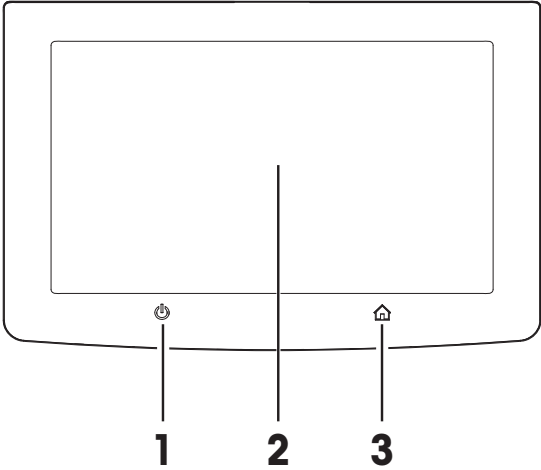
Overview drying unit





Legend

- | | | | |
|----|---|----|--|
| 1 | Sample chamber | 2 | Level indicator |
| 3 | Sample pan handler | 4 | WVGA color display (touch screen) |
| 5 | Leveling screw | 6 | Sample pan holder |
| 7 | Draft shield element | 8 | Contacts for optional temperature adjustment kit |
| 9 | Heating module (with thermal overload protection) | 10 | Reflector ring |
| 11 | Temperature sensor | 12 | Protective glass |
| 13 | Handles for opening the sample chamber | 14 | USB Host 1 |
| 15 | USB Host 2 | 16 | USB Device |
| 17 | Kensington slot for anti-theft purposes | 18 | RS232C |
| 19 | RS232C (for optional RHT sensor only) | 20 | Power line fuse |
| 21 | Power supply socket | 22 | Fan |

Overview operation keys



Legend operation keys

1		To switch on or off (standby operation) the instrument. Note Do not disconnect the instrument from the power supply except if you will not be using the instrument for an extended period.
2		The touch screen area
3		Home To return to the user home screen.

1 Safety Information

- Read and understand the instructions in this manual before you use the instrument.
- Keep this manual for future reference.
- Include this manual if you pass on the instrument to other parties.

If the instrument is not used according to the instructions in this manual or if it is modified, the safety of the user may be impaired and Mettler-Toledo GmbH assumes no liability.



Additional information about this instrument can be found in the Operating Instructions on the CD-ROM or online.

1.1 Definition of signal warnings and symbols

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

Signal words

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

Warning symbols



General hazard



Electrical shock



Toxic substance



Flammable or explosive substance



Acid / Corrosion



Hot surface

1.2 Product specific safety notes

Your instrument represents state-of-the-art technology and complies with all recognized safety rules, however, certain hazards may arise in extraneous circumstances. Do not open the housing of the instrument; it does not contain any parts that can be maintained, repaired or replaced by the user. If you experience problems with your instrument, contact your authorized METTLER TOLEDO dealer or service representative.

Intended use

This instrument is designed to be used for determining the moisture content of samples. Use the instrument exclusively for this purposes.

Any other type of use and operation beyond the limits of technical specifications without written consent from Mettler-Toledo GmbH is not intended.

Moisture determination applications must be optimized and validated by the user according to local regulations. Application-specific data provided by METTLER TOLEDO is intended for guidance only.

Site requirements

The instrument has been developed for indoor operation. Avoid the following environmental influences:

- Conditions outside of the ambient conditions specified in the technical data

- Strong air circulations
- Powerful vibrations
- Direct sunlight
- Corrosive gas atmosphere
- Explosive atmosphere of gases, steam, fog, dust and flammable dust
- Powerful electric or magnetic fields

Staff qualification

Incorrect use of the instrument or the chemicals used in the analysis can lead to death or injury. The following experience is needed for operating the instrument.

- Knowledge and experience in working with toxic and caustic substances.
- Knowledge and experience in working with standard laboratory equipment.
- Knowledge and experience in working in accordance with general lab safety rules.

Responsibilities of the instrument owner

The instrument owner is the person that uses the instrument for commercial use or places the instrument at the disposal of his staff. The instrument owner is responsible for product safety and the safety of staff, user(s) and third party.

The operator has the following responsibilities:

- Know the rules for safety at the workplace that are in effect and enforce them.
- Ensure that only qualified staff uses the instrument.
- Define the responsibilities for installation, operation, cleaning, troubleshooting and maintenance and ensure that the tasks are done.
- Train the staff in regular intervals and inform them about dangers.
- Provide the necessary protective gear for the staff.

Shut down of the instrument in emergency situations

- Pull the plug from the electrical outlet.

Protective clothing

It is advisable to wear protective clothing in the laboratory when working with the instrument.



A suitable eye protection such as goggles should be worn.



Use appropriate gloves when handling chemicals or hazardous substances, checking their integrity before use.



A lab coat should be worn.



WARNING

Danger of death or serious injury due to electric shock!

Contact with parts that contain a live current can lead to injury and death. If the instrument cannot be shut down in an emergency situation, people can be injured or the instrument can be damaged.

- 1 Only use the supplied three-core power cable with equipment grounding conductor to connect your instrument.
- 2 Check that the voltage printed on the instrument is the same as your local power supply voltage.
 - ⇒ If this is not the case, under no circumstances connect the AC/DC adapter to the power supply, but contact a METTLER TOLEDO representative.
- 3 Only connect the instrument to a three-pin power socket with earthing contact.
- 4 Only standardized extension cable with equipment grounding conductor must be used for operation of the instrument.
- 5 Do not disconnect the equipment grounding conductor.
- 6 Check the cables and the plug for damage and replace damaged cables and plugs.
- 7 Make sure that the cables are arranged so that they cannot be damaged or interfere with the operation.
- 8 Keep all electrical cables and connections away from liquids.
- 9 Make sure that the power plug is accessible at all times.



CAUTION

Danger of burns due to hot surfaces!

Parts of the instrument can reach temperatures that cause injuries if touched.

- 1 Do not touch the place marked with the warning symbol.
- 2 Make sure sufficient free space around the instrument to avoid heat accumulation and overheating (approx. 1 m free space above the heating module).
- 3 The vent over the sample must never be covered, plugged, taped over or tampered with in any other way.
- 4 Do not place any combustible materials on, under or next to the instrument since the area around the heating module may be hot.
- 5 Exercise caution when removing the sample. The sample itself, the sample chamber, the draft shield and any sample vessels used may still be very hot.
- 6 During operation, you should never open the heating module itself as the ring-shaped heating reflector or its protective glass can reach 400 °C! If you have to open the heating module e.g. for maintenance, disconnect the instrument from the power supply and wait until the heating module has cooled down completely.
- 7 No modifications must be made within the heating module. It is particularly dangerous to bend any components or remove them or to make any other changes.

Certain samples require special care!

With certain types of samples, there is a possibility of danger to personnel or damage of property. Please note that the user always has the responsibility and liability for damage caused by use of any types of samples!



WARNING

Danger of injuries and death due to toxic substances or caustic components!

Chemicals can cause injuries if they come in contact with bare skin, eyes or are inhaled.

- 1 When using chemicals and solvents, comply with the instructions of the producer and the general lab safety rules.
- 2 Set up the instrument in a well-ventilated location.
- 3 Clean any spills immediately.
- 4 If you use dry substances which form toxic gases, place the instrument in a fume hood.



WARNING

Danger of death and serious injuries due to flammable solvents!

Flammable solvents can ignite and lead to fire and explosions.

- 1 Keep flammable solvents away from naked flames.
- 2 When using chemicals and solvents, comply with the instructions of the producer and the general lab safety rules.



WARNING

Danger of injuries due to corrosion!

Substances which evolve corrosive vapors when heated (e.g. acids).

- Work with small amounts of samples as the vapor can condense on cooler housing parts and cause corrosion.



NOTICE

Danger of damaging the touch screen with pointed or sharp objects!

Do not use pointed or sharp objects to navigate on the touch screen. This may damage the surface of the touch screen.

- Operate the touch screen with your fingers.

2 User interface

The colored touch screen is a touch-sensitive WVGA display. The touch screen not only displays information, it also allows you to enter commands by touching certain areas on its surface. You can choose the information displayed on the screen, change settings or perform certain operations on the instrument.

Buttons on the touch screen

Buttons are software elements on the touch screen (Soft keys).



NOTICE

Danger of damaging the touch screen with pointed or sharp objects!

Do not use pointed or sharp objects to navigate on the touch screen. This may damage the surface of the touch screen.

- Operate the touch screen with your fingers.

2.1 User home screen

The user home screen always appears after startup or login of the instrument. The user home screen is the central screen where every application can be started. Returning to the user home screen is possible by pressing the button  or by tapping **Home** in the action bar of the current process.



	Name	Explanation
1	Status bar	The status bar shows status icons, date and time.
2	Title bar	The title bar shows elements for the user's orientation and information.
3	Content area	The content area is the main working area for menus and applications.
4	Action bar	The action bar shows buttons for available actions in the current dialog (e. g. Back , ->O/T<- , Print , Save , Delete , OK).
5	Main menu	In the main menu, the submenus Measurement , Results , Method Definition , Test/Adjust or Settings can be chosen.
6	Status icons	Icons that show the status of the device.
7	User shortcuts	User-specific shortcuts for frequently used methods. Shortcuts are saved in the user profile.

2.2 Input dialogs

2.2.1 Entering text and numbers

The keyboard dialog allows you to enter characters including letters, numbers and a variety of special characters.



	Name	Explanation
1	Input field	Shows the characters that have been entered.
2	Explanation field	Shows additional information.
3	Specialized tabs	To switch the keyboard mode for entering letters, numbers or special characters.
	Shift-Lock	To enter lower and upper case letters.
	Delete	Delete last character.
	Cursor left	To move the cursor to the left.
	Cursor right	To move the cursor to the right.

Note

It is also possible to place cursor directly in input field by tapping the respective position.

2.3 Work screen

The work screen is used for performing main tasks e.g. measurements.



	Name	Explanation
1	Name field	Name of current method
2	Shortcut button	Adding/editing a shortcut to the home screen for this method
3	Value panel	Displays the current measured values of the work process
4	Graphics panel	E.g. graphical illustrations of the drying curves, instructions for the user for performing tasks, and weighing-in aid
5	ID panel	Identifications (IDs) appear after tapping the ID panel for entering or editing values (comments). ID panel appears only if identification input is activated in the menu.
6	Parameter panel	Displays the parameters of the current work process. A detailed overview of the method parameters appears after tapping the parameter panel.
7	Action buttons	Depending on the current context

3 Installation and Putting into Operation



Additional information about this instrument can be found in the Operating Instructions on the CD-ROM or online.

Finding more information

► www.mt.com/moisture

3.1 Scope of delivery



NOTICE

Danger of damage to the instrument due to incorrect parts!

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

- Only use parts supplied with the instrument, listed accessories and spare parts from METTLER TOLEDO.

Open the package and check the completeness of the delivery. The following accessories are part of the standard equipment of your new Moisture Analyzer:

Remove the packaging from the instrument. Check the instrument for transport damage. Immediately inform your METTLER TOLEDO representative if you have any complaints or parts are missing.

Note

Store all parts of the packaging. This packaging guarantees the best possible protection for the transport of your instrument.

- 80 aluminum sample pans
- 1 Sample handler
- 1 Sample pan holder
- 1 Draft shield
- 1 Specimen sample (circular, absorbent glass fibre filter)
- 1 Power cable (country specific)
- 1 SmartCal sample
- 1 In use cover
- 1 Application brochure "Guide to Moisture Analysis"
- 1 Operating instructions or User Manual; printed or on CD-ROM, depending on country of use
- 1 CD ROM (Installation videos, Operating Instructions, User Manual, Moisture Guide, SOPs Routine Testing and further information)
- 1 Declaration of conformity
- 1 Voucher for E-learning "Proper Moisture Determination"

3.2 Location



WARNING

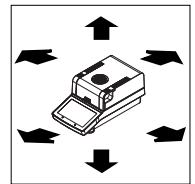
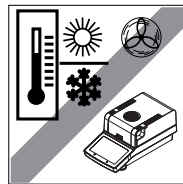
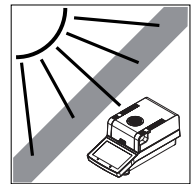
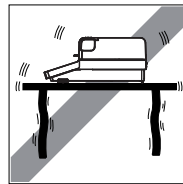
Danger of injuries and death due to toxic substances or caustic components!

Chemicals can cause injuries if they come in contact with bare skin, eyes or are inhaled.

- 1 When using chemicals and solvents, comply with the instructions of the producer and the general lab safety rules.
- 2 Set up the instrument in a well-ventilated location.
- 3 Clean any spills immediately.
- 4 If you use dry substances which form toxic gases, place the instrument in a fume hood.

Your Moisture Analyzer is a precision instrument. An optimum location guarantees accuracy and dependability. Make sure that the following environmental conditions are met:

- Operate the instrument only indoors and at an altitude of less than 4000 m above sea level.
- Before switching on the instrument, allow all its parts to reach room temperature (+5 to 30 °C). Make sure that the relative humidity is between 20% and 80% and non-condensing conditions are met.
- The power plug must be easily accessible.
- Firm, horizontal location as free from vibrations as possible.
- Avoid direct sunlight.
- No excessive temperature fluctuations.
- No powerful drafts.
- Surroundings as free from dust as possible.
- Sufficient clearance around the instrument to allow warm air to dissipate.
- Sufficient distance from heat-sensitive materials in the vicinity of the instrument.



3.3 Connecting the instrument



WARNING

Danger of death or serious injury due to electric shock!

Contact with parts that contain a live current can lead to injury and death. If the instrument cannot be shut down in an emergency situation, people can be injured or the instrument can be damaged.

- 1 Only use the supplied three-core power cable with equipment grounding conductor to connect your instrument.
- 2 Check that the voltage printed on the instrument is the same as your local power supply voltage.
 - ⇒ If this is not the case, under no circumstances connect the AC/DC adapter to the power supply, but contact a METTLER TOLEDO representative.
- 3 Only connect the instrument to a three-pin power socket with earthing contact.
- 4 Only standardized extension cable with equipment grounding conductor must be used for operation of the instrument.
- 5 Do not disconnect the equipment grounding conductor.
- 6 Check the cables and the plug for damage and replace damaged cables and plugs.
- 7 Make sure that the cables are arranged so that they cannot be damaged or interfere with the operation.
- 8 Keep all electrical cables and connections away from liquids.
- 9 Make sure that the power plug is accessible at all times.


Two different versions of drying units with country-specific power cable are available:

110 V AC or 230 V AC

- Instrument is at the final location.

- 1 Connect the power cable to the power supply socket on the instrument.
- 2 Connect the power cable to the power supply.

Switching on the instrument

- 1 Instrument is connected to the power supply.
- 2 To switch on, press 
 - ⇒ Display appears.
 - ⇒ Instrument is ready to use.

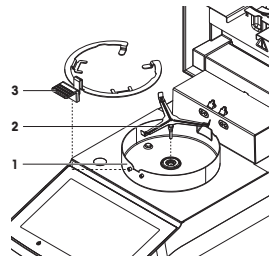
3.4 Setting up the sample chamber

Note

When putting into operation for the first time or if the instrument is disconnected from the power over a longer period, leave the instrument connected to the power supply for at least 5 hours to allow the built-in rechargeable battery to charge up! This battery ensures that the date and time are not lost when the instrument is disconnected from the power. This battery can not be replaced by the user. Please contact a METTLER TOLEDO representative.

- Instrument is connected to the power supply.
- 1 Open the sample chamber.

- 2 Place the draft shield element (1) into the sample chamber.
 ⇒ Make sure that the draft shield element is correctly positioned. The element must be locked with the screw heads on the bottom of the sample chamber.
- 3 Insert the sample pan holder (2) carefully.
 ⇒ Make sure that the sample pan holder is correctly positioned. When one arm of the sample pan holder has a 90° angle to the display, the sample pan falls into position (see picture above).
- 4 Insert the sample pan handler (3).
- 5 Press [⏏] to start the instrument.



3.5 Leveling the Moisture Analyzer

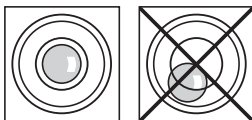
Exact horizontal positioning and stable installation are prerequisites for repeatable and accurate results. To compensate for small irregularities or inclinations ($\pm 2\%$) at the location, the instrument must be leveled.

For exact horizontal positioning, the device has a level indicator and two leveling feet. When the air bubble in the level indicator is exactly in the center, the instrument is standing perfectly horizontally.

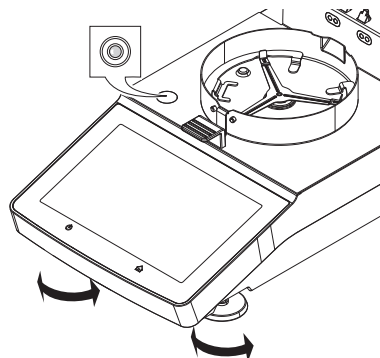
Note

The drying unit should be re-leveled each time its location is changed.

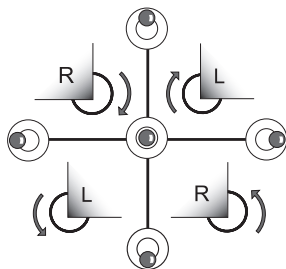
To level it, proceed as follows:



- 1 Position your Moisture Analyzer at the selected location.
- 2 Turn the two leveling feet until the air bubble is in the center of the level indicator.



Air bubble at	"12 o'clock"	turn both feet clockwise
Air bubble at	"3 o'clock"	turn left foot clockwise, right foot counter- clockwise
Air bubble at	"6 o'clock"	turn both feet counter- clockwise
Air bubble at	"9 o'clock"	turn left foot counter- clockwise, right foot clockwise



The Moisture Analyzer can also be leveled by using the Tutorial **1. Leveling the instrument**. For more information **see** Instrument tutorial.

3.6 Setting date and time

Navigation: Home > Settings > Instrument settings > Regional Settings

When the instrument was switched into operation for the first time, date, time and language have been defined with the function **Setup Wizard**. These settings are retained even if the instrument is being disconnected from the power supply. The settings can also be changed manually as follows:

Set the current date

- **Regional Settings** is selected.

- 1 Tap **Date**.
- 2 Set day, month and year.
- 3 Confirm with **Set date**.

Set the current time

- **Regional Settings** is selected.

- 1 Tap **Time**.
- 2 Set hours and minutes.
- 3 Confirm with **Set time**.

Note

For changing the format for date and time, **see** Regional settings.

3.7 Adjustment

To obtain accurate measuring results, it is necessary to adjust the integrated balance as well as the heating module under working condition.

Adjusting is necessary before the instrument is used for the first time or after a change of location. We recommend to do TESTS at regular intervals and adjust if necessary.

The following adjustment options are possible:

- Balance adjustment with external weight
- Temperature adjustment with temperature kit

4 Performing a Measurement

After you have successfully put your new Moisture Analyzer into operation for the first time, you can immediately perform your first measurement. In doing so, you will become familiar with the instrument.

Use the supplied specimen sample (absorbent glass fiber filter) for your first measurement to determine the moisture content. During your first measurement the instrument operates with the factory settings.

Create a method

- 1 Tap **Method Definition**.
⇒ **Method Definition** menu appears.
- 2 To define a new method, tap **New...**
⇒ The keypad appears.
- 3 Enter a name for your first method e.g. **My first method**.
- 4 Confirm with **OK**.
- 5 To store your new method with factory settings, tap **Save**.
- 6 Tap **Home**.
⇒ User home screen appears.

Note

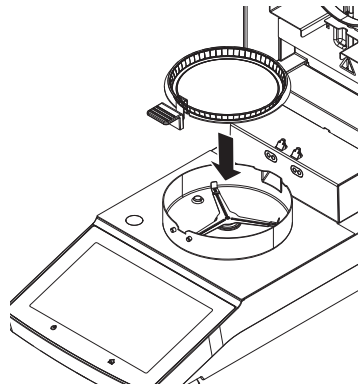
The number of methods that can be created is limited to 20.

Select the method for measuring

- 1 Tap **Measurement**.
⇒ The methods list is displayed.
- 2 Tap **My first method**.
⇒ The work screen of the method **My first method** appears.
- 3 Open the sample chamber.
 - The display now prompts you to load the empty sample pan and tare the balance.
- 1 Place the empty sample pan in the sample pan handler.
- 2 Place the sample pan handler in the sample chamber. Ensure that the tongue of the pan handler fits exactly in the slot of the draft shield element. The sample pan must lie flat in the pan holder.

Note

We advise you to work with the sample pan handler at all times. The pan handler is ergonomic, automatic positioning, safe and provides protection against possible burns due to the hot sample pan.



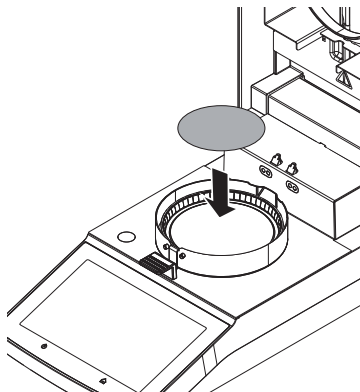
Taring the balance

Note

Before the sample pan is placed into the sample chamber, the left corner of the display must show **Open cover, place sample pan and tare**.

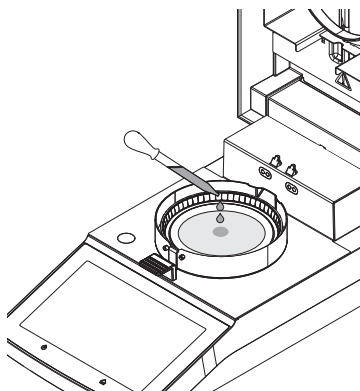
If the display shows **Add sample**, tap **Cancel** before placing the empty sample pan in the sample chamber.

- 1 Close the sample chamber.
⇒ The instrument tares the balance (**Starting mode: Automatic**).
- 2 After tarring, open the sample chamber.
- 1 Place the specimen sample in the sample pan.



- 2 Wet the specimen sample with a few drops of water.
- 3 Close the sample chamber.
⇒ The drying process starts automatically.

Drying process



You can follow the measurement process on the display.

- The drying process is continuously displayed graphically.
- The current temperature in the heating module is displayed as well as the elapsed drying time and the current drying value.
- The display shows the selected settings.
- Tap on **Stop drying**. The options **Abort measurement and save data**, **Abort without saving** or **Cancel** are available.
- Tap on **Abort measurement and save data** or **Abort without saving** to abort the process.
- Tap on **Cancel** to continue the process.

At the end of the drying process you can read the moisture content of your sample on the display.



⚠ CAUTION

Danger of burns due to hot surfaces!

Parts of the instrument can reach temperatures that cause injuries if touched.

Sample, sample pan and other parts inside the sample chamber may still be hot.


- Do not touch the place marked with the warning symbol.

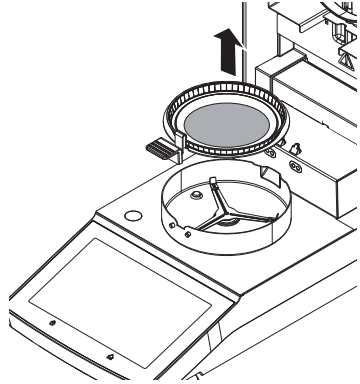
- The drying process is completed.

- 1 Open the sample chamber.
- 2 Carefully remove the sample pan handler from the sample chamber.

Note

To remove the sample pan from the handler, lift the pan slightly from below and pull it out of the handler.

- 3
 - To perform a further measurement with the current method, tap **Next Sample**.
 - To perform a measurement with a new method, tap **Methods**.
 - To return to the home screen, press .



5 Maintenance



⚠ WARNING

Danger of death or serious injury due to electric shock!

Contact with parts that contain a live current can lead to injury and death. If the instrument cannot be shut down in an emergency situations, people can be injured or the instrument can be damaged.

- 1 Disconnect the instrument from the power supply, before cleaning or other maintenance work to be performed.
- 2 Use only the power cable from METTLER TOLEDO, if it needs replacing.

Note

- The thermal overload protection can not be reset by the user.
- The halogen lamp can not be replaced by the user.

In such cases, contact your METTLER TOLEDO representative.

5.1 Cleaning



⚠ CAUTION

Danger of burns due to hot surfaces!

The interior parts of the heating module as well as the parts in the sample chamber could be very hot.

- Wait until the heating module has cooled down completely.

Your Moisture Analyzer is made from high quality, resistant materials and can therefore be cleaned with a commercially available, mild cleaning agent e.g. isopropanol.

To obtain precise measurement results, we recommend you to clean the temperature sensor and the protective glass of the halogen lamp regularly. Please note the following directions for cleaning your instrument.



NOTICE

Danger of damage to the instrument due to inappropriate cleaning agents!

Parts of the instrument can be damaged if you use the wrong cleaning agents. If liquids enter the housing they can damage the instrument.

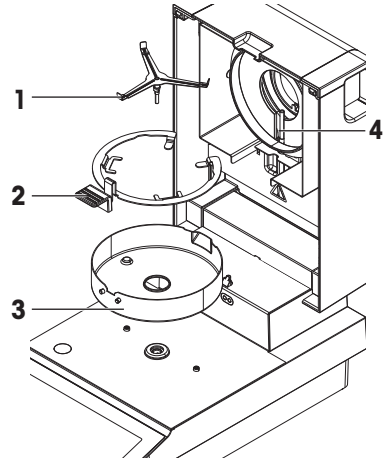
- 1 Use a lint-free cloth for cleaning.
- 2 Use only water and a mild detergent to clean the exterior of the heating module or terminal.
- 3 Wipe off any spills immediately.
- 4 Make sure that no liquid enters the interior of the instrument.
- 5 Never open the housing of the instrument – it contains no components, which can be cleaned, repaired or replaced by the user.

Note

After the temperature sensor or the protective glass have been cleaned, we recommend adjusting the heating module using the temperature adjustment kit, **see** Temperature Adjustment.

5.1.1 Sample chamber

- Sample chamber is open.
- 1 Remove the sample pan holder (1), the sample pan handler (2) and the draft shield element (3) for cleaning.
- 2 Carefully remove any deposits from the black temperature sensor (4).



5.1.2 Heating module



CAUTION

Danger of burns due to hot surfaces!

The round halogen lamp could be very hot.

- 1 Do not remove the halogen lamp!
- 2 Wait until the heating module has cooled down completely.
- 3 Remove any splashes, deposits, or spots from the halogen lamp with a weak organic solvent such as, for example ethanol.



NOTICE

Risk of damage to the protective glass!

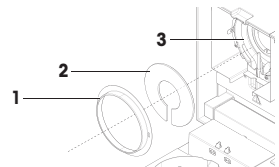
The protective glass is made of quartz glass. The protective glass is loose and may fall out when the reflector ring is removed. Always use gloves for touching the protective glass.

- 1 Do not touch the protective glass with bare hands.
- 2 Clean the glass always with non-alkaline cleaning agents.

⇒ Gloves must be worn.

To clean the protective glass (2) and the reflector ring (1), you should first open the heating module.

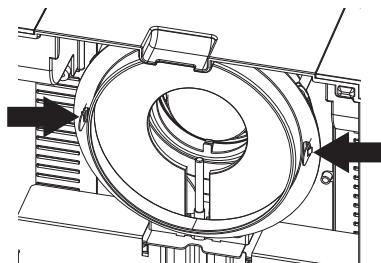
- 1 Reflector ring
- 2 Protective glass
- 3 Halogen lamp



Removing reflector ring

- 1 Sample chamber is open.

- 2 Push the clips towards each other to unlock the reflector ring (1).
- 3 Pull carefully out the reflector ring (1).



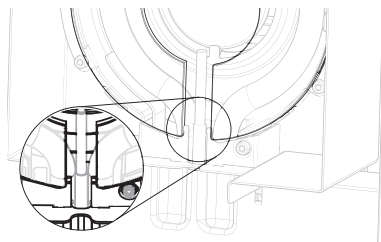
Removing protective glass

- Reflector ring (1) is removed.
- Pull out the protective glass (2).

Reassembling after cleaning

Reassemble all parts in the opposite order.

- All parts are cleaned.
- 1 Insert the protective glass (2).
 - 2 Place the outer edges of the protective glass (2) must precisely into the housing (see illustration).
 - 3 Insert the reflector ring (1).
 - 4 Push the reflector ring (1) until you hear a click sound and the reflector ring (1) is locked.
 - 5 Close the heating module.



5.1.3 Fan grill

The air inlet of the fan is located at the rear of the instrument and its exterior should be cleaned from time to time to free it from any dust deposits.

5.2 Disposal



In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment. If you have any questions, please contact the responsible authority or the distributor from which you purchased this device. Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Thank you for your contribution to environmental protection.

6 Technical Data

6.1 General data

Power supply

110 V AC Version	100 V–120 V, 50/60 Hz, 4 A
230 V AC Version	200 V–240 V, 50/60 Hz, 2 A
Voltage fluctuations	-15%+10%
Power load	max. 450 W during drying process
Power line fuse	115 V: 5 × 20 mm, F6.3AL 250 V (6.3 A, fast-acting, low-breaking capacity) 230 V: 5 × 20 mm, F2.5AL 250 V (2.5 A, fast-acting, low-breaking capacity)

Protection and standards

Overvoltage category	II
Degree of pollution	2
Standards for safety and EMC	see Declaration of Conformity (part of standard equipment)
Range of application	for use in dry interior rooms

Environmental conditions

Height above sea level	up to 4000 m
Ambient temperature range	Operation: +10 °C to 30 °C (operability guaranteed 5 °C to 40 °C)
Relative air humidity	max. 80% up to 31 °C, linearly decreasing to 50% at 40 °C 20% - 80% and non-condensing conditions
Warm-up time	At least 60 minutes after connecting the instrument to the power supply; when switched on from standby, the instrument is ready for operation immediately.

Materials

Drying Unit

Housing	Plastic, PBT, PBX45A (UL94-V0)
Inspection window grill	Plastic, PPS, A504X90 (UL94-V0)
Protective glass	Quartz glass
Halogen lamp	Quartz glass
Reflector bracket	Plastic, PPS A504X90 (UL94-V0)
Draft shield, interior bottom plate	Stainless steel, X2CrNiMo17-2 (1.4404)

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Mettler-Toledo GmbH

Im Langacher 44
8606 Greifensee, Switzerland
www.mt.com/contact

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