Reference Manual

Precision Balances and Comparators

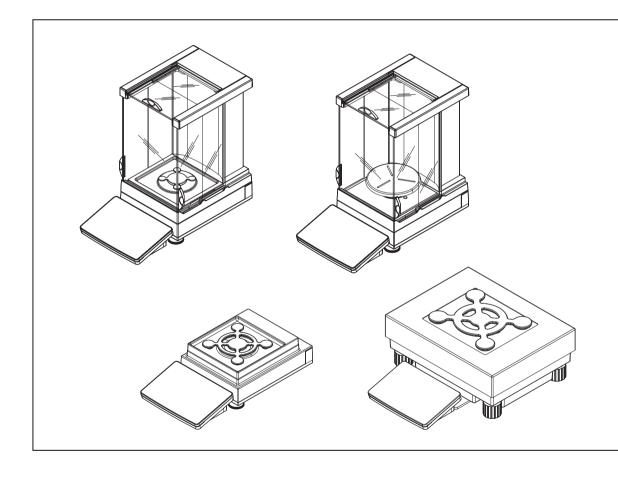## XPR

METTLER TOLEDO

Table of Contents

1 Introduction

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

This document is based on the software version V 2.0.204.

Disclaimer for comparators

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

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

EULA

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

When using this product you agree to the terms of the EULA.

1.1 Further documents and information

▶ www.mt.com/xpr-precision

This document is available in other languages online.

▶ www.mt.com/XPR-precision-RM

Search for software downloads   ▶ www.mt.com/labweighing-software-download

Search for documents   ▶ www.mt.com/library

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

▶ www.mt.com/contact

1.2 Explanation of conventions and symbols used

Conventions and symbols

Key and/or button designations and display texts are shown in graphic or bold text, e.g., ✎, **Edit**.

📝 **Note**   For useful information about the product.

Refers to an external document.

Elements of instructions

In this manual, step-by-step instructions are presented as follows. The action steps are numbered and can contain prerequisites, intermediate results and results, as shown in the example. Sequences with less than two steps are not numbered.

▪ Prerequisites that must be fulfilled before the individual steps can be executed.

1 Step 1

⇨ Intermediate result

2 Step 2

⇨ Result

1.3 Acronyms and abbreviations

Original term	Explanation
ASTM	American Society for Testing and Materials
EMC	Electromagnetic Compatibility
FCC	Federal Communications Commission
GWP	Good Weighing Practice
ID	Identification
LPS	Limited Power Source
MT-SICS	METTLER TOLEDO Standard Interface Command Set
NA	Not Applicable
OIML	Organisation Internationale de Métrologie Légale (International Organization of Legal Metrology)
RFID	Radio-frequency identification
RM	Reference Manual
RS (RS232C)	Recommended Standard (RS232C)
sd	Standard deviation
SELV	Safety Extra Low Voltage
SOP	Standard Operating Procedure
UM	User Manual
USB	Universal Serial Bus
USP	United States Pharmacopeia

1.4 Product range

1.4.1 XPR precision balances

1.4.1.1 S weighing platform

Balance	Models designation
	Readability: **0.1 mg** • XPR204S • XPR404S • XPR504S • XPR504SDR
	Readability: **1 mg** • XPR303S • XPR603S • XPR603SDR • XPR1203S • XPR3003S • XPR5003S

Balance	Models designation
	Readability: **1 mg** • XPR303SN • XPR603SN • XPR603SNDR
	Readability: **1 mg** • XPR3003SD5 • XPR6003SD5
	Readability: **10 mg** • XPR1202S • XPR2002S • XPR4002S • XPR6002S • XPR6002SDR • XPR8002S • XPR10002S
	Readability: **100 mg** • XPR4001S • XPR6001S • XPR8001S • XPR10001S

1.4.1.2 L weighing platform
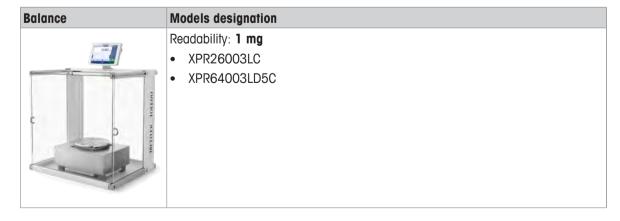
Balance	Models designation
	Readability: **10 mg** • XPR15002L • XPR20002LDR
	Readability: **100 mg** • XPR10001L • XPR16001L • XPR32001L
	Readability: **100 mg** • XPR64001L
	Readability: **1 g** • XPR32000L • XPR64000L

1.4.2 XPR precision comparators

1.4.2.1 S weighing platform

Balance	Models designation
	Readability: **0.1 mg** • XPR2004SC • XPR5004SC
	Readability: **1 mg** • XPR5003SC
	Readability: **1 mg** • XPR2003SC
	Readability: **1 mg** • XPR10003SC

1.4.2.2 L weighing platform

Balance	Models designation
	Readability: **1 mg** • XPR26003LC • XPR64003LD5C

Balance	Models designation
	Readability: **1 mg**
	• XPR32003LD5C
	Readability: **10 mg**
	• XPR64002LC
	Readability: **10 mg**
	• XPR64002LC-T

1.5 Compliance information

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

► http://www.mt.com/ComplianceSearch

Contact METTLER TOLEDO for questions about the country-specific compliance of your instrument.

► www.mt.com/contact

United States of America

This equipment has been tested and found to comply with the limits for a **Class A** digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

2 Safety Information

Two documents named "User Manual" and "Reference Manual" are available for this instrument.

- The User Manual is printed and delivered with the instrument.
- The electronic Reference Manual contains a full description of the instrument and its use.
- Keep both documents for future reference.
- Include both documents if you transfer the instrument to other parties.

Only use the instrument according to the User Manual and the Reference Manual. If you do not use the instrument according to these documents or if the instrument is modified, the safety of the instrument may be impaired and Mettler-Toledo GmbH assumes no liability.

2.1 Definitions of signal words and warning symbols

Safety notes contain important information on safety issues. Ignoring the safety notes may lead to personal injury, damage to the instrument, malfunctions and false results. Safety notes are marked with the following signal words and warning symbols:

Signal words

DANGER   A hazardous situation with high risk, resulting in death or severe injury if not avoided.

WARNING   A hazardous situation with medium risk, possibly resulting in death or severe injury if not avoided.

CAUTION   A hazardous situation with low risk, resulting in minor or moderate injury if not avoided.

NOTICE   A hazardous situation with low risk, resulting in damage to the instrument, other material damage, malfunctions and erroneous results, or loss of data.

Warning symbols

General hazard: read the User Manual or the Reference Manual for information about the hazards and the resulting measures.

Electrical shock   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 assumes that the instrument owner trains users to safely use the instrument in their workplace and deal with potential hazards. METTLER TOLEDO assumes that the instrument owner provides the necessary protective gear.

⚠ **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 supply cable and AC 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 damaged cables and power plugs.

NOTICE

Damage to the instrument due to the use of unsuitable parts

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

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

3 Design and Function

3.1 Function description
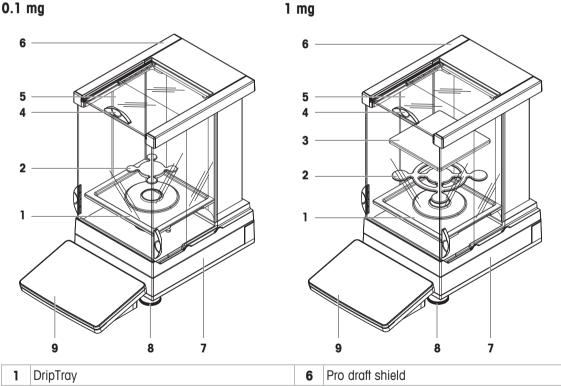
The XPR line comprises a range of balances that differ from each other due to their weighing range and resolution. The balances of the XPR line combine a large number of weighing and adjustment possibilities with a simple operation handling.

The following features are common to all models of the XPR precision line:

- Fully automatic adjustment using internal weights.
- Built-in level sensor and leveling aid for fast and easy leveling.
- 7-inch capacitive color TFT-touch screen.
- Various methods that can be defined individually.
- Various routine tests that can be defined individually.
- Functions to manage user groups and user rights.
- History about performed tests and adjustments, as well as changes applied to the balance settings.

3.2 Overview S weighing platform
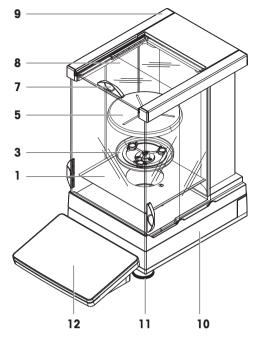
3.2.1 Balances with Pro draft shield

0.1 mg **1 mg**
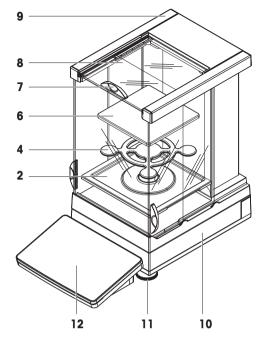
1	DripTray	**6**	Pro draft shield
2	SmartPan weighing pan	**7**	Weighing platform with protective cover
3	Weighing pan	**8**	Leveling foot
4	Pro draft shield door handle	**9**	Terminal with protective cover
5	Pro draft shield door		

3.2.2 Comparators with Pro draft shield

0.1 mg / 1 mg
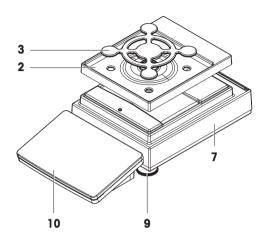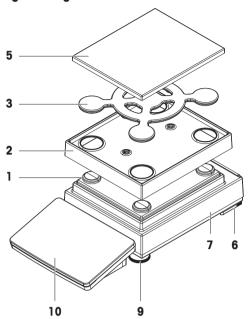
1	Bottom plate	7	Pro draft shield door handle
2	DripTray	8	Pro draft shield door
3	LevelMatic weighing pan holder	9	Pro draft shield
4	SmartPan weighing pan	10	Weighing platform with protective cover
5	LevelMatic weighing pan	11	Leveling foot
6	Weighing pan	12	Terminal with protective cover

3.2.3 Balances without Pro draft shield
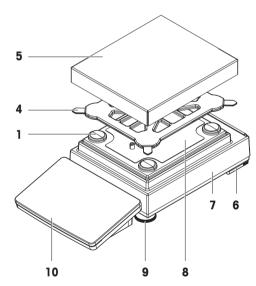
1 mg

5 mg / 10 mg
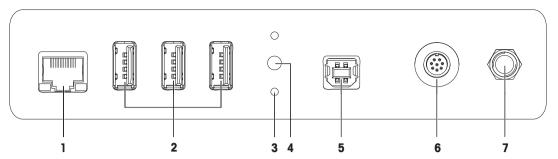
100 mg

1	Weighing pan support cap	6	Safety foot
2	DripTray	7	Weighing platform with protective cover
3	SmartPan weighing pan	8	Fastening plate with position screws
4	Weighing pan support	9	Leveling foot
5	Weighing pan with protective cover	10	Terminal with protective cover
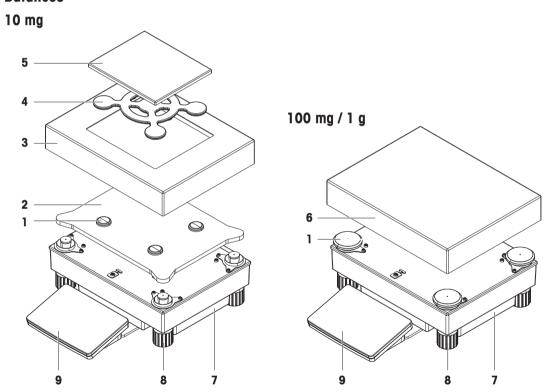
3.2.4 Interface board

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

3.3 Overview L weighing platform

3.3.1 Balances

10 mg

100 mg / 1 g
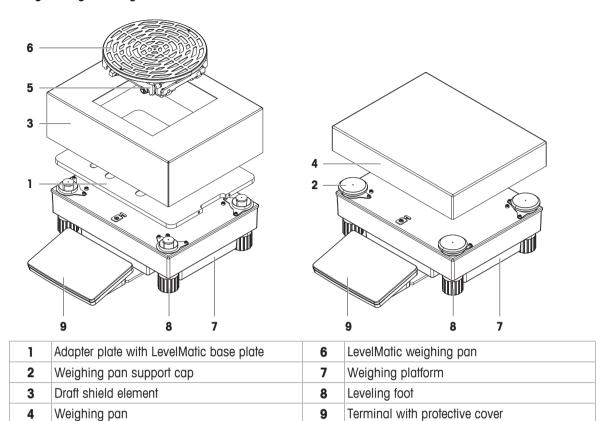
1	Weighing pan support cap	**6**	Weighing pan
2	Adapter plate	**7**	Weighing platform
3	Draft shield element	**8**	Leveling foot
4	SmartPan weighing pan	**9**	Terminal with protective cover
5	Weighing pan with protective cover		

3.3.2 Comparators

1 mg / 5 mg / 10 mg

1	Adapter plate with LevelMatic base plate	**6**	LevelMatic weighing pan
2	Weighing pan support cap	**7**	Weighing platform
3	Draft shield element	**8**	Leveling foot
4	Weighing pan	**9**	Terminal with protective cover
5	LevelMatic weighing pan holder		
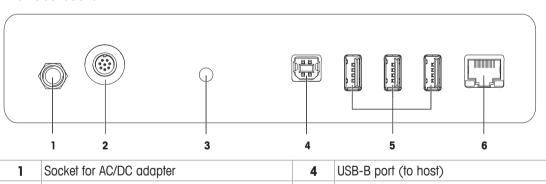
3.3.3 Interface board
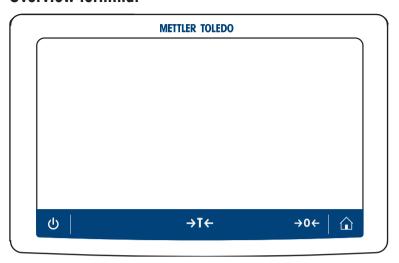
1	Socket for AC/DC adapter	**4**	USB-B port (to host)
2	Socket for terminal connection cable	**5**	USB-A ports (to device)
3	Service seal	**6**	Ethernet port

3.4 Overview terminal
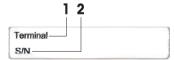
	Name	Description
⏻	ON/OFF	Switches the balance on/off. By tapping ⏻ the balance is not completely switched off but goes into standby mode. To switch the balance completely off, it must be unplugged from the power supply. **📝 Note** Do not disconnect the balance from the power supply unless the balance is not used for an extended period of time.
→T←	Tare	Tares the balance. This function is used when the weighing process involves containers. After taring the balance, the screen shows ᴺᵉᵗ which indicates that all displayed weights are net.
→0←	Zero	Zeroes the balance. The balance must always be zeroed before starting the weighing process. After zeroing, the balance sets a new zero point.
⌂	Home	To return from any menu level to the main weighing screen.

3.5 Overview type plate

The information on the type plate helps to identify the balance and terminal.

Terminal type plate
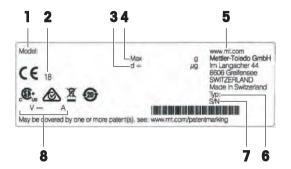
The terminal type plate is located on the terminal and contains the following information:

1. Terminal type
2. Terminal serial number

Weighing unit type plate

The balance type plate is located on the side of the weighing unit and contains the following information:
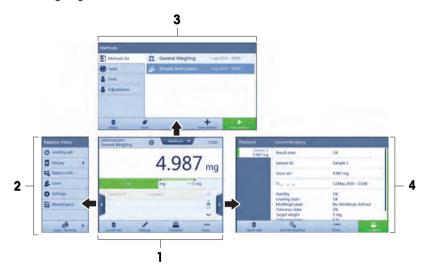
1. Designation of balance model
2. Year of manufacture
3. Readability
4. Maximum capacity
5. Manufacturer
6. Balance type
7. Serial number
8. Power supply

3.6 User interface

3.6.1 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 tapping the drawers along the sides of the main weighing screen.

See also

- Main weighing screen ▸ Page 21
- Work screen "Balance menu" ▸ Page 22
- Work screen "Methods" ▸ Page 22
- Work screen "Protocol" ▸ Page 23

3.6.2 Main weighing screen

	Name	Description
1	User name	Shows the name of the current user.
2	Weighing value field	Shows the current weighing value.
3	Level indicator	Indicates if the balance is leveled (green) or not (red).
4	**Methods** menu	Accesses the user-defined list of methods, tests, and alignments.
5	Info weight	Shows the current weighing value in another unit.
6	Warning and error message area	Shows current warning and/or error messages.
7	Drawer **Protocol**	Shows the recent weighing results.
8	Sample status **OK**	Result status indicator green: indicates that the result fulfills a set of criteria. For example: • The balance is in level. • The internal adjustment was performed and ok. • The weighing result is within the defined tolerance range (only if tolerance is defined).
9	Sample status **Excluded**	Result status indicator black: indicates that the result was excluded from the protocol.
10	Sample status **Not OK**	Result status indicator red: indicates that the result criteria are not fulfilled, e.g., "The weighing result was out of the defined tolerances".
11	Button **Add to protocol**	Adds the result to the protocol. Depending on the selected method, the button can have different functions.
12	Weighing action field	Contains actions referring to the current task.
13	Balance menu	Accesses the balance properties.
14	Method information area	Contains information about the sample, method or task IDs.
15	SmartTrac	Used as a weighing aid to define a target weight with upper and lower tolerances.
16	Weighing value area	Shows the results of the current weighing process.
17	**Method name**	Shows the name of the current method.

3.6.3 Work screen "Balance menu"

	Name	Description
1	**Leveling aid**	Opens the leveling dialog.
2	**History**	Opens the history dialog.
3	**Balance info**	Shows Balance information.
4	**Users**	Opens the user management.
5	**Settings**	Opens the complete settings dialog.
6	**Maintenance**	Opens the balance maintenance dialog.
7	**Exit / Block balance**	Opens the logout / block balance dialog.

3.6.4 Work screen "Methods"

	Name	Description
1	**Methods list**	Lists the methods already defined by the user.
		Methods can be edited, cloned, started or created.
2	**Tasks**	A method/task can be started and then a task is associated with this method. There can be up to one task for each method.
3	**Tests**	Working with routine test.
		• Sensitivity tests
		• Repeatability tests
		• Eccentricity tests
		Routine test can be edited, started or created.
4	**Adjustments**	Lists all internal or external adjustments. Adjustment can be edited, created and started.

3.6.5 Work screen "Protocol"

	Name	Description
1	Result state	Shows the state of the weighing process.
2	Sample ID	Shows the Sample ID of the weighing.
3	Gross weight	Shows the gross weight.
		D: indicates that the value was unstable.
		*: indicates that the value was calculated.
4	Timestamp	Shows the individual timestamp of each weighing item.
5	Balance status	Shows stability, level state of the balance, minimum weight, tolerance state and test and adjustment state.
6	**Complete**	Opens the dialog **Complete task**.
		• **Print task label manually**
		• **Print protocol manually**
		• **Export protocol manually**
7	**More**	Opens the dialog **More**.
		• **Start adjustment**
		• **Change display unit**
		• **Configure tare**
		• **Configure zero**
		• **Save as method with templates** (only available for methods with the option **Templates**)
8	**Exclude result**	Excludes the current protocol result. A comment can be added to the excluded result, e.g., to describe the reason of the exclusion.
		Depending on the format of the protocol printout, the excluded result can be printed or not.
9	**Cancel task**	Cancels the current running task.

3.6.6 Icons and symbols

3.6.6.1 System status icons

System messages can appear due to a user action, a user input or a system process. Some messages leave it up to the user to choose upon acting, they will disappear after acknowledging. Other messages remain persistent, so the user can defer them but eventually has to handle them. These messages can be seen in the main status bar on the upper right-hand side of the display.

Icon	Name	Description
	The balance is out of level.	The balance must be leveled. Information about leveling the balance can be found in the section Leveling the balance. When the balance is leveled the symbol ⊙ appears.
	Information	Information messages appear due to user actions or system processes and offer opportunities that are related to the current action or process.
	Warning	Warning messages appear due to user actions or system processes that could lead to a problem that can be prevented.
	Error	Error messages appear due to user actions or system processes that have failed. It is mostly still possible to handle such a problem.

3.6.6.2 Weighing status icons

Weighing status icons appear due to the weight value matching certain quality criteria. The information on the status can be looked by tapping on any of the visible weighing status icons.
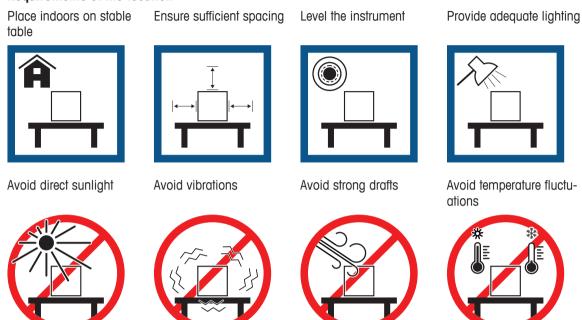
Icon	Name	Description
	Stability indicator	When the stability indicator appears, the balance is not stable. Make sure that the balance is placed at an adequate location. Information about the adequate location can be found in the section Selecting the location.
Net	Net indicator	Appears when the tare key has been pressed and the tare weight has been subtracted.
	Minimum weight violation	The current weight value undershoots the defined minimum weight definition. Make sure that the weight is not below the minimum weight.
*	Calculated value	The current weight value is calculated. This symbol only appears in the weighing value area when a container has been used with the function **Pretare**.
GWP ✗	Balance invalid	The current balance configuration is invalid or quality criteria have not been fulfilled according to the GWP approved definition.
GWP ✓	Weight not ready	The current weight measurement is not ready according to the GWP approved definition. This can be caused by undershooting the minimum weight, an overload or an underload.
GWP ✓	Weight ready	The current weight measurement is ready according to the GWP approved definition. It can be added to the protocol.
⚡	External ionizer discharging	The external ionizer is currently discharging.

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 Balances with S weighing platform

Components	0.1 mg with Pro draft shield	1 mg with Pro draft shield	1 mg without Pro draft shield	5 mg / 10 mg	100 mg
Weighing platform with protective cover	✓	✓	✓	✓	✓
Terminal with protective cover	✓	✓	✓	✓	✓
Terminal support	✓	✓	✓	✓	✓
Terminal connection cable (pre-assembled)	✓	✓	✓	✓	✓
Pro draft shield	✓	✓	–	–	–
Weighing pan 127 x 127 mm	–	✓	–	–	–
Weighing pan 172 × 205 mm	–	–	–	✓	–
Weighing pan 193 × 223 mm	–	–	–	–	✓
SmartPan weighing pan	✓	✓	✓	✓	–
Weighing pan support	–	–	–	–	✓
DripTray	✓	✓	✓	✓	–
Ring seal	✓	–	–	–	–
Weighing hook for below-the-balance weighing	✓	✓	✓	✓	✓
AC/DC adapter	✓	✓	✓	✓	✓
Power cable (country-specific)	✓	✓	✓	✓	✓
User Manual	✓	✓	✓	✓	✓
Production certificate	✓	✓	✓	✓	✓
Declaration of Conformity	✓	✓	✓	✓	✓

4.3.2 Comparators with S weighing platform

Components	0.1 mg	1 mg
Weighing platform with protective cover	✓	✓
Terminal with protective cover	✓	✓
Terminal support	✓	✓
Terminal connection cable (pre-assembled)	✓	✓
Pro draft shield (not for XPR10003SC)	✓	✓
Draft shield XP W12 (only for XPR10003SC)	–	✓
SmartPan weighing pan	✓	✓
LevelMatic weighing pan Ø 130 mm (not for XPR2003SC)	✓	✓
Bottom plate	✓	✓
Ring seal	✓	–
Weighing hook for below-the-balance weighing	✓	✓
AC/DC adapter	✓	✓
Power cable (country-specific)	✓	✓
User Manual	✓	✓
Mass calibration software MC Link	✓	✓
Production certificate	✓	✓
Declaration of Conformity	✓	✓

4.3.3 Balances with L weighing platform

Components	10 mg	100 mg / 1 g
Weighing platform	✓	✓
Terminal with protective cover	✓	✓
Terminal support	✓	✓
Terminal connection cable	✓	✓
Draft shield element	✓	–
Weighing pan 172 × 205 mm	✓	–
Weighing pan 280 × 360 mm	–	✓
SmartPan weighing pan	✓	–
AC/DC adapter	✓	✓
Power cable (country-specific)	✓	✓
User Manual	✓	✓
Production certificate	✓	✓
Declaration of Conformity	✓	✓

4.3.4 Comparators with L weighing platform

Components	1 mg	5 mg	10 mg
Weighing platform	✓	✓	✓
Terminal with protective cover	✓	✓	✓
Terminal support	✓	✓	✓
Terminal connection cable	✓	✓	✓
Draft shield element XP W64 (only for XPR26003LC and XPR64003LD5C)	✓	✓	–
Weighing pan 280 × 360 mm (not for XPR64003LD5C and XPR64002LC)	–	✓	✓
LevelMatic weighing pan Ø 220 mm with draft shield element and weighing pan holder (not for XPR32003LD5C)	✓	✓	–
Weighing pan Ø 220 mm with draft shield cover (only for XPR64002LC)	–	–	✓
AC/DC adapter	✓	✓	✓
Power cable (country-specific)	✓	✓	✓
Transport case (only for XPR64002LC)	–	–	✓
User Manual	✓	✓	✓
Mass calibration software MC Link	✓	✓	✓
Production certificate	✓	✓	✓
Declaration of Conformity	✓	✓	✓

4.4 Installation

4.4.1 Balances with S weighing platform

4.4.1.1 Attaching the terminal to the weighing platform

The terminal is usually placed in front of the weighing platform on the terminal support. The terminal can also be placed individually, e.g. beside the weighing platform or it can be fixed on an additional terminal stand.
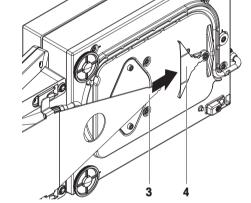
NOTICE
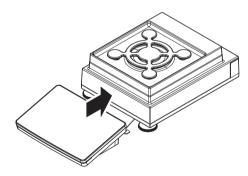
Damage to the balance

The weighing platform and the terminal are not safely fixed by the terminal support 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 support (1) in front of the weighing platform. The plug of the pre-mounted terminal connection cable (2) must lie between the terminal support (1) and the weighing platform.

3 Push the terminal support towards the weighing platform. The far end of the terminal support (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 support.

6 Push the terminal towards the weighing platform until the terminal locks into the terminal support.

⇨ The terminal is mounted and connected to the weighing platform.
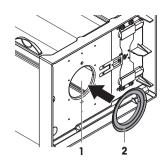
4.4.1.2 Assembling balances 0.1 mg with Pro draft shield and SmartPan weighing pan

📝 Note

The 0.1 mg balances with Pro draft shield are equipped with a ring seal. The aim of the ring seal is to isolate the weighing chamber from draft and must always be correctly installed at the bottom of the Pro draft shield.
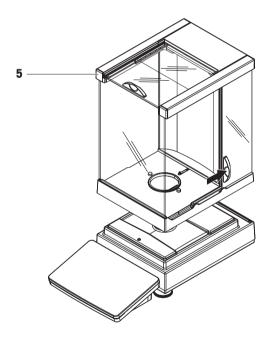
1   Turn the Pro draft shield carefully sideways into horizontal position.

2   Push the ring seal (2) through the opening (1) on the bottom of the Pro draft shield.
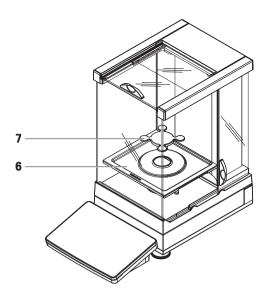
3   Fix the ring seal in the opening of the Pro draft shield. The ring seal (3) must be properly fixed into the opening. The upper edge (4) of the ring seal must lay all around the bottom of the Pro draft shield.

4   Turn the Pro draft shield carefully back into vertical position.

5   Open the Pro draft shield with the door handles on both sides.

6   Hold the Pro draft shield on the top bars (5) on both sides and place it on top of the weighing platform.
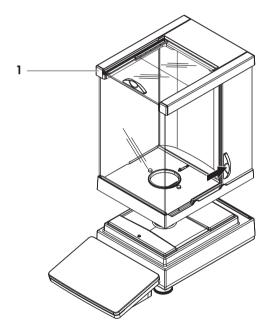
7   Place the DripTray (6) into the Pro draft shield.

8   Place the SmartPan weighing pan (7) into the Pro draft
    shield on top of the DripTray (6).
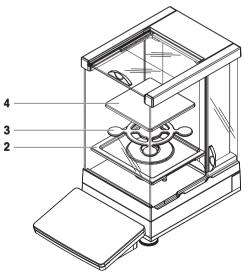
4.4.1.3 Assembling balances 1 mg with Pro draft shield

1   Open both side doors of the Pro draft shield.

2   Hold the Pro draft shield on the top bars (1) on both
    sides.

3   Place the Pro draft shield on top of the weighing
    platform.
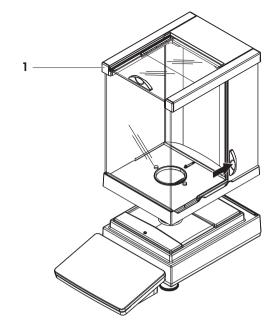
4   Place the DripTray (2) into the Pro draft shield.

5   Place the SmartPan weighing pan (3) into the Pro draft
    shield on top of the DripTray (2).

6   The weighing pan (4) is optional and can be placed
    into the Pro draft shield on top of the SmartPan
    weighing pan (3).
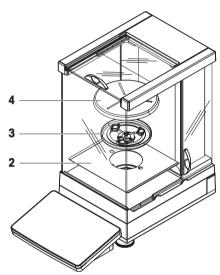
4.4.1.4 Assembling comparators 0.1 mg and 1 mg with LevelMatic weighing pan

1. Open both side doors of the Pro draft shield.
2. Lift the Pro draft shield by holding on the top bars (1) on both sides.
3. Place the Pro draft shield on top of the weighing platform.
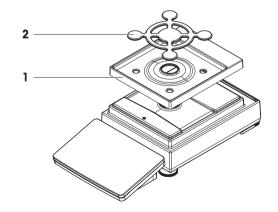
4. Place the bottom plate (2) into the Pro draft shield.
5. Place the LevelMatic holder (3) into the Pro draft shield on top of the bottom plate (2).
6. Place the LevelMatic weighing pan (4) into the Pro draft shield on top of the LevelMatic weighing pan holder (3).
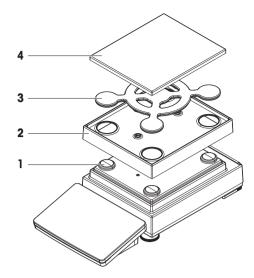
4.4.1.5 Assembling balances 1 mg with SmartPan weighing pan

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.
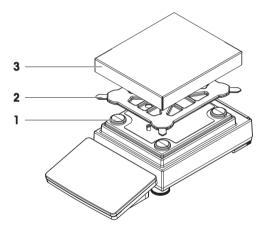
4.4.1.6 Assembling balances 5 mg and 10 mg with SmartPan weighing pan

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

4.4.1.7 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).
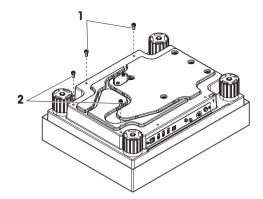
4.4.2 Balances with L weighing platform
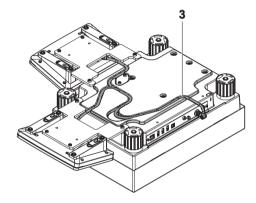
4.4.2.1 Attaching the terminal to the weighing platform

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 support to the long side or to the short side of the weighing platform. Fix the terminal support with the screws from the weighing platform.

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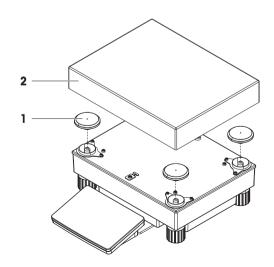
📝 Note

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.
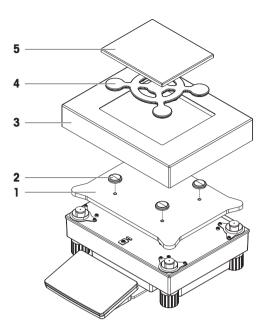
4.4.2.2 Assembling balances 100 mg and 1 g

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).

4.4.2.3 Assembling balances 10 mg with SmartPan weighing pan
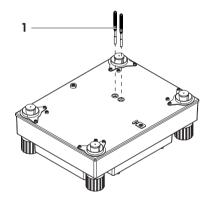
1 Place the adapter plate (1) on top of the weighing platform.
2 Place the weighing pan support caps (2) on top of the adapter plate.
3 Place the draft shield element (3) on top of the adapter plate (1).
4 Place the SmartPan weighing pan (4) on top of the weighing pan support caps (2).
5 Place the weighing pan (5) on top of the SmartPan weighing pan (4) if needed.

4.4.2.4 Removing and installing the transport safety screws (only for comparators)
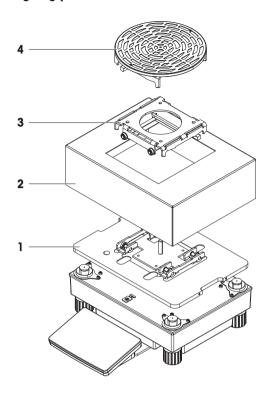
Transport safety screws are used to prevent damaging the load cell during transport. Before installing the weighing pan, the transport safety screws on top of the weighing platform must be removed. Keep the transport safety screws for transporting the comparator.

1 Unscrew and remove the transport safety screws (1) from the top of the weighing platform.
2 Close the openings with the enclosed plastic covers.
3 Before transporting the comparator, reinstall the transport safety screws.

4.4.2.5 Assembling comparators 1 mg / 5 mg with LevelMatic weighing pan

1 Place the adapter plate with the LevelMatic base plate (1) on top of the weighing platform.

2 Place the draft shield element (2) on top of the adapter plate (1).

3 Place the LevelMatic weighing pan holder (3) on top of the LevelMatic base plate (1).

4 Place the LevelMatic weighing pan (4) on top of the LevelMatic weighing pan holder (3).

4.5 Putting into operation

4.5.1 Connecting the balance
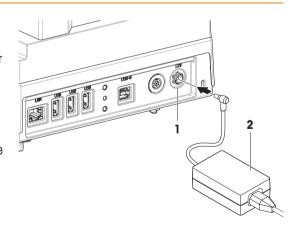
⚠ **WARNING**

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 supply cable and AC 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 damaged cables and power plugs.

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 (or 60 minutes for comparators). When the balance is switched on from standby, it is ready immediately.

▪ The balance has warmed up.
– Press ⏻.
   ⇨ 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 Logging in

If the user management is activated, you have to log in with your user ID before performing a weighing. When the balance starts, the login dialog opens automatically.

1 Select a user or tap **User name**.
2 Tap **Password**.
   ⇨ The input dialog opens.
3 Enter your password and tap ✔ **OK**.
4 Tap ⊕ **Login**.
   ⇨ The login dialog closes and you are logged in. Your user ID is shown on the main screen.

The user management can be activated through the balance menu:

Navigation: ‣ Balance menu > ⚙ Settings > ⚖ > Balance > ❖ General > User management

See also

▤ Activating the user management ▶ Page 65
▤ Users ▶ Page 74

4.5.4 Leveling the balance

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

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

1 Tap ▶ **Level the balance**.
   ⇨ The **Leveling aid** opens.
2 Follow the instructions from the wizard.

The leveling aid can also be accessed through the balance menu:

Navigation: ‣ Balance menu > ◎ Leveling aid

4.5.5 Performing an internal adjustment

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

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

4.5.6 Setting the balance to standby mode

The balance can be set to standby mode by holding ⏻. The standby mode can be finished by holding ⏻ again.

4.5.7 Switching off the balance

To completely switch off the balance it must be disconnected from the mains. By holding ⏻ the balance goes only into standby mode.

📝 **Note**

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

See also

📄 Switching on the balance ▶ Page 36

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 →O← to zero the balance.
   ⇨ The balance is zeroed.

4.6.2 Taring the balance

If a sample vessel is used, the balance must be tared.
1 Open the draft shield, if applicable.
2 Clear the weighing pan.
3 Close the draft shield, if applicable.
4 Press →O← to zero the balance.
5 Open the draft shield, if applicable.
6 Place the sample vessel on the weighing pan.
7 Close the draft shield, if applicable.
8 Press →T← to tare the balance.
   ⇨ The balance is tared. The icon ᴺᵉᵗ appears.

4.6.3 Performing a weighing

1 Open the draft shield, if applicable.

2   Place the weighing object into the sample vessel.

3   Tap **+ Add 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 weighing protocol, tap 🖳 **Complete**.

　　⇨   The window **Complete task** opens.

2   Select an option to save or print the protocol.

　　⇨   The respective menu window opens.

3   Follow the instructions of the wizard.

4   Tap ✓**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 support and place the terminal on top of the weighing pan. Always hold the weighing platform with both hands when carrying the balance.
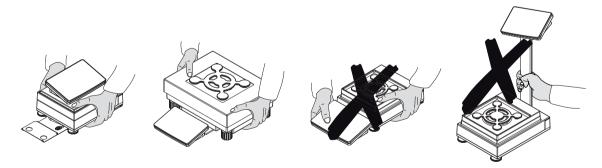
4.7.1 Transporting the balance over short distances

1   Disconnect the balance from the AC/DC adapter.

2   Unplug all interface cables if necessary.

3   Remove the terminal from the terminal support element and place the terminal on top of the weighing platform (only for S weighing platform).

4   Hold the weighing platform with both hands.

5   Carry the balance in horizontal position to the new 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.

	NOTICE
!	**Damage to the comparator** Always install the transport safety screws on top of the weighing platform when transporting the comparator over long distances.

See also

4.7.3 Packing and storing

Packing the balance

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

Storing the balance

Only store the balance under the following conditions:

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

📝 **Note**

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

See also

4.8 Weighing below the balance
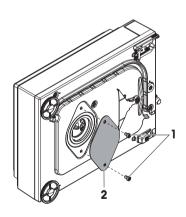
All models with S weighing platform are equipped with a weighing hook for below-the-balance weighing. Models with L weighing platform are not equipped with a weighing hook. The weighing hook for L weighing platforms can be ordered as an accessory.

See also

4.8.1 S weighing platform

- ▪ A weighing table or workbench is available, through which the weighing hook can be accessed.
- 1 Disconnect the balance from the AC/DC adapter.
- 2 Remove all elements from the weighing platform, e.g., draft shield, terminal and weighing pan.
- 3 Turn the weighing platform to its side.
- 4 Remove the screws (1) and remove the weighing hook cover (2).
- 5 Turn the weighing platform back on its feet and reinstall all components.
- ⇨ The weighing hook is accessible and can be used for below-the-balance weighing.

4.8.2 L weighing platform
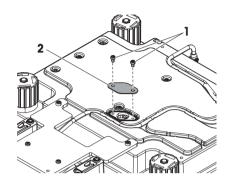
> **!** **NOTICE**
>
> **Damage to the comparator**
>
> Make sure that the transport arrestments have been correctly removed from the comparator before installing the weighing hook. Otherwise the outstanding transport arrestments might damage the balance or the surface where the balance is placed.

- ▪ A weighing table or workbench is available, through which the weighing hook can be accessed.
1 Disconnect the balance from the AC/DC adapter.
2 Remove all elements from the weighing platform, e.g., draft shield, terminal and weighing pan.
3 Turn the weighing platform upside down.
4 Remove the screws (1) and remove the weighing hook cover (2).
5 Install the weighing hook.
6 Turn the weighing platform back on its feet and reinstall all components.
⇨ The weighing hook is accessible and can be used for below-the-balance weighing.

5 Operation

5.1 Touch screen
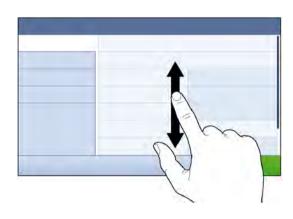
5.1.1 Selecting or activating an item

– Tap the item or function to be selected or activated.

5.1.2 Scrolling
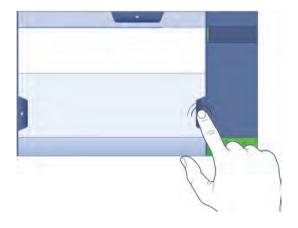
– Move the list up/down.
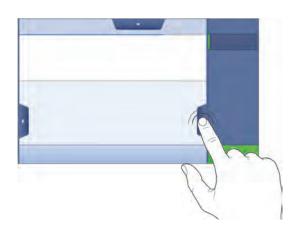
5.1.3 Using the drawers

The drawers are placed along the sides of the main weighing screen.

1 Place the finger on one drawer along one side of the screen, e.g., ◂ .

2   Keep the finger on the drawer and slide it in the
    direction towards which the arrow is pointing.

Note

The drawers can also be opened or closed by tapping the drawer symbol.

5.1.4 Entering characters and numbers

	Name	Description
1	Input field	Shows the data that has been entered.
2	Delete	Deletes the character left of the current curser position. The curser can be positioned by using the touch screen.
3	Discard	Closes the keyboard dialog.
4	Confirm	Confirms the entered data.
5	Numbers and special characters	Switches into the special character mode.
6	Shift	Switches between lower or upper case letters.
7	Menu section title	Shows the title of the current setting section.

5.1.5 Changing the date and time

	Name	Explanation
1	Plus button	Increment
2	Display field	Shows the defined time or date.
3	Minus button	Decrement

✎ Note

The format of date and time can be defined in the settings via the options **Date format** and **Time format**.

See also

▤ Date / Time / Language / Format ▶ Page 81

5.2 Methods

A weighing method is an application for carrying out specific weighing tasks. The balance offers the method "General Weighing" with default parameters. You have the possibility to create a maximum of 50 methods and edit the methods. You can use these methods for your weighing task or edit them according to your requirements. Methods can also be deleted or cloned.

To support you while configuring new methods, a configuration wizard leads you through the whole process. The changes performed to a method are recorded in the change history (if activated).

5.2.1 Methods overview

The section **Methods list** provides an overview of all methods already created on the balance. In this section, new methods can be defined and existing methods can be edited, cloned or deleted. It is also the starting point for using any method in a weighing procedure.

Navigation: ⌄ **Methods** > ☰ **Methods list**

The following methods are available:
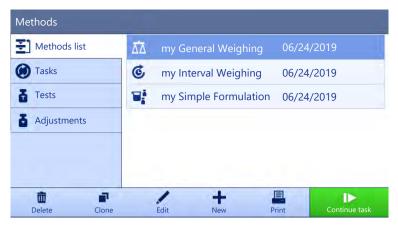
- ⚖ **General Weighing** (see Method General weighing)
- ⊙ **Interval weighing** (see Method Interval weighing)
- ⬥ **Piece counting** (see Method Piece counting)
- ⬚ **Simple formulation** (see Method Simple formulation)
- ⬦ **Titration** (see Method Titration)
- ⬚ **Density determination** (see Method Density determination)

5.2.2 Method "General weighing"

The method **General Weighing** offers the basic weighing functions (zeroing, taring, weighing). The method is used for simple weighing tasks or to perform a series of check weighing or dosing.

The parameters of the weighing item, e.g., sample ID and target weight, can either be entered manually or by using a template. Therefore two different methods exist:

- **General Weighing**: Select this method if you want to work without pre-defined templates.
- **General Weighing with templates**: Select this method if you want to use a template to define the parameters individually for each single weighing item. Templates are particularly useful when the weighing task consists of a series of weighings, each with its own individual parameters, such as target weight, tolerances, etc. For further information, see [Using method templates ▶ Page 53].

Methods		
⊟ Methods list	⚖ my General Weighing	06/24/2019
Ⓖ Tasks	Ⓖ my Interval Weighing	06/24/2019
🖌 Tests	🛒 my Simple Formulation	06/24/2019
🖌 Adjustments		

🗑 Delete	🗐 Clone	✎ Edit	✚ New	🖨 Print	▌► Continue task

You have the possibility to start with method factory setting parameter or to create a new method with changed method parameter.

For details about method settings:

See also

📄 Settings: method "General weighing" ▸ Page 85

5.2.2.1 Creating a method "General weighing"

Navigation: ⌄ **Methods** > ⊟ **Methods list**

1 Tap ✚ **New** in the action bar.
   ⇨ The method wizard opens, starting at **1. Method type**.
2 Tap **Method type** and select the method type **General Weighing** or **General Weighing with templates**.
3 Tap ➔ **Next**.
   ⇨ The method wizard opens the section **2. Identification**.
4 Define the **Method name** and **Result description** and tap ➔ **Next**.
   ⇨ The method wizard opens the section **3. Configuration**.
5 Select a **Tolerance profile** and tap ➔ **Next**.
   ⇨ The method wizard opens the section **4. Save**.
   ⇨ When selected **General Weighing with templates**, the wizard opens the optional section **4. Templates**.
6 Select a template from the list and define the **Sample ID**, **Unit**, **Target weight**, **–Tolerance**, and **+Tolerance**. Tap ➔ **Next**.
   ⇨ The method wizard opens the last section **5. Save**.
7 Tap ✔ **Finish** to save the new method .
   ⇨ The method has been created and appears in the list.

5.2.2.2 Performing a "General weighing"

This section describes a **General Weighing** example step by step. Depending on the defined settings and weighing objects, the procedure can be different from this example.

1 Open the **Methods** section.
2 Select a method from the **Methods list** or define a new method.
3 Tap ► **Start method**.
   ⇨ The main weighing screen appears with the selected method.
4 Press ➔0← to zero the balance.
5 Open the draft shield (if applicable) and place the weighing object on the weighing pan.
6 Close the draft shield (if applicable) and wait until the weight stabilizes.
   ⇨ The weighing starts with **Capturing weight…**.

7 Tap **+ Add to protocol**.

   ⇨ The weighing result is saved to the **Protocol**.

8 When the weighing process is finished, tap 🖥 **Complete** in the action bar.

   ⇨ The window **Complete task** opens. The task-specific information can be printed on a label printer, the protocol can be printed manually or automatically (depending on the method settings), and the result can be exported to an external storage device.

⇨ The task **Piece counting** was successfully completed.

📝 **Note**

It is possible to exclude a weighing results from the protocol by opening the **Protocol** and tapping on **Exclude result**.

The window **Complete task** always appears after completing the task, even if the results are saved automatically.

5.2.3 Method "Simple formulation"

With the method **Simple formulation** the concentration of a substance can automatically be calculated.

The parameters of the weighing item, e.g., sample ID and target weight, can either be entered manually or by using a template. Therefore two different methods exist:

- **Simple formulation**: Select this method if you want to weigh a single component in a volumetric flask and have the concentration calculated automatically.
- **Simple formulation with templates**: Select this method if you want to follow a predefined solution recipe of one or several components. Templates are particularly useful when the weighing task consists of a series of weighings, each with its own individual parameters, such as target weight, tolerances, etc. For further information, see [Using method templates ▸ Page 53].

For details about method settings:

See also

5.2.3.1 Creating a method "Simple formulation"

Navigation: ⌄ Methods > ⊟ Methods list

1 Tap **+ New** in the action bar.

   ⇨ The method wizard opens, starting at **1. Method type**.

2 Tap **Method type** and select the method type **Simple formulation** or **Simple formulation with templates**.

3 Tap **→ Next**.

   ⇨ The method wizard opens the section **2. Identification**.

4 Define the **Method name** and **Result description** and tap **→ Next**.

   ⇨ The method wizard opens the section **3. Configuration**.

5 Select the options for **Calculate concentration per component**, **Calculate amount of component** and set a **Tolerance profile**.

6 Tap → **Next**.
  ⇨ The method wizard opens the section **4. Save**.
  ⇨ When selected **Simple formulation with templates**, the wizard opens the optional creating section **4. Templates**.

7 Select a template from the list and define the **Sample ID**, **Unit**, **Target weight**, **–Tolerance**, and **+Tolerance**. Tap → **Next**.
  ⇨ The method wizard opens the last section **5. Save**.

8 Tap ✔ **Finish** to save the new method .

⇨ The method has been created and appears in the list.
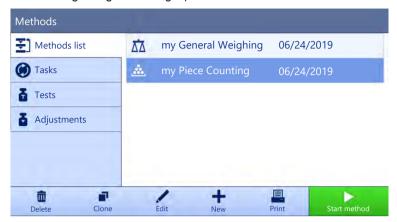
5.2.3.2 Performing a "Simple formulation"

This example describes how to perform a simple formulation with two different components. It explains the basic functions of the method without the use of any templates. Advanced functions such as the calculation of the concentration of a component can be defined in the method settings.

1 Open the **Methods** section.

2 Select a method from the **Methods list** or define a new method.

3 Tap ▶ **Start method**.
  ⇨ The main weighing screen appears with the selected method.

4 Define the target weight and the tolerance limits for the first component.

5 Select **Component ID** to define the first component.

6 Select **Task ID** to define the whole task.

7 Press →0← to zero the balance.

8 Open the draft shield (if applicable) and place the weighing object on the weighing pan.

9 Press →T← to tare the balance.

10 Open the draft shield (if applicable) and place the first component in the sample vessel.
  ⇨ The measurement starts.

11 Tap ✚ **Add to protocol**.
  ⇨ The weighing result is saved to the **Protocol**.

12 Define the target weight and the tolerance limits for the second component.

13 Select **Component ID** to define the second component.

14 Open the draft shield (if applicable) and place the second component in the sample vessel.

15 Tap ✚ **Add to protocol**.
  ⇨ The weighing result is saved to the **Protocol**.

16 Tap ▤ **Complete** and select if you want to print or export the task protocol.

⇨ The weight task is completed and the balance returns to the main weighing screen.

5.2.4 Method "Piece counting"

The method **Piece counting** allows you to determine the number of pieces put on the weighing pan. It is advantageous if all pieces are of approximately equal weight, since the unit quantity is determined on the basis of the average weight of a single piece.

Methods		
⊒ Methods list	⚖ my General Weighing	06/24/2019
◉ Tasks	⚗ my Piece Counting	06/24/2019
🔒 Tests		
🔒 Adjustments		

🗑 Delete	🗐 Clone	✏ Edit	➕ New	🗏 Print	▶ Start method

For details about method settings:

See also

▤ Settings: method "Piece counting" ▶ Page 105

5.2.4.1 Creating a method "Piece counting"

Navigation: ⌄ Methods > ⊒ Methods list

1 Tap ➕ **New** in the action bar.

⇨ The method wizard opens, starting at **1. Method type**.

2 Tap **Method type** and select the method type **Piece counting**.

3 Tap ➔ **Next**.

⇨ The method wizard opens the section **2. Identification**.

4 Define the **Method name** and **Result description** and tap ➔ **Next**.

⇨ The method wizard opens the section **3. Configuration**.

5 Select a **Tolerance profile** and tap ➔ **Next**.

⇨ The method wizard opens the section **4. Weighing item**.

6 Define a reference for pieces **Reference PCS**, a **Reference average weight**, **Target weight** and tap ➔ **Next**.

⇨ The method wizard opens the last section **5. Save**.

7 Tap ✔ **Finish** to save the new method .

⇨ The method has been created and appears in the list.

5.2.4.2 Performing a "Piece counting"

📝 **Note**

It is possible to exclude a weighing results from the protocol by opening the **Protocol** and tapping on **Exclude result**.
The window **Complete task** always appears after completing the task, even if the results are saved automatically.

1 Open the **Methods** section.

2 Select a method from the **Methods list** or define a new method.

3 Tap ▶ **Start method**.

⇨ The main weighing screen appears with the selected method.

4 Press →0← to zero the balance.

5 Open the draft shield (if applicable) and place the weighing object on the weighing pan.

6 Close the draft shield (if applicable) and wait until the weight stabilizes.
   ⇨ The weighing starts with **Capturing weight…**.

7 Tap ✚ **Add to protocol**.
   ⇨ The weighing result is saved to the **Protocol**.

8 When the weighing process is finished, tap 🖳 **Complete** in the action bar.
   ⇨ The window **Complete task** opens. The task-specific information can be printed on a label printer, the protocol can be printed manually or automatically (depending on the method settings), and the result can be exported to an external storage device.

⇨ The task **Piece counting** was successfully completed.

5.2.5 Method "Interval weighing"

With the method **Interval weighing**, the number of measurements and the time interval for each measurement can be defined.

Methods		
⊒] Methods list	⚖ my General Weighing	06/24/2019
⊙ Tasks	☉ my Interval Weighing	06/24/2019
🗲 Tests	🏺 my Simple Formulation	06/24/2019
🗲 Adjustments		

| 🗑 Delete | 🗐 Clone | ✎ Edit | ✚ New | 🖳 Print | ▶ Start method |

For details about method settings:

See also

5.2.5.1 Creating a method "Interval weighing"

Navigation: ⌄ **Methods** > ⊒] **Methods list**

1 Tap ✚ **New** in the action bar.
   ⇨ The method wizard opens, starting at **1. Method type**.

2 Tap **Method type** and select the method type **Interval weighing**.

3 Tap → **Next**.
   ⇨ The method wizard opens the section **2. Identification**.

4 Define the **Method name** and tap → **Next**.
   ⇨ The method wizard opens the next creating section **3. Configuration**.

5 Select a **Approximate interval**, the number of **Measurements**, select a **Tolerance profile** and tap → **Next**.
   ⇨ The method wizard opens the next creating section **4. Weighing item**.

6 Select a **Unit** for the weighing and tap → **Next**.
   ⇨ The method wizard opens the last section **5. Save**.

7 Tap ✔ **Finish** to save the new method .

⇨ The method has been created and appears in the list.

5.2.5.2 Performing an "Interval Weighing"

This section describes how the method **Interval weighing** is being used in a task example. In this example we are weighing one single weight with a tare container.

1 Open the **Methods** section.
2 Select a method from the **Methods list** or define a new method.
3 Tap ▶ **Start method**.
   ⇨ The main weighing screen appears with the selected method.
4 Press →0← to zero the balance.
5 Open the draft shield, if applicable.
6 If a container is used, place the container on the weighing pan.
7 Press →T← to tare the balance.
   ⇨ The tare-measurement starts with **Taring…**.
8 Place the weighing object into the sample vessel.
9 Close the draft shield, if applicable.
10 Tap ▶ **Start**.
   ⇨ The defined method is being executed. The **Protocol** section shows the current counter.
11 Wait until the process is finished.
   ⇨ The **Protocol** opens and shows a summary of the weighing results.
12 Tap 🖳 **Complete** to open the export options.
   ⇨ The dialog **Complete task** appears.
13 Tap **Export protocol manually** to export the weighing results to an external USB storage device or tap ✔ **Complete** to finish the task.
⇨ After completing the task, the results are deleted from the **Protocol**.

📝 **Note**

The current weighing process can be stopped by tapping ■ **Stop**.

5.2.6 Method "Titration"

The method **Titration** enables the interaction between the balance and the titrator via MT-SICS or RFID tag. The optional RFID reader enables data to be read from and written to an RFID tag. The RFID tag serves as a data carrier between the balance and titrator. The RFID tag placed on the base of a titrating beaker easily and reliably transfers the sample data, e.g., sample ID and weight. For available RFID readers, see "Accessories".

For details about method settings:

See also

5.2.6.1 Creating a method "Titration"

Navigation: ⌄ Methods > ☰ Methods list

1 Tap ✚ **New** in the action bar.
   - ⇨ The method wizard opens, starting at **1. Method type**.
2 Tap **Method type** and select the method type **Titration**.
3 Tap → **Next**.
   - ⇨ The method wizard opens the section **2. Identification**.
4 Define the **Method name** and **Result description** and tap → **Next**.
   - ⇨ The method wizard opens the section **3. Configuration**.
5 Select a **RFID option**, a **Tolerance profile** and tap → **Next**.
   - ⇨ The method wizard opens the last section **4. Save**.
6 Tap ✔ **Finish** to save the new method .
⇨ The method has been created and appears in the list.

📝 Note

The maximum text length of the **Sample ID** is 32 characters. If the RFID option activated, only the first 20 characters are transferred to the RFID tag.

5.2.6.2 Performing a "Titration"

This example describes how to prepare a sample for titration and to store the information on the RFID tag of the container using an external RFID reader such as the EasyScan USB. For more information about how to perform the titration, consult the manual of the titrator.

- ▪ An RFID tag is fixed under the weighing container.
- ▪ The RFID reader is connected to the balance.
- ▪ A METTLER TOLEDO titrator is connected to the balance via USB.
- ▪ A titration method exists in the **Methods list** with the **RFID option** set to **Read and write**.
1 Open the **Methods** section.
2 Select the desired titration method from the **Methods list**.
3 Tap ▶ **Start method**.
   - ⇨ The main weighing screen appears with the selected method.
   - ⇨ The wizard indicates the steps to follow to perform the method.
4 Place the container with RFID tag on the RFID reader.
   - ⇨ The RFID reader reads the information from the RFID tag
   - ⇨ The available data, if any, are included to the running task.
5 If necessary, edit the sample information.
6 Press →0← to zero the balance.
7 Open the draft shield (if applicable) and place the sample vessel on the weighing pan.
8 Close the draft shield (if applicable) and wait until the weight stabilizes.
9 Press →T← to tare the balance.
10 Open the draft shield (if applicable) and place the sample in the sample vessel.
11 Close the draft shield (if applicable) and wait until the weight stabilizes.
12 Tap ✔ **OK** to accept the measurement.
   - ⇨ The result is automatically added to the **Protocol**.
   - ⇨ The weighing result is saved to the **Protocol**.
13 Take the container and place it on the RFID reader.

14 Remove the sample vessel.

⇨ The task **Titration** gets completed automatically and the RFID-tag information is updated.

15 Continue your workflow on the titrator.

5.2.7 Method "Density determination"

The method **Density determination** is used for determining the density of solids and liquids. Density determination is carried out based on **Archimedes' principle** according to which a body immersed in a fluid undergoes an apparent loss in weight that is equal to the weight of the fluid it displaces. Furthermore the density method also supports the pycnometer method, which does not rely on **Archimedes' principle**. The method **Density determination** includes three method types:

Solid: determines the density of a solid with the help of a density kit

Liquid (sinker): determines the density of a liquid with the help of a density kit and a sinker

Liquid (pycnometer): determines the density of a liquid in a glass vessel, e.g. pycnometer

Methods		
⧉ Methods list	⚖ my General Weighing	06/24/2019
⊘ Tasks	⬚ my Density	06/24/2019
⧂ Tests		
⧂ Adjustments		
🗑 Delete	⬚ Clone ✎ Edit ✚ New 🗏 Print	▶ Continue task

For details about method settings:

See also

◫ Settings: method "Density determination" ▶ Page 124

5.2.7.1 Creating a method "Density determination"

Navigation: ▾ Methods > ⧉ Methods list

1 Tap ✚ **New** in the action bar.

⇨ The method wizard opens, starting at **1. Method type**.

2 Tap **Method type** and select the method type **Density**.

3 Tap ➔ **Next**.

⇨ The method wizard opens the next creating section **2. Identification**.

4 Define the **Method name** and **Result description** and tap ➔ **Next**.

⇨ The method wizard opens the section **3. Configuration**.

5 Select the **Determination type** and define the corresponding settings, e.g., **Density unit** and **Weighing settings**.

6 Tap ➔ **Next**.

⇨ The method wizard opens the section **4. Weighing item**

7 Define **Initial values for weighing** and tap ➔ **Next**.

⇨ The method wizard opens the last section **5. Save**.

8 Tap ✔ **Finish** to save the new method .

⇨ The method has been created and appears in the list.

Note

The **Determination type** can only be selected as part of a new created method. If another **Determination type** (solid, liquid) is required, a new method must be created.

5.2.7.2 Performing a "Density determination"

This example describes how to determine the density of a solid using a density kit.

- A density kit is available for the balance.

1. Open the **Methods** section.
2. Select a method from the **Methods list** or define a new method.
3. Tap ▶ **Start method**.
   ⇨ The main weighing screen appears with the selected method.
4. Tap ▶ **Start**.
5. Specify the **Temperature** and the **Aux. liquid**.
6. Tap ✔ **OK**.
7. Follow the instructions from the wizard.
   ⇨ The **Protocol** opens and shows a summary of the weighing results.
8. Tap 🖨 **Complete** to open the printing options.
   ⇨ The dialog **Complete task** appears.
9. Tap ✔ **Complete**.
⇨ The task **Density determination** was successfully completed.

5.2.8 Editing a method

To clone a method proceed as follows:

1. Open the **Methods** section.
2. Select the method that you want to edit.
   ⇨ The line color of the selected method becomes blue.
3. Tap ✏ **Edit**.

For details about method settings:

See also

📄 Weighing methods settings ▶ Page 85

5.2.9 Cloning a method

To simplify the process to create a method, an existing method can be cloned one or several times. The cloned method will have the same parameter values as the original one. If weighing item templates exist, those will be cloned as well.

To clone a method proceed as follows:

1. Open the **Methods** section.
2. Tap the method that you want to clone.
   ⇨ The line color of the selected method becomes blue.
3. Tap ▫ **Clone**.
   ⇨ A copy of the selected method appears in the list. The cloned method has the same settings as the original method.

Note

A method can be cloned several times. The name of the cloned method is always based on its original name, to which is appended a number.

5.2.10 Deleting a method

Both factory defined methods and user defined methods can be deleted if they are not needed. For this purpose proceed as follows:

1 Open the **Methods** section.
2 Tap the method that you want to delete.
   ⇨ The line color of the selected method becomes blue.
3 Tap 🗑 **Delete**.
   ⇨ The message **Delete method and cancel tasks?** appears on the screen.
4 Tap ✔ **OK** to delete the selected method.
⇨ The system returns to the method list. The method has been deleted and does not appear on the list anymore.

📝 **Note**

There is always a method activated in the background. This method can not be directly deleted. To delete the method, another method must be started instead. Now the method is not activated anymore and can be deleted.

5.2.11 Deleting a task

A method will be held as a task in the task section of the methods menu. It will be paused as a task if any other method is launched without the current method being completed. The method can be paused if it contains one or more weighing results, or has had certain method settings changed.

Navigation: ⌄ **Methods** > 🔄 **Tasks**

A task can only be deleted when not in use. The method that is currently used in the background is labeled with the symbol 🔵 in the tasks lists. To cancel the task, another task must be activated.

1 Select the task to be deleted and tap 🗑 **Cancel**.
   ⇨ The dialog 🗑 **Cancel task?** opens.
2 To delete the task tap ✔ **OK**, to cancel the delete procedure tap ✖ **Cancel**.

5.2.12 Using method templates

Working with templates can simplify the workflow, especially when several weighings with different predefined target weights have to be carried out one after the other. Characteristic information such as a target weight and tolerances can be defined in a template and must not be defined for every single weighing task. This may save time, especially when the weighing process consists of multiple steps.

The methods **General Weighing with templates** and **Simple formulation with templates** use templates.

Before a template can be used in the weighing process, it must be defined. There are two ways to define templates:

• The templates can be defined directly in the method creating process.
• The templates can be defined during the execution of a task within a method of the same type, without templates.

5.2.12.1 Defining a template during the method-defining process

This example describes how to define a template for the method **General Weighing with templates**.

1 Open the **Methods** section.
2 Tap ➕ **New method**.
3 Select **Method type General Weighing with templates**.
4 Step through the method wizard until step **4. Templates**.
   ⇨ The dialog screen **4. Templates** appears, the sample 1 can be defined.
5 Tap **Unit** to select the template unit.

6 Tap **Target weight** to define the target weight.

   ⇨ The options **−Tolerance** and **+Tolerance** appear.

7 Tap **−Tolerance** to define the lower tolerance.

8 Tap **+Tolerance** to define the upper tolerance.

9 Tap **→ Next**.

10 Tap 🖫 **Finish**.

⇨ The method has been created and appears in the method list.

📝 **Note**

This example only describes how to create templates for the method **General Weighing with templates**. For the other methods there might be several other options that can be defined.

5.2.12.2 Defining a template in a current task

It is also possible to create templates while performing a method without predefined templates, providing that the method type allows it.. This example describes how to create templates for the method **General Weighing**, respectively for the method **General Weighing with templates**. Templates can also be used for **Simple formulation** methods.

1 Start a method **General Weighing**.

2 Perform three weighings and add the results to the protocol by tapping **✚ Add to protocol**.

   ⇨ The results are saved to the **Protocol**.

3 Tap ••• **More**.

4 Tap 🖫 **Save as method with templates**.

5 Define a **Method name**.

6 Tap ✔ **OK**.

⇨ A method **General Weighing with templates** including three templates is created and added to the **Methods list** with the name defined by the user.

5.2.12.3 Working with templates

After the template has been created within a method, it can be used in a task.

1 Open the **Methods** section.

2 Select a method from the **Methods list** or define a new method.

3 Tap ▶ **Start method**.

   ⇨ The main weighing screen opens. The target weight and the tolerance limits that have been defined in the template appear.

5.3 Tests

Routine tests can be performed to ensure accurate weighing results according to GWP® or other QM systems. Therefore the tests should be performed in fixed, regular intervals depending on your QM system and the results should be documented in a traceable way.
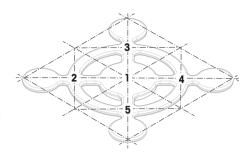
Navigation: ▾ Methods > 🔂 Tests

5.3.1 Overview routine tests

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.

5.3.1.1 Eccentricity test

The purpose of the eccentricity test is to check if every eccentric load deviation (corner load deviation) is within the user SOP tolerances. The corner load is the deviation of the measurement value through off-center (eccentric) loading. The corner load increases with the weight of the load and its distance from the center of the weighing pan support. If the display remains consistent, even when the same load is placed on different parts of the weighing pan, the balance does not have corner load deviation.

The result corresponds to the highest of the four determined eccentric load deviations (2 to 5).

5.3.1.2 Repeatability test

The repeatability test calculates the standard deviation of a series of measurements with a single test weight in order to determine the repeatability of the balance.

Repeatability is a measure of the ability of a balance to supply the same result in repetitive weighings with one and the same load under the same measurement conditions. During the test, the same load is placed and measured in different parts of the weighing pan. Afterwards, the difference between the measured weight values is calculated. The spread of the measured results leads to the repeatability.

Repeatability is highly affected by the ambient conditions (drafts, temperature fluctuations and vibrations) and also by the skill of the person performing the weighing. Therefore, the series of measurements must be carried out by the same operator, in the same location, under constant ambient conditions and without interruption.

The following test types are available:

- **Repeatab. - 1 TP**: To test repeatability of the balance without tare weight.
- **Repeatab. - Tare - 1 TP**: To test repeatability of the balance with tare weight. The first test weight (tare weight) is used to simulate a tare container.

5.3.1.3 Sensitivity tests

The sensitivity of the balance defines the deviation between the balance reading and the actual load. The sensitivity test allows you to measure the sensitivity using one or two test points.

The following test types are available:

- **Sensitivity - 1 TP**: To test sensitivity of the balance with one test weight.
- **Sensitivity - 2 TP**: To test sensitivity of the balance with two test weights.
- **Sensitivity - Tare - 1 TP**: To test sensitivity of the balance with two test weights. The first test weight (tare weight) is used to simulate a tare container.
- **Sensitivity - Tare - 2 TP**: To test sensitivity of the balance with three test weights. The first test weight (tare weight) is used to simulate a tare container.

5.3.2 Creating an own new test

Before a test can be performed, the test settings have to be defined. A test wizard is leading you step-by-step through the process.

1 Open the **Methods** section.
2 Tap **Tests**.
3 Tap **+ New**.
   ⇨ The wizard **Create new test** starts.
4 Select the test type.
5 Work through the process by using the button **→ Next** to go to the next step or the button **← Back** to go back to the previous step.

For information concerning the settings for the different test types **see** the following chapters.

For details about test settings:

See also

5.3.3 Defining a test weight

The user should enter data related to each test weight based on the corresponding certificate. This enables each external test weight to be clearly assigned to a specific certificate. Up to 12 external test weights can be configured. These test weights can be used to carry out external tests and adjustments.

Navigation: ⌄ **Methods** > 🝖 **Tests**

📝 **Note**

An external test weight for an external adjustment has to weigh at least 10% of the balance capacity. External test weights under 10% of the balance capacity are not displayed on the balance.

1 Open the **Methods** section.
2 Tap 🝖 **Tests**.
3 Tap 🝖 **Test weights**.
    ⇨ The dialog **Edit test weights** opens.
4 Tap ➕ **New test weight**.
5 Define the test weight settings and confirm with ✔ **Finish**.
⇨ The test weight is defined and will be available later in the test procedure.

Test weights settings

Parameter	Description	Values
Test weight name	Defines the name of the test weight.	Text (1…22 characters)
Test weight ID	Defines the test weight ID.	Text (1…22 characters)
Weight class	Defines the weight class according to OIML or ASTM. Alternatively, a customized tolerance class can be created with **Own**.	E1	E2	F1	F2	M1	M2	M3	ASTM000	ASTM00	ASTM0	ASTM0	ASTM1	ASTM2	ASTM3	ASTM4	ASTM5	ASTM6	ASTM7	Own*
Actual weight	Defines the actual weight. The actual weight is a specific weight with a specific Conventional Mass Value (CMV) from the weight calibration certificate.	Numeric
Next calibration date	Defines the next date for calibration.	Numeric
Certificate	If the certificate of the test weight is available, set to **Active** and fill in the additional parameters related to the certificate information (see below).	Active	Inactive*
Certificate ID	Defines the certificate ID. This option only appears when the option **Certificate ID** is set to **Active**.	Text (1…22 characters)
Certificate date	Defines the certificate date. This option only appears when the option **Certificate ID** is set to **Active**.	Date
Weight set ID	Defines the weight set ID.	Text (1…22 characters)

5.3.4 Performing a test

> **⚠ NOTICE**
>
> **Measurement errors due to deficient handling of the test weights.**
> Deficient handling of the test weights can lead to incorrect result.
> – Only handle test weights with gloves or forks.

You can perform an eccentricity test, a repeatability test or a sensitivity test. Which test you have to perform and when depends on the respective weighing processes. Mettler-Toledo GmbH 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.

Moments when tests could be performed:

- After cleaning
- After a software update
- Daily before putting into operation
- Depending on own SOP

Requirements:

- At least one test weight is defined.
- At least one sensitivity, one repeatability or one eccentricity test is created.

All of the following pictured test weights or vessels are examples. Actual test weights or vessels may look different.

5.3.4.1 Performing an eccentricity test

1 Open the **Methods** section.

2 Tap **⬚ Tests**.

  ⇨ The test(s) previously defined appear on the list.

3 Select the eccentricity test you wish to perform and tap ▶ **Start**.

  ⇨ The test sequence starts.

4 Ensure that the weighing pan is empty and clear, the test weight is prepared, and weighing forks or gloves are ready.

5 When all requirements are fulfilled tap ✔ **OK**.

6 Make sure that the weighing pan is empty and tap ✔**OK**.

7 Choose an available test weight
  - or -
  add a new test weight and tap ✔**OK**.

8 Open the draft shield, if applicable.

9 Place the test weight carefully in the middle of the weighing pan.

10 Close the draft shield, if applicable.

  ⇨ The measurement starts with **Capturing weight...**

  ⇨ The result of the first measurement is placed in the **Protocol** as **Position 1**.

11 Lift the test weight and move to position 2 (front left corner of the weighing pan).

  ⇨ The measurement starts with **Capturing weight...**

  ⇨ The result of the second measurement is placed in the **Protocol** as **Position 2**.

12 Lift the test weight and move to position 3 (back left corner of the weighing pan).

  ⇨ The measurement starts with **Capturing weight...**

  ⇨ The result of the third measurement is placed in the **Protocol** as **Position 3**.

13 Lift the test weight and move to position 4 (back right corner of the weighing pan).
   ⇨ The measurement starts with **Capturing weight...**
   ⇨ The result of the fourth measurement is placed in the **Protocol** as **Position 4**.
14 Lift the test weight and move to position 5 (front right corner of the weighing pan).
   ⇨ The measurement starts with **Capturing weight...**
   ⇨ The result of the fifth measurement is placed in the **Protocol** as **Position 5**.
   ⇨ The eccentricity test is finished.
15 Remove the test weight carefully and tap ✔ **OK**
   ⇨ The door closes automatically (depending on the door settings) and the balance starts an automatic zeroing.
16 When the test procedure is finished, tap 🖶 **Finish**.
   ⇨ The result dialog opens.
17 To print the results tap 🖳 **Print**, to finish the test tap ✔ **Finish**.

Test result

If the test failed, see "Troubleshooting", search the error, remedy it and test again. If the test fails again, contact a METTLER TOLEDO representative.

See also

5.3.4.2 Performing a repeatability test

In this section, both repeatability tests are described. Which test you use depends on the respective test target.

Repeatability - 1 test point

1 Open the **Methods** section.
2 Tap 🝊 **Tests**.
   ⇨ The test(s) previously defined appear on the list.
3 Select the repeatability test you wish to perform and tap ▶ **Start**.
   ⇨ The test sequence starts.
4 Ensure that the weighing pan is empty and clear, the test weight is prepared, and weighing forks or gloves are ready.
5 When all requirements are fulfilled tap ✔ **OK**.
6 Make sure that the weighing pan is empty and tap ✔**OK**.
   ⇨ The balance starts an automatic zeroing.
7 Choose an available test weight
   - or -
   add a new test weight and tap ✔**OK**.
8 Open the draft shield, if applicable.
9 Place the test weight carefully in the middle of the weighing pan.
10 Close the draft shield, if applicable.
   ⇨ The measurement starts with **Capturing weight...**
   ⇨ The result of the measurement is saved to the **Protocol**.
11 Remove the test weight carefully and tap ✔ **OK**
   ⇨ The balance starts an automatic zeroing.
   ⇨ Depending on the specified **Number of repetitions** you have to repeat the last four steps x-times.
12 When the test procedure is finished, tap 🖶 **Finish**.
   ⇨ The result dialog opens.

13 To print the results tap 🖨 **Print**, to finish the test tap ✔ **Finish**.

Repeatability - Tare - 1 test point

1 Open the **Methods** section.

2 Tap 🗝 **Tests**.

    ⇨ The test(s) previously defined appear on the list.

3 Select the repeatability test you wish to perform and tap ▶ **Start**.

    ⇨ The test sequence starts.

4 Ensure that the weighing pan is empty and clear, the test weight is prepared, and weighing forks or gloves are ready.

5 When all requirements are fulfilled tap ✔ **OK**.

6 Make sure that the weighing pan is empty and tap ✔**OK**.

    ⇨ The balance starts an automatic zeroing.

7 Choose an available test weight/test container
- or -
add a new test weight/test container and tap ✔ **OK** and put it on the weighing pan.

    ⇨ The measurement starts with **Taring...**.

    ⇨ The tare result is saved in the **Protocol**.

8 Carefully place the test weight onto the weighing pan or into the tare container.

    ⇨ The measurement starts with **Capturing weight...**

    ⇨ The result of the measurement is saved to the **Protocol**.

9 Remove the test weight, leave the container on the weighing pan.

    ⇨ The measurement starts with **Taring...**.

10 Carefully place the test weight onto the weighing pan or into the tare container.

    ⇨ The measurement starts with **Capturing weight...**

    ⇨ The result of the measurement is saved to the **Protocol**.

    ⇨ Depending on the specified **Number of repetitions** you have to repeat the last twp steps a certain number of times.

11 When the test procedure is finished, tap 🗗**Finish**.

    ⇨ The result dialog opens.

12 To print the results tap 🖨 **Print**, to finish the test tap ✔ **Finish**.

Test result

If the test failed, see "Troubleshooting", search the error, remedy it and test again. If the test fails again, contact a METTLER TOLEDO representative.

See also

5.3.4.3 Performing a sensitivity test

In this section, two of four possible sensitivity tests are described. Which test you use depends on the respective test target. The procedure for the tests with two test points is similar, but additional test weights and test containers are necessary.

Sensitivity - 1 test point

1 Open the **Methods** section.

2 Tap 🗝 **Tests**.

    ⇨ The test(s) previously defined appear on the list.

3 Select the sensitivity test you wish to perform and tap ▶ **Start**.

⇨ The test sequence starts.

4 Ensure that the weighing pan is empty and clear, the test weight is prepared, and weighing forks or gloves are ready.

5 When all requirements are fulfilled tap ✔ **OK**.

6 Make sure that the weighing pan is empty and tap ✔**OK**.

⇨ The balance starts an automatic zeroing.

7 Choose an available test weight
- or -
add a new test weight and tap ✔**OK**.

8 Open the draft shield, if applicable.

9 Place the test weight carefully in the middle of the weighing pan.

10 Close the draft shield, if applicable.

⇨ The measurement starts with **Capturing weight…**

⇨ The result of the measurement is saved to the **Protocol**.

11 When the test procedure is finished, tap 🖽 **Finish**.

⇨ The result dialog opens.

12 To print the results tap 🖥 **Print**, to finish the test tap ✔ **Finish**.

Sensitivity - Tare - 1 test point

1 Open the **Methods** section.

2 Tap 🖥 **Tests**.

⇨ The test(s) previously defined appear on the list.

3 Select the sensitivity test you wish to perform and tap ▶ **Start**.

⇨ The test sequence starts.

4 Ensure that the weighing pan is empty and clear, the test weight is prepared, and weighing forks or gloves are ready.

5 When all requirements are fulfilled tap ✔ **OK**.

6 Make sure that the weighing pan is empty and tap ✔**OK**.

⇨ The balance starts an automatic zeroing.

7 Choose an available test weight
- or -
add a new test weight and tap ✔**OK**.

⇨ The measurement starts with **Capturing weight…**

⇨ The tare result is saved in the **Protocol**.

8 Carefully place the test weight onto the weighing pan or into the tare container.

⇨ The measurement starts with **Capturing weight…**

⇨ The result of the measurement is saved to the **Protocol**.

9 When the test procedure is finished, tap 🖽 **Finish**.

⇨ The result dialog opens.

10 To print the results tap 🖥 **Print**, to finish the test tap ✔ **Finish**.

Test result

If the test failed, see "Troubleshooting", search the error, remedy it and test again. If the test fails again, contact a METTLER TOLEDO representative.

See also

Precision Balances and Comparators

5.3.5 Editing a test

A test can only be edited when it is not running.

Navigation: ⏷ **Methods** > 🔒 **Tests**

1 Select the test to be edited from the list and tap 🖊 **Edit**.
   ⇨ The test settings open.
2 Edit your test parameters, **see** section [Tests settings ▶ Page 131].

See also

📄 Tests settings ▶ Page 131

5.3.6 Printing test results

You can print a test manually, whether the parameter **Automatic print** in the test settings is activated or deactivated. For this purpose proceed as follows:

1 Open the **Methods** section.
2 Tap 🔒 **Tests**.
   ⇨ The test list opens.
3 Select the test to print and tap 🖨 **Print all**
⇨ The test is printed.

5.3.7 Deleting a test

1 Open the **Methods** section.
2 Tap 🔒 **Tests**.
   ⇨ The test list opens.
3 Select the test to delete.
4 Tap 🗑 **Delete**.
   ⇨ The section **Delete routine test** opens. The message **Do you really want to delete the selected routine test?** appears.
5 Tap ✔ **Yes** to delete the test. Tap ✖ **No** to cancel the deleting process.
⇨ After deleting the test, the system returns to the test list. The test has been deleted and does not appear on the list anymore.

Running tests are labeled with the symbol ▶ and cannot be deleted. To delete a test, it must be finished or another test must be activated. To delete a test, proceed as follows:

5.3.8 Consulting the test history

Navigation: ▸ **Balance menu** > 🕑 **History** > 🔒 **Tests**

– Select a test.
⇨ The test history opens. Specific data are displayed for each test, such as the date and time, type of test, temperature, level state, test weight ID, and weight deviation.

See also

📄 History ▶ Page 71

5.4 Adjustments

This section describes how internal and external adjustments can be defined and performed. Which type of adjustment is performed depends on the defined adjustment **Strategy**.

Navigation: ⏷ **Methods** > 🔒 **Adjustments**

5.4.1 Internal adjustment

5.4.1.1 Editing an internal adjustment

1 Open the **Methods** section.

2 Tap 🔴 **Adjustments**.

3 Tap ✎ **Edit**.

4 Set the **Strategy** to **Internal adjustment**.

5 Define the adjustment parameters.

6 Tap ✓ **Save**.

⇨ Your internal adjustment has been edited.

For details about adjustment settings:

5.4.1.2 Performing an internal adjustment

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

1 Open the **Methods** section, tap 🔴, select the adjustment, and tap ▶ **Start**
- or -
from the main weighing screen, tap ••• **More** and tap **Start adjustment**.

⇨ **Internal adjustment** is being executed.

⇨ When the adjustment has been completed, an overview of the adjustment results appears.

2 Tap 🖨 **Print** if you want to print the results.

3 Tap ✓ **Finish adjustment**.

⇨ The balance is ready.

5.4.2 External adjustment

5.4.2.1 Editing an external adjustment

1 Open the **Methods** section.

2 Tap 🔴 **Adjustments**.

3 Tap ✎ **Edit**.

4 Set the **Strategy** to **External adjustment**.

5 Tap 🔩 **Edit test weights**.

⇨ The dialog **Edit test weights** opens.

6 Select a test weight from the list and tap ✓ **OK**
- or -
tap ➕ **New test weight** to define a new test weight.

7 Define the test weight settings and confirm with ✓ **OK**.

8 Tap ✓ **Save**.

⇨ Your external adjustment has been edited.

For details about adjustment settings:

See also

5.4.2.2 Performing a external adjustment

After the external weights have been defined, the function **External adjustment** can be performed.

1 Open the **Methods** section.

2 Tap 🔩 **Adjustments**.

3 Select the external adjustment you wish to perform and tap ▶ **Start**.

   ⇨ The adjustment process starts.

4 Ensure that the weighing pan is empty and clear, the test weight is prepared, and weighing forks or gloves are ready.

5 When all requirements are fulfilled tap ✔ **OK**.

6 Make sure that the weighing pan is empty and tap ✔**OK**.

7 Choose an available test weight
   - or -
   add a new test weight and tap ✔**OK**.

8 Open the draft shield, if applicable.

9 Place the test weight carefully in the middle of the weighing pan.

10 Close the draft shield, if applicable.

   ⇨ The adjustment starts.

11 Remove the test weight from the weighing pan and tap ✔ **OK**.

   ⇨ The adjustment is finishing and the adjustment results appear.

12 To print the results tap 🖨 **Print**, to finish the test tap ✔ **Finish**.

See also

5.4.3 Consulting the adjustment history

Navigation: ▸ **Balance menu >** 🕒 **History >** 🔩 **Adjustments**

– Select an adjustment.

⇨ The adjustment history opens. Specific data are displayed for each adjustment such as the date and time, type of adjustment, temperature, level state, and correction.

See also

5.5 External devices

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

5.5.1 Adding a device

Adding a new device

1 To add a new device, tap ➕ **Add device**

   ⇨ The **Add device** dialog opens.

2 Connect the device to one of the USB-A ports of the balance.

3 Follow the instructions from the wizard.

Note

A label printer and a strip printer can be connected simultaneously to the balance.

Example: adding a barcode reader

1 To add a new device, tap **+ Add device**

⇨ The **Add device** dialog opens.

2 Connect the device to one of the USB-A ports of the balance.

3 If you are installing a barcode reader you can scan the barcode displayed on the balance terminal. Tap ▥▥▥ **Tools** and tap → **Next**.

⇨ The barcode of the device is shown.

4 Scan the barcode from the device.

⇨ The barcode is identified from the balance and the new device is connected.

5 To cancel the dialog, tap **✕ Cancel**.

5.5.2 Deleting a device

1 Select the device from the list of devices and printers.

2 Tap 🗑 **Delete device**.

⇨ The message of the type "Are you sure you would like to delete the selected device?" is shown.

3 To delete, tap **✓ OK**. To cancel the delete dialog, tap **✕ Cancel**.

⇨ The device is deleted.

5.5.3 Editing device settings

1 Select the device from the list of devices and printers.

⇨ Device type, name, status and settings are shown.

2 To change the name of the device, tap **Name**, enter the name and tap **✓**.

3 Some devices, e.g., printers, have additional editable settings. To edit those settings, tap ▸ **Printer settings**.

⇨ The dialog printer settings opens.

5.5.4 Printing a test page

If you have installed a printer, a test page can be printed.
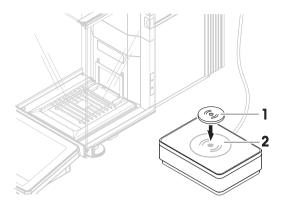
1 Select the printer in the list of devices.

2 Tap 🖶 **Print test page**

5.5.5 Using an RFID reader

5.5.5.1 Testing an RFID reader

1 Select the device from the list of devices and printers.

2 Tap ⌨ **Test device**.
  ⇨ The dialog **Test device** opens.
3 Place a RFID tag on the RFID reader.
  ⇨ If the RFID reader works correctly the message:
     "**RFID reader has successfully read the RFID tag.**"
     is shown.
  ⇨ The RFID reader has been tested.

Formatting an RFID tag

Navigation: ‣ **Balance menu** > ☷ **Maintenance** > ᵔ) **Format RFID**

1 Tap ᵔ) **Format RFID**.
  ⇨ The dialog **Format RFID tag** opens.
2 Place the RFID tag on the RFID reader.
  ⇨ The dialog "Do you want to format the RFID tag and delete all data?" opens.
3 To delete the RFID tag tap ➜ **Format**.
  ⇨ The RFID tag was formatted.

Reading data from an RFID tag

Navigation: ‣ **Balance menu** > ☷ **Maintenance** > ᵔ) **Format RFID**

1 Tap ᵔ) **Format RFID**.
  ⇨ The dialog **Format RFID tag** opens.
2 Place the RFID tag on the RFID reader.
  ⇨ The dialog "Do you want to format the RFID tag and delete all data?" opens.
  ⇨ In the dialog you can read all written data.
3 To delete the RFID tag tap ➜ **Format**. To cancel the format dialog tap ✕ **Cancel**

5.6 User management

> ⓘ **NOTICE**
>
> **Loss of data due to missing password or ID**
> Protected menu areas cannot be accessed without ID or password.
> – Note ID and password and keep them in a safe place.

5.6.1 Activating the user management

The user management is inactivated in the factory settings. To activate the user management follow:

Navigation: ‣ **Balance menu** > ⚙**Settings** > ⚛ **General** > **User management**.

1 Tap ⋮ and select **Active**.
  ⇨ The dialog **Activate user management** opens.
2 Tap ➜ **Next**.
  ⇨ The dialog 🔑 **Set administrator password (optional)** opens.
3 Tap **New password** and enter the new password.

4 Confirm the new password again and tap ✔ **OK**.
   ⇨ The dialog closes.
5 Confirm the activated user management in the section **General**, tap ✔ **OK**
⇨ The User management is active. The login dialog opens at every system start.

5.6.2 Disabling the user management

Settings > **General** > **User management**.

1 Tap ⋮ and select **Inactive**.
   ⇨ The dialog **Deactivate user management** opens.
2 Tap → **Next**.
   ⇨ The dialog 🔑 **Set unblocking password** opens.
3 Tap **New password** and enter the new password.
4 Confirm the new password again and tap ✔.
   ⇨ The dialog closes.
5 Tap ✔ **OK** to confirm.
⇨ The user management is inactive.

5.6.3 Managing users and user groups

The **Users** settings are only visible when the **User management** is set to **Active**.

Navigation: ‣ **Balance menu** > 👥 **Users**

Printing user list

An overview of all users and user groups can be printed by tapping 🖨 **Print all**.

See also

5.6.3.1 Creating a new user

Navigation: ‣ **Balance menu** > 👥 **Users** > 👤 **Users**

1 Tap ➕ **New user** in the action bar.
2 Define the values for the new user.
3 To define a user profile password, tap 🔑 **Change password** in the action bar.
4 Tap **New password**.
   ⇨ The keyboard dialogue opens.
5 Define the password.
6 Tap **Confirm new password** and fill in the defined password.
7 Tap ✔ to close the keyboard dialogue.
8 Tap ✔ **OK** to confirm the defined password.
   ⇨ The dialogue **User name** opens.
9 Tap ✔ **OK** to confirm the defined user profile.
⇨ The user has been created. The new user profile appears in the list.

5.6.3.2 Creating a new group

Navigation: ‣ **Balance menu** > 👥 **Users** > 👥 **Groups**

📝 **Note**

This area is only accessible for users with the appropriate rights.

1 Tap **+ New group**.
   ⇨ The dialog opens.
2 Define the group properties.
3 Tap **✓ OK**.
⇨ The group has been created, the system returns to the list of defined groups.

5.6.3.3 Deleting users or user groups

Requirements for deleting:

- You logged in as administrator.

Navigation: ‣ **Balance menu > 🧑 Users > 👤 Users**

1 Select your User ID.
   ⇨ The user management dialog opens.
2 Tap **🗑 Delete** in the action bar.
   ⇨ The dialog **Delete user** opens.
3 To delete the user tap **✓ OK**.
⇨ The user is deleted irreversibly.

5.7 Tolerance profiles

Navigation: ‣ **Balance menu > ⚙ Settings > 🔩 Balance > Q₊ Weighing / Quality > Tolerance profiles**

Creating a Tolerance profile

1 Tap **+ New** to create a new profile.
2 Define the profile settings.
3 When all the settings have been defined, tap **✓ OK**.
   ⇨ The system returns to the profile list and the new profile appears on the list.

By tapping an existing profile, its settings can be changed, the profile can be deleted or it can be set as default value. Several profiles can be created. A default profile must be selected.

5.8 Data management

Navigation: ‣ **Balance menu > 🗄 Maintenance > 💾 Import / Export**

The import or export of data can be used to save or transfer data from one balance to another.

The following data can be imported or exported:

- **Balance settings**
- **User management**
- **Methods**
- **Tests and weights**

5.8.1 Exporting data and settings

1 Select **💾 Export data and settings**.
   ⇨ The dialog **Export data and settings** opens.
2 Select **Export** and tap **→ Next**
   ⇨ The window **Export data and settings** appears.
3 Select the data type(s) you want to export.
4 Plug in the USB storage device to one of the USB-A ports of the balance.
5 Tap **✓ Export**.
   ⇨ A list of available USB storage devices opens.

6 Select the target USB storage device to store the data.

7 Tap → **Next**.

⇨ The system exports the data to the USB storage device. If the export was successful, the screen shows
   ● with the file name and its target folder.

8 Tap ✗ **Close** to finish the process.

5.8.2 Importing data and settings

With the function **Import data and settings**, settings from other balances can be imported to this balance. It is
also possible to re-import settings that have been exported.

1 Select 🖫 **Import data and settings**.

2 Plug in the USB storage device with the data to import.

3 Tap → **Next**.

⇨ A list of available USB storage devices opens.

4 Select the USB storage device with the data to import.

5 Tap → **Next**.

6 Select the data file you want to import.

7 Tap → **Next**.

8 Select the data type(s) you want to import.

⇨ When importing methods, you can select if all methods or a selection of methods will be imported.
   Methods of the same name will be overwritten.

9 Tap ✓ **Import**.

⇨ The message **Import of data and settings has been executed.** appears. The import was successful. Tap
   ✗ **Close** to return to the main weighing screen.

5.9 Password protection and balance reset

5.9.1 Password protection

If user management is active, each user has an individual password.

- Any logged in user can change his own password. See [Changing a password ▸ Page 68].

- Users with permission to configure user management can change the password of any user. See [Changing
  a password ▸ Page 68].

- If a user with permission to configure user management has forgotten his password (and no other user can
  change it), a password reset can be requested. See [Requesting a reset password ▸ Page 69]
  📝 **Note**
  If the parameter **Password reset** is set to **Not allowed**, the balance needs to be reset by a service
  technician.

If user management is inactive, a password can be generated to block the whole balance. See [Creating an
unblocking password ▸ Page 69].

5.9.1.1 Changing a password

Any user can change its own password. Additionally, users with permission to configure user management can
change the password of other users.

Navigation: ▸ **Balance menu >** 👥 **Users >** 👤 **Users**

1 Select the **User name** for which the password should be changed.

⇨ The user management dialog opens.

2 Tap 🔑 **Change password** in the action bar.

⇨ The dialog **Change password** opens.

3 Enter a new password and confirm it.

4 Tap ✔ **OK**.

⇨ The password has been changed.

5.9.1.2 Requesting a reset password

If a user with the permission to configure user management has forgotten his password, a reset password can be requested.

▪ The balance login dialog is open.

1 Select the user who needs a password reset. That user needs to have the permission to configure user management.

2 Tap ••• **More**.

⇨ The dialog **More** opens.

3 Tap ⟲ **Request reset password**.

4 The dialog **Request reset password** opens.

5 Note the service code and tap ⌨ **Service request**.

⇨ Information about your METTLER TOLEDO service representative appears.

6 Contact your METTLER TOLEDO service representative via phone or email.

⇨ You get an 8-character reset password with which you can log in once.

7 Log in with your reset password and select a new password.

5.9.1.3 Creating an unblocking password

If the user management is inactive, the balance can still be blocked with a unique password, called the unblocking password. This password first need to be generated and needs to be provided to block and unblock the balance.

Navigation: ‣ **Balance menu > ⚙ Settings > ⚖ Balance > ⁂ General**

1 To create an unblocking password, tap 🔑 **Unblocking password** in the action bar.

⇨ The dialog **Set unblocking password** opens.

2 Set a new password, confirm it, and tap ✔ **OK**.

3 In the dialog ⁂ **General**, tap ✔ **Save** and ✔ **OK**.

⇨ The unblocking password is created.

5.9.2 Logging in and logging out

If the user management is active, users need to log in to use the balance.

5.9.2.1 Logging in

▪ The balance login dialog is open.

1 Select a user and enter the password.

2 Tap ⤇ **Login**.

⇨ You are logged in and your user name is displayed on the main weighing screen.

5.9.2.2 Logging out

Navigation: ‣ **Balance menu > ꜛ Exit/ Block balance**

– Tap ⬡ **Logout**.

⇨ You are logged out.

5.9.3 Blocking and unblocking the balance

A blocking means closedown of the balance. A reason for such "full blocking" can have a serious background. If the balance has a defect or a loss of the weighing quality, the user can block the balance completely.

If user management is active, users can block the balance if they have the related permission.

If user management is inactive, the balance can still be blocked to prevent any further usage of the balance. If no unblocking password has been set, the balance can get blocked and unblocked without a password. If an unblocking password has been set, the balance can only get blocked and unblocked using this password. See [Creating an unblocking password ▶ Page 69].

5.9.3.1 Blocking the balance

Navigation: ‣ **Balance menu >** 🔒 **Blocking**

1 To block the balance tap 🔒 **Block balance**.
   ⇨ The dialog **Block balance** opens.
2 Tap → **Next**.
3 Enter your unblocking password and tap ✓ **Block balance**.
⇨ The balance is blocked and the blocking screen appears.

5.9.3.2 Unblocking the balance

- The balance is blocked and the blocking screen is open.
- The unblocking password is available.
1 To unblock the balance, type the unblocking password in the password field.
2 Tap 🔓 **Unblock balance**.
3 Tap ✓ **Unblock balance** to confirm.
   By tapping ✗ **Cancel** instead, the main weighing screen appears, but the balance is still blocked and only a limited number of settings can be edited.
⇨ The balance is unblocked and the main weighing screen appears.

5.9.4 Resetting the balance

When user management is active, only users with the appropriate permissions can reset the balance.

Navigation: ‣ **Balance menu >** 🗐 **Maintenance >** ↺ **Reset**

> **! NOTICE**
>
> **Reset causes data loss**
> Resetting the balance will delete user application data and set the user configuration back to factory state.

1 To delete the change history data and the data for test history and adjustment history, activate the option **Also delete change, test and adjustment history**.
2 Tap → **Next**.
   ⇨ The window **Reset balance** opens and warns that some data will be lost by resetting the balance.
3 Tap ↺ **Reset balance**.
   ⇨ The balance software restarts in factory state.

6 Software description

6.1 Balance menu settings

The **Balance menu** contains general settings and information. To open the section **Balance menu** tap the drawer symbol ▸ on the left side of the screen.

The section **Balance menu** is divided into the following subsections.

- ⊚ **Leveling aid**, see [Leveling aid ▸ Page 71]
- ▣ **History**, see [History ▸ Page 71]
- ▤ **Balance info**, see [Balance info ▸ Page 74]
- ▲ **Users** (only appears when user management is activated), see [Users ▸ Page 74]
- ⚙ **Settings**, see Settings
- ▤ **Maintenance**, see [Maintenance ▸ Page 85]
- ▦ **Exit / Blocking**, see Exit / Block the balance

See also

6.1.1 Leveling aid

Exact horizontal positioning and stable installation is essential for repeatable and accurate weighing results. With the **Leveling aid** the balance can be leveled.

Navigation: ▸ **Balance menu > ⊚ Leveling aid**

▤ Note

After leveling the balance an internal adjustment must be performed.

See also

6.1.2 History

The balance permanently records the tests and adjustments that are performed in the section **History**

Navigation: ▸ **Balance menu > ▣ History**

The section **History** is divided into the following subsections.

- ▼ **Adjustments**
- ▣ **Tests**
- ▤ **Alibi memory** (only available for specific balance models)
- ▥ **Service**
- ◉ **Changes** (only appears when change history is activated)

6.1.2.1 Adjustments

Navigation: ▸ **Balance menu > ▣ History > ▼ Adjustments**

A maximum of 500 entries can be stored in the adjustments history.

Symbol	Description	Procedure
▼	**Filter**	Tap to **Filter** the adjustment history by a defined date range or by a user ID.
🖶	**Print**	Tap to print the adjustment history list.
⬅	**Close**	Tap to return to the section **History**

6.1.2.2 Tests

Navigation: ‣ **Balance menu >** 🕘 **History >** 🔲 **Tests**

A maximum of 500 entries can be stored in the test history.

Symbol	Description	Procedure
▼	**Filter**	Tap to **Filter** the test history by a defined date range or by a user ID.
🖶	**Print**	Tap to print the test history list.
⬅	**Close**	Tap to return to the section **History**.

6.1.2.3 Alibi memory

The alibi memory is a tamper-proof data storage device on which weighing data subject to legal control is automatically stored and accessible for a period of time. An alibi memory device operates according to the principle of a "ring" memory: when the capacity limit of the data records and the retention period are reached, the oldest data record in the memory is automatically overwritten by the new data record.

As soon as a result is generated by the balance, it will be stored in the alibi memory of the balance, if the feature is activated. Access to the alibi memory on the balance is provided in stand-alone mode only.

The combination of **Alibi record ID** and **Bridge serial number** ensures the uniqueness of an alibi memory entry. The balance also defines a retention period describing the minimum amount of time during which the results must be stored in the alibi memory. As soon as the retention period for specific alibi entries is exceeded, the balance can reuse these memory slots for new entries.

The alibi memory is only available for specific balance models and needs to be activated by a service technician. Contact your METTLER TOLEDO representative for more details.

When the alibi memory is activated, an alibi record is generated for each result added to the **Protocol**. Each alibi record contains the following information:

- **Bridge serial number**
- **Alibi record ID**
- **Date/time**
- **Net weight**
- **Tare weight**
- **Tare weight status**
- **Verification (CRC-16)**

📝 **Note**

When the **Capture mode** is set to **Immediate**, no alibi record is generated.

Navigation: ‣ **Balance menu >** ▣ **History >** ▤ **Alibi memory**

A maximum of 500'000 entries can be stored in the alibi memory. When the maximum number of entries is reached and no entries are older than the retention period, no new result can be added to the **Protocol**. This can be fixed in service mode, where alibi records can be deleted or the retention period can be shortened.

Symbol	Description	Procedure
▼	**Filter**	Tap to **Filter** the alibi memory by a defined date range or by a record ID range.
💾	**Export**	Tap to **Export** the content of the alibi memory.
🔾	**Show alibi memory status**	Tap to show information about the alibi memory status: **Used memory**, **Number of remaining records**, **Retention period**, **Oldest records**, and **Newest records**.
⚙	**Alibi memory retention period**	The retention period is the minimum period during which the alibi records are stored in the alibi memory. The retention period can range from 1 to 365 days, with a default value of 100 days.
🖶	**Print**	Tap to print the content of the alibi memory.
⏎	**Close**	Tap to return to the section **History**.

6.1.2.4 Service

Navigation: ‣ **Balance menu >** ▣ **History >** ▨ **Service**

A maximum of 500 entries can be stored in the service history.

Symbol	Description	Procedure
▼	**Filter**	Tap to **Filter** the service history by a defined date range or by technician.
🖶	**Print**	Tap to print the service history list.
⏎	**Close**	Tap to return to the section **History**.

6.1.2.5 Changes

The function **Change history** is an administration tool to improve the traceability of the weighing process. Information such as added methods or settings changes are being listed. Tap into the list to display detailed information about the data.

Navigation: ‣ **Balance menu** > ▣ **History** > 👁 **Changes**

Change history is deactivated in the factory settings. To activate **Change history**, see Weighing / Quality.

A maximum of 5000 entries can be stored in the change history.

Symbol	Description	Procedure
▼	**Filter**	Tap to **Filter** the adjustment history by a defined date range or by a user ID.

Symbol	Description	Procedure
🖶	**Print**	Tap to print the adjustment history list.
⬅	**Close**	Tap to return to the section **History**

6.1.3 Balance info

Navigation: ‣ **Balance menu** > 🖳 **Balance info**

The section **Balance info** shows numerous information about the specific balance such as:

- Identification
- Hardware
- Software
- Maintenance

Symbol	Description	Procedure
ⓘ	**License agreement**	Tap to open the licence agreement.
⬅	**Close**	Tap to return to the section **History**.

6.1.4 Users

In the section **Users**, rights for users and user groups can be defined. Users can be assigned to user groups. When the user management is active, the login dialog opens at every system start.

The **Users** settings are only visible when the **User management** is set to **Active**.

Navigation: ‣ **Balance menu** > 👤 **Users**

The section **User management** is divided into the following subsections:

- 👤 **General** Settings for all users.
- 👤 **Users** Settings for all single users.
- 👥 **Groups** Settings for user groups.

A user is always a part of a user group and has the permissions of the group in which he is. Which user has which permissions can be defined or changed by users with the appropriate permission rights.

See also

📄 Activating the user management ▸ Page 65

6.1.4.1 General

Navigation: ‣ **Balance menu** > 👤 **Users** > 👤 **General**

Parameter	Description	Values
Automatic logout	With the option **Automatic logout** activated, the balance will automatically log off after a predefined time.	Active* I Inactive
Wait time	With the option **Wait time** the time until the balance automatically logs off can be defined. The option **Wait time** only appears when the option **Automatic logout** is activated.	Numeric (15 minutes* I 1...60 minutes)

User proposals	The option **User proposals** defines if a list of users will appear on the login screen.	Active* l Inactive
Password reset	Defines if the password can be reset from the login screen. If set to **Not allowed** and the password is lost, a new password cannot be requested. The balance needs to be reset and all data and settings will be lost.	Allowed* l Not allowed

* Factory setting

6.1.4.2 Users

Navigation: ‣ **Balance menu > 👥 Users > 👤 Users**

Parameter	Description	Values
User name	Defines the user ID. When the user profile has been defined, the value for **User name** will be fixed and cannot be changed afterwards.	Text (1…22 characters)
Last name	Defines the last name of the user.	Text (0…22 characters)
First name	Defines the first name of the user.	Text (0…22 characters)
Active	Activates or deactivates the current user.	Active* l Inactive
Assigned groups	Assigns user to user groups.	List of defined groups
User language	Defines the language of the user profile.	Available languages

* Factory setting

A user is always a part of a user group and has the permissions of the group in which he is. Which user has which permissions can be defined or changed by users with the appropriate permission rights.

6.1.4.3 Groups

Navigation: ‣ **Balance menu > 👥 Users > 👥 Groups**

📝 **Note**

This area is only accessible for users with the appropriate rights.

Parameter	Description	Values
Group name	Defines the name of the group.	Text (1 … 22 characters)

General permissions

Parameter	Description	Values
Block / unblock balance	Defines if the group is allowed to block or unblock the balance.	Active l Inactive
Configure methods	Defines if the group is allowed to: • create new methods • edit methods • delete methods • lock or unlock methods • import or export methods	Active l Inactive
Execute service commands	Defines if the group is allowed to: • access service function • block/unblock the balance • view adjustment state • generate support files	Active l Inactive

Configure system	Defines if the group is allowed to:	Active | Inactive
	• modify system settings	
	• import system settings	
	• configure peripherals	
	• perform software updates	
	• perform application or factory settings	
Configure user management	Defines if the group is allowed to:	Active | Inactive
	• print or export/import user management settings	
	• modify user management settings	
	• enable or disable user management	
Cancel task	Defines if the group is allowed to cancel a task during the execution of a method.	Active | Inactive
Exclude / Overwrite result	Defines if the group is allowed to exclude or overwrite results in the **Protocol**.	Active | Inactive

Quality management permissions

Parameter	Description	Values
Start external adjustment	Defines if the group is allowed to perform external adjustments.	Active | Inactive
Show change history	Defines if the group is allowed to see the option **Change history**.	Active | Inactive
Configure routine tests / GWP	Defines if the group is allowed to:	Active | Inactive
	• configure routine tests	
	• import or export routine tests	
	• configure and import test weights	
	• configure tolerance profiles	
	• activate/deactivate the GWP approval mode	
Start routine tests	Defines if the group is allowed to perform routine tests.	Active | Inactive

6.1.5 Settings

This section describes the procedure for adapting the balance to suit specific requirements. The system settings apply to the entire weighing system and therefore to all user profiles and applications.

Navigation: ‣ **Balance menu** > ⚙ **Settings**

The section **Settings** is divided into the following subsections:

- 🖳 **Balance**
- 🖧 **Interfaces**
- 🖷 **Devices / Printers**
- ⚙ **LabX / Services**

6.1.5.1 Balance

Navigation: ‣ **Balance menu** > ⚙ **Settings** > 🖳 **Balance**

The section **Balance** is divided into the following subsections:

- Q⚙ **Weighing / Quality**
- 🕑 **Date / Time / Language / Format**
- ☀ **Screen / StatusLight / Sound**
- ⚙ **General**

Weighing / Quality

Navigation: ‣ Balance menu > ⚙ Settings > ⚖ Balance > Q⚙ Weighing / Quality

Parameter	Description	Values
Leveling warning	Defines the behaviour of the option **Leveling warning**. When the option **Forced leveling** is selected and the balance is out of level, a weighing value cannot be added to the protocol (green button disabled).	Inactive | Optional leveling* | Forced leveling
Tolerance profiles	A tolerance profile stores all the necessary balance settings needed for a certain weighing method. It is possible to create different tolerance profiles for different weighing methods. This option has several subsections and is described later in this chapter.	
Automatic weight value output	Defines if and in which manner (MT-SICS and/or HID) the weighing values should be exported. This option has several subsections and is described later in this chapter.	
GWP Approved mode	Good Weighing Practice (GWP®) is a program started by METTLER TOLEDO to help customers operate their weighing equipment in a safe and efficient way. It covers every relevant step in the life cycle of the instrument and provides clear guidance on how to specify, calibrate and operate weighing instruments. The GWP Approved mode observes if the following conditions are given: • Use of an appropriate tolerance profile. • The internal adjustment was successful. • Required tests were successful. • Setting up of enforced leveling. • No MinWeigh violation. If all conditions are given, the balance adds the GWP Approved sign behind every weighing result. The **GWP Approved mode** can only be enabled by a METTLER TOLEDO service technician.	Active | Inactive*
Change history	Activates/Deactivates the option **Change history**. The change history is used to log changes to system settings, user management and methods as well as other settings and configurations. The following information is stored: • User ID and timestamp • Object identifier • Old values and new values of attributes A maximum of 5000 entries can be stored in the change history. For more information see section Change History.	Active | Inactive*
Balance recalib. reminder	Defines whether the user is reminded about the upcoming exipry date of the calibration.	Active* | Inactive
Days in advance	Defines the number of days before the reminder informs about the upcoming due date.	0...365
Action when calib. expired	Defines the action when the calibration has expired. **Block**: The balance will be blocked. In this case, the balance cannot be used anymore until a user with the appropriate right unblocks the balance.	None* | Block

Days before blocking	Defines the number of days before the reminder informs about the upcoming expiry date.	Days (30 days* I 0…400 days)
Weight recalib. reminder	Defines whether the user is reminded about the upcoming expiry date of the test weight calibration.	Active I Inactive*
Service reminder	Defines whether the user is reminded about the upcoming due date of the service.	Active I Inactive*

* Factory setting

Tolerance profiles

Settings relating to weighing performance and data from balance calibration can be stored in a tolerance profile.

For more information about creating tolerance profiles, see [Tolerance profiles ▶ Page 67]

Parameter	Description	Values
Name	Defines the name of the profile.	Text (0…22 characters)
Indicator	Defines the color of the indicator icon for the tolerance profile. The icon will appear above the weighing value unit. When a color is selected, a description of max. 3 characters can be added.	None* I Neutral I White I Yellow I Red I Blue I Green I Black
Indicator text	Defines the text of the indicator icon.	Text (0…3 characters)
Calibration certificate	Selects a calibration certificate from a drop-down list of certificates available on the balance. New certificates can only be created by a service technician based on a performed balance calibration.	Calibration certificate I None*
Environment	Defines the environmental conditions of the balance. **Very stable**: For an environment that is free from any drafts and vibrations. **Stable**: For an environment that is practically free from drafts and vibrations. **Standard**: For an average working environment subject to moderate variations in the ambient conditions. **Unstable**: For an environment where the conditions are from time to time changing. **Very unstable**: For an environment where the conditions are continuously changing.	Very stable I Stable I Standard* I Unstable I Very unstable
Weighing mode	Defines the weighing mode of the balance. **Universal**: For all standard weighing applications. **Sensor mode**: Depending on the setting of the ambient conditions, this setting delivers a filtered weighing signal of varying strength. The filter has a linear characteristic in relation to time (not adaptive) and is suitable for continuous measured value processing.	Universal* I Sensor mode
Value release	Defines the speed at which the balance regards the measured value as stable and releases it. **Very fast**: recommended if you require fast results and repeatability is not very important. **Very reliable**: provides very good repeatability of the measured results but prolongs the stabilization time. Some intermediate settings can also be choose from.	Very fast I Fast* I Fast and reliable I Reliable I Very reliable

Display readability	Determines the readability [d] of the balance display.	1d* | 2d | 5d | 10d | 100d | 1000d
	1d: Shows the maximum resolution	
	2d: Shows the final digit in increments of 2	
	5d: Shows the final digit in increments of 5	
	10d: 10x smaller resolution	
	100d: 100x smaller resolution	
	1000d: 1000x smaller resolution	
Zero drift compensation	The function **Zero drift compensation** performs ongoing corrections of deviations from zero which may occur, for example, as a result of small amounts of dirt on the weighing pan.	Active* | Inactive
Allowed units	Defines the units that are allowed in this tolerance profile.	The available values are model-specific.

* Factory setting

Automatic weight value output

The balance can be connected to a computer with a USB cable. Weighing results can then be directly transferred to a target application, e.g., Microsoft Excel.

Parameter	Description	Values
Output mode	Defines which weighing values are transferred via the communication interface, e.g., USB, Ethernet.	Protocol* | Continuous
	Protocol: The weighing values are transferred only when they are added to the **Protocol**.	
	Continuous: The weighing values are transferred continuously via the interface defined under **LabX / Services** > **MT-SICS**.	
	Additional fields are available, depending on the chosen option.	
Target	Defines the way the weighing values are transferred.	HID* | HID / MT-SICS | MT-SICS | MT-SICS configurable
	HID (Human Interaction Device): Transfers simple character streams (e.g. weight values) to a desktop computer without installing additional drivers (comparable to a keyboard). The format of a transferred weighing value can be configured.	
	MT-SICS: The data is transferred in MT-SICS format (METTLER TOLEDO Standard Interface Command Set). MT-SICS operates bidirectional, i.e. usually balance sends the confirmations to the host and receives commands. A separate reference manual is available for MT-SICS.	
	HID / MT-SICS: The data is transferred in HID and MT-SICS format in parallel.	
	MT-SICS configurable: The data is transferred in a user-defined MT-SICS format.	
	This parameter is only available if **Output mode** is set to **Protocol**.	
Weight field length	Defines the number of digits that will be transferred into the application on the computer, e.g., into an Excel field.	Numeric (1* | 0...20)
	This parameter is only available if **Output mode** is set to **Protocol**.	

Sign	Defines if the weighing result is displayed with an algebraic sign. **For all values**: Each weighing result is preceded by a plus or minus sign. **For negative values**: Only negative values are preceded by a minus sign. Positive values are transferred without algebraic sign. This parameter is only available if **Output mode** is set to **Protocol**.	For all values I For negative values*
Sign position	Defines if the algebraic sign is positioned at the first place of the weight field or directly in front of the weight digits. This parameter is only available if **Output mode** is set to **Protocol**.	Left of weight field I Left of weight digits*
Decimal delimiter	Defines the character used to separate the whole and fractional part of a numeric value. This parameter is only available if **Output mode** is set to **Protocol**.	, I .*
Net indicator	In the standard output format, net weights are not specially marked. To place an N in front of net weights, this function can be activated. The net symbol is left-justified in the field. This parameter is only available if **Output mode** is set to **Protocol**.	Active I Inactive*
Net indicator field length	Defines the field length of the Net indicator. This parameter is only available if **Output mode** is set to **Protocol** and **Net indicator** is set to **Active**.	Numeric (2* I 1 … 2)
Unit	Defines if a weighing unit is being shown in the weighing field. This parameter is only available if **Output mode** is set to **Protocol**.	Active* I Inactive
Unit field length	Defines the field length of the weighing unit. This parameter is only available if **Output mode** is set to **Protocol** and **Unit** is set to **Active**.	Numeric (1* I 1…6)
Field delimiter	Defines a character or sequence of characters to separate data fields. This parameter is only available if **Output mode** is set to **Protocol**.	Outside* I TAB I , I ;
End of line character	Defines a character or sequence of characters signifying the end of a line. This parameter is only available if **Output mode** is set to **Protocol**.	CRLF* I CR I LF I TAB I Outside I Enter
Updates/sec.	Defines the rate at which data is transferred. This parameter is only available if **Output mode** is set to **Continuous**.	2 I 5 I 6* I 10
Format	Defines the format of the transferred data. This parameter is only available if **Output mode** is set to **Continuous**.	MT-SICS* I PM I AT/MT

* Factory setting

Date / Time / Language / Format

Navigation: ‣ **Balance menu > ⚙ Settings > 🖳 Balance > 🕲 Date / Time / Language / Format**

Parameter	Description	Values
Date	Defines the current date. Use the pick buttons Increment/Decrement to define the date.	Date
Time	Defines the current time. Use the pick buttons Increment/Decrement to define the time.	Time
Language	Defines the language of the interface navigation.	English ǀ Deutsch ǀ Français ǀ 日本語 ǀ 中文 ǀ Español ǀ Italiano ǀ Русский ǀ Português ǀ Polski ǀ Magyar ǀ Čeština
Time zone	Selects a time zone. When the time zone is set, the balance changes automatically between summer and winter time	see list on the screen
Date format	Selects the date format.	D.MMM.YYYY* ǀ MMM D YYYY ǀ DD.MM.YYYY ǀ MM/DD/YYYY ǀ YYYY-MM-DD ǀ YYYY/MM/DD ǀ YYYY年M月D日
Time format	Selects the time format.	24:MM* ǀ 12:MM ǀ 24.MM ǀ 12.MM
Keyboard layout	Defines the language of the keyboard layout.	English ǀ German ǀ French ǀ Spanish ǀ Japanese ǀ Simplified Chinese ǀ Russian ǀ Czech ǀ Polish ǀ Hungarian

* Factory setting

Screen / StatusLight / Sound

Navigation: ‣ **Balance menu > ⚙ Settings > 🖳 Balance > ﹡◖ Screen / StatusLight / Sound**

Parameter	Description	Values
Screen brightness	Defines the brightness of the display.	20 % ǀ 40 % ǀ 60 % ǀ 80 %* ǀ 100 %
Sound volume	Defines the volume of the terminal sound.	Inactive ǀ 20 % ǀ 40 % ǀ 60 %* ǀ 80 % ǀ 100 %
Sound on key press	Defines if there is a sound when a key is pressed.	Active* ǀ Inactive
Sound on info	Defines if there is a sound when an information appears on the screen.	Active* ǀ Inactive
Sound on warning	Defines is there is a sound when a warning appears on the screen.	Active* ǀ Inactive
Sound on error	Defines is there is a sound in case of an error.	Active* ǀ Inactive

StatusLight	Activates/deactivates the **StatusLight**. **Active (without green light)**: All current status of the balance are monitored, the red/yellow lights will turn on if needed, but the green light will stay turned off. • **StatusLight** is red: Error. The balance must not be used until the error is corrected. • **StatusLight** is yellow: Warning. For example, the test manager has pushed a test to the balance or you are operating the balance between the date of the calibration reminder and the scheduled date of the next calibration. The balance can still be used. • **StatusLight** is green or off: Ok. No problems detected and the balance is ready to weigh.	Active* | Active (without green light) | Inactive
StatusLight brightness	Defines the brightness of the activated status light. This option appears only when the option **StatusLight** is set to **Active** or **Active (without green light)**.	20 % | 40 % | 60 %* | 80 % | 100 %

* Factory setting

General

Navigation: ‣ **Balance menu** > ⚙ **Settings** > 📐 > **Balance** > ⚙ **General**

Parameter	Description	Values
Balance ID	Defines the ID of the balance.	Text (0...22 characters)
Standby	Activates/deactivates the automatic standby mode. **Active**: The standby mode becomes active after a configurable time period the balance was not used. **Inactive**: The standby mode has to be activated manually by tapping the ON/OFF button.	Active* | Inactive
Software update on system start-up	With this option activated, software update can be performed from a USB storage device on startup.	Active* | Inactive
Automatic export directory	Defines the target directory for the automatic export.	USB storage device*
User management	Activates/Deactivates the option **User management**.	Active | Inactive*
Wait time	With the option **Wait time** the time until the balance automatically logs off can be defined. The option **Wait time** only appears when the option **Automatic logout** is activated.	Numeric (15 minutes* | 1...60 minutes)

6.1.5.2 Interfaces

Navigation: ‣ **Balance menu** > ⚙ **Settings** > 🖧 **Interfaces**

The section **Interfaces** has the following subsection:

- 🖧 **Ethernet**
- ⠺⠺ **Bluetooth**

Ethernet

With the option **DHCP** activated, the parameters for the ethernet connection will be automatically set. With the option **Manual** activated, the options for the ethernet connection must be set manually by the user.

Navigation: ‣ **Balance menu >** ⚙ **Settings >** 🖧 **Interfaces >** 🖳 **Ethernet**

Parameter	Description	Values
Host name	Defines the balance host name.	Numeric (22* | 0 … 22)
MAC address	Information on the MAC address (Media Access Control) that is used to uniquely identify the balance in the network.	-
Network configuration	**DHCP**: The parameters for the ethernet connection will be automatically set. **Manual**: The options for the ethernet connection must be set manually by the user.	DHCP* | Manual
IP address	If the IP is not to be automatically obtained, you can enter it here.	000.000.000.000 … 255.255.255.255
Subnet mask	Defines the subnet mask that is used by the TCP/IP protocol to determine whether a host is on the local subnet or on a remote network.	000.000.000.000 … 255.255.255.255
DNS server (primary)	Defines the domain name server address of the primary server.	000.000.000.000 … 255.255.255.255
DNS server (secondary)	Defines the domain name server address of the secondary DNS server.	000.000.000.000 … 255.255.255.255
Default gateway	Defines the address of the default gateway that links the host's subnet to other networks.	000.000.000.000 … 255.255.255.255

* Factory setting

Bluetooth

Navigation: ‣ **Balance menu >** ⚙ **Settings >** 🖧 **Interfaces >** 🔊 **Bluetooth**

Bluetooth identification

Parameter	Description	Values
Activation	With the option **Bluetooth** you have the possibility to communicate with a printer via Bluetooth.	Inactive* | Active

6.1.5.3 Devices / Printers

In this section optional external devices such as printers, barcode scanners, etc. can be added and configured.

Navigation: ‣ **Balance menu** > ⚙ **Settings** > 🖳 **Devices / Printers**

This section is divided into the following subsections:

- 🖳 **Label printer**
- 🖳 **Strip printer**
- 🖳 **Barcode reader**
- 🔲 **RFID reader**
- 🔘 **ErgoSens**
- 🔲 **Foot switch**

Some types of devices are associated with specific settings:

Label printer

Label printers allow printing weighing results on label stickers.

Navigation: ‣ **Balance menu >** ⚙ **Settings >** 🖳 **Devices / Printers >** 🖳 **Label printer**

Parameter	Description	Values
Printer category	Defines the type of the printer. Strip printer allows the printing of weighing results on strip paper.	Strip printer | Label printer*

Device	Allows to activate or deactivate the device.	Activated*	Deactivated

* Factory setting

Strip printer

Navigation: ‣ **Balance menu** > ⚙ **Settings** > 📇 **Devices / Printers** > 🖨 **Strip printer**

Parameter	Description	Values
Printer category	Defines the type of the printer. Strip printer allows the printing of weighing results on strip paper.	Strip printer	Label printer*

* Factory setting

Parameter	Description	Values
Device	Allows to activate or deactivate the device.	Activated*	Deactivated
Line end	Defines the line end character for printing. The values set here have to match the printer settings.	\<CR> \<LF>*	\<CR>	\<LF>
Character set	Defines the communication specific character code. The values set here have to match the printer settings.	ANSI/WIN	IBM/DOS	UTF8*

ErgoSens

Navigation: ‣ **Balance menu** > ⚙ **Settings** > 📇 **Devices / Printers** > 🎛 **ErgoSens**

Parameter	Description	Values
Function	Defines the function of hands-free operating that can be used to execute certain weighing functions.	None*	Doors	Zero	Tare	Add result

Foot switch

Navigation: ‣ **Balance menu** > ⚙ **Settings** > 📇 **Devices / Printers** > 🎚 **Foot switch**

Parameter	Description	Values
Function	Defines the function be used to execute certain weighing functions.	None*	Doors	Zero	Tare	Add result

6.1.5.4 LabX / Services

To enable communication between LabX and instruments, the appropriate settings in the instruments must correspond with the settings in LabX.
LabX synchronizes the date and time on the instruments with the LabX Server each time a connection is made and each time a task is started. When an instrument is connected, the user interface language on the connected instrument is changed to the language currently installed on the LabX installation.

Navigation: ‣ **Balance menu** > ⚙ **Settings** > 🎛 **LabX / Services**

Parameter	Description	Values
LabX service	**Network**: A network connection to LabX will be established on startup. **Inactive**: No connection to LabX will be established. **USB**: A USB connection to LabX will be established on startup.	Network	Inactive*	USB
MT-SICS service	**Network**: An MT-SICS network port will be opened on startup. **Inactive**: No MT-SICS port will be opened. **USB**: An MT-SICS USB port will be opened on startup.	Network	Inactive*	USB
File server	Allows you to define a file server to import/export data.	Active	Inactive*

* Factory setting

6.1.5.5 Printing the settings

When all the balance settings are configured, you can print the complete list to archive the information.

– To print the balance settings, tap ▤ **Print the settings**

⇨ The complete balance settings are printed.

Navigation: ‣ **Balance menu** > ⚙ **Settings**

6.1.6 Maintenance

Navigation: ‣ **Balance menu >** ☷ **Maintenance**

The option **Maintenance** only appears if the user has the appropriate user rights.

The section **Maintenance** is divided into the following subsections:

- ▤ **Import / Export**
- ⠘⠙ **Format RFID**
- ⚖ **Software update**
- ↺ **Reset**
- 🔧 **Service menu**

See also

6.1.6.1 Service menu

Navigation: ‣ **Balance menu >** ☷ **Maintenance >** 🔧 **Service menu**

Symbol	Description	Procedure
🏋	Show adjustment state	Tap to open information about: - Temperature correction - Production and user linearization - User, production and standard calibration
💾	Save support files	Tap to save support files (all relevant information to an error) on a USB storage device like an USB stick to send it to a METTLER TOLEDO representative.
💾	Import log configuration	A log configuration file can be provided by METTLER TOLEDO to allow a more comprehensive collection of balance parameters to be stored in the support file. This is only used for troubleshooting purposes. Tap to import the log configuration from a USB storage device so that the enhanced list of parameters can be exported and sent to a METTLER TOLEDO representative.

6.2 Weighing methods settings

6.2.1 Settings: method "General weighing"

In this section, the settings of the methods **General Weighing** and **General Weighing with templates** are described. Settings can be edited for a newly created method or an already existing method.

Navigation: ‣ **Methods** > ⊟ **Methods list** > ⚖ **General Weighing** > ✎ **Edit**

✎ Edit method - my General Weighing		
⊟ General	Method type	General Weighing
🆔 ID format	Method name	my General Weighing
🧪 Weighing item	Comment	*Enter here*
⚖ Weighing		
⟳ Automation	Lock method	◱
🖥 Print / Export		
← Close		✓ OK

The section **General Weighing** is divided into the following subsections:

- ⊟ **General**
- 🆔 **ID format**
- 🧪 **Weighing item** (Only available for the method **General Weighing**)
- 🧪 **Templates** (Only available for the method **General Weighing with templates**)
- ⚖ **Weighing**
- ⟳ **Automation**
- 🖥 **Print / Export**

See also

📄 Creating a method "General weighing" ▸ Page 44

📄 Editing a method ▸ Page 52

6.2.1.1 General

The **Method type** is defined in the wizard while creating the method and cannot be changed.

Parameter	Description	Values
Method name	Defines the name of the method. The system copies the method name that has been defined with the function **Method wizard**.	Text (1…22 characters)
Comment	The method can be described with a comment.	Text (0…128 characters)
Lock method	Locks the method for other users and from further editing while running.	Active | Inactive*

* Factory setting

6.2.1.2 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the value of the option **Number of task IDs** is larger than 0, the options **Task ID**, **Description** and **Prefix/Default value** appear for every single task ID.	0 | 1* | 2 | 3

Task ID 1	Defines the naming type of the task ID. **Manual with default**: The value of the task ID can be entered manually at method execution time. **Automatic timestamp**: The system provides a value created from a prefix with the current date and time appended.	Manual with default* | Automatic timestamp
Description	Allows to define a label for each task ID field.	Text (0…32 characters)
Default value	Defines a default value for the task ID. The value of the task ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0…32 characters)
Prefix	Defines a prefix for the task ID. This option only appears when the option **Automatic timestamp** is activated.	Text (0…32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the value of the option **Number of result IDs** is larger than 0, the options **Result ID**, **Description** and **Prefix/Default value** appear for every single result ID.	0 | 1* | 2 | 3
Result ID 1	Defines the naming type of the result ID. **Manual with default**: The value of the result ID can be entered manually at method execution time. **Automatic counter**: The system provides a value created from a prefix with an unique number (counter) appended.	Manual with default* | Automatic counter
Description	Allows to define a label for each result ID.	Text (0…32 characters)
Default value	Defines a default value for the result ID. The value of the result ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0…32 characters)
Prefix	Defines a prefix for the result ID. This option only appears when the option **Automatic counter** is activated.	Text (0…32 characters)

* Factory setting

6.2.1.3 Weighing item

A target weight with tolerance limits can be defined for the method. The method **General Weighing** includes a single item in **Weighing item**, whereas several items can be defined for the method **General Weighing with templates** in **Templates**.

Initial values for weighing

Parameter	Description	Values
Unit	Defines the unit of the primary weighing result.	The available units depend on the balance model.
Target weight	Defines the target weight. The target weight will be shown in the weighing-in aid of the balance (SmartTrac). When a target weight including tolerances is defined, the SmartTrac indicates if the current display weight is in tolerance or not.	Numeric

–Tolerance	Defines the lower tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric
+Tolerance	Defines the upper tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric

See also

📄 Creating a method "General weighing" ▶ Page 44

6.2.1.4 Templates

This option is only available for the method **General Weighing with templates**.

Parameter	Description	Values
Sample ID	Defines the name of the sample.	Text (0…32 characters)
Unit	Defines the unit of the primary weighing result.	The available units depend on the balance model.
Target weight	Defines the target weight. The target weight will be shown in the weighing-in aid of the balance (SmartTrac). When a target weight including tolerances is defined, the SmartTrac indicates if the current display weight is in tolerance or not.	Numeric
–Tolerance	Defines the lower tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric
+Tolerance	Defines the upper tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric

See also

📄 Creating a method "General weighing" ▶ Page 44

📄 Using method templates ▶ Page 53

6.2.1.5 Weighing

Parameter	Description	Values
Show info weight	With this option activated a secondary info weight appears on the weighing screen on top of the weighing result.	Active ǀ Inactive*
Info unit	Defines the unit of the info weight. This option only appears when the option **Show info weight** is activated.	The available units depend on the balance model.

* Factory setting

Custom unit

When the parameter **Define custom unit** is activated, additional parameters can be defined.

Parameter	Description	Values
Define custom unit	With this option activated, a specific weighing unit can be defined. This allows calculations, e.g., surfaces or volumes, to be carried out directly during the determination of the weighing result. The custom units are available in all menus and input fields in which weighing units can be selected.	Active ǀ Inactive*

Name	Defines the name of the custom unit.	Text (0…6 characters)
Formula	Defines how subsequently defined value for **Factor** is calculated. There are 2 formulae available: **Multiplicative**: Multiplies the net weight by the factor. **Divisive**: The factor is divided by the net weight. The formula can be used, for example, to simultaneously take into account a known error factor while weighing.	Multiplicative* | Divisive
Factor	Defines the factor with which the effective weighing result (net weight) is calculated via the previously selected **Formula**.	Numeric
Display readability	Defines the formatting for the weighing result. Example: A setting of "0.05" defines two places after the decimal point with rounding to 5. A determined result of 123.4777 is consequently displayed as 123.50. This function can only be used to reduce the resolution of the weighing result. No value must therefore be entered that exceeds the maximum balance resolution. Values that are too small are automatically rounded off.	Numeric

* Factory setting

Weighing settings

Parameter	Description	Values
Tolerance profile	A tolerance profile stores all the necessary balance settings needed for a certain weighing method. It is possible to create different tolerance profiles for different weighing methods.	Available tolerance profiles are model-specific.
Weight capture mode	Defines the behavior when the button to add the result was tapped or the add result was triggered by the automatic weighing result creation. **Stable**: The system waits for a stable weight. **Immediate**: The system doesn't wait for a stable weight. The system waits for the defined amount of seconds (**Weight capture delay**). After the weight capture delay, the weight value from the weight stream is captured. **Dynamic**: The balance calculates the weight as the average of a number of weighing operations over a defined time (**Weight capture duration**).	Stable* | Immediate | Dynamic
Weight capture delay	Defines the time in seconds the balance waits for capturing the weight after the button to add the result was tapped or the add result was triggered by the automatic weighing result creation. This option only appears when the **Weight capture mode** is set to **Immediate** or **Dynamic**.	Numeric (5 seconds* | 0…60 seconds)

* Factory setting

Statistics

Parameter	Description	Values
Activate statistics	If **Activate statistics** is set to **Active**, the following statistics will be calculated: • **Count**: Number of items used for the statistics • **Sum**: Sum of all value (decimal places and unit according to the method settings) • **Minimum**: Smallest value (decimal places and unit according to the method settings) • **Maximum**: Largest value (decimal places and unit according to the method setting) • **Range**: Difference between the largest and smallest values (decimal places and unit according to the method settings) • **Average**: The values are summed up and divided by the number of values, rounded to 1 digit more than the configured decimal places in the method settings (unit according to the method settings) • **Standard deviation**: Standard deviation rounded to 1 digit more than the configured decimal places in the method settings (unit according to the method settings) • **Relative standard deviation**: Relative standard deviation (rounded to 2 decimal places, in %) The statistical values are calculated and displayed as soon as a result is added or updated.	Active I Inactive*

* Factory setting

Electrostatic

Parameter	Description	Values
Ionizer	Defines whether the ionizer is activated/deactivated.	Active I Inactive*

* Factory setting

See also

- Creating a method "General weighing" ▶ Page 44

6.2.1.6 Automation

Parameter	Description	Values
Barcode data target	If a barcode reader is connected to the balance, this option defines how the data is to be processed. **Keyboard Input**: The data is written in the currently open input window. If no input window is open, the data is ignored. **Target weight value**: The barcode data is interpreted as a value for the target weight. **Task ID 1**: The received barcode data is treated as identification text for this task ID. **Result ID 1**: The received barcode data is treated as identification text for this result ID. The available items in the drop-down menu depend on the **Number of task IDs** and **Number of result IDs** specified for the method. Make sure that the characters of the scanned barcode are compatible with the format of the field where they should be inserted.	Keyboard Input* | Target weight value | Task ID 1 | Result ID 1 | ...

Automatic feeder support

When the parameter **Automatic feeder support** is activated, additional parameters can be defined to set up the automatic feeder LV12.

Parameter	Description	Values
Automatic feeder support	Enables or disables the automatic feeder support. To use the automatic feeder support, the automatic feeder has to be connected to the balance by USB and has to be configured correctly.	Active | Inactive*
Number of weighing items	Defines the number of items the automatic feeder will deliver to the balance.	Numeric | 20* (1...100)
Plausibility limits	Defines the plausibility limit for measured values. The plausibility limit relates to the defined target weight. Example: With a plausibility limit of 30%, all weight values that are within ±30% of the target weight are regarded as plausible and are transferred into the statistics. All other weight values are being ignored and excluded from the statistics.	Numeric (30 %* | 0...100)
Discharge feeder at the end	Discharge is used to empty the automatic feeder of all objects. **Active**: The automatic feeder feeds at the configured discharge feed rate and stops 90 seconds after the last object has passed the light barrier. **Inactive**: No automatic emptying.	Active | Inactive*
Feed rate	Defines the rate by which the automatic feeder delivers the parts to the balance. Select between the following options: • **Slow**: Lowest feed rate • **Normal**: Lower intermediate feed rate • **Fast**: Upper intermediate feed rate • **Very fast**: Highest feed rate	Slow | Normal* | Fast | Very fast

* Factory setting

Weighing automation

Parameter	Description	Values
Automatic zero	If **Automatic zero** is set to **Active**, the balance automatically zeros the balance when the weight falls below a predefined threshold.	Active | Inactive*
Automatic zero threshold	Defines the threshold of the option **Automatic zero**. This option only appears when the option **Automatic zero** is activated.	Numeric
Tare Mode	Defines the tare mode. **None**: No automatic tare. **Automatic tare**: The balance stores automatically the first stable weight as the tare weight. **Pretare**: Allows you to enter manually a numerical entry of a fixed tare weight.	None* | Automatic tare | Pretare
Automatic tare threshold	Defines the threshold of the option **Tare Mode**. This value defines the minimum weight that must be applied to the weighing pan so that it is automatically stored as the tare weight. If the weight is below the limits, it is not automatically transferred to the tare memory. Instead of entering the weight, the lightest tare container can be placed on the weighing pan and the button ⬒ subsequently pressed. The applied weight is directly taken over as a limit. This option only appears when the option **Tare Mode** is set to **Automatic tare**.	Numeric
Pretare value	Defines a weight value for the pretare function. Instead of entering the value, the respective tare container can be placed on the weighing pan and the button ⬒ subsequently pressed. The weight is directly taken over as pretare value. This option only appears when the option **Tare Mode** is set to **Pretare**.	Numeric
Automatic result	Automatically generates a weighing result after a threshold is reached. **None**: No automatic result will be generated. **With sample tare**: After a weight value that reached the threshold is being removed from the weighing pan, the balance is being tared. **Without sample tare**: After a weight value that reached the threshold is being removed from the weighing pan, the balance is not being tared. This parameter is only available if **Automatic feeder support** is set to **Inactive**.	None | With sample tare* | Without sample tare
Automatic result threshold	Defines the threshold of the option **Automatic result**. The result is automatically added to the protocol only if the weight of the sample is larger than this threshold. This option only appears when the option **Automatic result** is activated.	Numeric

Weight trigger	Defines the behaviour of the option **Automatic result threshold**. **Exceeding**: The weighing result is generated when the weight exceeds the defined threshold. **Falling below**: The weighing result is generated when the weight falls below the defined threshold. This parameter is only available if **Automatic feeder support** is set to **Inactive** and **Automatic result** is set to **Without sample tare**.	Exceeding* I Falling below
Automatic tare after result	If set to **Active**, the balance is automatically tared when a result is added to the **Protocol**.	Active I Inactive*
Automatic task completion	If **Automatic task completion** is set to **Active**, the balance automatically completes a running task after the last template has been added to the **Protocol**. This option is only available if the method is using templates.	Active I Inactive*

* Factory setting

See also

  📄 Creating a method "General weighing" ▸ Page 44

6.2.1.7 Print / Export

This section is divided into the following subsections:

- **Protocol printout and data export**
- **Label printout for task**
- **Label printout for weighing item**

6.2.1.7.1 Protocol printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the protocol on a strip printer when the **Complete** button is tapped. The data to be transmitted to the printer can be defined in the section **Template settings**.	Active I Inactive*
Protocol export	Activates/Deactivates the automatic data export to a file server or USB storage device when the **Complete** button is tapped.	Active I Inactive*
Weight value	Activates/Deactivates the option to automatically send the weighing value over USB or Ethernet when tapping **Add to protocol**.	Active I Inactive*

* Factory setting

Protocol template for printout

This menu item can be used to define information to appear in the **Protocol**. The extensive menu is divided into six submenus in which options for the printout can be defined. Information can be enabled or disabled by activating or deactivating the corresponding checkbox.

Each individual parameter can set to **Inactive** or **Active** via the corresponding check box. To enable or disable all parameters at once, proceed as follows:

1 To deselect all check boxes at once, tap 🗐 **Deselect all**

    ⇨ All parameters are set to **Inactive**.

2 To select all check boxes at once, tap 🗐 **Select all**

    ⇨ All parameters are set to **Active**.

Template settings

Parameter	Description	Values
Header and Footer	Defines the header (with title, date and time) and/or footer (with signature and end line) to be printed/exported.	Header* | Title* | Date/ time | Signature* | Separating lines* | Group titles
Balance information	Defines which information about the balance is being printed/ exported.	Balance type | Balance ID* | Balance serial number | Software version
Quality information	Defines which quality information is being printed/exported.	Tolerance profile | Adjustment date/time | Routine test name | Routine test last execution date | Routine test result | GWP Approved state | Level state | MinWeigh state
Task information	Defines which information about the task is being printed/export.	Method name | Method comment | Task IDs | Custom unit settings | Automatic result settings | Count | Sum | Average | Minimum | Maximum | Range | Standard deviation | Relative standard deviation
Weighing item information	Defines which information about the weighing items is being printed/exported.	Show excluded weighing items | Result State | Result IDs* | GWP Approved state | Level state | MinWeigh state | Tolerance state | Target and tolerances state
Result detail information	Defines which information related to the result of the measurement is being printed/exported.	Weight* | Tare weight | Gross weight | Info weight | Date/time* | Stability

* Factory setting

Label printout for task

Parameter	Description	Values
Automatic label printout for task	When set to **Active**, the task label is automatically printed when tapping **Complete**.	Active | Inactive*
Used template	Chooses the label template.	Available labels are shown below.

* Factory setting

Field settings

The content of each label field can be defined individually.

Parameter	Description	Values
Label field 1	Defines which information appears in each label field. The number of label fields depends on the selected template.	Available entries depend on the method settings.

Barcode settings

The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. The option **2D barcode delimiter** appears only when the selected **Used template** contains several 2D codes.	TAB I Form feed I Carriage return I Space I User defined
Barcode field 1	Defines which information appears in each barcode. The number of the barcode fields depends on the selected template.	Available entries depend on the method settings.

Label printout for weighing items

Parameter	Description	Values
Automatic label printout for task	When set to **Active**, the task label is automatically printed when tapping **Complete**.	Active I Inactive*
Used template	Chooses the label template.	Available labels are shown below.

* Factory setting

Field settings

The content of each label field can be defined individually.

Parameter	Description	Values
Label field 1	Defines which information appears in each label field. The number of label fields depends on the selected template.	Available entries depend on the method settings.

Barcode settings

The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. The option **2D barcode delimiter** appears only when the selected **Used template** contains several 2D codes.	TAB I Form feed I Carriage return I Space I User defined
Barcode field 1	Defines which information appears in each barcode. The number of the barcode fields depends on the selected template.	Available entries depend on the method settings.

Available labels

The following label layouts can be selected:

5 large fields

5 small fields

10 small fields	1D barcode with 3 large fields
1D barcode with 3 small fields	1D barcode with 6 small fields
2D barcode with 5 large fields	2D barcode with 5 small fields
2D barcode with 2 large fields and 6 small fields	2D barcode with 8 small fields

6.2.2 Settings: method "Simple formulation"

Navigation: ▸ **Methods** > ⬛ **Methods list** > ⬛ **Simple formulation** > ✏ **Edit**

✏ Edit method - my Simple Formulation		
⬛ General	Method type	Simple formulation
⬛ Formulation	Method name	my Simple Formulation
⬛ ID format	Comment	*Enter here*
⬛ Weighing item		
⬛ Weighing	Lock method	☐
⬛ Automation		
🖥 Print / Export		
⬅ Close		✓ OK

The section **Simple formulation** is divided into the following subsections:

- ⬛ **General**
- ⬛ **Formulation**
- ⬛ **ID format**
- ⬛ **Weighing item** (Only available for the method **Simple formulation**)
- ⬛ **Templates** (Only available for the method **Simple formulation with templates**)
- ⬛ **Weighing**
- ⬛ **Automation**

- 🖳 **Print / Export**

See also

6.2.2.1 General

The **Method type** is defined in the wizard while creating the method and cannot be changed.

Parameter	Description	Values
Method name	Defines the name of the method. The system copies the method name that has been defined with the function **Method wizard**.	Text (1…22 characters)
Comment	The method can be described with a comment.	Text (0…128 characters)
Lock method	Locks the method for other users and from further editing while running.	Active l Inactive*

* Factory setting

6.2.2.2 Formulation

Parameter	Description	Values
Calculate target	In this section the flask volume and the concentration of the target can be defined. **Flask volume**: Calculates the target weight according to the reference flask volume and the actual flask volume. **Target concentration**: Calculates the target weight according to the desired target concentration. This option only appears for the method **Simple formulation with templates**.	None* l Flask volume l Target concentration
Calculate concentration per component	Calculates the concentration of the substance based on the molecular weight, purity volume and dosed amount of substance, e.g. mmol/l. If this option is activated, the sub-options **Reference weight (100%)** and **Concentration unit** appear in the list.	Active l Inactive*
Calculate amount of component	Calculates the effective amount of a component based on the current weighing value.	Active l Inactive*
Concentration unit	Defines the concentration unit.	mol/l* l mmol/l l mg/ml l mg/l l µg/ml l g/ml l g/l l %
Reference flask volume	Defines the volume of the reference flask. This parameter is only available if the **Concentration unit** is not set to **%**.	Numeric (1 ml* l 1…999999 ml)
Reference weight (100%)	Defines the reference weight. Instead of entering the reference weight manually, press subsequently the button 🖳. The applied weight is directly taken over as a reference weight. This parameter is only available if the **Concentration unit** is set to **%**.	Depending on the capacity of the balance.

* Factory setting

Production and expiry date

Parameter	Description	Values
Production date	Defines the production date. **Current date**: The production date is set automatically to the date when starting the weighing task. **Manual input**: The production date can be entered manually when starting the weighing task.	None | Current date* | Manual input
Expiry date	Defines the expiry date of the substance. **Period**: The expiry date is set automatically when starting the weighing task (expiry date = date when starting the weighing task + number of days defined in the field **Period**. **Manual input**: The expiry date can be entered manually when starting the weighing task.	None* | Period | Manual input
Period	Defines the period of the expiry date. This option only appears when the option **Expiry date** is set to **Period**.	Numeric (1 day* | 1…9999 days)

* Factory setting

See also

  📄 Creating a method "Simple formulation" ▶ Page 45

6.2.2.3 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the value of the option **Number of task IDs** is larger than 0, the options **Task ID**, **Description** and **Prefix/Default value** appear for every single task ID.	0 | 1* | 2 | 3
Task ID 1	Defines the naming type of the task ID. **Manual with default**: The value of the task ID can be entered manually at method execution time. **Automatic timestamp**: The system provides a value created from a prefix with the current date and time appended.	Manual with default* | Automatic timestamp
Description	Allows to define a label for each task ID field.	Text (0…32 characters)
Default value	Defines a default value for the task ID. The value of the task ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0…32 characters)
Prefix	Defines a prefix for the task ID. This option only appears when the option **Automatic timestamp** is activated.	Text (0…32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the value of the option **Number of result IDs** is larger than 0, the options **Result ID**, **Description** and **Prefix/Default value** appear for every single result ID.	0 | 1* | 2 | 3

	Result ID 1	Defines the naming type of the result ID.	Manual with default* l Automatic counter
		Manual with default: The value of the result ID can be entered manually at method execution time.	
		Automatic counter: The system provides a value created from a prefix with an unique number (counter) appended.	
	Description	Allows to define a label for each result ID.	Text (0…32 characters)
	Default value	Defines a default value for the result ID. The value of the result ID can be changed manually while executing the method.	Text (0…32 characters)
		This option only appears when the option **Manual with default** is activated.	
	Prefix	Defines a prefix for the result ID.	Text (0…32 characters)
		This option only appears when the option **Automatic counter** is activated.	

* Factory setting

6.2.2.4 Weighing item

A target weight with tolerance limits can be defined for the method. The method **Simple formulation** includes a single item in **Weighing item**, whereas several items can be defined for the method **Simple formulation with templates** in **Templates**.

Initial values for weighing

Parameter	Description	Values
Unit	Defines the unit of the primary weighing result.	The available units depend on the balance model.
Target weight	Defines the target weight. The target weight will be shown in the weighing-in aid of the balance (SmartTrac). When a target weight including tolerances is defined, the SmartTrac indicates if the current display weight is in tolerance or not.	Numeric
−Tolerance	Defines the lower tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric
+Tolerance	Defines the upper tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric

See also

6.2.2.5 Templates

Note

Detailed information about how to create templates and the use of templates can be found in the section Using templates.

Parameter	Description	Values
Component ID	Assigns a name to the component ID	Text (0…32 characters)
Purity	To define the purity of the component. This parameter is only accessible if **Calculate amount of component** is set to **Active**.	Numeric (0.001…100%)

Unit	Defines the unit of the primary weighing result.	The available units depend on the balance model.
Target weight	Defines the target weight. The target weight will be shown in the weighing-in aid of the balance (SmartTrac). When a target weight including tolerances is defined, the SmartTrac indicates if the current display weight is in tolerance or not.	Numeric
Target concentration	To define the concentration of the component.	Numeric (0.001…100%)
−Tolerance	Defines the lower tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric
+Tolerance	Defines the upper tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric

See also

6.2.2.6 Weighing

Parameter	Description	Values
Show info weight	With this option activated a secondary info weight appears on the weighing screen on top of the weighing result.	Active	Inactive*
Info unit	Defines the unit of the info weight. This option only appears when the option **Show info weight** is activated.	The available units depend on the balance model.

* Factory setting

Weighing settings

Parameter	Description	Values
Tolerance profile	A tolerance profile stores all the necessary balance settings needed for a certain weighing method. It is possible to create different tolerance profiles for different weighing methods.	Available tolerance profiles are model-specific.

Electrostatic

Parameter	Description	Values
Ionizer	Defines whether the ionizer is activated/deactivated.	Active	Inactive*

* Factory setting

See also

6.2.2.7 Automation

Parameter	Description	Values
Barcode data target	If a barcode reader is connected to the balance, this option defines how the data is to be processed. **Keyboard Input**: The data is written in the currently open input window. If no input window is open, the data is ignored. **Target weight value**: The barcode data is interpreted as a value for the target weight. **Task ID 1**: The received barcode data is treated as identification text for this task ID. **Result ID 1**: The received barcode data is treated as identification text for this result ID. The available items in the drop-down menu depend on the **Number of task IDs** and **Number of result IDs** specified for the method. Make sure that the characters of the scanned barcode are compatible with the format of the field where they should be inserted.	Keyboard Input* l Target weight value l Task ID 1 l Result ID 1 l ...

* Factory setting

Weighing automation

Parameter	Description	Values
Automatic zero	If **Automatic zero** is set to **Active**, the balance automatically zeros the balance when the weight falls below a predefined threshold.	Active l Inactive*
Automatic zero threshold	Defines the threshold of the option **Automatic zero**. This option only appears when the option **Automatic zero** is activated.	Numeric
Tare Mode	Defines the tare mode. **None**: No automatic tare. **Automatic tare**: The balance stores automatically the first stable weight as the tare weight. **Pretare**: Allows you to enter manually a numerical entry of a fixed tare weight.	None* l Automatic tare l Pretare
Automatic tare threshold	Defines the threshold of the option **Tare Mode**. This value defines the minimum weight that must be applied to the weighing pan so that it is automatically stored as the tare weight. If the weight is below the limits, it is not automatically transferred to the tare memory. Instead of entering the weight, the lightest tare container can be placed on the weighing pan and the button ≛ subsequently pressed. The applied weight is directly taken over as a limit. This option only appears when the option **Tare Mode** is set to **Automatic tare**.	Numeric
Pretare value	Defines a weight value for the pretare function. Instead of entering the value, the respective tare container can be placed on the weighing pan and the button ≛ subsequently pressed. The weight is directly taken over as pretare value. This option only appears when the option **Tare Mode** is set to **Pretare**.	Numeric

Automatic tare after result	If set to **Active**, the balance is automatically tared when a result is added to the **Protocol**.	Active | Inactive*
Automatic task completion	If **Automatic task completion** is set to **Active**, the balance automatically completes a running task after the last template has been added to the **Protocol**. This option is only available if the method is using templates.	Active | Inactive*

* Factory setting

See also

📄 Creating a method "Simple formulation" ▸ Page 45

6.2.2.8 Print / Export

This section is divided into the following subsections:

- **Protocol printout and data export**
- **Label printout for task**
- **Label printout for weighing item**

Protocol printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the protocol on a strip printer when the **Complete** button is tapped. The data to be transmitted to the printer can be defined in the section **Template settings**.	Active | Inactive*
Protocol export	Activates/Deactivates the automatic data export to a file server or USB storage device when the **Complete** button is tapped.	Active | Inactive*
Weight value	Activates/Deactivates the option to automatically send the weighing value over USB or Ethernet when tapping **Add to protocol**.	Active | Inactive*

* Factory setting

Protocol template for printout

This menu item can be used to define information to appear in the **Protocol**. The extensive menu is divided into six submenus in which options for the printout can be defined. Information can be enabled or disabled by activating or deactivating the corresponding checkbox.

Each individual parameter can set to **Inactive** or **Active** via the corresponding check box. To enable or disable all parameters at once, proceed as follows:

1 To deselect all check boxes at once, tap 🗇 **Deselect all**

 ⇨ All parameters are set to **Inactive**.

2 To select all check boxes at once, tap 🗇 **Select all**

 ⇨ All parameters are set to **Active**.

Template settings

Parameter	Description	Values
Header and Footer	Defines the header (with title, date and time) and/or footer (with signature and end line) to be printed/exported.	Header* | Title* | Date/time | Signature* | Separating lines* | Group titles

Balance information	Defines which information about the balance is being printed/exported.	Balance type | Balance ID* | Balance serial number | Software version
Quality information	Defines which quality information is being printed/exported.	Tolerance profile | Adjustment date/time | Routine test name | Routine test last execution date | Routine test result | GWP Approved state | Level state | MinWeigh state
Task information	Defines which information about the task is being printed/export.	Method name | Method comment | Task ID | Flask volume* | Reference weight* | Expiry date* | Production date*
Weighing item information	Defines which information about the weighing items is being printed/exported.	Show excluded weighing items | Result State* | Result IDs* | Molar mass | Purity | Amount of substance* | Concentration* | GWP Approved state | Level state* | MinWeigh state | Tolerance state* | Target and tolerances state*
Result detail information	Defines which information related to the result of the measurement is being printed/exported.	Weight* | Tare weight | Gross weight | Info weight | Date/time* | Stability

* Factory setting

Label printout for task

Parameter	Description	Values
Automatic label printout for task	When set to **Active**, the task label is automatically printed when tapping **Complete**.	Active | Inactive*
Used template	Chooses the label template.	Available labels are shown below.

* Factory setting

Field settings

The content of each label field can be defined individually.

Parameter	Description	Values
Label field 1	Defines which information appears in each label field. The number of label fields depends on the selected template.	Available entries depend on the method settings.

Barcode settings

The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. The option **2D barcode delimiter** appears only when the selected **Used template** contains several 2D codes.	TAB I Form feed I Carriage return I Space I User defined
Barcode field 1	Defines which information appears in each barcode. The number of the barcode fields depends on the selected template.	Available entries depend on the method settings.

Label printout for weighing items

Parameter	Description	Values
Automatic label printout for task	When set to **Active**, the task label is automatically printed when tapping **Complete**.	Active I Inactive*
Used template	Chooses the label template.	Available labels are shown below.

* Factory setting

Field settings

The content of each label field can be defined individually.

Parameter	Description	Values
Label field 1	Defines which information appears in each label field. The number of label fields depends on the selected template.	Available entries depend on the method settings.

Barcode settings

The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. The option **2D barcode delimiter** appears only when the selected **Used template** contains several 2D codes.	TAB I Form feed I Carriage return I Space I User defined
Barcode field 1	Defines which information appears in each barcode. The number of the barcode fields depends on the selected template.	Available entries depend on the method settings.

Availlable Labels

The following label layouts can be selected:

5 large fields

5 small fields

10 small fields

1D barcode with 3 large fields

1D barcode with 3 small fields	1D barcode with 6 small fields
2D barcode with 5 large fields	2D barcode with 5 small fields
2D barcode with 2 large fields and 6 small fields	2D barcode with 8 small fields

6.2.3 Settings: method "Piece counting"

Navigation: ▸ Methods > ⭍] Methods list > ⛊ Piece counting > ✏ Edit

Edit method - my Piece Counting		
⭍] General	Method type	Piece counting
🆔 ID format	Method name	my Piece Counting
🜛 Weighing item	Comment	*Enter here*
⚖ Weighing		
🕃 Automation	Lock method	
🖳 Print / Export		
⇦ Close		✓ OK

The section **Piece counting** is divided into the following subsections:

- ⭍] **General**
- 🆔 **ID format**
- 🜛 **Weighing item**
- ⚖ **Weighing**
- 🕃 **Automation**
- 🖳 **Print / Export**

See also

6.2.3.1 General

The **Method type** is defined in the wizard while creating the method and cannot be changed.

Parameter	Description	Values
Method name	Defines the name of the method. The system copies the method name that has been defined with the function **Method wizard**.	Text (1…22 characters)
Comment	The method can be described with a comment.	Text (0…128 characters)
Lock method	Locks the method for other users and from further editing while running.	Active I Inactive*

* Factory setting

6.2.3.2 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the value of the option **Number of task IDs** is larger than 0, the options **Task ID**, **Description** and **Prefix/Default value** appear for every single task ID.	0 I 1* I 2 I 3
Task ID 1	Defines the naming type of the task ID. **Manual with default**: The value of the task ID can be entered manually at method execution time. **Automatic timestamp**: The system provides a value created from a prefix with the current date and time appended.	Manual with default* I Automatic timestamp
Description	Allows to define a label for each task ID field.	Text (0…32 characters)
Default value	Defines a default value for the task ID. The value of the task ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0…32 characters)
Prefix	Defines a prefix for the task ID. This option only appears when the option **Automatic timestamp** is activated.	Text (0…32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the value of the option **Number of result IDs** is larger than 0, the options **Result ID**, **Description** and **Prefix/Default value** appear for every single result ID.	0 I 1* I 2 I 3
Result ID 1	Defines the naming type of the result ID. **Manual with default**: The value of the result ID can be entered manually at method execution time. **Automatic counter**: The system provides a value created from a prefix with an unique number (counter) appended.	Manual with default* I Automatic counter
Description	Allows to define a label for each result ID.	Text (0…32 characters)
Default value	Defines a default value for the result ID. The value of the result ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0…32 characters)

Prefix	Defines a prefix for the result ID. This option only appears when the option **Automatic counter** is activated.	Text (0…32 characters)

* Factory setting

6.2.3.3 Weighing item

Initial values for weighing

Parameter	Description	Values
Reference PCS	Defines a reference unit quantity. This allows you to determine the reference unit weight with a defined, fixed number of pieces.	Numeric (10* | 1…10000)
Reference average weight	Defines the average weight for one piece. The average weight of one piece serves as basis for the piece counting. During task execution, the balance calculates the actual number of pieces on the weighing pan based on the measured weight and the average weight of one piece.	Numeric
Target weight	Defines the target weight. The target weight will be shown in the weighing-in aid of the balance (SmartTrac). When a target weight including tolerances is defined, the SmartTrac indicates if the current display weight is in tolerance or not.	Numeric
–Tolerance	Defines the lower tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric
+Tolerance	Defines the upper tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric

* Factory setting

See also

📄 Creating a method "Piece counting" ▶ Page 47

6.2.3.4 Weighing

Parameter	Description	Values
Show info weight	With this option activated a secondary info weight appears on the weighing screen on top of the weighing result.	Active | Inactive*
Info unit	Defines the unit of the info weight. This option only appears when the option **Show info weight** is activated.	The available units depend on the balance model.

* Factory setting

Weighing settings

Parameter	Description	Values
Tolerance profile	A tolerance profile stores all the necessary balance settings needed for a certain weighing method. It is possible to create different tolerance profiles for different weighing methods.	Available tolerance profiles are model-specific.

Weight capture mode	Defines the behavior when the button to add the result was tapped or the add result was triggered by the automatic weighing result creation.	Stable* I Immediate
	Stable: The system waits for a stable weight.	
	Immediate: The system doesn't wait for a stable weight. The system waits for the defined amount of seconds (**Weight capture delay**). After the weight capture delay, the weight value from the weight stream is captured.	
Weight capture delay	Defines the time in seconds the balance waits for capturing the weight after the button to add the result was tapped or the add result was triggered by the automatic weighing result creation.	Numeric (5 seconds* I 0...60 seconds)
	This option only appears when the **Weight capture mode** is set to **Immediate**.	

* Factory setting

Statistics

Parameter	Description	Values
Activate statistics	If **Activate statistics** is set to **Active**, the following statistics will be calculated:	Active I Inactive*
	• **Count**: Number of items used for the statistics	
	• **Sum**: Sum of all value (decimal places and unit according to the method settings)	
	• **Minimum**: Smallest value (decimal places and unit according to the method settings)	
	• **Maximum**: Largest value (decimal places and unit according to the method setting)	
	• **Range**: Difference between the largest and smallest values (decimal places and unit according to the method settings)	
	• **Average**: The values are summed up and divided by the number of values, rounded to 1 digit more than the configured decimal places in the method settings (unit according to the method settings)	
	• **Standard deviation**: Standard deviation rounded to 1 digit more than the configured decimal places in the method settings (unit according to the method settings)	
	• **Relative standard deviation**: Relative standard deviation (rounded to 2 decimal places, in %)	
	The statistical values are calculated and displayed as soon as a result is added or updated.	

* Factory setting

See also

Precision Balances and Comparators

6.2.3.5 Automation

Parameter	Description	Values
Barcode data target	If a barcode reader is connected to the balance, this option defines how the data is to be processed. **Keyboard Input**: The data is written in the currently open input window. If no input window is open, the data is ignored. **Target weight value**: The barcode data is interpreted as a value for the target weight. **Task ID 1**: The received barcode data is treated as identification text for this task ID. **Result ID 1**: The received barcode data is treated as identification text for this result ID. The available items in the drop-down menu depend on the **Number of task IDs** and **Number of result IDs** specified for the method. Make sure that the characters of the scanned barcode are compatible with the format of the field where they should be inserted.	Keyboard Input* | Target weight value | Task ID 1 | Result ID 1 | ...

* Factory setting

Weighing automation

Parameter	Description	Values
Automatic zero	If **Automatic zero** is set to **Active**, the balance automatically zeros the balance when the weight falls below a predefined threshold.	Active | Inactive*
Automatic zero threshold	Defines the threshold of the option **Automatic zero**. This option only appears when the option **Automatic zero** is activated.	Numeric
Tare Mode	Defines the tare mode. **None**: No automatic tare. **Automatic tare**: The balance stores automatically the first stable weight as the tare weight. **Pretare**: Allows you to enter manually a numerical entry of a fixed tare weight.	None* | Automatic tare | Pretare
Automatic tare threshold	Defines the threshold of the option **Tare Mode**. This value defines the minimum weight that must be applied to the weighing pan so that it is automatically stored as the tare weight. If the weight is below the limits, it is not automatically transferred to the tare memory. Instead of entering the weight, the lightest tare container can be placed on the weighing pan and the button ⬒ subsequently pressed. The applied weight is directly taken over as a limit. This option only appears when the option **Tare Mode** is set to **Automatic tare**.	Numeric
Pretare value	Defines a weight value for the pretare function. Instead of entering the value, the respective tare container can be placed on the weighing pan and the button ⬒ subsequently pressed. The weight is directly taken over as pretare value. This option only appears when the option **Tare Mode** is set to **Pretare**.	Numeric

Automatic result	Automatically generates a weighing result after a threshold is reached.	None* | Without sample tare
	None: No automatic result will be generated.	
	Without sample tare: After a weight value that reached the threshold is being removed from the weighing pan, the balance is not being tared.	
Automatic result threshold	Defines the threshold of the option **Automatic result**.	Numeric
	The result is automatically added to the protocol only if the weight of the sample is larger than this threshold.	
	This option only appears when the option **Automatic result** is activated.	
Weight trigger	Defines the behaviour of the option **Automatic result threshold**.	Exceeding* | Falling below
	Exceeding: The weighing result is generated when the weight exceeds the defined threshold.	
	Falling below: The weighing result is generated when the weight falls below the defined threshold.	
	This parameter is only available if **Automatic result** is set to **Without sample tare**.	
Automatic tare after result	If set to **Active**, the balance is automatically tared when a result is added to the **Protocol**.	Active | Inactive*

* Factory setting

When using **Automatic result**, make sure that the **Reference average weight** of one piece is larger than the **Automatic result threshold**.

See also

▤ Creating a method "Piece counting" ▶ Page 47

6.2.3.6 Print / Export

This section is divided into the following subsections:

- **Protocol printout and data export**
- **Label printout for task**
- **Label printout for weighing item**

Protocol printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the protocol on a strip printer when the **Complete** button is tapped. The data to be transmitted to the printer can be defined in the section **Template settings**.	Active | Inactive*
Protocol export	Activates/Deactivates the automatic data export to a file server or USB storage device when the **Complete** button is tapped.	Active | Inactive*
Weight value	Activates/Deactivates the option to automatically send the weighing value over USB or Ethernet when tapping **Add to protocol**.	Active | Inactive*

* Factory setting

Protocol template for printout

This menu item can be used to define information to appear in the **Protocol**. The extensive menu is divided into six submenus in which options for the printout can be defined. Information can be enabled or disabled by activating or deactivating the corresponding checkbox.

Each individual parameter can set to **Inactive** or **Active** via the corresponding check box. To enable or disable all parameters at once, proceed as follows:

1 To deselect all check boxes at once, tap ▭ **Deselect all**
 ⇨ All parameters are set to **Inactive**.
2 To select all check boxes at once, tap ▭ **Select all**
 ⇨ All parameters are set to **Active**.

Template settings

Parameter	Description	Values
Header and Footer	Defines the header (with title, date and time) and/or footer (with signature and end line) to be printed/exported.	Header* l Title* l Date/time l Signature* l Separating lines* l Group titles
Balance information	Defines which information about the balance is being printed/exported.	Balance type l Balance ID* l Balance serial number l Software version
Quality information	Defines which quality information is being printed/exported.	Tolerance profile l Adjustment date/time l Routine test name l Routine test last execution date l Routine test result l GWP Approved state l Level state l MinWeigh state
Task information	Defines which information about the task is being printed/export.	Method name l Method comment l Task IDs l Automatic result settingsl Count l Sum l Average l Minimum l Maximum l Standard deviation l Relative standard deviation l PCS below −Tolerance l PCS above +Tolerance
Weighing item information	Defines which information about the weighing items is being printed/exported.	Show excluded weighing items l Result State* l Result IDs* l GWP Approved state l Level state* l MinWeigh state l Tolerance state* l Target and tolerances state* l Reference PCS l Reference average weight*
Result detail information	Defines which information related to the result of the measurement is being printed/exported.	Weight* l Tare weight l Gross weight l Info weight l Date/time* l Stability

* Factory setting

Label printout for task

Parameter	Description	Values
Automatic label printout for task	When set to **Active**, the task label is automatically printed when tapping **Complete**.	Active | Inactive*
Used template	Chooses the label template.	Available labels are shown below.

* Factory setting

Field settings

The content of each label field can be defined individually.

Parameter	Description	Values
Label field 1	Defines which information appears in each label field. The number of label fields depends on the selected template.	Available entries depend on the method settings.

Barcode settings

The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. The option **2D barcode delimiter** appears only when the selected **Used template** contains several 2D codes.	TAB | Form feed | Carriage return | Space | User defined
Barcode field 1	Defines which information appears in each barcode. The number of the barcode fields depends on the selected template.	Available entries depend on the method settings.

Label printout for weighing items

Parameter	Description	Values
Automatic label printout for task	When set to **Active**, the task label is automatically printed when tapping **Complete**.	Active | Inactive*
Used template	Chooses the label template.	Available labels are shown below.

* Factory setting

Field settings

The content of each label field can be defined individually.

Parameter	Description	Values
Label field 1	Defines which information appears in each label field. The number of label fields depends on the selected template.	Available entries depend on the method settings.

Barcode settings

The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. The option **2D barcode delimiter** appears only when the selected **Used template** contains several 2D codes.	TAB | Form feed | Carriage return | Space | User defined
Barcode field 1	Defines which information appears in each barcode. The number of the barcode fields depends on the selected template.	Available entries depend on the method settings.

Available Labels

The following label layouts can be selected:

1 2 3 4 5		1 2 3 4 5	
5 large fields		5 small fields	

1 6 2 7 3 8 4 9 5 10	1 2 3	
10 small fields	1D barcode with 3 large fields	

1 2 3	1 4 2 5 3 6	
1D barcode with 3 small fields	1D barcode with 6 small fields	

1 2 3 4 5	1 2 3 4 5	
2D barcode with 5 large fields	2D barcode with 5 small fields	

1 2 3 6 4 7 5 8	1 2 3 6 4 7 5 8	
2D barcode with 2 large fields and 6 small fields	2D barcode with 8 small fields	

6.2.4 Settings: method "Interval weighing"

Navigation: ‣ **Methods** > ⊟ **Methods list** > ⟳ **Interval weighing** > ✎ **Edit**

✎ Edit method - my Interval Weighing		
⊟ General	Method type	Interval weighing
⟳ Interval	Method name	my Interval Weighing
⬛ ID format	Comment	*Enter here*
⚗ Weighing item		
⚖ Weighing		
⟳ Automation	Lock method	☐
🖨 Print / Export		
↩ Close		✓ OK

The section **Interval weighing** is divided into the following subsections:

- ⊟ **General**

- ⏲ **Interval**
- 🔟 **ID format**
- 🧪 **Weighing item**
- ⚖ **Weighing**
- ⏲ **Automation**
- 🖨 **Print / Export**

See also

📄 Creating a method "Interval weighing" ▸ Page 48

📄 Editing a method ▸ Page 52

6.2.4.1 General

The **Method type** is defined in the wizard while creating the method and cannot be changed.

Parameter	Description	Values
Method name	Defines the name of the method. The system copies the method name that has been defined with the function **Method wizard**.	Text (1…22 characters)
Comment	The method can be described with a comment.	Text (0…128 characters)
Lock method	Locks the method for other users and from further editing while running.	Active | Inactive*

* Factory setting

6.2.4.2 Interval

Parameter	Description	Values
Approximate interval	Defines the duration of a single weighing interval	Numeric (1 s* | 0.5…60 s)
Measurements	Defines the total number of measurements.	Numeric (3600* | 1…5000)

* Factory setting

📝 **Note**

The parameter **Duration** shows the duration of the method based on the values defined for the parameters **Approximate interval** and **Measurements**.

See also

📄 Creating a method "Interval weighing" ▸ Page 48

6.2.4.3 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the value of the option **Number of task IDs** is larger than 0, the options **Task ID**, **Description** and **Prefix/Default value** appear for every single task ID.	0 | 1* | 2 | 3
Task ID 1	Defines the naming type of the task ID. **Manual with default**: The value of the task ID can be entered manually at method execution time. **Automatic timestamp**: The system provides a value created from a prefix with the current date and time appended.	Manual with default* | Automatic timestamp

Precision Balances and Comparators

Description	Allows to define a label for each task ID field.	Text (0...32 characters)
Default value	Defines a default value for the task ID. The value of the task ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This option only appears when the option **Automatic timestamp** is activated.	Text (0...32 characters)

* Factory setting

6.2.4.4 Weighing item

Initial values for weighing

Parameter	Description	Values
Unit	Defines the unit of the primary weighing result.	The available units depend on the balance model.

See also

▤ Creating a method "Interval weighing" ▸ Page 48

6.2.4.5 Weighing

Parameter	Description	Values
Show info weight	With this option activated a secondary info weight appears on the weighing screen on top of the weighing result.	Active | Inactive*
Info unit	Defines the unit of the info weight. This option only appears when the option **Show info weight** is activated.	The available units depend on the balance model.

* Factory setting

Weighing settings

Parameter	Description	Values
Tolerance profile	A tolerance profile stores all the necessary balance settings needed for a certain weighing method. It is possible to create different tolerance profiles for different weighing methods.	Available tolerance profiles are model-specific.

See also

▤ Creating a method "Interval weighing" ▸ Page 48

6.2.4.6 Automation

Parameter	Description	Values
Barcode data target	If a barcode reader is connected to the balance, this option defines how the data is to be processed. **Keyboard Input**: The data is written in the currently open input window. If no input window is open, the data is ignored. **Task ID 1**: The received barcode data is treated as identification text for this task ID. The available items in the drop-down menu depend on the **Number of task IDs** specified for the method. Make sure that the characters of the scanned barcode are compatible with the format of the field where they should be inserted.	Keyboard Input* I Task ID 1 I ...

* Factory setting

See also

📄 Creating a method "Interval weighing" ▶ Page 48

6.2.4.7 Print / Export

Protocol printout and data export

Automatic data output

Parameter	Description	Values
Protocol export	Activates/Deactivates the automatic data export to a file server or USB storage device when the **Complete** button is tapped.	Active I Inactive*

* Factory setting

6.2.5 Settings: method "Titration"

Navigation: ‣ **Methods** > ⧉ **Methods list** > ⫼ **Titration** > ✎ **Edit**

Edit method - my Titration		
⧉ General	Method type	Titration
⫼ Titration	Method name	my Titration
⬛ ID format	Comment	*Enter here*
⚗ Weighing item		
⚖ Weighing	Lock method	☐
⟳ Automation		
🖶 Print / Export		
⟵ Close		✓ OK

The section **Titration** is divided into the following subsections:

- ⧉ **General**
- ⫼ **Titration**
- ⬛ **ID format**
- ⚗ **Weighing item**
- ⚖ **Weighing**
- ⟳ **Automation**
- 🖶 **Print / Export**

See also

6.2.5.1 General

The **Method type** is defined in the wizard while creating the method and cannot be changed.

Parameter	Description	Values
Method name	Defines the name of the method. The system copies the method name that has been defined with the function **Method wizard**.	Text (1…22 characters)
Comment	The method can be described with a comment.	Text (0…128 characters)
Lock method	Locks the method for other users and from further editing while running.	Active | Inactive*

* Factory setting

6.2.5.2 Titration

Parameter	Description	Values
RFID option	Defines the behaviour of the RFID Reader. **Write only**: The Reader only can write content of the RFID tag. **Read and write**:The Reader can read the content of the RFID tag and write data on the RFID tag.	Inactive* | Write only | Read and write
Density	Defines the density. This option only appears when the option **Write only** or **Read and write** is activated.	Numeric (1.0000g/ml* | 0….100m/mg)

Parameter	Description	Values
Correction factor	Defines the titration correction factor. This option only appears when the option **Write only** or **Read and write** is activated.	Numeric (1.0000* | 0....1000000)

* Factory setting

See also

6.2.5.3 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the value of the option **Number of task IDs** is larger than 0, the options **Task ID**, **Description** and **Prefix/Default value** appear for every single task ID.	0 | 1* | 2 | 3
Task ID 1	Defines the naming type of the task ID. **Manual with default**: The value of the task ID can be entered manually at method execution time. **Automatic timestamp**: The system provides a value created from a prefix with the current date and time appended.	Manual with default* | Automatic timestamp
Default value	Defines a default value for the task ID. The value of the task ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This option only appears when the option **Automatic timestamp** is activated.	Text (0...32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the value of the option **Number of result IDs** is larger than 0, the options **Result ID**, **Description** and **Prefix/Default value** appear for every single result ID.	0 | 1* | 2 | 3
Result ID 1	Defines the naming type of the result ID. **Manual with default**: The value of the result ID can be entered manually at method execution time. **Automatic counter**: The system provides a value created from a prefix with an unique number (counter) appended.	Manual with default* | Automatic counter
Description	Allows to define a label for each result ID.	Text (0...32 characters)
Default value	Defines a default value for the result ID. The value of the result ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0...32 characters)
Prefix	Defines a prefix for the result ID. This option only appears when the option **Automatic counter** is activated.	Text (0...32 characters)

* Factory setting

The maximum text length of the **Sample ID** is 32 characters. If the RFID option activated, only the first 20 characters are transferred to the RFID tag.

6.2.5.4 Weighing item

Initial values for weighing

Parameter	Description	Values
Unit	Defines the unit of the primary weighing result.	The available units depend on the balance model.
Target weight	Defines the target weight. The target weight will be shown in the weighing-in aid of the balance (SmartTrac). When a target weight including tolerances is defined, the SmartTrac indicates if the current display weight is in tolerance or not.	Numeric
–Tolerance	Defines the lower tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric
+Tolerance	Defines the upper tolerance limit. This option only appears when the option **Target weight** is activated.	Numeric

6.2.5.5 Automation

Parameter	Description	Values
Barcode data target	If a barcode reader is connected to the balance, this option defines how the data is to be processed. **Keyboard Input**: The data is written in the currently open input window. If no input window is open, the data is ignored. **Target weight value**: The barcode data is interpreted as a value for the target weight. **Task ID 1**: The received barcode data is treated as identification text for this task ID. **Result ID 1**: The received barcode data is treated as identification text for this result ID. The available items in the drop-down menu depend on the **Number of task IDs** and **Number of result IDs** specified for the method. Make sure that the characters of the scanned barcode are compatible with the format of the field where they should be inserted.	Keyboard Input* | Target weight value | Task ID 1 | Result ID 1 | …

Weighing automation

Parameter	Description	Values
Automatic zero	If **Automatic zero** is set to **Active**, the balance automatically zeros the balance when the weight falls below a predefined threshold.	Active | Inactive*
Automatic zero threshold	Defines the threshold of the option **Automatic zero**. This option only appears when the option **Automatic zero** is activated.	Numeric

Tare Mode	Defines the tare mode. **None**: No automatic tare. **Automatic tare**: The balance stores automatically the first stable weight as the tare weight. **Pretare**: Allows you to enter manually a numerical entry of a fixed tare weight.	None*	Automatic tare	Pretare
Automatic tare threshold	Defines the threshold of the option **Tare Mode**. This value defines the minimum weight that must be applied to the weighing pan so that it is automatically stored as the tare weight. If the weight is below the limits, it is not automatically transferred to the tare memory. Instead of entering the weight, the lightest tare container can be placed on the weighing pan and the button ⬇ subsequently pressed. The applied weight is directly taken over as a limit. This option only appears when the option **Tare Mode** is set to **Automatic tare**.	Numeric
Pretare value	Defines a weight value for the pretare function. Instead of entering the value, the respective tare container can be placed on the weighing pan and the button ⬇ subsequently pressed. The weight is directly taken over as pretare value. This option only appears when the option **Tare Mode** is set to **Pretare**.	Numeric
Automatic result	Automatically generates a weighing result after a threshold is reached. **None**: No automatic result will be generated. **Without sample tare**: After a weight value that reached the threshold is being removed from the weighing pan, the balance is not being tared.	None*	Without sample tare
Automatic result threshold	Defines the threshold of the option **Automatic result**. The result is automatically added to the protocol only if the weight of the sample is larger than this threshold. This option only appears when the option **Automatic result** is activated.	Numeric
Weight trigger	Defines the behaviour of the option **Automatic result threshold**. **Exceeding**: The weighing result is generated when the weight exceeds the defined threshold. **Falling below**: The weighing result is generated when the weight falls below the defined threshold. This parameter is only available if **Automatic result** is set to **Without sample tare**.	Exceeding*	Falling below
Automatic tare after result	If set to **Active**, the balance is automatically tared when a result is added to the **Protocol**.	Active	Inactive*

* Factory setting

See also

📄 Creating a method "Titration" ▶ Page 50

6.2.5.6 Print / Export

This section is divided into the following subsections:

- **Protocol printout and data export**

- **Label printout for task**
- **Label printout for weighing item**

Protocol printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the protocol on a strip printer when the **Complete** button is tapped. The data to be transmitted to the printer can be defined in the section **Template settings**.	Active | Inactive*
Protocol export	Activates/Deactivates the automatic data export to a file server or USB storage device when the **Complete** button is tapped.	Active | Inactive*
Weight value	Activates/Deactivates the option to automatically send the weighing value over USB or Ethernet when tapping **Add to protocol**.	Active | Inactive*

* Factory setting

Protocol template for printout

This menu item can be used to define information to appear in the **Protocol**. The extensive menu is divided into six submenus in which options for the printout can be defined. Information can be enabled or disabled by activating or deactivating the corresponding checkbox.

Each individual parameter can set to **Inactive** or **Active** via the corresponding check box. To enable or disable all parameters at once, proceed as follows:

1 To deselect all check boxes at once, tap 🗂 **Deselect all**

   ⇨ All parameters are set to **Inactive**.

2 To select all check boxes at once, tap 🗂 **Select all**

   ⇨ All parameters are set to **Active**.

Template settings

Parameter	Description	Values
Header and Footer	Defines the header (with title, date and time) and/or footer (with signature and end line) to be printed/exported.	Header* | Title* | Date/time | Signature* | Separating lines* | Group titles
Balance information	Defines which information about the balance is being printed/exported.	Balance type | Balance ID* | Balance serial number | Software version
Quality information	Defines which quality information is being printed/exported.	Tolerance profile | Adjustment date/time | Routine test name | Routine test last execution date | Routine test result | GWP Approved state | Level state | MinWeigh state

Task information	Defines which information about the task is being printed/export.	Method name l Method comment l Task IDs l Custom unit settings l Automatic result settings l Count l Sum l Average l Minimum l Maximum l Range l Standard deviation l Relative standard deviation
Weighing item information	Defines which information about the weighing items is being printed/exported.	Show excluded weighing items l Result State l Result IDs* l GWP Approved state l Electrostatic charge l Level state l MinWeigh state l Tolerance state l Target and tolerances state
Result detail information	Defines which information related to the result of the measurement is being printed/exported.	Weight* l Tare weight l Gross weight l Info weight l Date/time* l Stability

* Factory setting

Parameter	Description	Values
Weighing item information	Defines which information about the weighing items is being printed/exported.	Show excluded weighing items l Result State* l Result IDs* l Density l Correction factor l GWP Approved state l Level state* l MinWeigh state l Tolerance state* l Target and tolerances state* l
Task information	Defines which information about the task is being printed/export.	Method name l Method comment l Task IDs l Automatic result settings l

Label printout for task

Parameter	Description	Values
Automatic label printout for task	When set to **Active**, the task label is automatically printed when tapping **Complete**.	Active l Inactive*
Used template	Chooses the label template.	Available labels are shown below.

* Factory setting

Field settings

The content of each label field can be defined individually.

Parameter	Description	Values
Label field 1	Defines which information appears in each label field. The number of label fields depends on the selected template.	Available entries depend on the method settings.

Barcode settings

The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. The option **2D barcode delimiter** appears only when the selected **Used template** contains several 2D codes.	TAB I Form feed I Carriage return I Space I User defined
Barcode field 1	Defines which information appears in each barcode. The number of the barcode fields depends on the selected template.	Available entries depend on the method settings.

Label printout for weighing items

Parameter	Description	Values
Automatic label printout for task	When set to **Active**, the task label is automatically printed when tapping **Complete**.	Active I Inactive*
Used template	Chooses the label template.	Available labels are shown below.

* Factory setting

Field settings

The content of each label field can be defined individually.

Parameter	Description	Values
Label field 1	Defines which information appears in each label field. The number of label fields depends on the selected template.	Available entries depend on the method settings.

Barcode settings

The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. The option **2D barcode delimiter** appears only when the selected **Used template** contains several 2D codes.	TAB I Form feed I Carriage return I Space I User defined
Barcode field 1	Defines which information appears in each barcode. The number of the barcode fields depends on the selected template.	Available entries depend on the method settings.

Available Labels

The following label layouts can be selected:

5 large fields

5 small fields

10 small fields

1D barcode with 3 large fields

1D barcode with 3 small fields	1D barcode with 6 small fields
2D barcode with 5 large fields	2D barcode with 5 small fields
2D barcode with 2 large fields and 6 small fields	2D barcode with 8 small fields

6.2.6 Settings: method "Density determination"

Navigation: ▶ **Methods** > ☰ **Methods list** > 🔬 **Density determination** > ✎ **Edit**

Edit method - my Density	
☰ General	Method type · Density determination
🔬 Density	Method name · my Density
🆔 ID format	Comment · *Enter here*
🧪 Weighing item	
⚖ Weighing	Lock method
🌀 Automation	
🖨 Print / Export	
← Close	✓ OK

The section **Density determination** is divides into the following subsections:

- ☰ **General**
- 🔬 **Density**
- 🆔 **ID format**
- 🧪 **Weighing item**
- ⚖ **Weighing**
- 🌀 **Automation**
- 🖨 **Print / Export**

See also

6.2.6.1 General

The **Method type** is defined in the wizard while creating the method and cannot be changed.

Parameter	Description	Values
Method name	Defines the name of the method. The system copies the method name that has been defined with the function **Method wizard**.	Text (1…22 characters)
Comment	The method can be described with a comment.	Text (0…128 characters)
Lock method	Locks the method for other users and from further editing while running.	Active | Inactive*

* Factory setting

6.2.6.2 Density

The **Determination type** is defined in the wizard while creating the method and cannot be changed. If another **Determination type** is required, a new method must be created. All settings for all types of density determination are described here.

Parameter	Description	Values
Determination type	Defines the type of density determination measurement. **Solid** determines the density of a solid with the help of a density kit. **Liquid (sinker)**: determines the density of a liquid. **Liquid (pycnometer)**: determines the density of a liquid in a glass vessel like a pycnometer.	Liquid (pycnometer) | Liquid (sinker) | Solid*
Density unit	Defines the unit to be used for density determination. **g/cm3** = grams per cm^3. **kg/m3** = kilograms per m^3. **g/l** = grams per liter.	g/cm3* | kg/m3 | g/l
Density value decimal places	Defines the number of decimal places. The density determination result can be displayed and recorded with 1 to 5 decimal places.	1 | 2 | 3* | 4 | 5
Air density compensation	Defines the correction factor for force calibration. **Active** = the density determination result is corrected by the force calibration correction factor and mean air density. **Inactive** = no correction takes place.	Active* | Inactive

* Factory setting

See also

6.2.6.3 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the value of the option **Number of task IDs** is larger than 0, the options **Task ID**, **Description** and **Prefix/Default value** appear for every single task ID.	0 | 1* | 2 | 3

Task ID 1	Defines the naming type of the task ID. **Manual with default**: The value of the task ID can be entered manually at method execution time. **Automatic timestamp**: The system provides a value created from a prefix with the current date and time appended.	Manual with default* | Automatic timestamp
Description	Allows to define a label for each task ID field.	Text (0…32 characters)
Default value	Defines a default value for the task ID. The value of the task ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0…32 characters)
Prefix	Defines a prefix for the task ID. This option only appears when the option **Automatic timestamp** is activated.	Text (0…32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the value of the option **Number of result IDs** is larger than 0, the options **Result ID**, **Description** and **Prefix/Default value** appear for every single result ID.	0 | 1* | 2 | 3
Result ID 1	Defines the naming type of the result ID. **Manual with default**: The value of the result ID can be entered manually at method execution time. **Automatic counter**: The system provides a value created from a prefix with an unique number (counter) appended.	Manual with default* | Automatic counter
Description	Allows to define a label for each result ID.	Text (0…32 characters)
Default value	Defines a default value for the result ID. The value of the result ID can be changed manually while executing the method. This option only appears when the option **Manual with default** is activated.	Text (0…32 characters)
Prefix	Defines a prefix for the result ID. This option only appears when the option **Automatic counter** is activated.	Text (0…32 characters)

* Factory setting

6.2.6.4 Weighing item

The weighing item settings are different between the three types of density determination. The settings for **Initial values for weighing** are presented for each type individually.

Initial values for weighing (Determination Type: Solid)

Parameter	Description	Values
Unit	Defines the unit.	The available units depend on the balance model.
Temperature	Defines the temperature of the solid.	Numeric (10°C…..30.9°C)
Aux. liquid	Defines the type of auxiliary liquid used for the determination of the density of a solid.	Distilled water* | Custom

Aux. liquid name	Defines the name of the custom liquid.	Text (0....32 character)
	This option only appears when **Aux. liquid** is set to **Custom**.	
Aux. liquid density	Defines the liquid density of the custom liquid.	Numeric l 1.00000 g/cm3* (0.00001.....100 g/cm3)
	This option only appears when **Aux. liquid** is set to **Custom**.	

* Factory setting

Initial values for weighing (Determination Type: Sinker)

Parameter	Description	Values
Unit	Defines the unit.	The available units depend on the balance model.
Temperature	Defines the temperature of the auxiliary liquid (distilled water or custom).	Numeric (10°C.....30.9°C)
Sinker volume	Defines the volume of the sinker in cm^3.	Numeric (0.0001.....500 cm3)

Initial values for weighing (Determination Type: Pycnometer)

Parameter	Description	Values
Unit	Defines the unit.	The available units depend on the balance model.
Temperature	Defines the temperature of the auxiliary liquid (distilled water or custom).	Numeric (10°C.....30.9°C)
Pycnometer volume	Defines volume of the pycnometer in cm^3.	Numeric (0.0001....10000 cm3)
Pycnometer weight	Defines the weight of the pycnometer.	Numeric (0.00001....222.009 g)

See also

🖹 Creating a method "Density determination" ▶ Page 51

6.2.6.5 Weighing

Parameter	Description	Values
Show info weight	With this option activated a secondary info weight appears on the weighing screen on top of the weighing result.	Active l Inactive*
Info unit	Defines the unit of the info weight.	The available units depend on the balance model.
	This option only appears when the option **Show info weight** is activated.	

* Factory setting

Weighing settings

Parameter	Description	Values
Tolerance profile	A tolerance profile stores all the necessary balance settings needed for a certain weighing method. It is possible to create different tolerance profiles for different weighing methods.	Available tolerance profiles are model-specific.

Weight capture mode	Defines the behavior when the button to add the result was tapped or the add result was triggered by the automatic weighing result creation. **Stable**: The system waits for a stable weight. **Immediate**: The system doesn't wait for a stable weight. The system waits for the defined amount of seconds (**Weight capture delay**). After the weight capture delay, the weight value from the weight stream is captured.	Stable* | Immediate
Weight capture delay	Defines the time in seconds the balance waits for capturing the weight after the button to add the result was tapped or the add result was triggered by the automatic weighing result creation. This option only appears when the **Weight capture mode** is set to **Immediate**.	Numeric (5 seconds* | 0...60 seconds)

* Factory setting

Statistics

Parameter	Description	Values
Activate statistics	If **Activate statistics** is set to **Active**, the following statistics will be calculated: • **Count**: Number of items used for the statistics • **Sum**: Sum of all value (decimal places and unit according to the method settings) • **Minimum**: Smallest value (decimal places and unit according to the method settings) • **Maximum**: Largest value (decimal places and unit according to the method setting) • **Range**: Difference between the largest and smallest values (decimal places and unit according to the method settings) • **Average**: The values are summed up and divided by the number of values, rounded to 1 digit more than the configured decimal places in the method settings (unit according to the method settings) • **Standard deviation**: Standard deviation rounded to 1 digit more than the configured decimal places in the method settings (unit according to the method settings) • **Relative standard deviation**: Relative standard deviation (rounded to 2 decimal places, in %) The statistical values are calculated and displayed as soon as a result is added or updated.	Active | Inactive*

* Factory setting

See also

📄 Creating a method "Density determination" ▶ Page 51

6.2.6.6 Automation

Parameter	Description	Values
Barcode data target	If a barcode reader is connected to the balance, this option defines how the data is to be processed. **Keyboard Input**: The data is written in the currently open input window. If no input window is open, the data is ignored. **Task ID 1**: The received barcode data is treated as identification text for this task ID. **Result ID 1**: The received barcode data is treated as identification text for this result ID. The available items in the drop-down menu depend on the **Number of task IDs** and **Number of result IDs** specified for the method. Make sure that the characters of the scanned barcode are compatible with the format of the field where they should be inserted.	Keyboard Input* | Task ID 1 | Result ID 1 | …

* Factory setting

See also

▤ Creating a method "Density determination" ▶ Page 51

6.2.6.7 Print / Export

Protocol printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the protocol on a strip printer when the **Complete** button is tapped. The data to be transmitted to the printer can be defined in the section **Template settings**.	Active | Inactive*

* Factory setting

Protocol template for printout

This menu item can be used to define information to appear in the **Protocol**. The extensive menu is divided into six submenus in which options for the printout can be defined. Information can be enabled or disabled by activating or deactivating the corresponding checkbox.

Each individual parameter can set to **Inactive** or **Active** via the corresponding check box. To enable or disable all parameters at once, proceed as follows:

1 To deselect all check boxes at once, tap ▥ **Deselect all**

  ⇨ All parameters are set to **Inactive**.

2 To select all check boxes at once, tap ▥ **Select all**

  ⇨ All parameters are set to **Active**.

Template settings

Parameter	Description	Values
Header and Footer	Defines the header (with title, date and time) and/or footer (with signature and end line) to be printed/exported.	Header* | Title* | Date/time | Signature* | Separating lines* | Group titles

Balance information	Defines which information about the balance is being printed/exported.	Balance type | Balance ID* | Balance serial number | Software version
Quality information	Defines which quality information is being printed/exported.	Tolerance profile | Adjustment date/time | Routine test name | Routine test last execution date | Routine test result | GWP Approved state | Level state | MinWeigh state
Task information	Defines which information about the task is being printed/export.	Method name | Method comment | Task IDs | Count | Average | Minimum | Maximum| Standard deviation | Relative standard deviation | Type of density determination | Decimal places for density weighing results | Include air density compensation in calculation of density
Weighing item information	Defines which information about the weighing items is being printed/exported.	Show excluded weighing items | Result State | Result IDs | GWP Approved state | Level state | MinWeigh state | Temperature | Auxiliary liquid name and density | Volume of sample | Weight of sample in air | Weight of sample in liquid
Result detail information	Defines which information related to the result of the measurement is being printed/exported.	Weight* | Tare weight | Gross weight | Info weight | Date/time* | Stability

* Factory setting

6.3 Tests settings

6.3.1 Settings: eccentricity test

1. Name and type

Parameter	Description	Values
Test type	The test type has been pre-defined and cannot be changed in this menu.	Available test types
Name	Defines the name of the test.	Text (1…22 characters)
Test activated	Enables/disables the test.	Active* I Inactive
Show preparation instructions	If activated, a predefined preparatory instruction is displayed in the test sequence.	Active* I Inactive
Automatic print	When activated test results are immediately printed after the test result has been calculated on the enabled printer.	Active I Inactive*

* Factory setting

2. Test specification

Parameter	Description	Values
Result calculation	Select whether the nominal weight or the conventional mass value (CMV) is used for the result calculation. **On nominal weight**: Nominal value of a weight with a specific weight class. **On actual weight (CMV)**: Conventional mass value (CMV) of a weight from the weight calibration certificate.	On nominal weight* I On actual weight (CMV)

* Factory setting

Test point

Parameter	Description	Values
Nominal weight	Defines the value for the nominal weight. The nominal weight is defined as the expected weight of the measured object.	Numeric
Weight class	Defines the weight class according to OIML or ASTM. Alternatively, a customized tolerance class can be created with **Own**.	E1 I E2 I F1 I F2 I M1 I M2 I M3 I ASTM000 I ASTM00 I ASTM0 I ASTM0 I ASTM1 I ASTM2 I ASTM3 I ASTM4 I ASTM5 I ASTM6 I ASTM7 I Own*

* Factory setting

Eccentricity limits

Parameter	Description	Values
Control limit	Defines the control limit. The control limit is the error tolerance of a process with respect to its set value. Exceeding the control limit is a violation of quality requirements and therefore requires a correction of the process. Result if the control limit is exceeded: The test failed, the balance is out of specification.	Numeric I 0.2 %* (0.001 … 100%)

Warning limit	Defines the warning limit.	Numeric	(0.001 … 100%)
	The warning limit is an upper or lower limit, which if exceeded or not reached, makes more stringent process monitoring necessary. The warning limit has to be smaller than the control limit.	
	Result if the warning limit is exceeded: The test is passed, but the difference is higher than expected.	

* Factory setting

3. Test weights

4. Error management

Parameter	Description	Values
Block balance	Defines the behavior of the balance if a test has failed.	Active	Inactive*
	Active: The balance will be blocked after a specified amount of failed tests. In this case, the balance cannot be used anymore until a user with the appropriate right unblocks the balance.	
	Inactive: Blocking is not activated.	
Allowed number of retries	Defines the maximum allowed retries until the balance will be blocked.	Numeric (3* | 0…9)

* Factory setting

5. Test planning

Parameter	Description	Values
Planning type	Specifies the schedule for the test to be performed.	Manually*	Daily	Weekly	Monthly	Quarterly	Annually
	Manually: The test must be performed manually.	
	Daily: The test will be performed automatically every day at the specified time.	
	Weekly: The test is performed automatically at least once a week. Additional days can be selected if required.	
	Monthly: The test will be performed automatically every month at the specified day and time.	
	Quarterly: The test will be performed automatically every three months at the specified time.	
	Annually: The test will be performed automatically once a year at the specified time.	
Start time	Defines the start time for executing the task.	Time

* Factory setting

Notification

This section does not appear when the option **Planning type** is set to **Manually**.

Parameter	Description	Values
(x) hours before test	Defines the time period before the notification informs about the upcoming expiry date.	Different values depending on the selected frequency (Planning type).
Notification every (x) hours	Defines the time interval before the next notification is issued.	Different values depending on the selected frequency (Planning type).

Preferred days

This option only appears when the option **Planning type** is set to **Weekly**.

Parameter	Description	Values
Preferred days	Defines the preferred weekday for the execution of the test.	Monday I Tuesday I Wednesday I Thursday I Friday I Saturday I Sunday

Preferred day for execution

This section only appears when the option **Planning type** is set to **Monthly**.

Parameter	Description	Values
Preferred day for execution	Defines the preferred day for execution of the test.	None* I Monday I Tuesday I Wednesday I Thursday I Friday I Saturday I Sunday
Occurrence of day	Defines the occurrence of a given day of week within a month.	First* I Second I Third I Fourth

* Factory setting

See also

- 📄 Creating an own new test ▶ Page 55
- 📄 Defining a test weight ▶ Page 56

6.3.2 Settings: repeatability test

When parameter settings are different for the four repeatability tests you will be informed by a **Note**.

Parameter	Description	Values
Test type	The test type has been pre-defined and cannot be changed in this menu.	Available test types
Name	Defines the name of the test.	Text (1…22 characters)
Test activated	Enables/disables the test.	Active* I Inactive
Show preparation instructions	If activated, a predefined preparatory instruction is displayed in the test sequence.	Active* I Inactive
Automatic print	When activated test results are immediately printed after the test result has been calculated on the enabled printer.	Active I Inactive*

* Factory setting

2. Test specification

Parameter	Description	Values
Result calculation	Select whether the nominal weight or the conventional mass value (CMV) is used for the result calculation. **On nominal weight**: Nominal value of a weight with a specific weight class. **On actual weight (CMV)**: Conventional mass value (CMV) of a weight from the weight calibration certificate.	On nominal weight* I On actual weight (CMV)
Number of repetitions	Defines the number of weight measurements of a series.	Numeric 10* I (2…15)

* Factory setting

Tare

This section only appears when the option **Test type** is set to **Repeatab. - Tare - 1 TP**.

Parameter	Description	Values
Tare name	Defines a name for the tare weight.	Text (1…22 characters)
Minimum tare weight	Defines the minimum weight for the tare container. The test is only continued if a tare container with at least this weight is placed on the balance.	Numeric

* Factory setting

Test point

Parameter	Description	Values
Nominal weight	Defines the value for the nominal weight. The nominal weight is defined as the expected weight of the measured object.	Numeric
Weight class	Defines the weight class according to OIML or ASTM. Alternatively, a customized tolerance class can be created with **Own**.	E1 I E2 I F1 I F2 I M1 I M2 I M3 I ASTM000 I ASTM00 I ASTM0 I ASTM0 I ASTM1 I ASTM2 I ASTM3 I ASTM4 I ASTM5 I ASTM6 I ASTM7 I Own*

* Factory setting

Test limits

Parameter	Description	Values
Control limit	Defines the control limit. The control limit is the error tolerance of a process with respect to its set value. Exceeding the control limit is a violation of quality requirements and therefore requires a correction of the process. Result if the control limit is exceeded: The test failed, the balance is out of specification.	Numeric I 0.2 %* (0.001 … 100%)
Warning limit	Defines the warning limit. The warning limit is an upper or lower limit, which if exceeded or not reached, makes more stringent process monitoring necessary. The warning limit has to be smaller than the control limit. Result if the warning limit is exceeded: The test is passed, but the difference is higher than expected.	Numeric I (0.001 … 100%)

* Factory setting

3. Test weights

4. Error management

Parameter	Description	Values
Block balance	Defines the behavior of the balance if a test has failed. **Active**: The balance will be blocked after a specified amount of failed tests. In this case, the balance cannot be used anymore until a user with the appropriate right unblocks the balance. **Inactive**: Blocking is not activated.	Active I Inactive*
Allowed number of retries	Defines the maximum allowed retries until the balance will be blocked.	Numeric (3* I 0…9)

* Factory setting

5. Test planning

Parameter	Description	Values
Planning type	Specifies the schedule for the test to be performed. **Manually**: The test must be performed manually. **Daily**: The test will be performed automatically every day at the specified time. **Weekly**: The test is performed automatically at least once a week. Additional days can be selected if required. **Monthly**: The test will be performed automatically every month at the specified day and time. **Quarterly**: The test will be performed automatically every three months at the specified time. **Annually**: The test will be performed automatically once a year at the specified time.	Manually* l Daily l Weekly l Monthly l Quarterly l Annually
Start time	Defines the start time for executing the task.	Time

* Factory setting

Notification

This section does not appear when the option **Planning type** is set to **Manually**.

Parameter	Description	Values
(x) hours before test	Defines the time period before the notification informs about the upcoming expiry date.	Different values depending on the selected frequency (Planning type).
Notification every (x) hours	Defines the time interval before the next notification is issued.	Different values depending on the selected frequency (Planning type).

* Factory setting

Preferred day for execution

This option only appears when the option **Planning type** is set to **Weekly**.

Parameter	Description	Values
Preferred day for execution	Defines the preferred day for execution of the test.	None* l Monday l Tuesday l Wednesday l Thursday l Friday l Saturday l Sunday

Preferred days

This section only appears when the option **Planning type** is set to **Monthly**.

Parameter	Description	Values
Preferred day for execution	Defines the preferred day for execution of the test.	None* l Monday l Tuesday l Wednesday l Thursday l Friday l Saturday l Sunday
Occurrence of day	Defines the occurrence of a given day of week within a month.	First* l Second l Third l Fourth

* Factory setting

See also

6.3.3 Settings: sensitivity test

When parameter settings are different for the four sensitivity tests you will be informed by a **Note**.

1. Name and Type

Parameter	Description	Values
Test type	The test type has been pre-defined and cannot be changed in this menu.	Available test types
Name	Defines the name of the test.	Text (1…22 characters)
Test activated	Enables/disables the test.	Active* I Inactive
Show preparation instructions	If activated, a predefined preparatory instruction is displayed in the test sequence.	Active* I Inactive
Automatic print	When activated test results are immediately printed after the test result has been calculated on the enabled printer.	Active I Inactive*

* Factory setting

2. Test specification

Parameter	Description	Values
Result calculation	Select whether the nominal weight or the conventional mass value (CMV) is used for the result calculation. **On nominal weight**: Nominal value of a weight with a specific weight class. **On actual weight (CMV)**: Conventional mass value (CMV) of a weight from the weight calibration certificate.	On nominal weight* I On actual weight (CMV)

* Factory setting

Tare

▤ Note

This section only appears when the option **Test type** is set to **Sensitivity - Tare - 1 TP** or **Sensitivity - Tare - 2 TP**.

Parameter	Description	Values
Tare name	Defines a name for the tare weight.	Text (1…22 characters)
Minimum tare weight	Defines the minimum weight for the tare container. The test is only continued if a tare container with at least this weight is placed on the balance.	Numeric

Test point

Depending on the selected test, the following options can be defined for one or two test points:

Parameter	Description	Values
Nominal weight	Defines the value for the nominal weight. The nominal weight is defined as the expected weight of the measured object.	Numeric

Weight class	Defines the weight class according to OIML or ASTM. Alternatively, a customized tolerance class can be created with **Own**.	E1 | E2 | F1 | F2 | M1 | M2 | M3 | ASTM000 | ASTM00 | ASTM0 | ASTM0 | ASTM1 | ASTM2 | ASTM3 | ASTM4 | ASTM5 | ASTM6 | ASTM7 | Own*
Control limit	Defines the control limit. The control limit is the error tolerance of a process with respect to its set value. Exceeding the control limit is a violation of quality requirements and therefore requires a correction of the process. Result if the control limit is exceeded: The test failed, the balance is out of specification.	Numeric | 0.2 %* (0.001 ... 100%)
Warning limit	Defines the warning limit. The warning limit is an upper or lower limit, which if exceeded or not reached, makes more stringent process monitoring necessary. The warning limit has to be smaller than the control limit. Result if the warning limit is exceeded: The test is passed, but the difference is higher than expected.	Numeric | (0.001 ... 100%)

* Factory setting

3. Test weights

4. Error management

Parameter	Description	Values
Block balance	Defines the behavior of the balance if a test has failed. **Active**: The balance will be blocked after a specified amount of failed tests. In this case, the balance cannot be used anymore until a user with the appropriate right unblocks the balance. **Inactive**: Blocking is not activated.	Active | Inactive*
Allowed number of retries	Defines the maximum allowed retries until the balance will be blocked.	Numeric (3* | 0...9)

5. Test planning

* Factory setting

Parameter	Description	Values
Planning type	Specifies the schedule for the test to be performed. **Manually**: The test must be performed manually. **Daily**: The test will be performed automatically every day at the specified time. **Weekly**: The test is performed automatically at least once a week. Additional days can be selected if required. **Monthly**: The test will be performed automatically every month at the specified day and time. **Quarterly**: The test will be performed automatically every three months at the specified time. **Annually**: The test will be performed automatically once a year at the specified time.	Manually* | Daily | Weekly | Monthly | Quarterly | Annually
Start time	Defines the start time for executing the task.	Time

* Factory setting

Notification

This section does not appear when the option **Planning type** is set to **Manually**.

Parameter	Description	Values
(x) hours before test	Defines the time period before the notification informs about the upcoming expiry date.	Different values depending on the selected frequency (Planning type).
Notification every (x) hours	Defines the time interval before the next notification is issued.	Different values depending on the selected frequency (Planning type).

Preferred days

This option only appears when the option **Planning type** is set to **Weekly**.

Parameter	Description	Values
Preferred days	Defines the preferred weekday for the execution of the test.	Monday l Tuesday l Wednesday l Thursday l Friday l Saturday l Sunday

Preferred day for execution

This section only appears when the option **Planning type** is set to **Monthly**.

Parameter	Description	Values
Preferred day for execution	Defines the preferred day for execution of the test.	None* l Monday l Tuesday l Wednesday l Thursday l Friday l Saturday l Sunday
Occurrence of day	Defines the occurrence of a given day of week within a month.	First* l Second l Third l Fourth

* Factory setting

See also

- 📄 Creating an own new test ▶ Page 55
- 📄 Defining a test weight ▶ Page 56

6.4 Adjustments settings

1. Strategy

Parameter	Description	Values
Strategy	Defines the adjustment method. When the options **No adjustment** or **External adjustment** are activated other options are not available.	Internal adjustment* l External adjustment l No adjustment
Automatic print	When activated adjustment results are immediately printed after the result has been calculated on the enabled strip printer.	Active l Inactive*

* Factory setting

2. Specification

Parameter	Description	Values
'As found' test	At the start of the adjustment sequence, an internal test (sensitivity) is performed to ascertain the current status. The input test has automatically started when the adjustment sequence is activated and the result is displayed and recorded.	Active l Inactive*

'As left' test	When the adjustment is complete, an internal test (sensitivity) is performed.	Active	Inactive*

📝 Note

This settings only appear when one of the options **'As found' test** or **'As left' test** is activated.

Parameter	Description	Values
Control limit	Defines the control limit. The control limit is the error tolerance of a process with respect to its set value. Exceeding the control limit is a violation of quality requirements and therefore requires a correction of the process. Result if the control limit is exceeded: The adjustment failed, the balance is out of specification.	Numeric	0.1 %* (0.001 ... 100%)
Warning limit	Defines the warning limit. The warning limit is an upper or lower limit, which if exceeded or not reached, makes more stringent process monitoring necessary. The warning limit has to be smaller than the control limit. Result if the warning limit is exceeded: The adjustment is passed, but the difference is higher than expected.	Numeric (0.001...100%)

* Factory setting

3. Error management

Parameter	Description	Values
Block balance	Defines the behavior of the balance if the adjustment has failed. **Active**: The balance will be blocked after the adjustment has failed. In this case, the balance can not be used anymore until a user with the appropriate right unblocks the balance. **Inactive**: The balance will not be blocked.	Active	Inactive*

* Factory setting

4. Planning

Parameter	Description	Values
Start after leveling	Defines if the internal adjustment starts after leveling.	Active	Inactive*
Start after temperature change	Defines if the internal adjustment starts automatically after a temperature change of 1°C.	Active	Inactive*
Schedule	Defines when the adjustment is being performed. It is possible to define several start times (1-3) per day. It can also be defined on what day/s the adjustment is being performed.	Inactive	1 start time	2 start times*	3 start times
Start time 1	Defines the start time for execution of the task.	Time
Start time 2	Defines the start time for second execution of the task..	Time
Preferred days	Defines the days for the scheduled adjustments. This section only appears with a defined start time.	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

* Factory setting

See also

📄 Defining a test weight ▶ Page 56

📄 Editing an internal adjustment ▶ Page 62

📄 Editing an external adjustment ▶ Page 62

7 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.

7.1 Maintenance tasks

Maintenance action	Recommended interval	Remarks
Performing an internal adjustment	• Daily • After cleaning • After leveling • After changing the location	see "Adjustments"
Performing routine tests (eccentricity test, repeatability test, sensitivity test). METTLER TOLEDO recommends to at least perform a sensitivity test.	• After cleaning • After assembling the balance • After a software update • Depending on your internal regulations (SOP)	see "Tests"
Cleaning	• After every use • After changing the substance • Depending on the degree of pollution • Depending on your internal regulations (SOP)	see "Cleaning"
Updating the software	• Depending on your internal regulations (SOP). • After a new software release.	see "Software update"

See also

7.2 Cleaning

7.2.1 Disassembling the Pro draft shield for cleaning
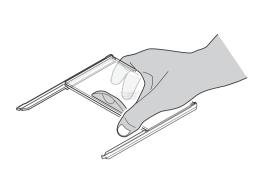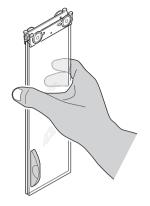
⚠ **CAUTION**

Injury due to sharp objects or broken glass
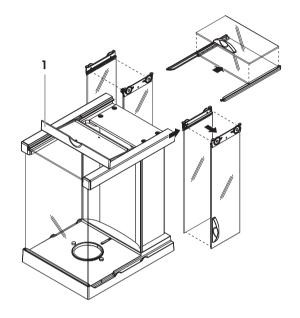
Instrument components, e.g., glass, can break and lead to injuries.

– Always proceed with focus and care.

1 Remove the weighing pan and/or SmartPan weighing pan.
2 Lift the Pro draft shield off the weighing platform and place it on a clean surface.
3 Remove the DripTray.
4 Turn the cover (1) to the front.
5 Pull the top glass back and out of the housing.
6 Pull the side glasses back out of the housing.

⇨ The Pro draft shield is ready for cleaning.

7.2.2 Cleaning agents

In the following table, cleaning tool and cleaning agents recommended by METTLER TOLEDO are listed. Pay attention to the concentration of the agents specified in the table.

		Tools			Cleaning agents						
		Paper tissue	Brush	Dishwasher	Water	Acetone	Ethanol (70%)	Isopropanol (70%)	Hydrochloric acid (3-10%)	Sodium hydroxide (0.2-1.0 M)	Peracetic acid (2-3%)
Around the balance	Balance housing	✓	R	—	R	—	R	✓	R	R	R
	Feet	✓	R	—	R	—	R	✓	R	R	R
Balance terminal	Terminal	✓	R	—	✓	PR	R	R	R	R	R
	Display	✓	—	—	✓	PR	R	R	R	R	R
	Terminal cover	✓	R	—	✓	—	R	R	R	PR	PR

		Paper tissue	Brush	Dishwasher	Water	Acetone	Ethanol (70%)	Isopropanol (70%)	Hydrochloric acid (3-10%)	Sodium hydroxide (0.2-1.0 M)	Peracetic acid (2-3%)
Balance draft shield	Glass panels	✓	R	R	R	PR	✓	✓	R	R	R
	Glass-free panels	✓	R	—	R	—	✓	✓	R	R	R
	Non-removable handles and frames	✓	R	—	R	PR	✓	✓	R	R	R
Weighing area	Weighing pan	R	R	✓	R	R	✓	✓	R	R	R
	Drip tray	R	R	✓	R	R	✓	✓	—	—	R

Legend

✓ Best recommendation by METTLER TOLEDO; can be used without limitation.

R Recommended by METTLER TOLEDO; can be used without limitation.

PR Partially recommended by METTLER TOLEDO: individual resistance to acid and alkali must be evaluated, including dependence to the time exposure.

— Not recommend. High risk for damage.

7.2.3 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 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%.

📝 Note

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

7.2.4　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 to perform a sensitivity test after cleaning the balance.

9　Press →0← to zero the balance.

⇨　The balance is ready to be used.

See also

▤　Leveling the balance ▸ Page 36

▤　Performing an internal adjustment ▸ Page 37

▤　Performing a sensitivity test ▸ Page 59

▤　Technical Data ▸ Page 148

7.3　Software update

Search for software downloads　　　　　　　　　　▶ www.mt.com/labweighing-software-download

Please contact a METTLER TOLEDO service representative if you need support updating the software.

METTLER TOLEDO recommends saving the data on a storage device before updating the software.

Navigation: ▸ Balance menu > 🗄 Maintenance > ⚖ Software update

See also

▤　Exporting data and settings ▸ Page 67

7.3.1　Updating the software

▪　A USB storage device containing the software installer (zip file format) is connected to the balance.

1　Tap ▸ **Balance menu > 🗄 Maintenance > ⚖ Software update**

2　Select **Update software** and tap →**Next**.

⇨　An update wizard opens and will lead you step-by-step through the procedure.

7.3.2　Restoring the software to the previous version

The current software version can be rolled back to the previous software version.

1　Tap ▸ **Balance menu > 🗄 Maintenance > ⚖ Software update**

2   Select **Restore the software to the previous version.** and tap → **Next**
   ⇨   An update wizard opens and will lead you step-by-step through the procedure.

7.3.3 Putting into operation after software update

1   Press ⏻ to switch on the balance.
2   Check the level status, level the balance if necessary.
3   Perform an internal adjustment.
4   Perform a routine test according to the internal regulations of your company.
5   Press →0← to zero the balance.
⇨   The balance is ready to be used.

See also

▤   Leveling the balance ▸ Page 36
▤   Performing an internal adjustment ▸ Page 37

8 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.

8.1 Error messages

Error message	Possible cause	Diagnostic	Remedy
Balance reset failed	Communication failure	–	Disconnect the power cable and reconnect after a few seconds.
The system has no valid date and time set	Low battery	–	Connect to the power outlet and let the battery charge for two to three days.
Weight cannot be determined	Data signal problems of electronics.	–	Disconnect the power cable and reconnect after a few seconds.
	Bad connection between the terminal and the weighing unit.	Check the cable for damage (kinked, twisted or broken pins).	Replace the terminal cable.
Cannot start adjustment	Initial zero was not reached when the balance was switched on.	–	Disconnect the power cable and reconnect after a few seconds.
Preventive performance optimization	The balance memory (RAM) is too ful.	–	Complete the current task. Disconnect the power cable and reconnect after a few seconds.

8.2 Error symptoms

Error symptom	Possible cause	Diagnostic	Remedy
The display is dark.	The instrument is on standby.	–	Switch on the instrument.
	There is no power	Check the connection to the AC/DC adapter and the power outlet.	Connect the weighing unit to the power outlet. See "Connecting the balance"
	The terminal is not connected to the instrument.	Check the terminal cable connection.	Connect the terminal cable to the instrument.
	The terminal cable is defective.	Check the cable for damage (kinked, twisted or broken pins).	Replace the terminal cable.
	The wrong AC/DC adapter is connected to the instrument.	Check it, see "Technical Data".	Use the correct AC/DC adapter.
	The AC/DC adapter is defective.	The LED on the AC/DC adapter does not turn on.	Replace the AC/DC adapter.
The value on the display oscillates.	Vibrations on the weighing bench, e.g., building vibrations, foot traffic	Place a beaker with water on the weighing bench. Vibrations cause ripples on the water surface.	Protect the weighing location against vibrations, e.g. with an absorber. Find a different weighing location.

Error symptom	Possible cause	Diagnostic	Remedy
The value on the display oscillates.	Draft due to untight draft shield and/or open window.	Check the draft shield for gaps.	Fix the draft shield. Close the window.
	The weighing sample is electrostatically charged.	Check if the weighing result is stable when using a test weight.	Increase the air humidity in the weighing chamber. Use an ionizer. See "Accessories".
	The location is not suitable for weighing.	–	Follow the requirements for the location. See "Selecting the location".
	Something is touching the weighing pan.	Check for touching parts or dirt.	Remove touching parts. Clean the balance.
The value on the display is drifting towards plus or minus.	The weighing sample absorbs moisture or evaporates moisture.	Check if the weighing result is stable when using a test weight.	Cover the weighing sample.
	The weighing sample is electrostatically charged.	Check if the weighing result is stable when using a test weight.	Increase the air humidity in the weighing chamber. Use an ionizer. See "Accessories".
	The weighing sample is warmer or colder than the air in the weighing chamber.	Check if the weighing result is stable when using an acclimatized test weight.	Bring the sample to room temperature.
	The balance has not yet warmed up.	–	Let the balance warm up. Adequate warm up time is specified in the "General data".
The display shows overload or underload.	The wrong weighing pan is installed.	Slightly lift or press the weighing pan to see if the weight appears on the display.	Install the proper weighing pan.
	No weighing pan is installed.	–	Install the proper weighing pan.
	Incorrect zero point at power on.	–	Disconnect the power cable and reconnect after a few seconds.
	The balance is not adjusted.	–	Perform a internal adjustment. See "Internal adjustment".
The draft shield front panel is not exactly 90° from the weighing platform	The draft shield front panel is not perfectly adjusted.	–	Contact METTLER TOLEDO representative to adjust the front panel.
The draft shield side doors are not exactly closed.	The draft shield side doors are not perfectly adjusted.	–	Contact METTLER TOLEDO representative to adjust the side doors.
The user interface responds slowly.	Too many results are included in the **Protocol** of a task.	Check the **Protocol** of every running and pending task.	Complete all tasks: For each task in the list of **Tasks**, select the task, tap **Continue task**, and tap **Complete**.

8.3 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.

9 Technical Data

9.1 General data

Power supply

AC/DC adapter:	Primary: 100 – 240 V~, 50/60 Hz
	Secondary: 12 V DC, 5 A , LPS, SELV
Cable for AC/DC adapter:	3-core, with country-specific plug
Balance power consumption:	12 V DC ± 10%, 2.25 A
Polarity:	⊖—(●)—⊕

Protection and standards

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

Environmental conditions

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

Height above mean sea level:	Up to 5000 m
Ambient temperature:	+10 – +30 °C
Temperature change, max.:	5 °C/h
Relative air humidity:	30 – 70%, non-condensing
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 – +40 °C
Relative air humidity:	20% to max. 80% at 31 °C, decreasing linearly to 50% at 40 °C, non-condensing

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

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

Environmental conditions for comparators

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

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.
Air speed, max.:	0.15 m/s
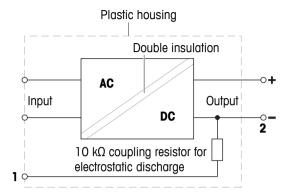
9.2 Explanatory notes for the METTLER TOLEDO AC/DC adapter

The certified external AC/DC adapter complies to the requirements for Class II double insulated equipment. It is not provided with a protective earth connection but with a functional earth connection for EMC purposes. This earth connection **is not** a safety feature. Further information about the compliance of our products can be found in the "Declaration of Conformity" delivered with every product.

In case of testing with regard to the European Directive 2001/95/EC, the AC/DC adapter and the instrument have to be handled as Class II double insulated equipment.

Consequently, a grounding test is not required. It is not necessary to carry out a grounding test between the earth connector of the power plug and any exposed part of the metallic housing of the instrument.

Because the instrument is sensitive to static charges, a leakage resistor of 10 kΩ is connected between the earth connector (**1**) and the negative pole (**2**) of the AC/DC adapter. The arrangement is shown in the equivalent circuit diagram. This resistor is not part of the electrical safety arrangement and does not require testing at regular intervals.

9.3 Model-specific data

9.3.1 Balances with S weighing platform

9.3.1.1 Readability 0.1 mg, with Pro draft shield

	XPR204S	XPR404S
Limit values		
Capacity	210 g	410 g
Nominal load	200 g	400 g
Readability	0.1 mg	0.1 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	0.2 mg	0.1 mg
Repeatability in fine range	-	-
Linearity deviation	0.2 mg	0.2 mg
Eccentricity deviation (at test load)	0.3 mg (100 g)	0.3 mg (200 g)
Sensitivity offset (at nominal load) [1]	0.6 mg	2 mg
Sensitivity temperature drift	0.0001%/°C	0.00015%/°C
Typical values		
Repeatability	0.12 mg	0.06 mg
Repeatability in fine range	-	-
Linearity deviation	0.06 mg	0.06 mg
Eccentricity deviation (at test load)	0.1 mg (100 g)	0.1 mg (200 g)
Sensitivity offset (at nominal load) [1]	0.4 mg	0.48 mg
Minimum weight (USP, tolerance = 0.10%) [2]	240 mg	120 mg
Minimum weight (tolerance = 1%) [2]	24 mg	12 mg
Settling time	2 s	2 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	214×411×368 mm	214×411×368 mm
Weighing pan dimensions (W×D)	68×68 mm	68×68 mm
Usable height of draft shield	245 mm	245 mm
Balance weight	7.8 kg	7.8 kg
Weights for routine testing		
Weights (OIML class)	10 g (F2)/ 200 g (F2)	20 g (F2)/ 200 g (F2)
Weights (ASTM class)	10 g (ASTM 1)/ 200 g (ASTM 1)	20 g (ASTM 1)/ 200 g (ASTM 1)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

	XPR504S	XPR504SDR
Limit values		
Capacity	510 g	510 g
Nominal load	500 g	500 g
Readability	0.1 mg	1 mg
Capacity of fine range	-	101 g
Readability in fine range	-	0.1 mg
Repeatability	0.1 mg	0.5 mg
Repeatability in fine range	-	0.1 mg
Linearity deviation	0.3 mg	0.4 mg
Eccentricity deviation (at test load)	0.4 mg (200 g)	1 mg (200 g)
Sensitivity offset (at nominal load) [1]	2 mg	2.5 mg
Sensitivity temperature drift	0.00015%/°C	0.0002%/°C
Typical values		
Repeatability	0.07 mg	0.4 mg
Repeatability in fine range	-	0.08 mg
Linearity deviation	0.2 mg	0.2 mg
Eccentricity deviation (at test load)	0.1 mg (200 g)	0.8 mg (200 g)
Sensitivity offset (at nominal load) [1]	0.3 mg	0.3 mg
Minimum weight (USP, tolerance = 0.10%) [2]	140 mg	820 mg
Minimum weight (tolerance = 1%) [2]	14 mg	82 mg
Settling time	2 s	1.5 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	214×411×368 mm	214×411×368 mm
Weighing pan dimensions (W×D)	68×68 mm	68×68 mm
Usable height of draft shield	245 mm	245 mm
Balance weight	7.8 kg	7.8 kg
Weights for routine testing		
Weights (OIML class)	10 g (F2)/ 200 g (F2)	20 g (F2)/ 200 g (F2)
Weights (ASTM class)	10 g (ASTM 1)/ 200 g (ASTM 1)	20 g (ASTM 1)/ 200 g (ASTM 1)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

9.3.1.2 Readability 1 mg, with Pro draft shield and SmartPan weighing pan

	XPR303S	XPR603S	XPR603SDR
Limit values			
Capacity	310 g	610 g	610 g
Nominal load	300 g	600 g	600 g
Readability	1 mg	1 mg	10 mg
Capacity of fine range	-	-	120 g
Readability in fine range	-	-	1 mg
Repeatability	0.9 mg	0.9 mg	6 mg
Repeatability in fine range	-	-	1 mg
Linearity deviation	2 mg	2 mg	6 mg
Eccentricity deviation (at test load)	3 mg (100 g)	3 mg (200 g)	5 mg (200 g)
Sensitivity offset (at nominal load) [1]	6 mg	4.5 mg	6 mg
Sensitivity temperature drift	0.0005%/°C	0.0002%/°C	0.0002%/°C
Typical values			
Repeatability	0.5 mg	0.5 mg	4 mg
Repeatability in fine range	-	-	0.8 mg
Linearity deviation	0.6 mg	0.6 mg	1.5 mg
Eccentricity deviation (at test load)	1 mg (100 g)	1 mg (200 g)	1.5 mg (200 g)
Sensitivity offset (at nominal load) [1]	1.2 mg	1.2 mg	6 mg
Minimum weight (USP, tolerance = 0.10%) [2]	1 g	1 g	8.2 g
Minimum weight (tolerance = 1%) [2]	100 mg	100 mg	820 mg
Settling time	1.5 s	1.5 s	1.5 s
Dimensions & other specifications			
Balance dimensions (W×D×H)	214×411×368 mm	214×411×368 mm	214×411×368 mm
Weighing pan dimensions (W×D)	127×127 mm	127×127 mm	127×127 mm
Usable height of draft shield	245 mm	245 mm	245 mm
Balance weight	8.4 kg	8.4 kg	8.4 kg
Weights for routine testing			
Weights (OIML class)	10 g (F2)/ 200 g (F2)	20 g (F2)/ 500 g (F2)	20 g (F2)/ 500 g (F2)
Weights (ASTM class)	10 g (ASTM 1)/ 200 g (ASTM 1)	20 g (ASTM 1)/ 500 g (ASTM 1)	20 g (ASTM 1)/ 500 g (ASTM 1)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

	XPR1203S	XPR3003S	XPR5003S
Limit values			
Capacity	1210 g	3.1 kg	5.1 kg
Nominal load	1200 g	3 kg	5 kg
Readability	1 mg	1 mg	1 mg
Capacity of fine range	-	-	-
Readability in fine range	-	-	-
Repeatability	0.8 mg	1 mg	1.5 mg
Repeatability in fine range	-	-	-
Linearity deviation	2 mg	6 mg	6 mg
Eccentricity deviation (at test load)	3 mg (500 g)	10 mg (1000 g)	10 mg (2 kg)
Sensitivity offset (at nominal load) [1]	6 mg	9 mg	12.5 mg
Sensitivity temperature drift	0.0002%/°C	0.0003%/°C	0.0003%/°C
Typical values			
Repeatability	0.4 mg	0.6 mg	1 mg
Repeatability in fine range	-	-	-
Linearity deviation	0.6 mg	2 mg	2 mg
Eccentricity deviation (at test load)	1 mg (500 g)	3 mg (1000 g)	3 mg (2 kg)
Sensitivity offset (at nominal load) [1]	1.5 mg	1.8 mg	3 mg
Minimum weight (USP, tolerance = 0.10%) [2]	820 mg	1.2 g	2 g
Minimum weight (tolerance = 1%) [2]	82 mg	120 mg	200 mg
Settling time	1.5 s	2 s	2 s
Dimensions & other specifications			
Balance dimensions (W×D×H)	214×411×368 mm	214×411×368 mm	214×411×368 mm
Weighing pan dimensions (W×D)	127×127 mm	127×127 mm	127×127 mm
Usable height of draft shield	245 mm	245 mm	245 mm
Balance weight	8.4 kg	8.4 kg	8.5 kg
Weights for routine testing			
Weights (OIML class)	50 g (F2)/ 1000 g (F2)	100 g (F2)/ 2000 g (F2)	200 g (F2)/ 5000 g (F2)
Weights (ASTM class)	50 g (ASTM 1)/ 1000 g (ASTM 1)	100 g (ASTM 1)/ 2000 g (ASTM 1)	200 g (ASTM 4)/ 5000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

9.3.1.3 Readability 1 mg, with SmartPan weighing pan

	XPR303SN	XPR603SN	XPR603SNDR
Limit values			
Capacity	310 g	610 g	610 g
Nominal load	300 g	600 g	600 g
Readability	1 mg	1 mg	10 mg
Capacity of fine range	-	-	120 g
Readability in fine range	-	-	1 mg
Repeatability	0.9 mg	0.9 mg	6 mg
Repeatability in fine range	-	-	1 mg
Linearity deviation	2 mg	2 mg	6 mg
Eccentricity deviation (at test load)	3 mg (100 g)	3 mg (200 g)	5 mg (200 g)
Sensitivity offset (at nominal load) [1]	6 mg	4.5 mg	6 mg
Sensitivity temperature drift	0.0005%/°C	0.0002%/°C	0.0002%/°C
Typical values			
Repeatability	0.5 mg	0.5 mg	4 mg
Repeatability in fine range	-	-	0.8 mg
Linearity deviation	0.6 mg	0.6 mg	1.5 mg
Eccentricity deviation (at test load)	1 mg (100 g)	1 mg (200 g)	0.8 mg (200 g)
Sensitivity offset (at nominal load) [1]	1.2 mg	1.2 mg	6 mg
Minimum weight (USP, tolerance = 0.10%) [2]	1 g	1 g	8.2 g
Minimum weight (tolerance = 1%) [2]	100 mg	100 mg	820 mg
Settling time	1.5 s	1.5 s	1.5 s
Dimensions & other specifications			
Balance dimensions (W×D×H)	194×411×102 mm	194×411×102 mm	194×411×102 mm
Weighing pan dimensions (W×D)	129×129 mm	129×129 mm	129×129 mm
Usable height of draft shield	-	-	-
Balance weight	5.7 kg	5.7 kg	5.7 kg
Weights for routine testing			
Weights (OIML class)	10 g (F2)/ 200 g (F2)	20 g (F2)/ 500 g (F2)	20 g (F2)/ 500 g (F2)
Weights (ASTM class)	10 g (ASTM 1)/ 200 g (ASTM 1)	20 g (ASTM 1)/ 500 g (ASTM 1)	20 g (ASTM 1)/ 500 g (ASTM 1)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

9.3.1.4 Readability 5 mg, with SmartPan weighing pan

	XPR3003SD5	XPR6003SD5
Limit values		
Capacity	3.1 kg	6.1 kg
Nominal load	3 kg	5 kg
Readability	5 mg	5 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	6 mg	6 mg
Repeatability in fine range	-	-
Linearity deviation	6 mg	7 mg
Eccentricity deviation (at test load)	20 mg (1000 g)	30 mg (2 kg)
Sensitivity offset (at nominal load) [1]	18 mg	21 mg
Sensitivity temperature drift	0.0003%/°C	0.0003%/°C
Typical values		
Repeatability	3 mg	3 mg
Repeatability in fine range	-	-
Linearity deviation	2 mg	2 mg
Eccentricity deviation (at test load)	5 mg (1000 g)	10 mg (2 kg)
Sensitivity offset (at nominal load) [1]	4 mg	5 mg
Minimum weight (USP, tolerance = 0.10%) [2]	6 g	6 g
Minimum weight (tolerance = 1%) [2]	600 mg	600 mg
Settling time	2 s	2 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	194×411×102 mm	194×411×102 mm
Weighing pan dimensions (W×D)	172×205 mm	172×205 mm
Usable height of draft shield	-	-
Balance weight	7.6 kg	7.6 kg
Weights for routine testing		
Weights (OIML class)	100 g (F2)/ 2000 g (F2)	200 g (F2)/ 5000 g (F2)
Weights (ASTM class)	100 g (ASTM 1)/ 2000 g (ASTM 1)	200 g (ASTM 4)/ 5000 g (ASTM 4)

[1] after adjustment with internal weight

[2] determined at 5% load, k = 2

9.3.1.5 Readability 10 mg, with SmartPan weighing pan

	XPR1202S	XPR2002S	XPR4002S
Limit values			
Capacity	1210 g	2.1 kg	4.1 kg
Nominal load	1200 g	2 kg	4 kg
Readability	10 mg	10 mg	10 mg
Capacity of fine range	-	-	-
Readability in fine range	-	-	-
Repeatability	8 mg	8 mg	8 mg
Repeatability in fine range	-	-	-
Linearity deviation	20 mg	20 mg	20 mg
Eccentricity deviation (at test load)	20 mg (500 g)	30 mg (1 kg)	30 mg (2 kg)
Sensitivity offset (at nominal load) [1]	60 mg	60 mg	60 mg
Sensitivity temperature drift	0.0003%/°C	0.0003%/°C	0.0003%/°C
Typical values			
Repeatability	4 mg	4 mg	4 mg
Repeatability in fine range	-	-	-
Linearity deviation	6 mg	6 mg	6 mg
Eccentricity deviation (at test load)	6 mg (500 g)	10 mg (1 kg)	10 mg (2 kg)
Sensitivity offset (at nominal load) [1]	12 mg	25 mg	16 mg
Minimum weight (USP, tolerance = 0.10%) [2]	8.2 g	8.2 g	8.2 g
Minimum weight (tolerance = 1%) [2]	820 mg	820 mg	820 mg
Settling time	1.2 s	1.2 s	1.2 s
Dimensions & other specifications			
Balance dimensions (W×D×H)	194×411×102 mm	194×411×102 mm	194×411×102 mm
Weighing pan dimensions (W×D)	172×205 mm	172×205 mm	172×205 mm
Usable height of draft shield	-	-	-
Balance weight	8.2 kg	8.2 kg	8.2 kg
Weights for routine testing			
Weights (OIML class)	50 g (F2)/ 1000 g (F2)	100 g (F2)/ 2000 g (F2)	200 g (F2)/ 2000 g (F2)
Weights (ASTM class)	50 g (ASTM 1)/ 1000 g (ASTM 1)	100 g (ASTM 1)/ 2000 g (ASTM 1)	200 g (ASTM 4)/ 2000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

	XPR6002S	XPR6002SDR
Limit values		
Capacity	6.1 kg	6.1 kg
Nominal load	6 kg	6 kg
Readability	10 mg	100 mg
Capacity of fine range	-	1200 g
Readability in fine range	-	10 mg
Repeatability	8 mg	60 mg
Repeatability in fine range	-	8 mg
Linearity deviation	20 mg	60 mg
Eccentricity deviation (at test load)	30 mg (2 kg)	100 mg (2 kg)
Sensitivity offset (at nominal load) [1]	60 mg	150 mg
Sensitivity temperature drift	0.0003%/°C	0.0003%/°C
Typical values		
Repeatability	4 mg	40 mg
Repeatability in fine range	-	5 mg
Repeatability (at 5% load)	-	-
Linearity deviation	6 mg	20 mg
Eccentricity deviation (at test load)	10 mg (2 kg)	30 mg (2 kg)
Sensitivity offset (at nominal load) [1]	12 mg	30 mg
Minimum weight (USP, tolerance = 0.10%) [2]	8.2 g	82 g
Minimum weight (tolerance = 1%) [2]	820 mg	8.2 g
Settling time	1.2 s	1.2 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	194×411×102 mm	194×411×102 mm
Weighing pan dimensions (W×D)	172×205 mm	172×205 mm
Usable height of draft shield	-	-
Balance weight	8.2 kg	8.2 kg
Weights for routine testing		
Weights (OIML class)	200 g (F2)/ 5000 g (F2)	200 g (F2)/ 5000 g (F2)
Weights (ASTM class)	200 g (ASTM 4)/ 5000 g (ASTM 4)	200 g (ASTM 4)/ 5000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

	XPR8002S	XPR10002S
Limit values		
Capacity	8.1 kg	10.1 kg
Nominal load	8 kg	10 kg
Readability	10 mg	10 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	8 mg	8 mg
Repeatability in fine range	-	-
Linearity deviation	20 mg	20 mg
Eccentricity deviation (at test load)	40 mg (5 kg)	40 mg (5 kg)
Sensitivity offset (at nominal load) [1]	60 mg	50 mg
Sensitivity temperature drift	0.00025%/°C	0.00025%/°C
Typical values		
Repeatability	4 mg	4 mg
Repeatability in fine range	-	-
Linearity deviation	6 mg	6 mg
Eccentricity deviation (at test load)	12 mg (5 kg)	12 mg (5 kg)
Sensitivity offset (at nominal load) [1]	12 mg	12 mg
Minimum weight (USP, tolerance = 0.10%) [2]	8.2 g	8.2 g
Minimum weight (tolerance = 1%) [2]	820 mg	820 mg
Settling time	1.5 s	1.5 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	194×411×102 mm	194×411×102 mm
Weighing pan dimensions (W×D)	172×205 mm	172×205 mm
Usable height of draft shield	-	-
Balance weight	7.7 kg	7.7 kg
Weights for routine testing		
Weights (OIML class)	200 g (F2)/ 5000 g (F2)	500 g (F2)/ 10000 g (F2)
Weights (ASTM class)	200 g (ASTM 4)/ 5000 g (ASTM 4)	500 g (ASTM 4)/ 10000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

9.3.1.6 Readability 100 mg

	XPR4001S	XPR6001S
Limit values		
Capacity	4.1 kg	6.1 kg
Nominal load	4 kg	6 kg
Readability	100 mg	100 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	80 mg	80 mg
Repeatability in fine range	-	-
Linearity deviation	60 mg	60 mg
Eccentricity deviation (at test load)	200 mg (2 kg)	200 mg (2 kg)
Sensitivity offset (at nominal load) [1]	240 mg	240 mg
Sensitivity temperature drift	0.0015%/°C	0.0015%/°C
Typical values		
Repeatability	40 mg	40 mg
Repeatability in fine range	-	-
Linearity deviation	20 mg	20 mg
Eccentricity deviation (at test load)	60 mg (2 kg)	60 mg (2 kg)
Sensitivity offset (at nominal load) [1]	50 mg	50 mg
Minimum weight (USP, tolerance = 0.10%) [2]	82 g	82 g
Minimum weight (tolerance = 1%) [2]	8.2 g	8.2 g
Settling time	0.8 s	0.8 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	194×411×100 mm	194×411×100 mm
Weighing pan dimensions (W×D)	194×223 mm	194×223 mm
Usable height of draft shield	-	-
Balance weight	6.6 kg	6.6 kg
Weights for routine testing		
Weights (OIML class)	200 g (F2)/ 2000 g (F2)	200 g (F2)/ 5000 g (F2)
Weights (ASTM class)	200 g (ASTM 4)/ 2000 g (ASTM 4)	200 g (ASTM 4)/ 5000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

	XPR8001S	XPR10001S
Limit values		
Capacity	8.1 kg	10.1 kg
Nominal load	8 kg	10 kg
Readability	100 mg	100 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	80 mg	80 mg
Repeatability in fine range	-	-
Linearity deviation	100 mg	100 mg
Eccentricity deviation (at test load)	200 mg (5 kg)	200 mg (5 kg)
Sensitivity offset (at nominal load) [1]	600 mg	500 mg
Sensitivity temperature drift	0.0015%/°C	0.0015%/°C
Typical values		
Repeatability	40 mg	40 mg
Repeatability in fine range	-	-
Linearity deviation	30 mg	30 mg
Eccentricity deviation (at test load)	60 mg (5 kg)	60 mg (5 kg)
Sensitivity offset (at nominal load) [1]	120 mg	120 mg
Minimum weight (USP, tolerance = 0.10%) [2]	82 g	82 g
Minimum weight (tolerance = 1%) [2]	8.2 g	8.2 g
Settling time	1 s	1 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	194×411×100 mm	194×411×100 mm
Weighing pan dimensions (W×D)	194×223 mm	194×223 mm
Usable height of draft shield	-	-
Balance weight	6.6 kg	6.6 kg
Weights for routine testing		
Weights (OIML class)	200 g (F2)/ 5000 g (F2)	500 g (F2)/ 10000 g (F2)
Weights (ASTM class)	200 g (ASTM 4)/ 5000 g (ASTM 4)	500 g (ASTM 4)/ 10000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

9.3.2 Comparators with S weighing platform

9.3.2.1 Redability 0.1 mg, with Pro draft shield

	XPR2004SC	XPR5004SC
Limit values		
Capacity	2.3 kg	5.1 kg
Nominal load	2 kg	5 kg
Readability	0.1 mg	0.1 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	0.6 mg	1.5 mg
Repeatability in fine range	-	-
Repeatability ABA (5 cycles at nominal load)	0.25 mg	0.5 mg
Repeatability ABA (5 cycles at 5% load)	0.1 mg	0.3 mg
Linearity deviation	1 mg	3 mg
Eccentricity deviation (at test load)	2 mg (1000 g)	10 mg (2 kg)
Eccentricity deviation with LevelMatic or hanging pan (at test load)	0 mg (1000 g)	0 mg (2 kg)
Sensitivity offset (at nominal load) [1]	10 mg	12.5 mg
Sensitivity temperature drift	0.0003%/°C	0.0003%/°C
Typical values		
Repeatability	0.3 mg	1 mg
Repeatability in fine range	-	-
Repeatability ABA (5 cycles at nominal load)	0.15 mg	0.4 mg
Repeatability ABA (5 cycles at 5% load)	0.1 mg	0.3 mg
Linearity deviation	0.5 mg	1.8 mg
Eccentricity deviation (at test load)	0 mg (1000 g)	0 mg (2 kg)
Sensitivity offset (at nominal load) [1]	6.8 mg	3 mg
Minimum weight (USP, tolerance = 0.10%) [2]	600 mg	2 g
Minimum weight (tolerance = 1%) [2]	60 mg	200 mg
Settling time	3.5 s	10 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	214×411×368 mm	214×411×368 mm
Weighing pan dimensions (W×D)	ø 126 mm	ø 126 mm
Usable height of draft shield	235 mm	235 mm
Balance weight	8.6 kg	8.7 kg
Weights for routine testing		
Weights (OIML class)	100 g (F2)/ 2000 g (F2)	200 g (F2)/ 5000 g (F2)
Weights (ASTM class)	100 g (ASTM 1)/ 2000 g (ASTM 1)	200 g (ASTM 4)/ 5000 g (ASTM 4)

[1]   after adjustment with internal weight

[2] determined at 5% load, k = 2

9.3.2.2 Readability 1 mg

	XPR2003SC	XPR5003SC	XPR10003SC
Limit values			
Capacity	2.3 kg	5.1 kg	10.1 kg
Nominal load	2 kg	5 kg	10 kg
Readability	1 mg	1 mg	1 mg
Capacity of fine range	-	-	-
Readability in fine range	-	-	-
Repeatability	1 mg	2 mg	3.5 mg
Repeatability in fine range	-	-	-
Repeatability ABA (5 cycles at nominal load)	0.8 mg	0.8 mg	1.5 mg
Repeatability ABA (5 cycles at 5% load)	0.6 mg	0.7 mg	1.2 mg
Linearity deviation	2 mg	3 mg	7 mg
Eccentricity deviation (at test load)	4 mg (1000 g)	10 mg (2 kg)	20 mg (5 kg)
Eccentricity deviation with LevelMatic or hanging pan (at test load)	0 g (1000 g)	0 mg (2 kg)	0 mg (5 kg)
Sensitivity offset (at nominal load) [1]	10 mg	12.5 mg	50 mg
Sensitivity temperature drift	0.0003%/°C	0.0003%/°C	0.00025%/°C
Typical values			
Repeatability	0.6 mg	1 mg	2 mg
Repeatability in fine range	-	-	-
Repeatability ABA (5 cycles at nominal load)	0.5 mg	0.5 mg	0.8 mg
Repeatability ABA (5 cycles at 5% load)	0.6 mg	0.7 mg	1.2 mg
Linearity deviation	0.7 mg	1.8 mg	3.2 mg
Eccentricity deviation (at test load)	2.6 mg (1000 g)	0 mg (2 kg)	0 mg (5 kg)
Sensitivity offset (at nominal load) [1]	6.8 mg	3 mg	34 mg
Minimum weight (USP, tolerance = 0.10%) [2]	1.2 g	2 g	4 g
Minimum weight (tolerance = 1%) [2]	120 mg	200 mg	400 mg
Settling time	3.5 s	3.5 s	3.5 s
Dimensions & other specifications			
Balance dimensions (W×D×H)	214×411×368 mm	214×411×368 mm	214×411×368 mm
Weighing pan dimensions (W×D)	68×68 mm	ø 126 mm	ø 126 mm
Usable height of draft shield	245 mm	235 mm	-
Balance weight	8.7 kg	8.7 kg	5.7 kg
Weights for routine testing			
Weights (OIML class)	10 g (F2)/ 200 g (F2)	20 g (F2)/ 500 g (F2)	20 g (F2)/ 500 g (F2)
Weights (ASTM class)	10 g (ASTM 1)/ 200 g (ASTM 1)	20 g (ASTM 1)/ 500 g (ASTM 1)	20 g (ASTM 1)/ 500 g (ASTM 1)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

9.3.3 Balances with L weighing platform

9.3.3.1 Readability 10 mg, with SmartPan weighing pan

	XPR15002L	XPR20002LDR
Limit values		
Capacity	15.1 kg	20.1 kg
Nominal load	15 kg	20 kg
Readability	10 mg	100 mg
Capacity of fine range	-	4.2 kg
Readability in fine range	-	10 mg
Repeatability	15 mg	80 mg
Repeatability in fine range	-	30 mg
Linearity deviation	20 mg	60 mg
Eccentricity deviation (at test load)	80 mg (5 kg)	120 mg (10 kg)
Sensitivity offset (at nominal load) [1]	60 mg	100 mg
Sensitivity temperature drift	0.0015%/°C	0.0015%/°C
Typical values		
Repeatability	10 mg	60 mg
Repeatability in fine range	-	18 mg
Linearity deviation	6 mg	20 mg
Eccentricity deviation (at test load)	25 mg (5 kg)	40 mg (10 kg)
Sensitivity offset (at nominal load) [1]	12 mg	25 mg
Minimum weight (USP, tolerance = 0.10%) [2]	20 g	120 g
Minimum weight (tolerance = 1%) [2]	2 g	12 g
Settling time	1.5 s	1.5 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	360×435×147 mm	360×435×147 mm
Weighing pan dimensions (W×D)	205×172 mm	205×172 mm
Usable height of draft shield	-	-
Balance weight	12.7 kg	12.7 kg
Weights for routine testing		
Weights (OIML class)	500 g (F2)/ 10000 g (F2)	1000 g (F2)/ 20000 g (F2)
Weights (ASTM class)	500 g (ASTM 4)/ 10000 g (ASTM 4)	1000 g (ASTM 4)/ 20000 g (ASTM 4)

[1] after adjustment with internal weight

[2] determined at 5% load, k = 2

9.3.3.2 Readability 100 mg

	XPR10001L	XPR16001L
Limit values		
Capacity	10.1 kg	16.1 kg
Nominal load	10 kg	16 kg
Readability	100 mg	100 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	80 mg	80 mg
Repeatability in fine range	-	-
Linearity deviation	200 mg	200 mg
Eccentricity deviation (at test load)	300 mg (5 kg)	300 mg (5 kg)
Sensitivity offset (at nominal load) [1]	500 mg	800 mg
Sensitivity temperature drift	0.0015%/°C	0.0015%/°C
Typical values		
Repeatability	40 mg	40 mg
Repeatability in fine range	-	-
Linearity deviation	60 mg	60 mg
Eccentricity deviation (at test load)	100 mg (5 kg)	100 mg (5 kg)
Sensitivity offset (at nominal load) [1]	120 mg	200 mg
Minimum weight (USP, tolerance = 0.10%) [2]	82 g	82 g
Minimum weight (tolerance = 1%) [2]	8.2 g	8.2 g
Settling time	1.5 s	1.5 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	360×434×122 mm	360×434×122 mm
Weighing pan dimensions (W×D)	360×280 mm	360×280 mm
Usable height of draft shield	-	-
Balance weight	10.3 kg	10.3 kg
Weights for routine testing		
Weights (OIML class)	500 g (F2)/ 10000 g (F2)	500 g (F2)/ 10000 g (F2)
Weights (ASTM class)	500 g (ASTM 4)/ 10000 g (ASTM 4)	500 g (ASTM 4)/ 10000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

	XPR32001L	XPR64001L
Limit values		
Capacity	32.1 kg	64.1 kg
Nominal load	32 kg	64 kg
Readability	100 mg	100 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	80 mg	100 mg
Repeatability in fine range	-	-
Linearity deviation	300 mg	500 mg
Eccentricity deviation (at test load)	300 mg (10 kg)	500 mg (20 kg)
Sensitivity offset (at nominal load) [1]	960 mg	1.28 g
Sensitivity temperature drift	0.001%/°C	0.001%/°C
Typical values		
Repeatability	40 mg	40 mg
Repeatability in fine range	-	-
Linearity deviation	100 mg	150 mg
Eccentricity deviation (at test load)	100 mg (10 kg)	150 mg (20 kg)
Sensitivity offset (at nominal load) [1]	250 mg	300 mg
Minimum weight (USP, tolerance = 0.10%) [2]	82 g	82 g
Minimum weight (tolerance = 1%) [2]	8.2 g	8.2 g
Settling time	1.5 s	1.8 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	360×434×122 mm	360×434×122 mm
Weighing pan dimensions (W×D)	360×280 mm	360×280 mm
Usable height of draft shield	-	-
Balance weight	10.3 kg	12 kg
Weights for routine testing		
Weights (OIML class)	1000 g (F2)/ 20000 g (F2)	2000 g (F2)/ 50000 g (F2)
Weights (ASTM class)	1000 g (ASTM 4)/ 20000 g (ASTM 4)	2000 g (ASTM 4)/ 50000 g (ASTM 4)

[1] after adjustment with internal weight

[2] determined at 5% load, k = 2

9.3.3.3 Readability 1 g

|	XPR32000L	XPR64000L
Limit values		
Capacity	32.1 kg	64.1 kg
Nominal load	30 kg	60 kg
Readability	1 g	1 g
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	600 mg	600 mg
Repeatability in fine range	-	-
Linearity deviation	600 mg	600 mg
Eccentricity deviation (at test load)	1 g (10 kg)	1 g (20 kg)
Sensitivity offset (at nominal load) [1]	1.6 g	1.92 g
Sensitivity temperature drift	0.0015%/°C	0.0015%/°C
Typical values		
Repeatability	400 mg	400 mg
Repeatability in fine range	-	-
Linearity deviation	200 mg	200 mg
Eccentricity deviation (at test load)	300 mg (10 kg)	300 mg (20 kg)
Sensitivity offset (at nominal load) [1]	320 mg	320 mg
Minimum weight (USP, tolerance = 0.10%) [2]	820 g	820 g
Minimum weight (tolerance = 1%) [2]	82 g	82 g
Settling time	1.2 s	1.5 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	360×434×122 mm	360×434×122 mm
Weighing pan dimensions (W×D)	360×280 mm	360×280 mm
Usable height of draft shield	-	-
Balance weight	10.3 kg	12 kg
Weights for routine testing		
Weights (OIML class)	1000 g (F2)/ 20000 g (F2)	2000 g (F2)/ 50000 g (F2)
Weights (ASTM class)	1000 g (ASTM 4)/ 20000 g (ASTM 4)	2000 g (ASTM 4)/ 50000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

9.3.4 Comparators with L weighing platform

9.3.4.1 Redability 1 mg

	XPR26003LC
Limit values	
Capacity	26.1 kg
Nominal load	26 kg
Readability	1 mg
Capacity of fine range	-
Readability in fine range	-
Repeatability	6 mg
Repeatability in fine range	-
Repeatability ABA (5 cycles at nominal load)	2.5 mg
Repeatability ABA (5 cycles at 5% load)	2 mg
Linearity deviation	20 mg
Eccentricity deviation (at test load)	300 mg (10 kg)
Eccentricity deviation with LevelMatic or hanging pan (at test load)	0 mg (10 kg)
Sensitivity offset (at nominal load) [1]	200 mg
Sensitivity temperature drift	0.0003%/°C
Typical values	
Repeatability	4 mg
Repeatability in fine range	-
Repeatability ABA (5 cycles at nominal load)	2 mg
Repeatability ABA (5 cycles at 5% load)	2 mg
Linearity deviation	11.4 mg
Eccentricity deviation (at test load)	0 mg (10 kg)
Sensitivity offset (at nominal load) [1]	140 mg
Minimum weight (USP, tolerance = 0.10%) [2]	8 g
Minimum weight (tolerance = 1%) [2]	800 mg
Settling time	8 s
Dimensions & other specifications	
Balance dimensions (W×D×H)	360×280×185 mm
Weighing pan dimensions (W×D)	ø 220 mm
Usable height of draft shield	-
Balance weight	13.7 kg
Weights for routine testing	
Weights (OIML class)	10 g (F2)/ 200 g (F2)
Weights (ASTM class)	10 g (ASTM 1)/ 200 g (ASTM 1)

[1] after adjustment with internal weight

[2] determined at 5% load, k = 2

9.3.4.2 Readability 5 mg

	XPR32003LD5C	XPR64003LD5C
Limit values		
Capacity	32.1 kg	64.1 kg
Nominal load	32 kg	64 kg
Readability	5 mg	5 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	15 mg	15 mg
Repeatability in fine range	-	-
Repeatability ABA (5 cycles at nominal load)	8 mg	8 mg
Repeatability ABA (5 cycles at 5% load)	5 mg	5 mg
Linearity deviation	20 mg	50 mg
Eccentricity deviation (at test load)	250 mg (10 kg)	500 mg (20 kg)
Eccentricity deviation with LevelMatic or hanging pan (at test load)	0 g (10 kg)	0 g (20 kg)
Sensitivity offset (at nominal load) [1]	320 mg	1.6 g
Sensitivity temperature drift	0.0003%/°C	0.0005%/°C
Typical values		
Repeatability	6.5 mg	10 mg
Repeatability in fine range	-	-
Repeatability ABA (5 cycles at nominal load)	5 mg	7 mg
Repeatability ABA (5 cycles at 5% load)	5 mg	5 mg
Linearity deviation	18 mg	28 mg
Eccentricity deviation (at test load)	160 mg (10 kg)	0 g (20 kg)
Sensitivity offset (at nominal load) [1]	140 mg	650 mg
Minimum weight (USP, tolerance = 0.10%) [2]	13 g	20 g
Minimum weight (tolerance = 1%) [2]	1.3 g	2 g
Settling time	8 s	8 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	360×280×122 mm	360×280×185 mm
Weighing pan dimensions (W×D)	360×280 mm	ø 220 mm
Usable height of draft shield	-	-
Balance weight	12.1 kg	13.7 kg
Weights for routine testing		
Weights (OIML class)	100 g (F2)/ 2000 g (F2)	200 g (F2)/ 5000 g (F2)
Weights (ASTM class)	100 g (ASTM 1)/ 2000 g (ASTM 1)	200 g (ASTM 4)/ 5000 g (ASTM 4)

[1]   after adjustment with internal weight

[2]   determined at 5% load, k = 2

9.3.4.3 Readability 10 mg

	XPR64002LC	XPR64002LC-T
Limit values		
Capacity	64.1 kg	64.1 kg
Nominal load	64 kg	64 kg
Readability	10 mg	10 mg
Capacity of fine range	-	-
Readability in fine range	-	-
Repeatability	35 mg	35 mg
Repeatability in fine range	-	-
Repeatability ABA (5 cycles at nominal load)	25 mg	25 mg
Repeatability ABA (5 cycles at 5% load)	10 mg	10 mg
Linearity deviation	50 mg	50 mg
Eccentricity deviation (at test load)	400 mg (20 kg)	500 mg (20 kg)
Eccentricity deviation with LevelMatic or hanging pan (at test load)	0 g (20 kg)	0 g (20 kg)
Sensitivity offset (at nominal load) [1]	1.6 g	1.6 g
Sensitivity temperature drift	0.0003%/°C	0.0003%/°C
Typical values		
Repeatability	18 mg	18 mg
Repeatability in fine range	-	-
Repeatability ABA (5 cycles at nominal load)	20 mg	7 mg
Repeatability ABA (5 cycles at 5% load)	10 mg	10 mg
Linearity deviation	28 mg	28 mg
Eccentricity deviation (at test load)	240 mg (20 kg)	240 mg (20 kg)
Sensitivity offset (at nominal load) [1]	650 mg	650 mg
Minimum weight (USP, tolerance = 0.10%) [2]	36 g	36 g
Minimum weight (tolerance = 1%) [2]	3.6 g	3.6 g
Settling time	8 s	8 s
Dimensions & other specifications		
Balance dimensions (W×D×H)	360×280×122 mm	360×280×122 mm
Weighing pan dimensions (W×D)	360×280 mm	360×280 mm
Usable height of draft shield	-	-
Balance weight	12.1 kg	12.1 kg
Weights for routine testing		
Weights (OIML class)	100 g (F2)/ 2000 g (F2)	100 g (F2)/ 2000 g (F2)
Weights (ASTM class)	100 g (ASTM 1)/ 2000 g (ASTM 1)	100 g (ASTM 1)/ 2000 g (ASTM 1)

[1] after adjustment with internal weight
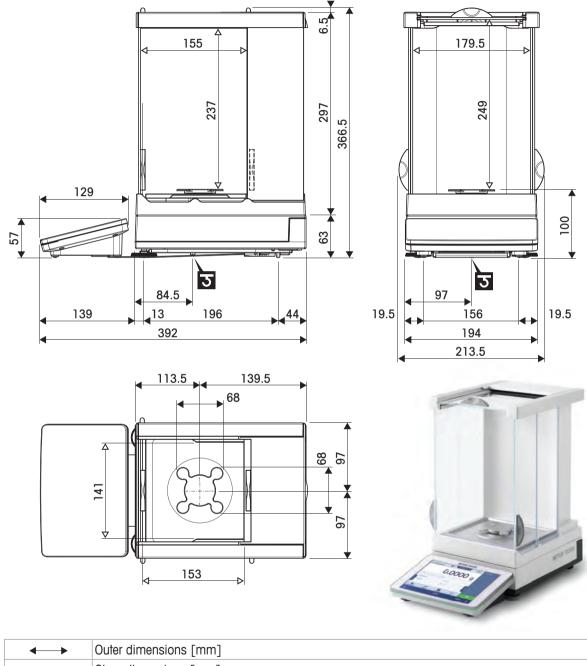
[2] determined at 5% load, k = 2

9.4 Dimensions

9.4.1 Balances with S weighing platform
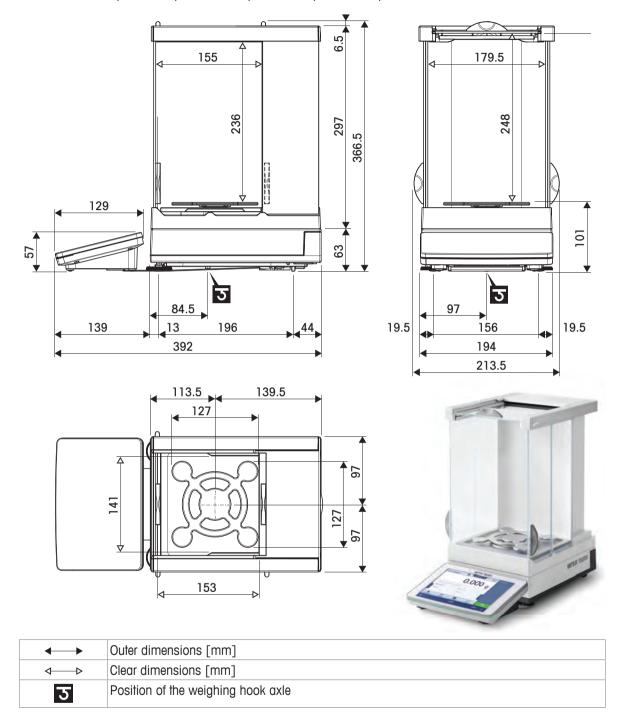
9.4.1.1 Readability 0.1 mg, with Pro draft shield and SmartPan weighing pan

Models: XRP204S, XPR404S, XPR504S, XPR504SDR

← →	Outer dimensions [mm]
◁ →	Clear dimensions [mm]
	Position of the weighing hook axle
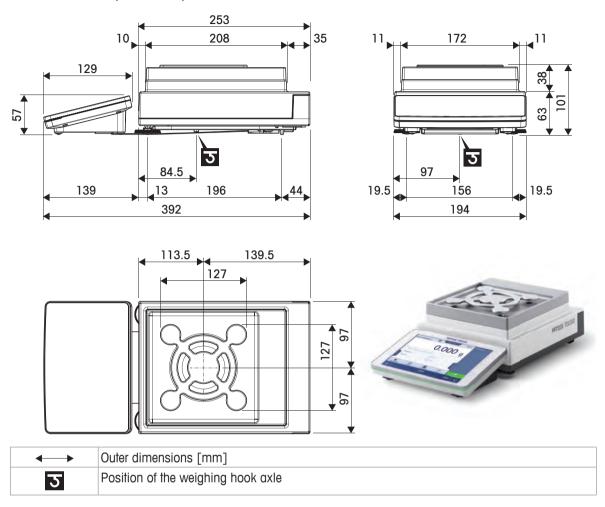
9.4.1.2 Readabilty 1 mg, with Pro draft shield and SmartPan weighing pan

Models: XPR303S, XPR603S, XPR603SDR, XPR1203S, XPR3003S, XPR5003S

↔	Outer dimensions [mm]
◁▷	Clear dimensions [mm]
↻	Position of the weighing hook axle
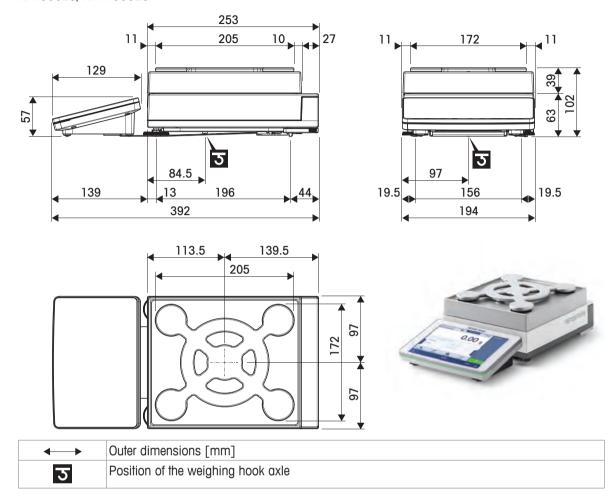
9.4.1.3 Readabilty 1 mg, with SmartPan weighing pan

Models: XPR303SN, XPR603SN, XPR603SNDR

◄──►	Outer dimensions [mm]
↻	Position of the weighing hook axle
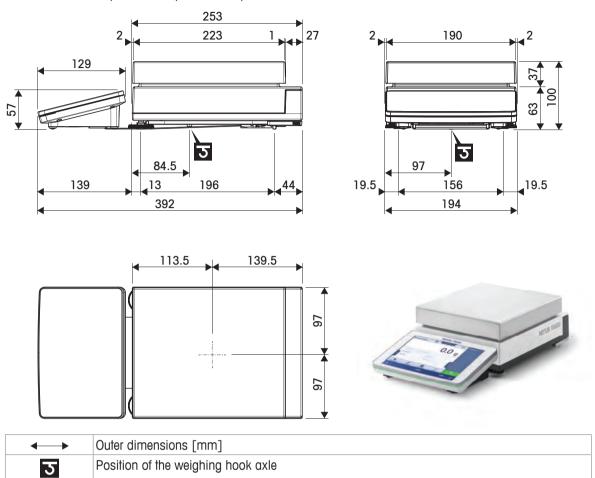
9.4.1.4 Readabilty 5 mg / 10 mg, with SmartPan weighing pan

Models: XPR3003SD5, XPR6003SD5, XPR1202S, XPR2002S, XPR4002S, XPR6002S, XPR6002SDR, XPR8002S, XPR10002S

←——→	Outer dimensions [mm]
↻	Position of the weighing hook axle

9.4.1.5 Readability 100 mg
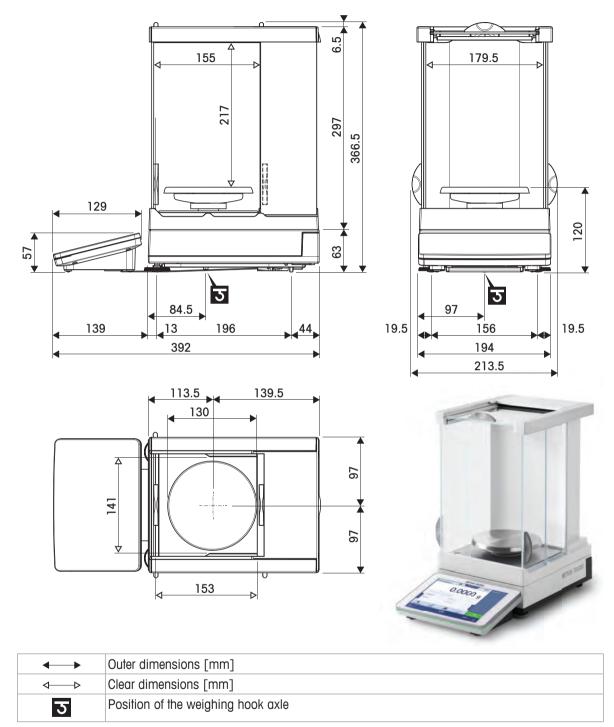
Models: XPR4001S, XPR6001S, XPR8001S, XPR10001S

←→	Outer dimensions [mm]
↻	Position of the weighing hook axle

9.4.2 Comparators with S weighing platform
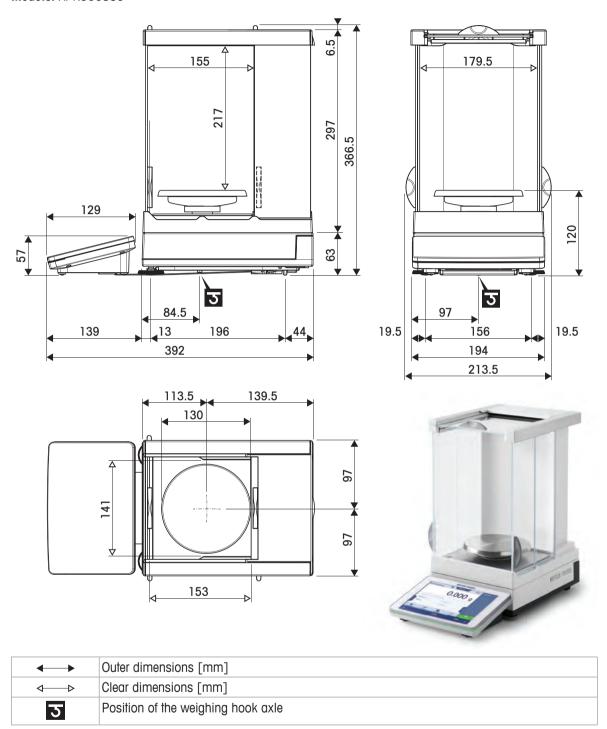
9.4.2.1 Readability 0.1 mg, with Pro draft shield and LevelMatic weighing pan

Models: XPR2004SC, XPR5004SC

	Outer dimensions [mm]
	Clear dimensions [mm]
↺	Position of the weighing hook axle

9.4.2.2 Readability 1 mg, with Pro draft shield and LevelMatic weighing pan

Models: XPR5003SC

←——→	Outer dimensions [mm]
◁——▷	Clear dimensions [mm]
⟳	Position of the weighing hook axle
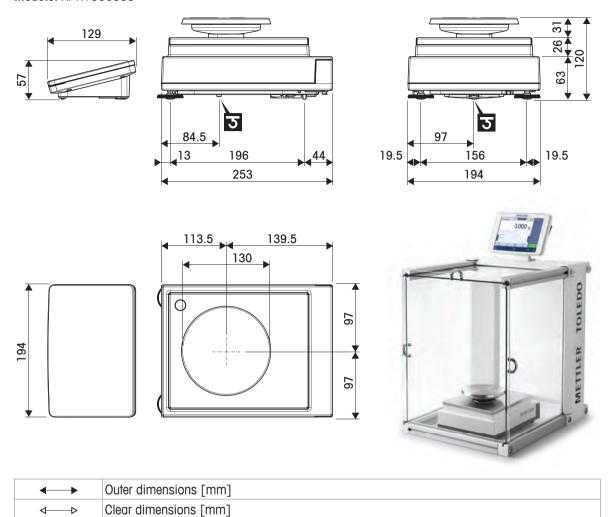
9.4.2.3 Readability 1 mg, with XP-W12 draft shield and LevelMatic weighing pan

Models: XPR10003SC

⟷	Outer dimensions [mm]
⟷	Clear dimensions [mm]
↺	Position of the weighing hook axle
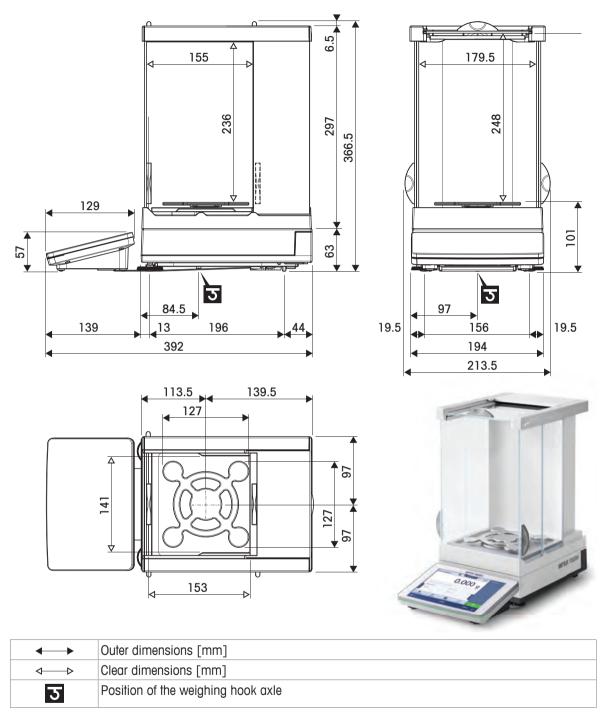
9.4.2.4 Readability 1 mg, with Pro draft shield

Models: XPR2003SC

	Outer dimensions [mm]
	Clear dimensions [mm]
↺	Position of the weighing hook axle
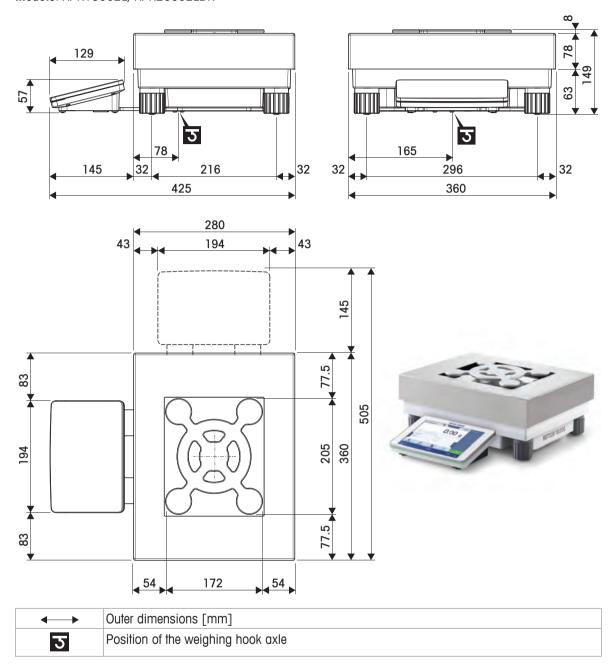
9.4.3 Balances with L weighing platform
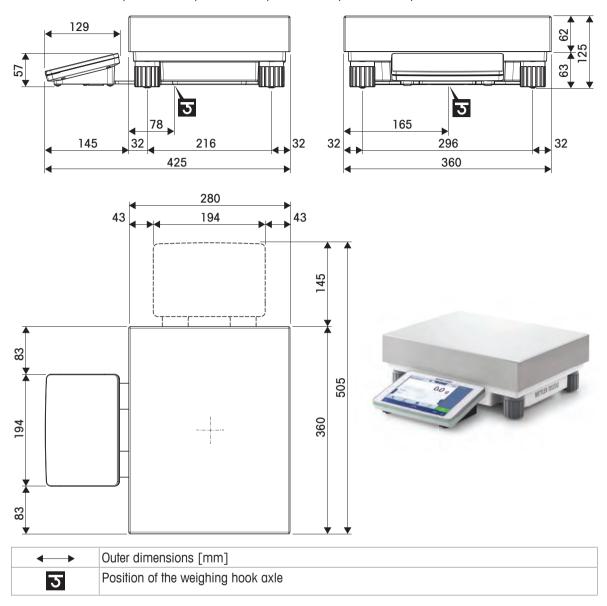
9.4.3.1 Readability 10 mg, with SmartPan weighing pan

Models: XPR15002L, XPR20002LDR

⟷	Outer dimensions [mm]
↺	Position of the weighing hook axle

9.4.3.2 Readability 100 mg / 1 g
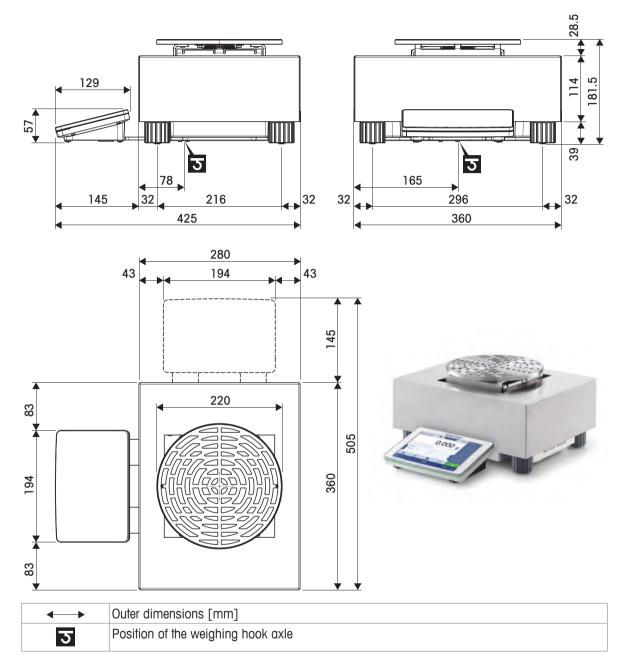
Models: XPR10001L, XPR16001L, XPR32001L, XPR64001L, XPR32000L, XPR64000L

← →	Outer dimensions [mm]
↺	Position of the weighing hook axle

9.4.4 Comparators with L weighing platform
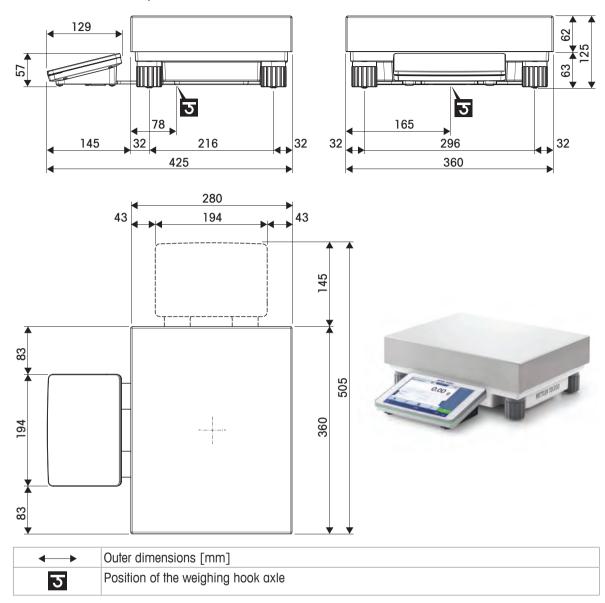
9.4.4.1 Readability 1 mg / 5 mg, with XP-W64 draft shield and LevelMatic weighing pan

Models: XPR26003LC, XPR64003LD5C

<- ->	Outer dimensions [mm]
↻	Position of the weighing hook axle
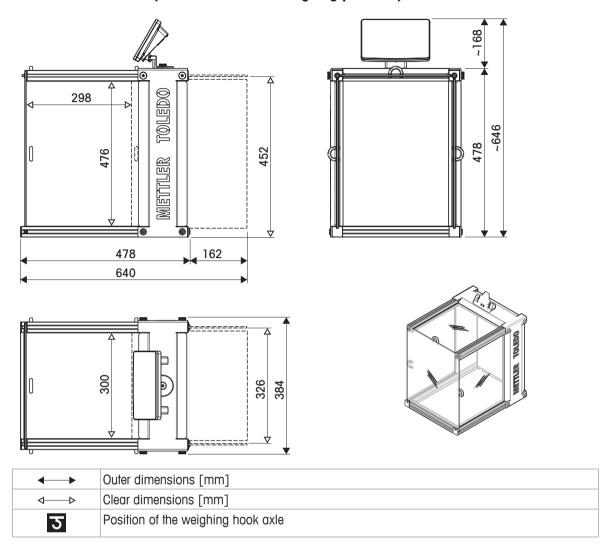
9.4.4.2 Readability 5 mg / 10 mg
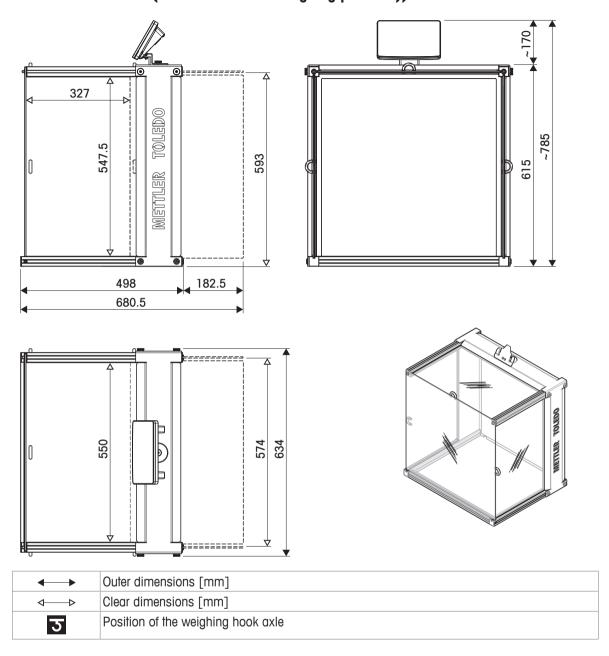
Models: XPR32003LD5C, XPR64002LC

⟷	Outer dimensions [mm]
⮎	Position of the weighing hook axle

9.4.5 Draft shield XP-W12 (for models with S weighing platform)

←——→	Outer dimensions [mm]
◁——▷	Clear dimensions [mm]
↻	Position of the weighing hook axle

9.4.6 Draft shield XP-W64 (for models with L weighing platform))

⟵⟶	Outer dimensions [mm]	
◁⟶▷	Clear dimensions [mm]	
5	Position of the weighing hook axle	

10 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.

11 Accessories and Spare Parts

11.1 Accessories

Description	Part No.

Density determination

	Density kit	30300933
	Sinker 10 mL	210260
	Calibrated Sinker 10mL	210672
	Calibrated Thermometer	11132685

Printers

	Description	Part No.
	P-52RUE dot matrix printer RS232C, USB and Ethernet connections, simple print-outs	30237290
	Paper roll (length: 20 m), set of 5 pcs	00072456
	Paper roll (length: 13 m), self-adhesive, set of 3 pcs	11600388
	Ribbon cartridge, black, set of 2 pcs	00065975
	P-56RUE thermal printer with RS232C, USB and Ethernet connections, simple print-outs, date and time	30094673
	Paper roll, white (length: 27 m), set of 10 pcs	30094723
	Paper roll, white, self-adhesive (length: 13 m), set of 10 pcs	30094724

P-58RUE thermal printer with RS232C, USB and Ethernet connections, simple print-outs, date and time, label printing, balance applications, e.g., statistics, formulation, totaling, SQC	30094674
Paper roll, white (length: 27 m), set of 10 pcs	30094723
Paper roll, white, self-adhesive (length: 13 m), set of 10 pcs	30094724
Paper roll, white, self-adhesive labels (550 labels), set of 6 pcs	30094725
Dimension of the label 56×18 mm	
Citizen CLS631 label printer	11141820

Anti-theft devices

| Anti-theft cable with lock | 11600361 |

Barcode readers

| Corded USB barcode reader | 30417466 |

Draft shields

| Pro draft shield for 0.1 mg and 1 mg models, height: 248 mm | 30300926 |

| Pro draft shield glass free (food industry) for 0.1 mg and 1 mg models, height: 248 mm | 30409092 |

| MagicCube draft shield for 1 mg models, height: 175 mm | 30300928 |
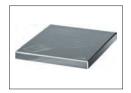
	Draft shield XP-W12, dimensions (W x D x H): 300 mm × 450 mm × 450 mm, for S weighing platform	11134430
	Draft shield XP-W64, dimensions (W x D x H): 550 mm × 470 mm × 580 mm, for L weighing platform	11134470
	"Simple" Draft shield with draft shield element for 5 mg and 10 mg models, usable height 175 mm, S platform	30113496

Stands and wall mounting

	Terminal stand for placement of the terminal 30 cm above the weighing pan, S platform	30125077
	Terminal stand for placement of the terminal 30 cm above the weighing pan, L platform	30125333
	Wall fixture for terminal	30138798

Weighing pans

	Dynamic weighing pan for 100 mg and 10 mg models, with 4 liter bowl and contact mat, S platform	11132657
	Bullion Weighing Kit to load or unload heavy items, only for models with L weighing platform	30300944

	MPS (Magnetic Protection Shield) weighing pan for 0.1 g models 190 × 223 mm, "S" platform	11132625

Cables for RS232C interface

	USB-RS232 cable (to connect a balance via RS232C to a USB port)	64088427
	USB-RS232 cable with null modem (to connect peripherals via RS232C to a balance)	30364315

Antistatic kits

	Universal AntiStatic Kit complete (U-shaped), including electrode and power supply	11107767
	Optional: Second U-electrode* for universal AntiStatic Kit	11107764
	* Power supply for optional, second U-elektrode (11107764)	11107766
	Compact ionizer with stand (USB)	30499859
	Additional compact ionizer (USB) for Compact ionizer with stand (30499859)	30496446

Hands-free accessories

	Foot switch, optional switch for remote operation (USB connection)	30312558
	ErgoSens, optical sensor for remote operation (USB connection)	30300915

Wireless interfaces

Bluetooth RS232C serial adapter ADP-BT-S for wireless connection between: 30086494
- Balance and PC (depending on the balance model)
- Printer and balance

Bluetooth USB adapter for wireless connection to P-5x printer   30416089
(additional Bluetooth RS232 serial adapter 30086494 required)

Filling-process control

LV12 automatic feeder   30374389
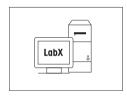
LV12 Pro draft shield door for 0.1 mg and 1 mg models with S weighing platform   11132711

Software
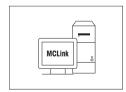
LabX balance express (standalone system)   11153120

LabX balance server (server edition)   11153121

MC Link mass calibration software

MC Link license – 1 Instrument	30208285
MC Link Upgrade Multi Place	30208289
MC Link Option – Barcode Package	30212767
MC Link Option – Audit Trail	30208283
MC Link Validation Handbook	30212634
MC Link Remote Installation Service	30212635

Various

	EasyHub USB	30468768
	Protective cover for XPR terminal	30125377
	Terminal cable, extended, length: 4.5 m	30300920
	USB (A - B) cable for connection to PC (length: 1 m)	12310716
	Transport case for 5 mg, 10 mg and 100 mg models, S platform	30113497
	Hook for Platform L	11132565
	SmartPrep, single-use funnel for quick and easy sample preparation. For flask sizes 10/19, 12/21, 14/23. 50 pcs	30061260
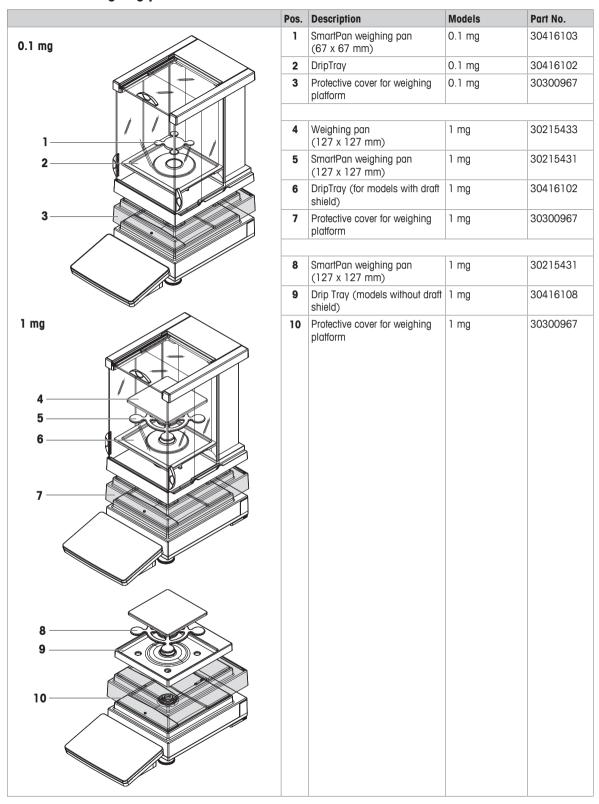
11.2 Spare parts

11.2.1 Balances S weighing platform

Pos.	Description	Models	Part No.
1	SmartPan weighing pan (67 x 67 mm)	0.1 mg	30416103
2	DripTray	0.1 mg	30416102
3	Protective cover for weighing platform	0.1 mg	30300967
4	Weighing pan (127 x 127 mm)	1 mg	30215433
5	SmartPan weighing pan (127 x 127 mm)	1 mg	30215431
6	DripTray (for models with draft shield)	1 mg	30416102
7	Protective cover for weighing platform	1 mg	30300967
8	SmartPan weighing pan (127 x 127 mm)	1 mg	30215431
9	Drip Tray (models without draft shield)	1 mg	30416108
10	Protective cover for weighing platform	1 mg	30300967

0.1 mg

1 mg

Pos.	Description	Models	Part No.
1	Protective cover for weighing pan (172 x 205 mm)	5 mg / 10 mg	30106207
2	Weighing pan (172 x 205 mm)	5 mg / 10 mg	30215056
3	SmartPan weighing pan (172 x 205 mm)	5 mg / 10 mg	30215057
4	DripTray	5 mg / 10 mg	30113501
5	Stop screws (2 pieces)	5 mg / 10 mg	30215373
6	Weighing pan support cap	5 mg / 10 mg	11131029
7	Platform protective cover	5 mg / 10 mg	30300966
8	Protective cover for weighing pan (190 x 223 mm)	100 mg	30106204
9	Weighing pan (190 x 223 mm)	100 mg	11131031
10	Weighing pan support	100 mg	11131037
11	Weighing pan support cap	100 mg	11131029
12	Stop screw (2 pieces)	100 mg	11131073
13	Fastening plate	100 mg	11131067
14	Protective cover for platform	100 mg	30300966

5 mg / 10 mg

100 mg

11.2.2 Comparators S weighing platform

	Pos.	Description	Models	Part No.
0.1 mg, 1 mg	1	LevelMatic weighing pan complete	0.1 mg, 1 mg	11131123
	2	Protective cover for weighing platform	0.1 mg, 1 mg	30300967
	3	Weighing pan (127 x 127 mm)	1 mg	30215433
	4	SmartPan weighing pan (127 x 127 mm)	1 mg	30215431
	5	DripTray	1 mg	30416102
1 mg	6	Protective cover for weighing platform	1 mg	30300967

11.2.3 S Platform miscellaneous

Pos.	Description	Models	Part No.
1	Protective cover for XPR terminal	all models	30125377
2	XPR terminal	all models	30317506
3	Terminal connection cable	all models	30416123
4	Terminal holder	all models	30215058
5	Leveling foot	all models	30072531
6	AC/DC Power adapter	all models	30388323
7	Country-specific power cable	all models	
	Power cable AU	all models	00088751
	Power cable BR	all models	30015268
	Power cable CH	all models	00087920
	Power cable CN	all models	30047293
	Power cable DK	all models	00087452
	Power cable EU	all models	00087925
	Power cable GB	all models	00089405
	Power cable IL	all models	00225297
	Power cable IN	all models	11600569
	Power cable IT	all models	00087457
	Power cable JP	all models	11107881
	Power cable TH, PE	all models	11107880
	Power cable US	all models	00088668
	Power cable ZA	all models	00089728

11.2.4 Balances L weighing platform

	Pos.	Description	Models	Part No.
10 mg	1	Protective cover for weighing pan (172 x 205 mm)	10 mg	30106207
	2	Weighing pan (172 x 205 mm)	10 mg	30215056
	3	SmartPan weighing pan (172 x 205 mm)	10 mg	30215057
	4	Draft shield element	10 mg	30215365
	5	Adapter plate	10 mg	30215366
	6	Weighing pan support cap	10 mg	11131029
	7	Adapter plate support cap	10 mg	30416106
	8	Weighing pan (280 x 360 mm)	100 mg, 1 g	239105
	8	Weighing pan (280 x 360 mm) for balances with capacity of 64 kg	100 mg, 1 g	11102124
	9	Weighing pan support cap	100 mg, 1 g	30416105
	9	Weighing pan support cap for balances with capacity of 64 kg	100 mg, 1 g	30416107

11.2.5 Comparators L weighing platform

Pos.	Description	Models	Part No.
1	LevelMatic complete	1 mg, 5 mg, 10 mg	11120415
2	Pan support for LevelMatic	1 mg, 5 mg, 10 mg	11120418
3	Weighing pan (280 x 360 mm)	1 mg, 5 mg, 10 mg	00239105
3	Weighing pan (280 x 360 mm) for models with a capacity of 64 kg	5 mg, 10 mg	11102124
4	Weighing pan support cap	1 mg, 5 mg, 10 mg	00239104
4	Weighing pan support cap for models with a capacity of 64 kg	5 mg, 10 mg	30416107

11.2.6 L platform miscellaneous
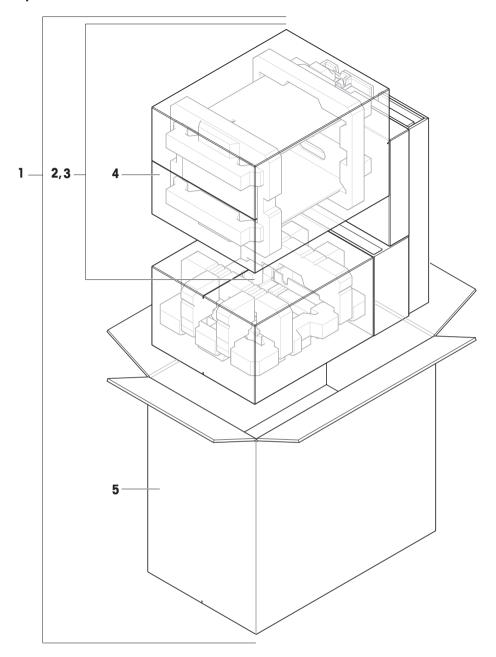
	Pos.	Description	Models	Part No.
	1	Protective cover for XPR terminal	all models	30125377
	2	XPR terminal	all models	30317506
	3	Terminal connection cable	all models	30416123
	4	Terminal holder	all models	30215058
	5	AC/DC Power adapter	all models	30388323
	6	Country-specific power cable	all models	
		Power cable AU	all models	00088751
		Power cable BR	all models	30015268
		Power cable CH	all models	00087920
		Power cable CN	all models	30047293
		Power cable DK	all models	00087452
		Power cable EU	all models	00087925
		Power cable GB	all models	00089405
		Power cable IL	all models	00225297
		Power cable IN	all models	11600569
		Power cable IT	all models	00087457
		Power cable JP	all models	11107881
		Power cable TH, PE	all models	11107880
		Power cable US	all models	00088668
		Power cable ZA	all models	00089728

11.2.7 Pro draft shield

	Pos	Description	Part No.
		Pro draft shield complete	30300926
	1	Door front left	11133080
	2	Door back left	11133079
	3	Door top front	11133082
	4	Door top back	11133081
	5	Door back right	11133077
	6	Door front right	11133078
	7	Ring seal, for models with 0.1 mg	11131551
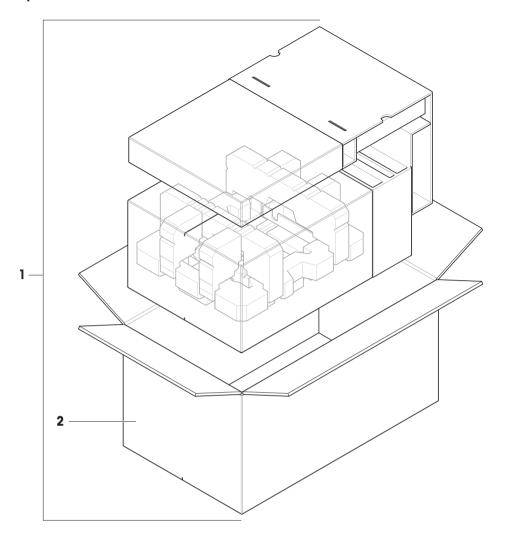
11.2.8 Packaging

11.2.8.1 S platform with draft shield
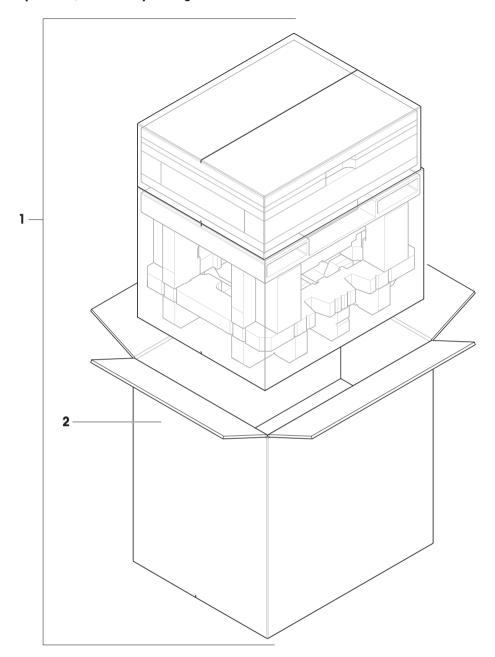
	Order no.	Designation	Remarks
1	30416124	Packaging complete	–
2	30416157	Packaging complete XPR pro draft shield	–
3	30416158	Packaging XSR Magic cube draft shield	–
4	30416159	Export carton XPR, XSR draft shield	–
5	30416156	Export carton	–

11.2.8.2 S platform without draft shield
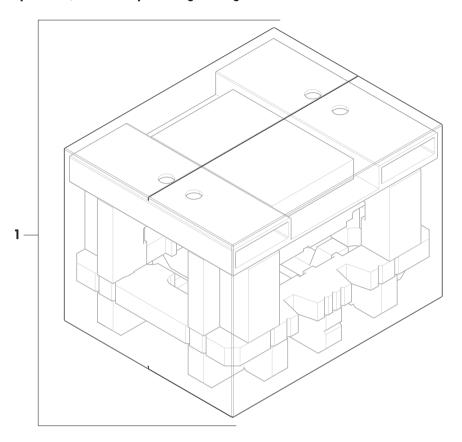
	Order no.	Designation	Remarks
1	30416160	Packaging complete	–
2	30416161	Export carton	–

11.2.8.3 L platform, readability 10 mg

	Order no.	Designation	Remarks
1	30416125	Packaging complete	–
2	30008482	Export carton	–

11.2.8.4 L platform, readability 100 mg and 1g

	Order no.	Designation	Remarks
1	30416162	Packaging complete	–

Index

GWP®
Good Weighing Practice™

GWP® is the global weighing standard, ensuring consistent accuracy of weighing processes, applicable to all equipment from any manufacturer It helps to:
- Choose the appropriate balance or scale
- Calibrate and operate your weighing equipment with security
- Comply with quality and compliance standards in laboratory and manufacturing

▶ **www.mt.com/GWP**

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For more information

30357075