

METTLER TOLEDO

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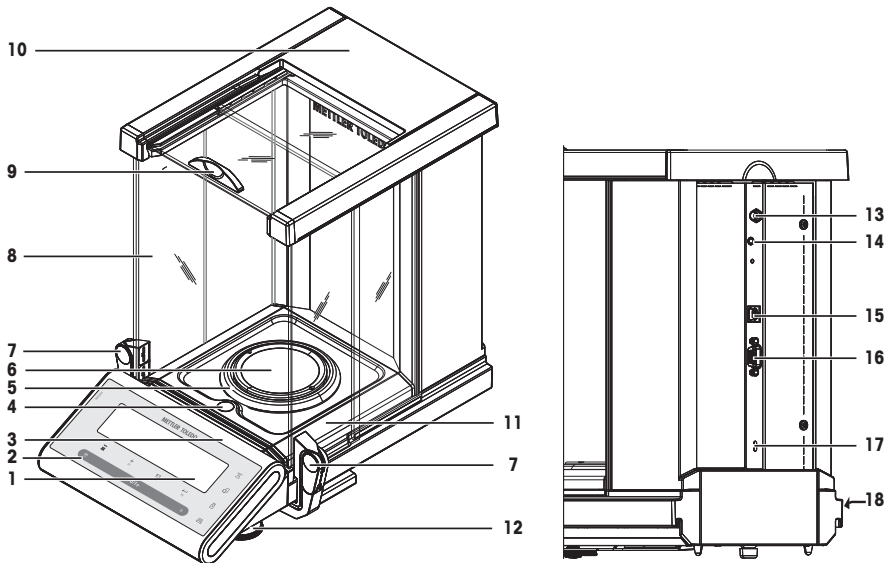


This User Manual is a brief instruction that provides information to handle with the first steps of the instrument in a safe and efficient manner. Personnel must have carefully read and understood this manual before performing any tasks.

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

► www.mt.com/ms-semi-RM

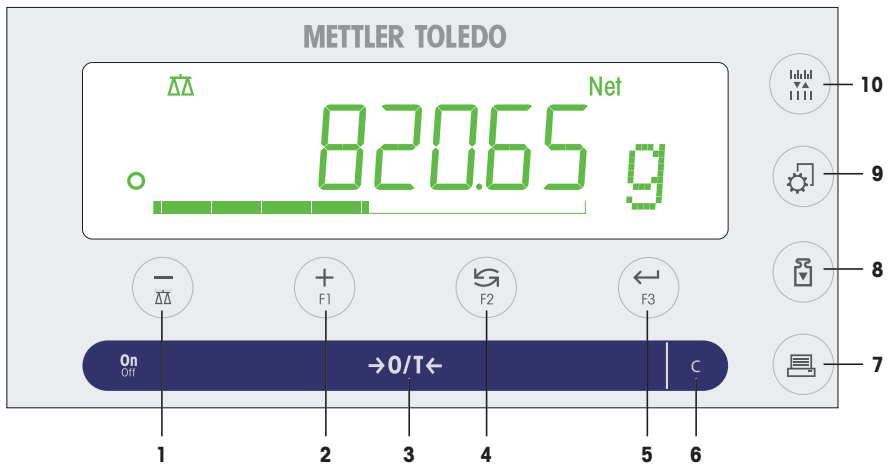
Overview components



Components overview legend







1	Display	2	Operation keys
3	Model sticker (with approved models only)	4	Level indicator
5	Draft ring	6	Weighing pan
7	Handle/Coupling element for the operation of the draft shield doors	8	Glass draft shield
9	Handle for operation of the draft shield top door	10	Top cover
11	Drip tray	12	Leveling feet
13	Socket for AC/DC Adapter	14	Aux (connection for "ErgoSens" or foot-switch)
15	USB device interface	16	RS232C serial interface
17	Kensington slot for anti-theft purposes	18	Product label

Overview operation keys



Terminal keys legend

No.	Key	Press briefly (less than 1.5 s)	Press and hold (longer than 1.5 s)
1		<ul style="list-style-type: none"> To navigate back (scroll up) within menu topics or menu selections Decrease (numerical) parameters within menu and in applications 	<ul style="list-style-type: none"> To select the weighing application Decrease (numerical) parameters quickly within menu and in applications
2		<ul style="list-style-type: none"> To navigate forward (scroll down) within menu topics or menu selections Increase (numerical) parameters within menu and in applications 	<ul style="list-style-type: none"> To select assigned F1 application and entering the parameter settings of application. Default F1 application assignment: Piece counting Increase (numerical) parameters quickly within menu and in applications
3		<ul style="list-style-type: none"> Switch on Zero/Tare 	<ul style="list-style-type: none"> Switch off
4		<ul style="list-style-type: none"> With entries: scroll down To navigate through menu topics or menu selections To toggle between unit 1, recall value (if selected), unit 2 (if different from unit 1) and the application unit (if any) 	<ul style="list-style-type: none"> To select assigned F2 application and entering the parameter settings of application. Default F2 application assignment: Percent weighing
5		<ul style="list-style-type: none"> To enter or leave menu selection (from / to menu topic) To enter application parameter or switch to next parameter To confirm parameter 	<ul style="list-style-type: none"> To select assigned F3 application and entering the parameter settings of application. Default F3 application assignment: Statistics
6		<ul style="list-style-type: none"> Cancel and to leave menu without saving (one step back in the menu). 	no function
7		<ul style="list-style-type: none"> Printout display value Printout active user menu settings Transfer data 	no function

No.	Key	Press briefly (less than 1.5 s) 	Press and hold (longer than 1.5 s) 
8		<ul style="list-style-type: none"> Execute predefined adjusting (calibration) procedure 	no function
9		<ul style="list-style-type: none"> Enter or leave menu (Parameter settings) Save parameters 	no function
10		<ul style="list-style-type: none"> To change display resolution (1/10d function) while application is running  Note: not available with approved models in selected countries. 	no function

1 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.

1.1 Further applicable documents



This User Manual is a brief instruction that provides information to handle with the first steps of the instrument in a safe and efficient manner. Personnel must have carefully read and understood this manual before performing any tasks.

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

► www.mt.com/ms-semi-RM

Search for software downloads

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1.2 Definitions of signal warnings 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: read the User Manual or the Reference Manual for information about the hazards and the resulting measures.



Electrical shock



Notice

1.3 Product specific safety notes

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

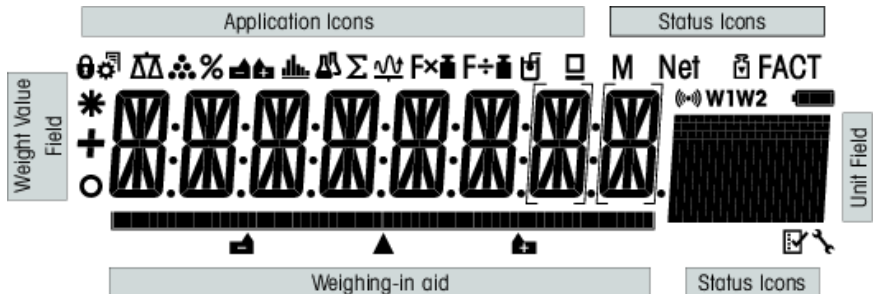
Damage to the instrument or malfunction due to the use of unsuitable parts

- 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.

2 Design and Function

2.1 Display



Application icons			
	Menu locked		Application formulation / Net total
	Menu setting activated		Application totaling
	Application weighing		Application multiplication factor
	Application piece counting		Application division factor
	Application percent weighing		Application density
	Application statistics		Application pipette check

While an application is running, the corresponding application icon appears at the top of the display.

Status icons			
M	Indicates stored value (Memory)		Applications diagnostics and routine test
Net	Indicates net weight values		Acoustic feedback for pressed keys activated
	Adjustments (calibration) started	W1	Weighing range 1 (Dual Range models only)
FACT	FACT activated	W2	Weighing range 2 (Dual Range models only)
	Service reminder		Not used

Weight value field and weighing-in aid			
	Indicates negative values		Brackets to indicate uncertified digits (approved models only)
	Indicates unstable values		Marking of nominal or target weight
	Indicates calculated values		Not used
			Not used

Unit field						
GNctls%bahtth msgPCStbdztl kgmgm	g	gram	ozt	troy ounce	tls	Singapore taels
	kg	kilogram	GN	grain	tit	Taiwan taels
	mg	milligram	dwt	pennyweight	tola	tola
	ct	carat	mom	momme	baht	baht
	lb	pound	msg	mesghal		
	oz	ounce	tlh	Hong Kong taels		

3 Installation and Putting into Operation

3.1 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.

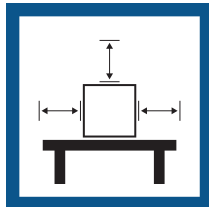
Requirements of the location

Place indoors on stable table

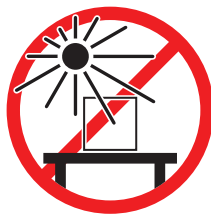
Ensure sufficient spacing

Level the instrument

Provide adequate lighting



Avoid direct sunlight



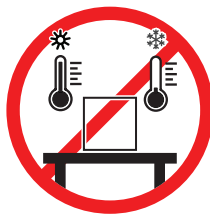
Avoid vibrations



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".

3.2 Scope of delivery

- Balance with draft shield
- Weighing pan with pan support
- Draft ring
- Drip tray
- Protective cover
- AC/DC adapter
- Power cable (country specific)
- 1 User Manual
- Declaration of conformity

3.3 Unpacking

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

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

3.4 Installing components



CAUTION

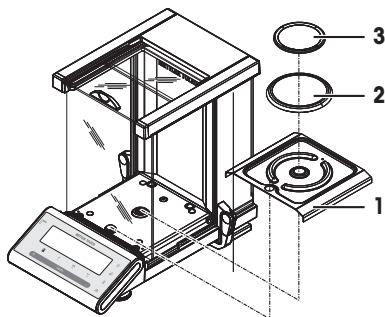
Injury due to breaking glass

Careless handling of the glass components can lead to breakage off glass and damage cuttings.

- Always proceed focused and with care.

Push the side glass doors back as far as will go and place the following components on the balance in the specified order:

- 1 Place the drip tray (1) into the correct position.
- 2 Place the weighing pan (3).
- 3 Place the draft ring (2).



3.5 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.

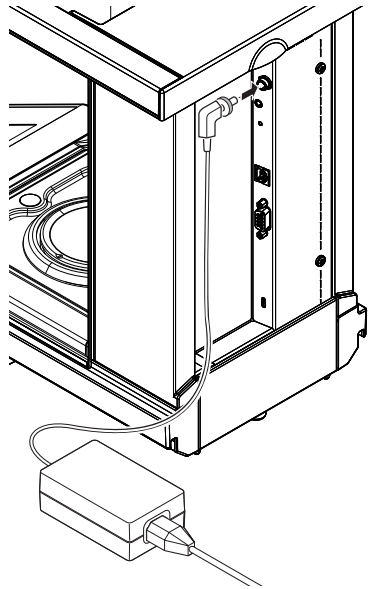


NOTICE

Damage to the AC/DC adapter due to overheating

If the AC/DC adapter is covered or in a container, it is not sufficiently cooled and will overheat.

- 1 Do not cover the AC/DC adapter.
 - 2 Do not put the AC/DC adapter in a container.
- Install the cables so that they cannot be damaged or interfere with operation.
 - Insert the power cable in a grounded power outlet that is easily accessible.
- 1 Connect the AC/DC adapter to the connection socket on the back of your balance (see figure) and to the power line.
 - 2 Screw the plug tight to the balance.
- ⇒ The balance is ready for use.



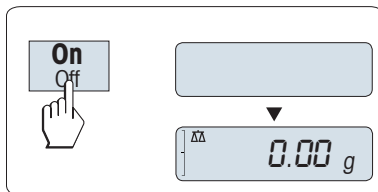
3.6 Setting up the balance

3.6.1 Switching on the balance

Before using the balance, it must be warmed up in order to obtain accurate weighing results. To reach operating temperature, the balance must be acclimatized and connected to the power supply for at least 60 minutes.

Switching on

- Press **On**.
 - ⇒ The balance performs a display test. All segments in the display light up briefly, **WELCOME** and software version. Maximum load and readability appears briefly. (Startup **FULL** mode only).
 - ⇒ The balance is ready for weighing or for operation with the last active application.



Legal-for-trade

Approved balances will execute an initial zero.

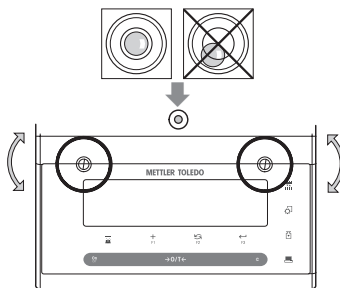
3.6.2 Leveling the balance

The balance has a level indicator and two adjustable leveling feet to compensate for slight irregularities in the surface of the weighing bench. The balance is exactly horizontal when the air bubble is in the middle of the level glass.

The balance must be leveled and adjusted each time it is moved to a new location.

To level it, proceed as follows:

- 1 Position your balance at the selected location.
- 2 Align the balance horizontally.
- 3 Turning the two front leveling screws of the housing until the air bubble is in the inner circle of the level indicator.



Example

Air bubble at 12 o'clock:



turn both feet clockwise.

Air bubble at 3 o'clock:



turn left foot clockwise, right foot counterclockwise.

Air bubble at 6 o'clock:

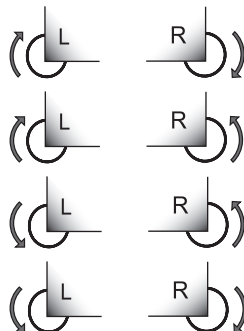


turn both feet counterclockwise.

Air bubble at 9 o'clock:



turn left foot counterclockwise, right foot clockwise.



3.6.3 Adjusting the balance

To obtain accurate weighing results, the balance must be adjusted to match the gravitational acceleration at its location. This is also dependent on the ambient conditions. After reaching the operating temperature, it is important to adjust the balance in the following cases:

- Before the balance is used for the first time.
- If the balance has been disconnected from the power supply or in the event of power failure.
- After significant environmental changes, e.g., temperature, humidity, air draft or vibrations.
- At regular intervals during weighing service.



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

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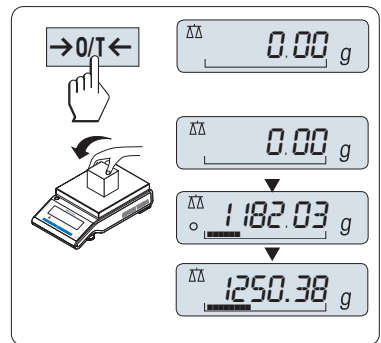
3.7 Performing a simple weighing



The weighing application allows you to perform simple weighings and how you can accelerate the weighing process.

If your balance is not in the weighing mode, press and hold the $\Delta\Delta$ key down until **WEIGHING** appears in the display. Release the key. Your balance is in the weighing mode and set to zero.

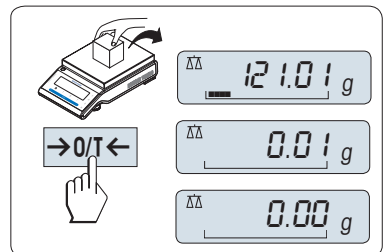
- 1 Press $\rightarrow 0/T \leftarrow$ to tare the balance.
- 2 Place the sample on the weighing pan.
- 3 Wait until the instability detector \circ disappears and the stability beep sounds.
- 4 Read the result.



Zeroing

Use the $\rightarrow 0/T \leftarrow$ zeroing key before you start with a weighing.

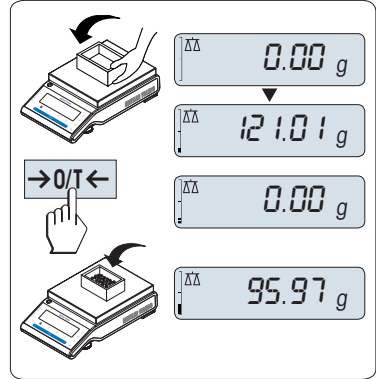
- 1 Unload the balance.
- 2 Press $\rightarrow 0/T \leftarrow$ to zero the balance.
 - ⇒ All weight values are measured in relation to this zero point.



Taring

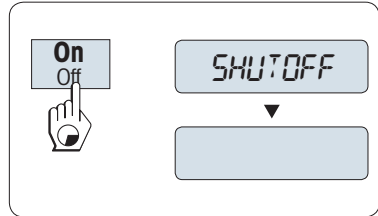
If you are working with a weighing container, first set the balance to zero.

- 1 Place empty container on the weighing pan.
⇒ The weight is displayed.
- 2 Press **→0/T←** to set the balance to zero.
⇒ **0.00 g** appears in the display.
- 3 Place weighing sample into the weighing container.
⇒ The result appears in the display.



Switching off

- Press and hold the **Off** key until **SHUTOFF** appears on the display. Release the key.
⇒ Balances switch into standby mode.
- After switching on from standby mode, your balance needs no warm-up time and is immediately ready for weighing.
- If your balance has been switched off after a preselected time, the display is dimly lit and shows date, time, maximum load and readability.
- If your balance has been switched off manually, the display is off.
- To completely switch off mains operated balances, they must be disconnected from the power supply.



Legal-for-trade

Standby mode is not possible with approved balances (only available in selected countries).



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

► www.mt.com/ms-semi-RM

3.8 Transporting the balance



⚠ CAUTION

Injury due to breaking glass

Careless handling with the glass components can lead to breakage of glass and damage cuttings.

- 1 Do not lift the instrument by the glass draft shield.
- 2 Always proceed focused and with care.

- 1 Press and hold the **Off** key.
- 2 Disconnect the balance from the AC/DC adapter.
- 3 Disconnect all interface cables.

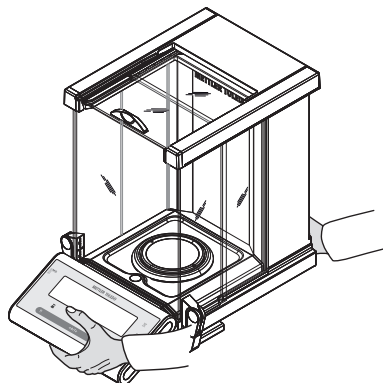
3.8.1 Transporting over short distances

To move the balance over a short distance to a new location, follow the instructions below.

- 1 Hold the balance with both hands as shown.
- 2 Carefully lift the balance and carry it to its new location.

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

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



3.8.2 Transporting over long distances

To transport the balance over long distances, always use the original packaging.

3.8.3 Packaging and storage

Packaging

Store all parts of packaging in a safe place. The elements of the original packaging are developed specifically for the balance and its components to ensure maximum protection during transportation or storing.

Storage

Store the balance under following conditions:

- Indoor and in the original packaging.
- According to the environmental condition, see "Technical data".
- When storing for longer than six months, the rechargeable battery maybe down (date and time get lost).

4 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.

4.1 Maintenance table

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 chapter "Fully automatic adjustment FACT"
Performing routine tests (sensitivity test, repeatability test). METTLER TOLEDO recommends to perform at least a sensitivity test.	<ul style="list-style-type: none"> • After cleaning 	see below
Cleaning	Depending on the degree of pollution or your internal regulations (SOP), clean the instrument: <ul style="list-style-type: none"> • After every use • After change of sample 	see chapter "Cleaning the balance"

4.2 Performing routine tests

There are several routine tests. Depending on your internal regulations, specific routine test must be performed by the user.

METTLER TOLEDO recommend to perform a sensitivity test after cleaning and reassembling the balance or after updating the software.

METTLER TOLEDO can help you to define the routine tests to be performed based on your process requirements. Please contact your local METTLER TOLEDO representative for additional information.



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

► www.mt.com/ms-semi-RM

4.3 Cleaning



⚠ WARNING

Death or serious injury due to electric shock

Contact with parts carrying a live current can lead to injury and death.

- 1 Disconnect the instrument from the power supply prior to cleaning and maintenance.
- 2 Prevent liquid from entering the instrument, terminal or AC/DC adapter.

4.3.1 Cleaning the glass draft shield



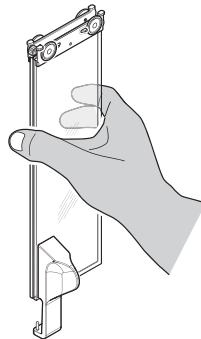
⚠ CAUTION

Injury due to breaking glass

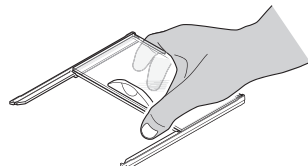
Careless handling of the glass components can lead to breakage off glass and damage cuttings.

- Always proceed focused and with care.

Removing and inserting the side door glass panels and top door glass panels.

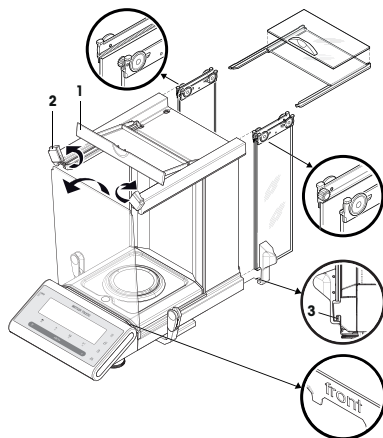


- 1 Always hold the 2 parallel guided glass panels together and parallel with one hand, **see** illustrations.



- 2 Push all the glass panels as far as they will go to the back.
- 3 Turn the top cover (1) to the front.
- 4 Pull the side door glass panels and the top door glass panels towards the back and off. (observe the important note above)
- 5 Turn the two lock covers (2) on the front as far as they will go to unlock the front glass.
- 6 Tilt the front glass forward and pull it out.
- 7 Remove draft ring.
- 8 Remove weighing pan.
- 9 Remove drip tray.

After cleaning reinstall all components in reverse order through the observance of the important notes.



Note

- Side door glass panels: The guide pin must be placed in the guide slot (3).
- After inserting the glass doors (side and top), close the top cover so that they can not fall out.
- Front glass: The writing "front" must be show forwards.

4.3.2 Cleaning the balance



WARNING

Death or serious injury due to electric shock

Contact with parts carrying a live current can lead to injury and death.

- 1 Disconnect the instrument from the power supply prior to cleaning and maintenance.
- 2 Prevent liquid from entering the instrument, terminal or AC/DC adapter.



NOTICE

Damage due to improper cleaning

Improper cleaning can damage the load cell or other essential parts.

- 1 Do not use any cleaning agents other than the ones specified in the "Reference Manual" or "Cleaning Guide".
- 2 Do not spray or pour liquids on the instrument. Always use a moistened lint-free cloth or a tissue.
- 3 Always wipe out from inside to outside of the instrument.

Cleaning around the balance

- Remove any dirt or dust around the balance and avoid further contaminations.

Cleaning the removable parts

- Clean the removed part with a damp cloth or a tissue and a mild cleaning agent.

Cleaning the balance

- 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 at first with a disposable tissue.
- 4 Remove sticky substances with a damp lint-free cloth and a mild solvent.

Note

Useful details to avoid soiling the instrument are described in the Mettler-Toledo GmbH "SOP for Cleaning a Balance".

4.3.3 Putting into operation after cleaning

- 1 Reassemble the balance.
 - 2 Check the functionality of the draft shield.
 - 3 Press **On/Off** to switch on the balance.
 - 4 Warm up the balance. Wait 1 h for the acclimatization, before starting the tests.
 - 5 Check the level status, level the balance if necessary.
 - 6 Perform an internal adjustment.
 - 7 Perform a routine test due to the internal regulations of your company. METTLER TOLEDO recommends to perform a repeatability test after cleaning the balance.
 - 8 Press **→0/T←** to zero the balance.
- ⇒ The balance has been putting into operation and is ready to use.

See also

 Leveling the balance ▶ Page 12

5 Troubleshooting

Possible errors with their cause and remedy are described in the following chapter. If there are errors that cannot be corrected through these instructions, contact METTLER TOLEDO.

5.1 Error messages

Error message	Possible cause	Diagnostic	Remedy
NO STABILITY	Vibrations at the workplace.	Place beaker with tap water on the weighing table. Vibrations cause ripples on the water surface.	<ul style="list-style-type: none">• Protect weighing location against vibrations (vibration absorber, etc.).• Set weighing parameters coarser (change ENVIRON. from STABLE to STANDARD or even UNSTABLE).• Find a different weighing location (by agreement with customer).
	Draft due to untight draft shield and /or open window.	Make sure draft shield or window is closed.	<ul style="list-style-type: none">• Close draft shield or window.• Set weighing parameters coarser (change ENVIRON. from STABLE to STANDARD or even UNSTABLE).
	The location is not suitable for weighing.	–	Check and observe the requirements for the location, refer to "Selecting the location".
	Something is touching the weighing pan.	Check for touching parts or dirt.	Remove touching parts or clean the balance.

Error message	Possible cause	Diagnostic	Remedy
WRONG ADJUSTMENT WEIGHT	Wrong adjustment weight.	Check weight.	Place correct weight on the weighing pan.
REFERENCE TOO SMALL	Reference for piece counting too small.	–	Increase reference weight.
EEPROM ERROR - PLEASE CONTACT CUSTOMER SERVICE	Data in EEPROM damaged.	–	Please contact your METTLER TOLEDO customer service.
WRONG CELL DATA - PLEASE CONTACT CUSTOMER SERVICE	Defect load cell data.	–	Please contact your METTLER TOLEDO customer service.
NO STANDARD ADJUSTMENT - PLEASE CONTACT CUSTOMER SERVICE	–	–	Please contact your METTLER TOLEDO customer service.
PROGRAM MEMORY DEFECT - PLEASE CONTACT CUSTOMER SERVICE	–	–	Please contact your METTLER TOLEDO customer service.
TEMP SENSOR DEFECT - PLEASE CONTACT CUSTOMER SERVICE	AC/DC adapter connected to power before connecting to the balance. Temperature sensor of load cell defect.	–	Remove the AC/DC adapter from the power and connect first to the balance before connecting to the power if persist please contact your METTLER TOLEDO customer service.
WRONG LOAD CELL BRAND - PLEASE CONTACT CUSTOMER SERVICE	Wrong load cell installed.	–	Please contact your METTLER TOLEDO customer service.
WRONG TYPE DATA SET - PLEASE CONTACT CUSTOMER SERVICE	Wrong type data set.	–	Please contact your METTLER TOLEDO customer service.
Battery backup lost	Backup battery is empty. This battery ensures that the date and time are not lost when the balance is disconnected from power.	Connect the balance to the power supply for charging the battery (full capacity after 2 days of charging).	Battery must be recharged. Please contact METTLER TOLEDO customer service.
INITIAL ZERO RANGE EXCEEDED	Wrong weighing pan. Pan is not empty.	Check weighing pan.	Mount correct weighing pan or unload weighing pan.
BELOW INITIAL ZERO RANGE	Wrong weighing pan. Pan is not empty.	Check weighing pan.	Mount correct weighing pan.
MEM FULL	Memory full.	–	Clear the memory by finishing all applications where a measurement is ongoing.
FACTOR OUT OF RANGE	Factor is outside the allow range.	–	Select a new factor.
STEP OUT OF RANGE	Step is outside the allow range.	–	Select a new step.

Error message	Possible cause	Diagnostic	Remedy
OUT OF RANGE	Sample weight is outside the allow range.	–	Unload the pan and load a new sample weight.

5.2 Error symptoms


Error symptom	Possible cause	Diagnostic	Remedy
Display is dark	Instrument is switched off.	–	Switch on the instrument.
	Power plug not connected.	Check	Connect power cable to power supply.
	Power supply not connected to balance.	Check	Connect power supply.
	Power supply is faulty.	Check/test	Replace power supply.
	Wrong power supply.	Check that input data on type plate match the power supply values.	Use proper power supply.
	Connector socket on balance is corroded or faulty.	Check	Please contact your METTLER TOLEDO customer service.
	Display is faulty.	Replace display.	Please contact your METTLER TOLEDO customer service.
Membrane keypad does not function	Keypad faulty.	Replace keypad.	Please contact your METTLER TOLEDO-Support representative.
The value drifts into plus or minus	Room, environment not suitable.	–	Environmental recommendations <ul style="list-style-type: none"> • Windowless, non air-conditioned room, e.g., basement. • Only one person in the weighing room. • Sliding doors. Standard doors cause pressure changes. • No draft in weighing room (check with suspended threads). • No air conditioning (temperature oscillates, draft). • Acclimatize balance, take dummy measurements. • Instrument uninterruptedly connected to the power supply (24h per day).
	Direct sunlight or other heat source.	Is any sun shade (blinds, curtains, etc.) available?	Select location according to "Selecting the location" (customer responsibility).

Error symptom	Possible cause	Diagnostic	Remedy
	Weighing sample absorbs moisture or evaporates moisture.	<ul style="list-style-type: none"> Is the weighing result with a test weight stable? Sensitive weighing samples, e.g., paper, cardboard, wood, plastic, rubber, liquids. 	<ul style="list-style-type: none"> Use aids. Cover weighing sample.
	Weighing sample is electrostatically charged.	<ul style="list-style-type: none"> Is the weighing result with a test weight stable? Sensitive weighing samples, e.g., plastic, powder, insulating materials. 	<ul style="list-style-type: none"> Increase air humidity in weighing chamber (45% - 50%). Use ionizer.
	Weighing sample is hotter or colder than the air in the weighing chamber.	Weighing operation with test weight does not show this effect.	Bring weighing sample to room temperature before weighing.
	Instrument has not yet reached thermal equilibrium.	<ul style="list-style-type: none"> Was there a power outage? Was power supply disconnected? 	<ul style="list-style-type: none"> Acclimatize instrument for at least 1 hour. Depending on climatic conditions, extend this period accordingly. Instrument switched on for at least 1 hour, refer to "General data"
Display shows overload or underload	The weight on the weighing pan exceeds the weighing capacity of the instrument.	Check weight.	Reduce the weight on the weighing pan.
	Wrong weighing pan.	Slightly lift or press weighing pan. The weight display appears.	Use proper weighing pan.
	No weighing pan.	–	Install weighing pan.
	Incorrect zero point at switch-on.	–	<ul style="list-style-type: none"> Switch off balance. Disconnect and reconnect power cable.
Display flashes 0.00000	Loose cables.	Check all cable connections.	Connect all cables. Please contact your METTLER TOLEDO-Support representative if the problem persists.
Taring not possible	Vibrations at the workplace.	Display unstable.	Press Tare again.
		Place beaker with tap water on the weighing table. Vibrations cause ripples on the water surface.	<ul style="list-style-type: none"> Protect weighing location against vibrations (vibration absorber, etc.). Set weighing parameters coarser (change ENVIRON).

Error symptom	Possible cause	Diagnostic	Remedy
			from STABLE to STANDARD or even UNSTABLE . <ul style="list-style-type: none"> Find a different weighing location (by agreement with customer).

5.3 Status messages/Status icons

Status messages are displayed by means of small icons. The status icons indicate the following:

Icon	Status description	Diagnostic	Remedy
	Service due.	See menu topic SERV.ICON in chapter "Description of menu topic" -> "Advanced menu".	Please contact your METTLER TOLEDO-Support representative.

5.4 Putting into operation after fixing an error

After fixing an error, perform the following steps to put the balance into operation:

- Ensure that the balance is completely reassembled and cleaned.
- Reconnect the balance to the AC/DC adapter.

6 Technical Data

6.1 General data

Power supply

AC/DC adapter:

Input: 100 – 240 V AC \pm 10%, 50 – 60 Hz, 0.8 A, 60 – 80 VA

Output: 12 V DC, 2.5 A, LPS (Limited Power Source)

Cable for AC/DC adapter:

3-core, with country-specific plug

Polarity:



Balance power consumption:

12 V DC, 0.3 A

Protection and standards

Overvoltage category:

II

Degree of pollution:

2

Protection:

Protected against dust and water

Standards for safety and EMC:

See Declaration of Conformity

Range of application:

Use only indoors in dry locations

Environmental conditions

Height above mean sea level:

Up to 4000 m

Ambient temperature:

+5 °C – +40 °C

Storage condition:

-25 °C – +70 °C

Relative air humidity:

Max. 80% up to 31 °C, linearly decreasing to 50% at 40 °C, non-condensing

Warm-up time:

At least **60 minutes** after connecting the balance to the power supply. When switched on from standby, the instrument is ready for operation immediately.

Materials

Housing/Terminal:

Die-cast aluminum / PA12

Weighing pan:

Stainless steel X2CrNiMo 17-12-2 (1.4404)

Draft shield element:	Stainless steel X2CrNiMo 17-12-2 (1.4404)
Draft shield:	PBT, glass
Protective cover:	PET

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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