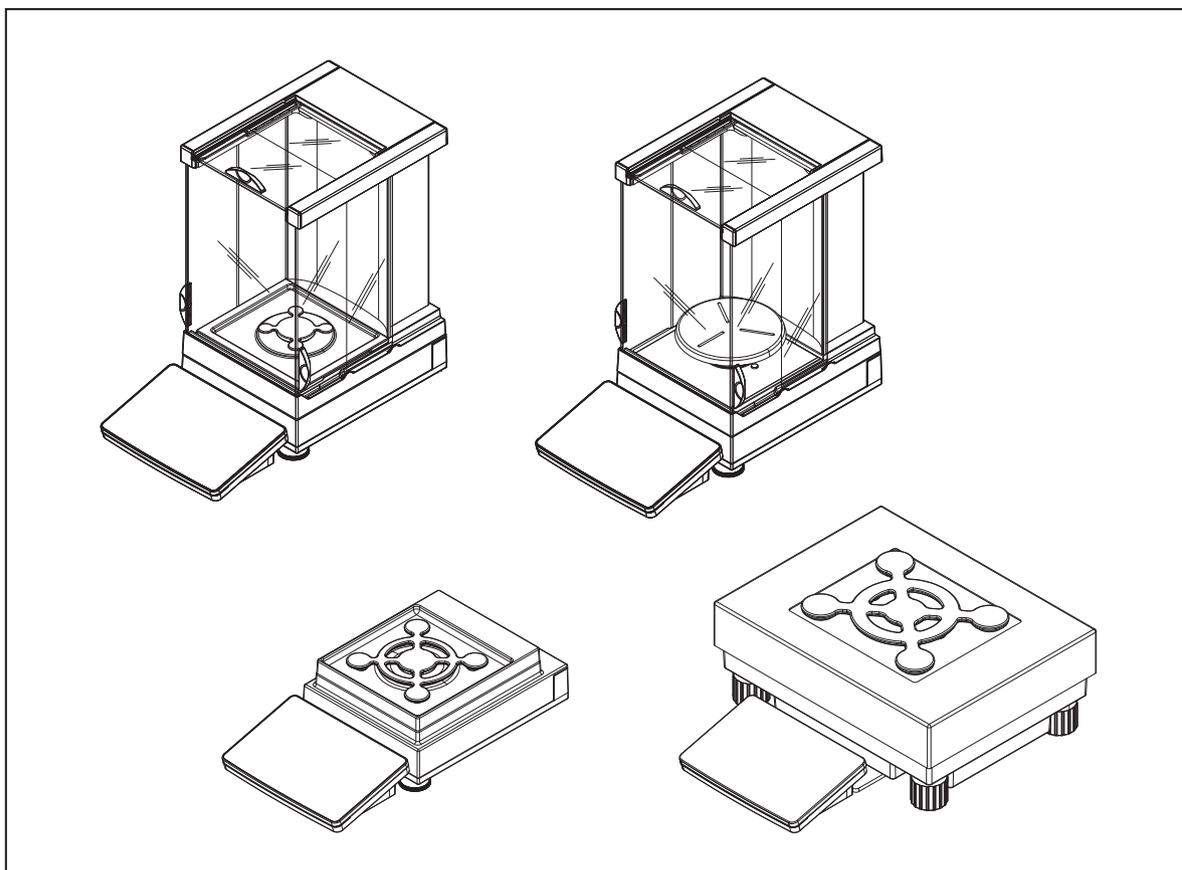


Precision Balances and Comparators

XPR



METTLER TOLEDO

Table of Contents

1	Introduction	9
1.1	Further documents and information	9
1.2	Explanation of conventions and symbols used	9
1.3	Acronyms and abbreviations	10
1.4	Product range.....	10
1.4.1	XPR precision balances	10
1.4.1.1	S weighing platform.....	10
1.4.1.2	L weighing platform.....	11
1.4.2	XPR precision comparators	12
1.4.2.1	S weighing platform.....	12
1.4.2.2	L weighing platform.....	13
1.5	Compliance information.....	13
2	Safety Information	15
2.1	Definitions of signal words and warning symbols	15
2.2	Product-specific safety information.....	15
3	Design and Function	17
3.1	Function description	17
3.2	Overview S weighing platform	17
3.2.1	Balances with Pro draft shield	17
3.2.2	Comparators with Pro draft shield	18
3.2.3	Balances without Pro draft shield	19
3.2.4	Interface board.....	20
3.3	Overview L weighing platform.....	20
3.3.1	Balances.....	20
3.3.2	Comparators	21
3.3.3	Interface board.....	21
3.4	Overview terminal	22
3.5	Overview type plate	22
3.6	User interface	23
3.6.1	Main sections at a glance	23
3.6.2	Main weighing screen.....	24
3.6.3	Panel "Balance menu"	25
3.6.4	Panel "Methods"	25
3.6.5	Panel "Results"	26
3.6.6	Icons and symbols.....	27
3.6.6.1	System status icons.....	27
3.6.6.2	Weighing status icons	27
4	Installation and Putting into Operation	29
4.1	Selecting the location	29
4.2	Unpacking the balance	29
4.3	Scope of delivery	30
4.3.1	Balances with S weighing platform.....	30
4.3.2	Comparators with S weighing platform	30
4.3.3	Balances with L weighing platform.....	31
4.3.4	Comparators with L weighing platform.....	31
4.4	Installation.....	31
4.4.1	Balances with S weighing platform.....	31
4.4.1.1	Attaching the terminal to the weighing platform	31
4.4.1.2	Assembling balances 0.1 mg with Pro draft shield and SmartPan weighing pan	32
4.4.1.3	Assembling balances 1 mg with Pro draft shield.....	34
4.4.1.4	Assembling comparators 0.1 mg and 1 mg with LevelMatic weighing pan	35

4.4.1.5	Assembling balances 1 mg with SmartPan weighing pan	35
4.4.1.6	Assembling balances 5 mg and 10 mg with SmartPan weighing pan	36
4.4.1.7	Assembling balances 100 mg	36
4.4.2	Balances with L weighing platform	37
4.4.2.1	Attaching the terminal to the weighing platform	37
4.4.2.2	Assembling balances 100 mg and 1 g	37
4.4.2.3	Assembling balances 10 mg with SmartPan weighing pan	38
4.4.2.4	Removing and installing the transport safety screws (only for comparators)...	38
4.4.2.5	Assembling comparators 1 mg / 5 mg with LevelMatic weighing pan	39
4.4.2.6	Assembling the comparator XPR64002LC-T	39
4.5	Putting into operation	39
4.5.1	Connecting the balance	39
4.5.2	Switching on the balance	40
4.5.3	Logging in	40
4.5.4	Leveling the balance	41
4.5.5	Performing an internal adjustment	41
4.5.6	Setting the balance to standby mode	41
4.5.7	Switching off the balance	41
4.6	Performing a simple weighing	41
4.6.1	Zeroing the balance	41
4.6.2	Taring the balance	41
4.6.3	Performing a weighing	42
4.6.4	Completing the weighing	42
4.7	Transporting, packing and storing	42
4.7.1	Transporting the balance over short distances	42
4.7.2	Transporting the balance over long distances	43
4.7.3	Packing and storing	43
4.8	Installing devices	44
4.8.1	Connecting a printer via USB	44
4.8.2	Connecting a printer via Bluetooth	44
4.8.3	Connecting a USB device	45
4.9	Weighing below the balance	45
4.9.1	S weighing platform	46
4.9.2	L weighing platform	46

5	Operation	47
5.1	Touch screen	47
5.1.1	Selecting or activating an item	47
5.1.2	Scrolling	47
5.1.3	Using the fly-in panels	47
5.1.4	Entering characters and numbers	48
5.1.5	Changing the date and time	48
5.2	Methods	49
5.2.1	Methods overview	49
5.2.2	Method "General weighing"	49
5.2.2.1	Creating a method "General weighing"	50
5.2.2.2	Performing a "General weighing"	50
5.2.3	Method "Simple formulation"	51
5.2.3.1	Creating a method "Simple formulation"	51
5.2.3.2	Method "Simple formulation"	52
5.2.4	Method "Interval weighing"	52
5.2.4.1	Creating a method "Interval weighing"	53
5.2.4.2	Performing an "Interval weighing"	53
5.2.5	Method "Titration"	54
5.2.5.1	Creating a method "Titration"	54
5.2.5.2	Performing a "Titration"	55
5.2.6	Method "Density determination"	55
5.2.6.1	Creating a method "Density determination"	56

5.2.6.2	Performing a "Density determination".....	56
5.2.7	Method "SQC".....	57
5.2.7.1	Creating a method "SQC".....	57
5.2.7.2	Performing a "SQC" on packaged goods.....	58
5.2.7.3	Performing a "SQC" with automatic feeder.....	59
5.2.8	Method "Piece Counting".....	61
5.2.8.1	Creating a method "Piece Counting".....	61
5.2.8.2	Performing a "Piece Counting".....	62
5.2.9	Editing a method.....	62
5.2.10	Cloning a method.....	63
5.2.11	Deleting a method.....	63
5.2.12	Deleting a task.....	63
5.2.13	Using methods with multiple weighing items (itemized).....	63
5.2.13.1	Creating a new method with multiple weighing items (itemized).....	64
5.2.13.2	Creating an itemized method from a completed task.....	64
5.2.13.3	Performing an itemized method.....	64
5.3	Test weights.....	65
5.3.1	Defining an individual test weight.....	65
5.3.2	Defining a combined test weight.....	65
5.4	Tests.....	65
5.4.1	Overview routine tests.....	65
5.4.1.1	Eccentricity test.....	66
5.4.1.2	Repeatability test.....	66
5.4.1.3	Sensitivity test.....	66
5.4.2	Creating a new test.....	66
5.4.3	Performing a test.....	67
5.4.3.1	Performing an "Eccentricity test".....	67
5.4.3.2	Performing a "Repeatability test".....	68
5.4.3.3	Performing a "Sensitivity test".....	69
5.4.4	Editing a test.....	71
5.4.5	Printing test results.....	71
5.4.6	Deleting a test.....	71
5.4.7	Consulting the test history.....	71
5.5	Adjustments.....	72
5.5.1	Internal adjustment.....	72
5.5.1.1	Editing an "Internal adjustment".....	72
5.5.1.2	Performing an "Internal adjustment".....	72
5.5.2	External adjustment.....	72
5.5.2.1	Editing an "External adjustment".....	72
5.5.2.2	Performing an "External adjustment".....	73
5.5.3	Consulting the adjustment history.....	73
5.6	External devices.....	73
5.6.1	Adding a device.....	73
5.6.2	Deleting a device.....	74
5.6.3	Editing device settings.....	74
5.6.4	Printing a test page.....	74
5.6.5	Using an RFID reader.....	74
5.6.5.1	Testing an RFID reader.....	74
5.6.5.2	Formatting an RFID tag.....	75
5.6.5.3	Reading data from an RFID tag.....	75
5.7	User management.....	75
5.7.1	Activating the user management.....	75
5.7.2	Disabling the user management.....	76
5.7.3	Managing users and user groups.....	76
5.7.3.1	Creating a new user.....	76
5.7.3.2	Creating a new group.....	76
5.7.3.3	Deleting users or user groups.....	77

5.8	Tolerance profiles.....	77
5.9	Data management.....	77
5.9.1	Exporting data and settings.....	77
5.9.2	Importing data and settings.....	78
5.10	Password protection and balance reset.....	78
5.10.1	Password protection.....	78
5.10.1.1	Changing a password.....	78
5.10.1.2	Requesting a reset password.....	79
5.10.1.3	Creating an unblocking password.....	79
5.10.2	Logging in and logging out.....	79
5.10.2.1	Logging in.....	79
5.10.2.2	Logging out.....	79
5.10.3	Blocking and unblocking the balance.....	80
5.10.3.1	Blocking the balance.....	80
5.10.3.2	Unblocking the balance.....	80
5.10.4	Resetting the balance.....	80
5.11	Automated dosing.....	80
5.11.1	Managing the dosing head data.....	81
5.11.2	Changing the pump pressure.....	82

6	Software Description	83
6.1	Balance menu settings.....	83
6.1.1	Leveling aid.....	83
6.1.2	History.....	83
6.1.2.1	Adjustments.....	83
6.1.2.2	Tests.....	84
6.1.2.3	Alibi memory.....	84
6.1.2.4	Service.....	85
6.1.2.5	Changes.....	85
6.1.3	Balance info.....	86
6.1.4	Users.....	86
6.1.4.1	General.....	86
6.1.4.2	Users.....	87
6.1.4.3	Groups.....	87
6.1.5	Settings.....	88
6.1.5.1	Balance.....	89
6.1.5.2	Modules / Dosing.....	95
6.1.5.3	Interfaces.....	96
6.1.5.4	Devices / Printers.....	97
6.1.5.5	LabX / Services.....	98
6.1.5.6	Printing the settings.....	98
6.1.6	Maintenance.....	99
6.1.6.1	Service menu.....	99
6.2	Weighing methods settings.....	99
6.2.1	Settings: method "General weighing".....	99
6.2.1.1	General.....	100
6.2.1.2	ID format.....	100
6.2.1.3	Weighing.....	101
6.2.1.4	Weighing item / Weighing items.....	103
6.2.1.5	Automation.....	104
6.2.1.6	Print / Export.....	106
6.2.2	Settings: method "Simple formulation".....	110
6.2.2.1	General.....	110
6.2.2.2	Formulation.....	111
6.2.2.3	ID format.....	112
6.2.2.4	Weighing.....	113
6.2.2.5	Weighing item.....	113
6.2.2.6	Weighing items.....	114

6.2.2.7	Automation.....	115
6.2.2.8	Print / Export	116
6.2.3	Settings: method "Interval weighing".....	119
6.2.3.1	General	120
6.2.3.2	Interval	120
6.2.3.3	ID format.....	120
6.2.3.4	Weighing	121
6.2.3.5	Weighing item	121
6.2.3.6	Automation.....	122
6.2.3.7	Print / Export	122
6.2.4	Settings: method "Titration"	123
6.2.4.1	General	123
6.2.4.2	Titration	123
6.2.4.3	ID format.....	124
6.2.4.4	Weighing	125
6.2.4.5	Weighing item	125
6.2.4.6	Automation.....	126
6.2.4.7	Print / Export	127
6.2.5	Settings: method "Density determination"	131
6.2.5.1	General	131
6.2.5.2	Density	132
6.2.5.3	ID format.....	132
6.2.5.4	Weighing	133
6.2.5.5	Weighing item	134
6.2.5.6	Automation.....	135
6.2.5.7	Print / Export	136
6.2.6	Settings: method "SQC"	138
6.2.6.1	General	138
6.2.6.2	ID format.....	138
6.2.6.3	Weighing	139
6.2.6.4	Weighing item	141
6.2.6.5	Automation.....	142
6.2.6.6	Print / Export	144
6.2.7	Settings: method "Piece Counting"	146
6.2.7.1	General	146
6.2.7.2	ID format.....	146
6.2.7.3	Weighing	147
6.2.7.4	Weighing item	149
6.2.7.5	Automation.....	149
6.2.7.6	Print / Export	151
6.3	Test weights settings	154
6.3.1	Settings: individual test weight	154
6.3.2	Settings: combined test weight.....	155
6.4	Tests settings	155
6.4.1	Settings: Eccentricity test	155
6.4.2	Settings: Repeatability test.....	158
6.4.3	Settings: Sensitivity test.....	160
6.5	Adjustments settings	163
7	Maintenance	165
7.1	Maintenance tasks	165
7.2	Cleaning	165
7.2.1	Disassembling the Pro draft shield for cleaning	165
7.2.2	Cleaning agents.....	166
7.2.3	Cleaning the balance.....	167
7.2.4	Putting into operation after cleaning	168
7.3	Software update.....	168
7.3.1	Updating the software	168

7.3.2	Restoring the software to the previous version	168
7.3.3	Putting into operation after software update	169
8	Troubleshooting	170
8.1	Error messages	170
8.2	Error symptoms	170
8.3	Putting into operation after fixing an error.....	172
9	Technical Data	173
9.1	General data	173
9.2	Explanatory notes for the METTLER TOLEDO AC/DC adapter	175
9.3	Model-specific data.....	176
9.3.1	Balances with S weighing platform.....	176
9.3.1.1	Readability 0.1 mg, with Pro draft shield	176
9.3.1.2	Readability 1 mg, with Pro draft shield and SmartPan weighing pan	178
9.3.1.3	Readability 1 mg, with SmartPan weighing pan.....	180
9.3.1.4	Readability 5 mg, with SmartPan weighing pan.....	181
9.3.1.5	Readability 10 mg, with SmartPan weighing pan.....	182
9.3.1.6	Readability 100 mg	185
9.3.2	Comparators with S weighing platform	187
9.3.2.1	Readability 0.1 mg, with Pro draft shield	187
9.3.2.2	Readability 1 mg	188
9.3.3	Balances with L weighing platform.....	189
9.3.3.1	Readability 10 mg, with SmartPan weighing pan.....	189
9.3.3.2	Readability 100 mg	190
9.3.3.3	Readability 1 g	192
9.3.4	Comparators with L weighing platform.....	193
9.3.4.1	Readability 1 mg	193
9.3.4.2	Readability 5 mg	194
9.3.4.3	Readability 10 mg	195
9.4	Dimensions.....	196
9.4.1	Balances with S weighing platform.....	196
9.4.1.1	Readability 0.1 mg, with Pro draft shield and SmartPan weighing pan	196
9.4.1.2	Readability 1 mg, with Pro draft shield and SmartPan weighing pan.....	197
9.4.1.3	Readability 1 mg, with SmartPan weighing pan.....	198
9.4.1.4	Readability 5 mg / 10 mg, with SmartPan weighing pan	199
9.4.1.5	Readability 100 mg	200
9.4.2	Comparators with S weighing platform	201
9.4.2.1	Readability 0.1 mg, with Pro draft shield and LevelMatic weighing pan	201
9.4.2.2	Readability 1 mg, with Pro draft shield and LevelMatic weighing pan	202
9.4.2.3	Readability 1 mg, with XP-W12 draft shield and LevelMatic weighing pan.....	203
9.4.2.4	Readability 1 mg, with Pro draft shield	204
9.4.3	Balances with L weighing platform	205
9.4.3.1	Readability 10 mg, with SmartPan weighing pan.....	205
9.4.3.2	Readability 100 mg / 1 g.....	206
9.4.4	Comparators with L weighing platform.....	207
9.4.4.1	Readability 1 mg / 5 mg, with XP-W64 draft shield and LevelMatic weighing pan	207
9.4.4.2	Readability 5 mg / 10 mg	208
9.4.5	Draft shield XP-W12 (for models with S weighing platform)	209
9.4.6	Draft shield XP-W64 (for models with L weighing platform).....	210
10	Disposal	211
11	Accessories and Spare Parts	212
11.1	Accessories.....	212
11.2	Spare parts	219
11.2.1	Balances S weighing platform	219

11.2.1.1	Balance S platform, readability 0.1 mg, SmartPan, Pro draft shield.....	219
11.2.1.2	Balance S platform, readability 1 mg, SmartPan, Pro draft shield.....	220
11.2.1.3	Balance S platform, readability 1 mg, SmartPan.....	221
11.2.1.4	Balance S platform, readability 5 mg / 10 mg, SmartPan.....	222
11.2.1.5	Balance S platform, readability 100 mg.....	223
11.2.2	Comparators S weighing platform.....	224
11.2.2.1	Comparator S platform, readability 0.1 mg / 1 mg, LEVEL-MATIC, Pro draft shield or W12 draft shield.....	224
11.2.2.2	Comparator S platform, readability 1 mg, SmartPan, Pro draft shield.....	225
11.2.3	Balances L weighing platform.....	226
11.2.3.1	Balance L platform, readability 10 mg, SmartPan.....	226
11.2.3.2	Balance L platform, readability 100 mg / 1 g.....	227
11.2.4	Comparators L weighing platform.....	228
11.2.4.1	Comparator L platform, readability 1 mg / 5 mg, LEVEL-MATIC, W64 draft shield.....	228
11.2.4.2	Comparator L platform, readability 5 mg / 10 mg.....	229
11.2.5	Miscellaneous.....	230
11.2.6	Pro draft shield.....	231
11.2.7	W12 draft shield.....	232
11.2.8	W64 draft shield.....	233
11.2.9	Packaging.....	234
11.2.9.1	S platform with draft shield.....	234
11.2.9.2	S platform without draft shield.....	235
11.2.9.3	L platform, readability 10 mg.....	236
11.2.9.4	L platform, readability 100 mg and 1g.....	237

Index

239

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 2.0.401.

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

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

▶ www.mt.com/lab-cleaning-guide

Search for software downloads

▶ www.mt.com/labweighing-software-download

Search for documents

▶ www.mt.com/library

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

▶ www.mt.com/contact

1.2 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
AC	Alternating Current
ASTM	American Society for Testing and Materials
DC	Direct Current
EMC	Electromagnetic Compatibility
FCC	Federal Communications Commission
GWP	Good Weighing Practice
HID	Human Interaction Device
ID	Identification
LED	Light-Emitting Diode
LPS	Limited Power Source
MAC	Media Access Control
MT-SICS	METTLER TOLEDO Standard Interface Command Set
NA	Not Applicable
OIML	Organisation Internationale de Métrologie Légale (International Organization of Legal Metrology)
RAM	Random Access Memory
RFID	Radio-frequency identification
RM	Reference Manual
sd	Standard deviation
SELV	Safety Extra Low Voltage
SOP	Standard Operating Procedure
SQC	Statistical Quality Control
UM	User Manual
USB	Universal Serial Bus
USP	United States Pharmacopeia

1.4 Product range

1.4.1 XPR precision balances

1.4.1.1 S weighing platform

Balance	Models designation
	Readability: 0.1 mg <ul style="list-style-type: none"> • XPR204S • XPR404S • XPR504S • XPR504SDR

Balance	Models designation
	Readability: 1 mg <ul style="list-style-type: none"> • XPR303S • XPR603S • XPR603SDR • XPR1203S • XPR3003S • XPR5003S
	Readability: 1 mg <ul style="list-style-type: none"> • XPR303SN • XPR603SN • XPR603SNDR
	Readability: 5 mg <ul style="list-style-type: none"> • XPR3003SD5 • XPR6003SD5
	Readability: 10 mg <ul style="list-style-type: none"> • XPR1202S • XPR2002S • XPR4002S • XPR6002S • XPR6002SDR • XPR8002S • XPR10002S
	Readability: 100 mg <ul style="list-style-type: none"> • XPR4001S • XPR6001S • XPR8001S • XPR10001S

1.4.1.2 L weighing platform

Balance	Models designation
	Readability: 10 mg <ul style="list-style-type: none"> • XPR15002L • XPR20002LDR

Balance	Models designation
	Readability: 100 mg <ul style="list-style-type: none"> • XPR10001L • XPR16001L • XPR32001L
	Readability: 100 mg <ul style="list-style-type: none"> • XPR64001L
	Readability: 1 g <ul style="list-style-type: none"> • XPR32000L • XPR64000L

1.4.2 XPR precision comparators

1.4.2.1 S weighing platform

Balance	Models designation
	Readability: 0.1 mg <ul style="list-style-type: none"> • XPR2004SC • XPR5004SC
	Readability: 1 mg <ul style="list-style-type: none"> • XPR5003SC
	Readability: 1 mg <ul style="list-style-type: none"> • XPR2003SC

Balance	Models designation
	Readability: 1 mg <ul style="list-style-type: none"> • XPR10003SC

1.4.2.2 L weighing platform

Balance	Models designation
	Readability: 1 mg <ul style="list-style-type: none"> • XPR26003LC • XPR64003LD5C
	Readability: 1 mg <ul style="list-style-type: none"> • XPR32003LD5C
	Readability: 10 mg <ul style="list-style-type: none"> • XPR64002LC
	Readability: 10 mg <ul style="list-style-type: none"> • 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.

2 Safety Information

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

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

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

2.1 Definitions of signal words and warning symbols

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

Signal words

DANGER	A hazardous situation with high risk, resulting in death or severe injury if not avoided.
WARNING	A hazardous situation with medium risk, possibly resulting in death or severe injury if not avoided.
CAUTION	A hazardous situation with low risk, resulting in minor or moderate injury if not avoided.
NOTICE	A hazardous situation with low risk, resulting in damage to the instrument, other material damage, malfunctions and erroneous results, or loss of data.

Warning symbols



General hazard



Notice

2.2 Product-specific safety information

Intended use

This instrument is designed to be used by trained staff. The instrument is intended for weighing purposes.

Any other type of use and operation beyond the limits of use stated by Mettler-Toledo GmbH without consent from Mettler-Toledo GmbH is considered as not intended.

Responsibilities of the instrument owner

The instrument owner is the person holding the legal title to the instrument and who uses the instrument or authorizes any person to use it, or the person who is deemed by law to be the operator of the instrument. The instrument owner is responsible for the safety of all users of the instrument and third parties.

Mettler-Toledo GmbH assumes that the instrument owner trains users to safely use the instrument in their workplace and deal with potential hazards. Mettler-Toledo GmbH assumes that the instrument owner provides the necessary protective gear.

Safety notes



WARNING

Death or serious injury due to electric shock

Contact with parts that carry a live current can lead to death or injury.

- 1 Only use the METTLER TOLEDO power cable and AC/DC adapter designed for your instrument.
- 2 Connect the power cable to a grounded power outlet.
- 3 Keep all electrical cables and connections away from liquids and moisture.
- 4 Check the cables and the power plug for damage and replace them if damaged.



NOTICE

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

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

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.

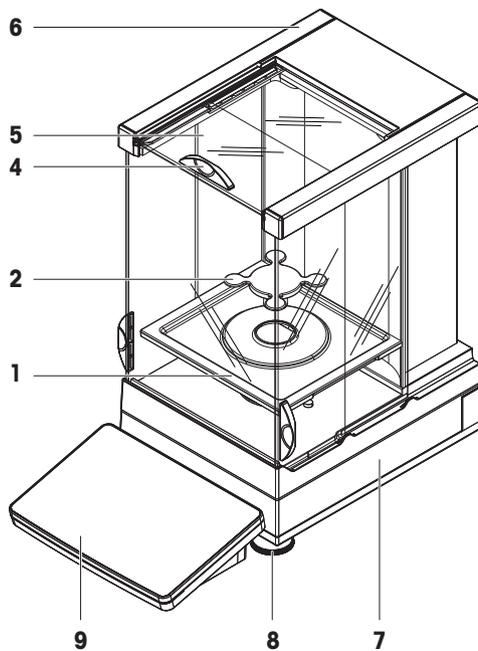
The following features are common to all models of the XPR precision line:

- 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

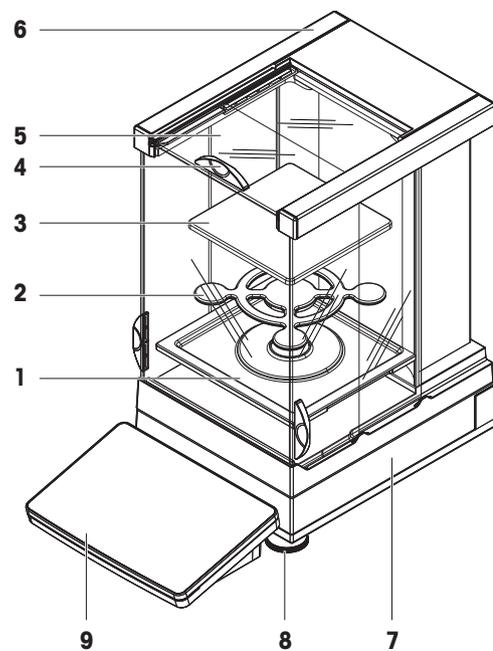
3.2 Overview S weighing platform

3.2.1 Balances with Pro draft shield

0.1 mg



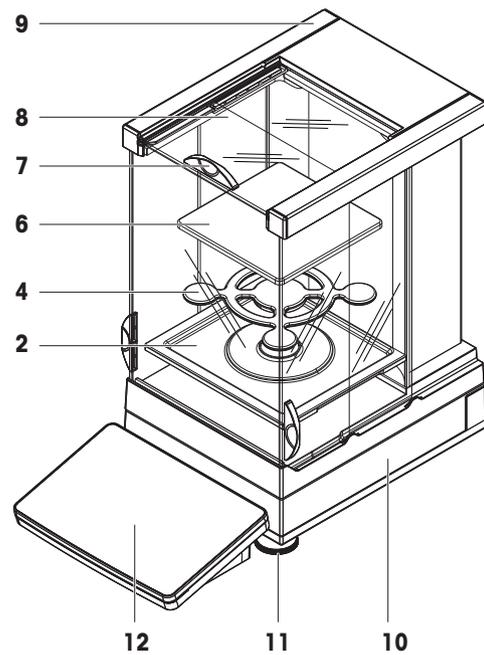
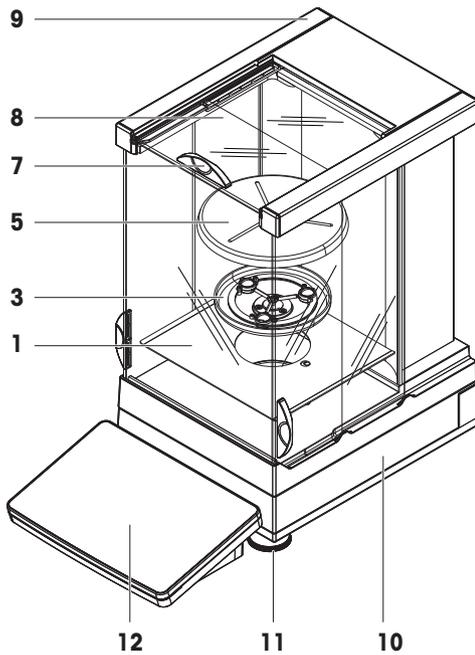
1 mg



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

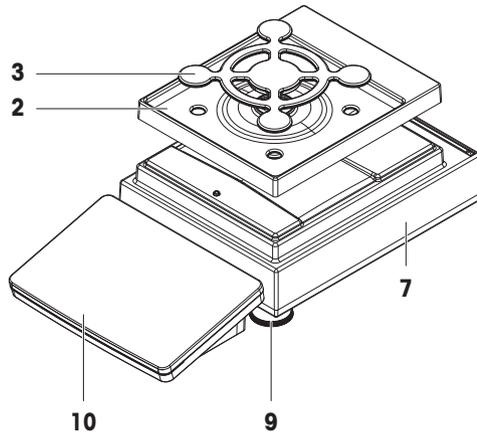
0.1 mg / 1 mg



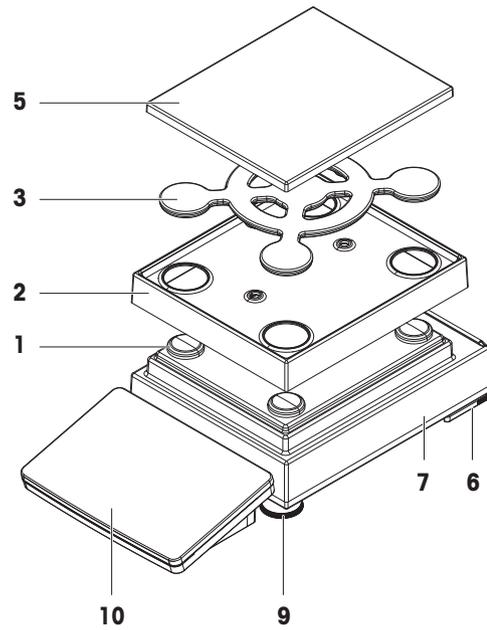
1	Bottom plate	7	Pro draft shield door handle
2	DripTray	8	Pro draft shield door
3	LevelMatic weighing pan holder	9	Pro draft shield
4	SmartPan weighing pan	10	Weighing platform with protective cover
5	LevelMatic weighing pan	11	Leveling foot
6	Weighing pan	12	Terminal with protective cover

3.2.3 Balances without Pro draft shield

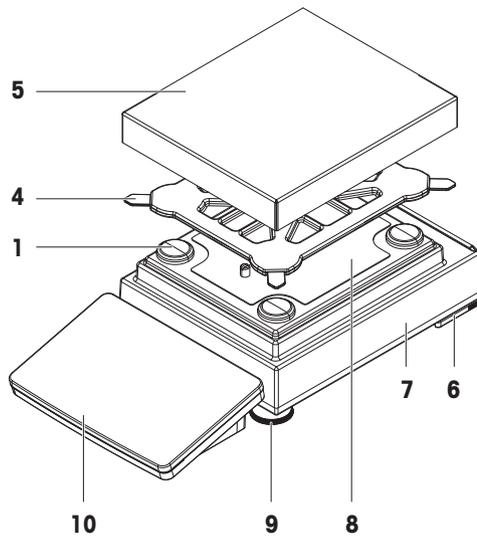
1 mg



5 mg / 10 mg

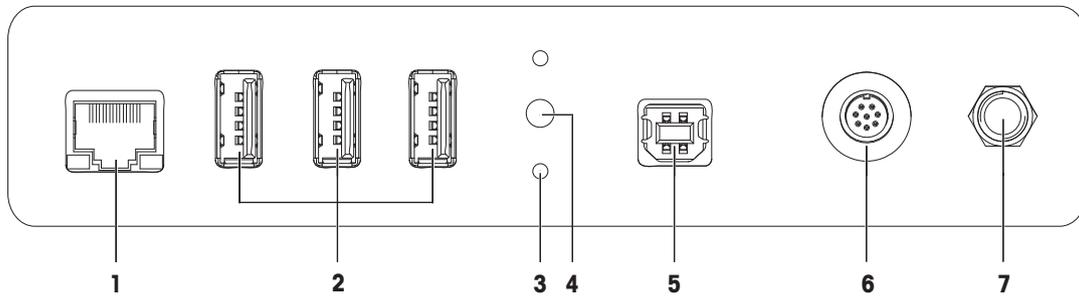


100 mg



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

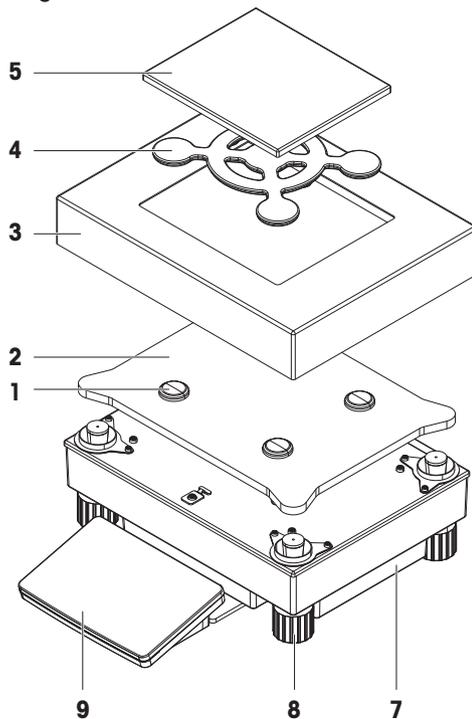


1	Ethernet port	5	USB-B port (to host)
2	USB-A ports (to device)	6	Socket for terminal connection cable
3	Fixations for optional terminal stand	7	Socket for AC/DC adapter
4	Service seal		

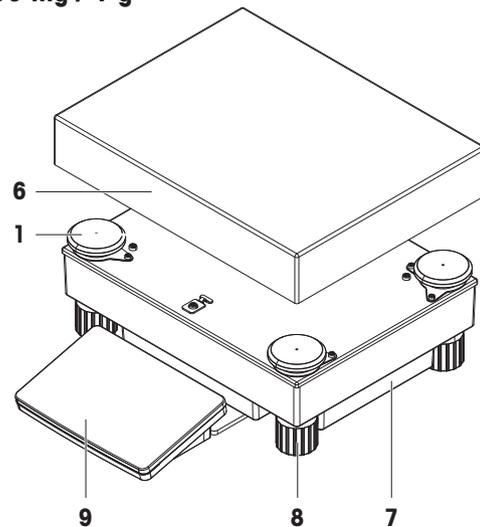
3.3 Overview L weighing platform

3.3.1 Balances

10 mg



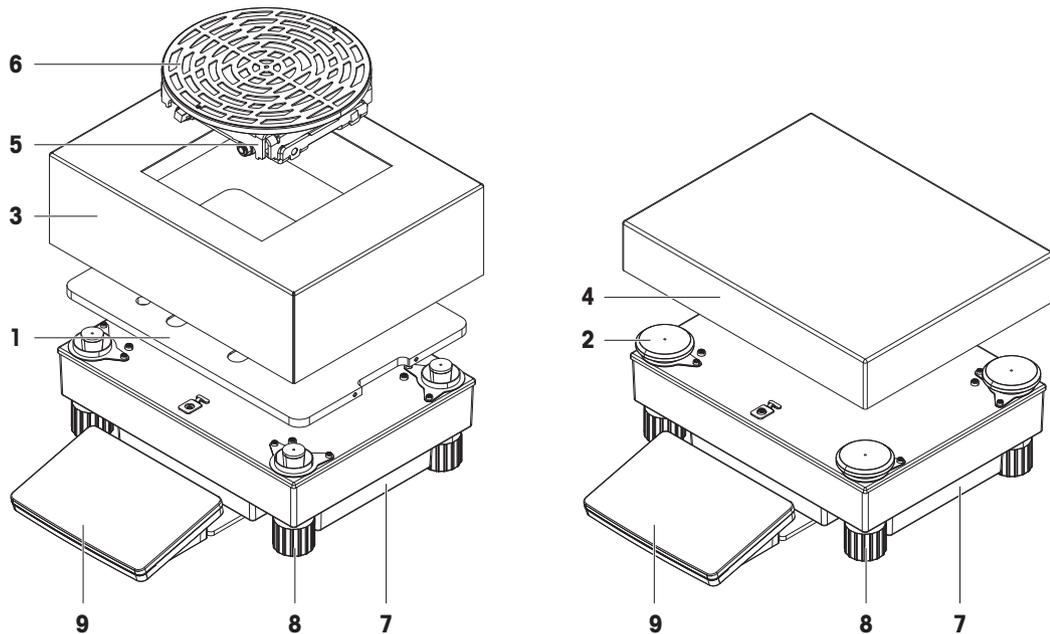
100 mg / 1 g



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		

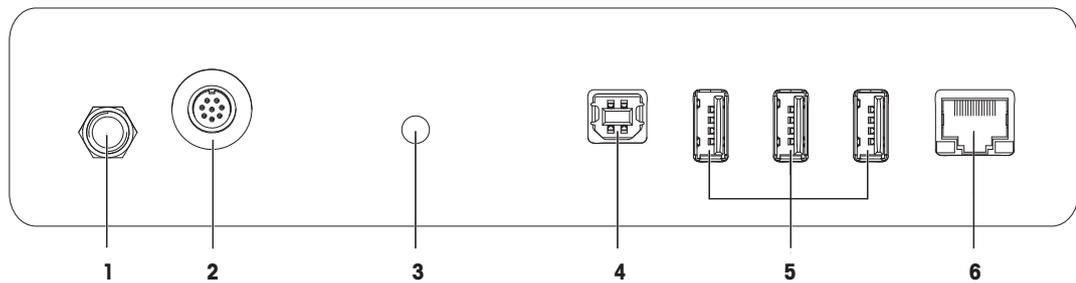
3.3.2 Comparators

1 mg / 5 mg / 10 mg



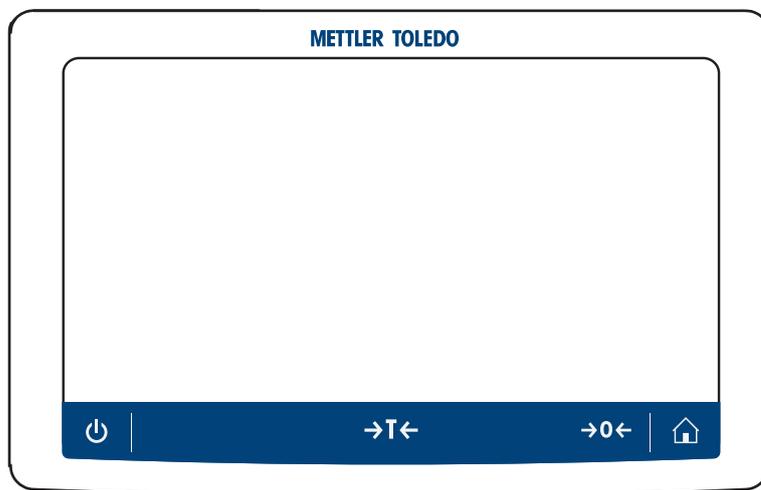
1	Adapter plate with LevelMatic base plate	6	LevelMatic weighing pan
2	Weighing pan support cap	7	Weighing platform
3	Draft shield element	8	Leveling foot
4	Weighing pan	9	Terminal with protective cover
5	LevelMatic weighing pan holder		

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



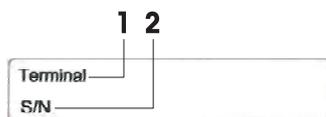
	Name	Description
	Standby	By tapping  , the balance is not completely switched off but goes into standby mode. To switch the balance completely off, it must be unplugged from the power supply. Note Do not disconnect the balance from the power supply unless the balance is not used for an extended period of time. After switching on the instrument, it must warm up before giving accurate results.
	Tare	Tares the balance. This function is used when the weighing process involves containers. After taring the balance, the screen shows <i>Net</i> which indicates that all displayed weights are net.
	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

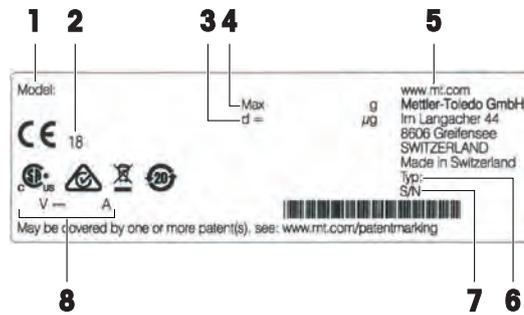
The terminal type plate is located on the terminal and contains the following information:



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 **Results** (4) open when tapping the tabs along the sides of the main weighing screen.



See also

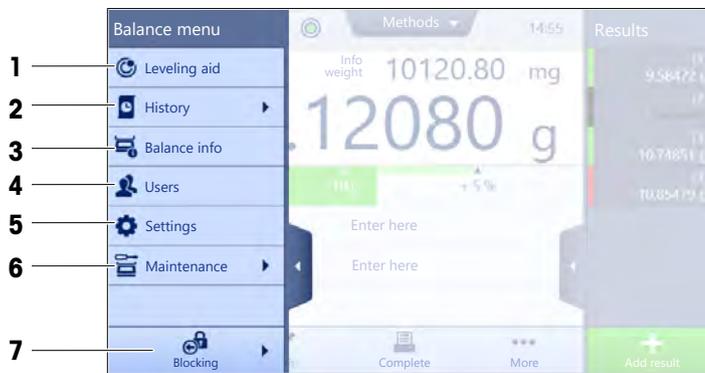
- 📄 Main weighing screen ▶ Page 24
- 📄 Panel "Balance menu" ▶ Page 25
- 📄 Panel "Methods" ▶ Page 25
- 📄 Panel "Results" ▶ Page 26

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	Results list	Shows the weighing results saved for this task.
8	Sample status OK	Result status indicator green: indicates that the result fulfills a set of criteria. For example: <ul style="list-style-type: none"> 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 Results list .
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 result	Adds the result to the Results list . Depending on the selected method, the button can have different functions.
12	Action bar	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 Panel "Balance menu"



	Name	Description
1	Leveling aid	Opens the leveling dialog.
2	History	Opens the history dialog.
3	Balance info	Shows the 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 Panel "Methods"



	Name	Description
1	Methods list	Lists the methods already defined by the user. Methods can be created, edited, cloned, started, or deleted.
2	Manual operations	For automated weighing, this menu shows operations that can be performed manually. Depending on the available hardware, this can include: <ul style="list-style-type: none"> • Manage dosing head data
3	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.
4	Tests	Lists the tests already defined by the user. <ul style="list-style-type: none"> • Sensitivity tests • Repeatability tests • Eccentricity tests Routine tests can be created, edited, started, or deleted. A list of the tests previously performed is available in the History .

	Name	Description
5	Adjustments	Shows the currently selected internal or external adjustment. The adjustment can be edited or started. A list of the adjustments previously performed is available in the History .

See also

History ▶ Page 83

3.6.5 Panel "Results"



	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. This might occur when the Weighing mode is set to Immediate . *: indicates that the value was calculated. This might occur, for example, when the Weighing mode is set to Dynamic or the Tare Mode is set to Preset tare .
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 . <ul style="list-style-type: none"> • Print task label manually • Print results manually • Export results manually
7	More	Opens the dialog More . <ul style="list-style-type: none"> • Start adjustment • Change display unit • Configure tare • Configure zero • Save as method (itemized) (only available for methods with the option Weighing items)
8	Exclude result	Excludes the current result from the Results list . A comment can be added to the excluded result, e.g., to describe the reason of the exclusion. Depending on the format of the results printout, the excluded result can be printed or not.

	Name	Description
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
	Levelled	More details about the leveling status are displayed when tapping the level status.
	Out of level	The balance must be leveled. Information about leveling the balance can be found in the section Leveling the balance.
	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.
	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 Preset tare .
	Minimum weight violation	The current weight value is smaller than the defined minimum weight. Make sure that the weight is larger than the minimum weight.
	Balance invalid	The current balance configuration is invalid or quality criteria have not been fulfilled according to the GWP approved definition.
	Weight not ready	The current weight measurement is not ready according to the GWP approved definition. This can be caused by an overload, an underload, or a minimum weight violation.

 GWP	Weight ready	The current weight measurement is ready according to the GWP approved definition. It can be added to the Results list .
	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

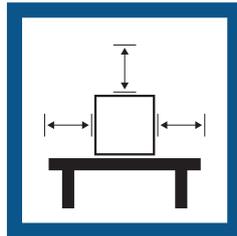
Ensure sufficient spacing

Level the instrument

Provide adequate lighting



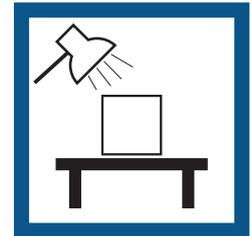
Avoid direct sunlight



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 holder	✓	✓	✓	✓	✓
Terminal connection cable (pre-assembled)	✓	✓	✓	✓	✓
Pro draft shield	✓	✓	–	–	–
Weighing pan 127 x 127 mm	–	✓	–	–	–
Weighing pan 172 x 205 mm	–	–	–	✓	–
Weighing pan 193 x 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 connection cable (pre-assembled)	✓	✓
Pro draft shield (not for XPR10003SC)	✓	✓
Draft shield XP W12 (only for XPR10003SC)	–	✓
SmartPan weighing pan	✓	✓
LevelMatic weighing pan \varnothing 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 holder	✓	✓
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 holder (not for XPR64002LC-T)	✓	✓	✓
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)	✓	✓	–
Fixed weighing pan ø 220 mm (only for XPR64002LC-T)	–	–	✓
AC/DC adapter	✓	✓	✓
Power cable (country-specific)	✓	✓	✓
Transport case (only for XPR64002LC-T)	–	–	✓
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 holder. Alternatively, the terminal can be placed next to the weighing platform, or attached to an additional terminal stand.



Note

Comparators with S weighing platform are used without a terminal holder.



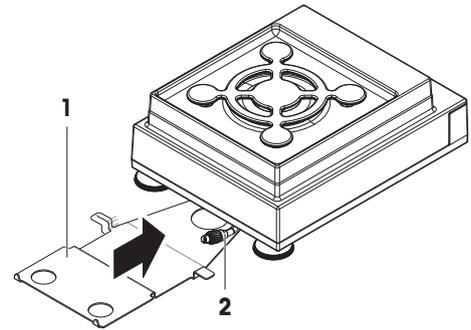
NOTICE

Damage to the balance

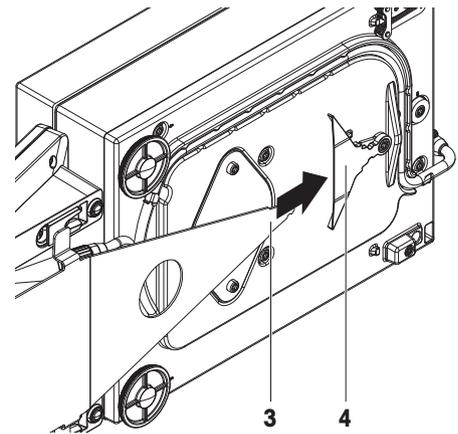
The weighing platform and the terminal are not safely fixed by the terminal holder and may fall off when carrying.

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

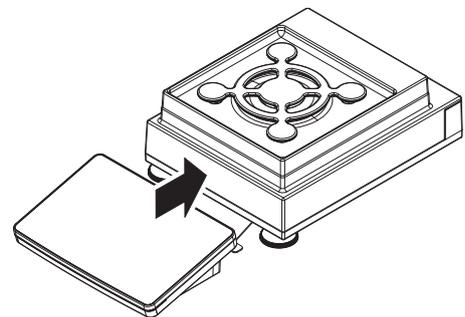
- 1 Place the weighing platform on a flat surface.
- 2 Position the terminal holder (1) in front of the weighing platform. The plug of the pre-mounted terminal connection cable (2) must lie between the terminal holder (1) and the weighing platform.



- 3 Push the terminal holder (3) towards the weighing platform. The far end of the terminal holder (3) must be pushed into the lock element (4) at the bottom of the weighing platform.
- 4 Use the terminal connection cable to connect the terminal with the weighing platform.



- 5 Place the terminal on top of the terminal holder.
 - 6 Push the terminal towards the weighing platform until the terminal locks into the terminal holder.
- ➔ The terminal is mounted and connected to the weighing platform.



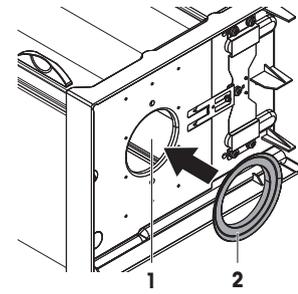
4.4.1.2 Assembling balances 0.1 mg with Pro draft shield and SmartPan weighing pan



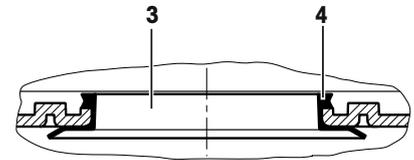
Note

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.

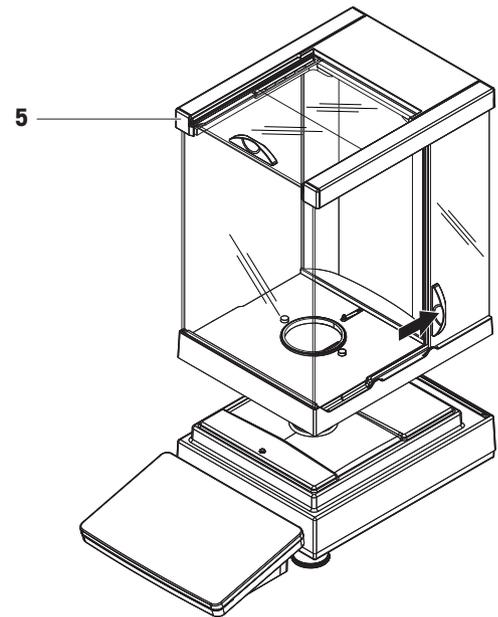
- 1 Turn the Pro draft shield carefully sideways into horizontal position.
- 2 Push the ring seal (2) through the opening (1) on the bottom of the Pro draft shield.



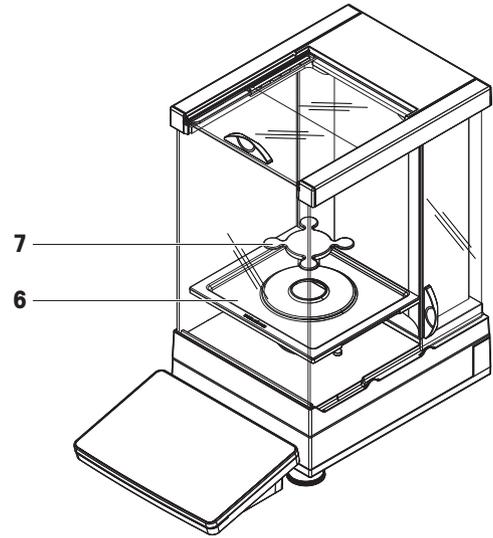
- 3 Fix the ring seal in the opening of the Pro draft shield. The ring seal (3) must be properly fixed into the opening. The upper edge (4) of the ring seal must lay all around the bottom of the Pro draft shield.
- 4 Turn the Pro draft shield carefully back into vertical position.



- 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.

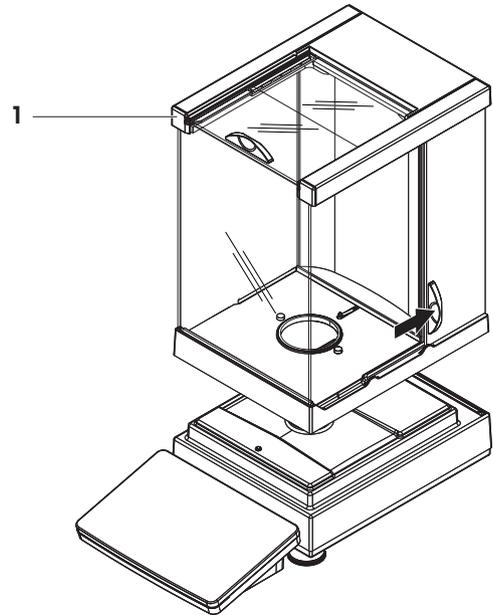


- 7 Place the DripTray (6) into the Pro draft shield.
- 8 Place the SmartPan weighing pan (7) into the Pro draft shield on top of the DripTray (6).

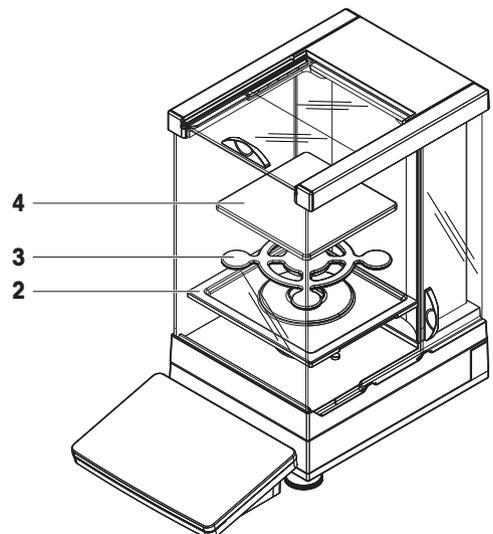


4.4.1.3 Assembling balances 1 mg with Pro draft shield

- 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.

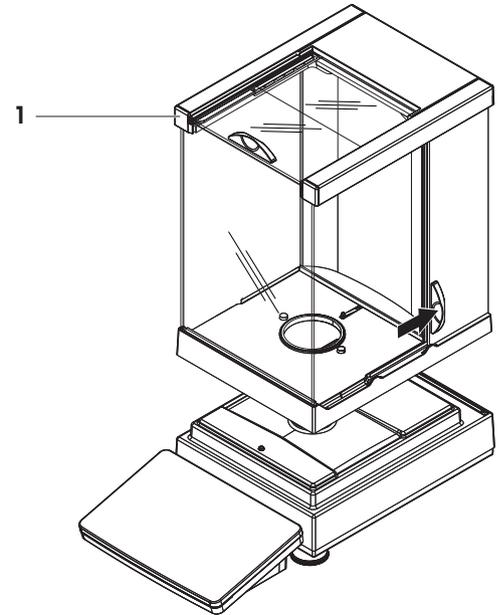


- 4 Place the DripTray (2) into the Pro draft shield.
- 5 Place the SmartPan weighing pan (3) into the Pro draft shield on top of the DripTray (2).
- 6 The weighing pan (4) is optional and can be placed into the Pro draft shield on top of the SmartPan weighing pan (3).

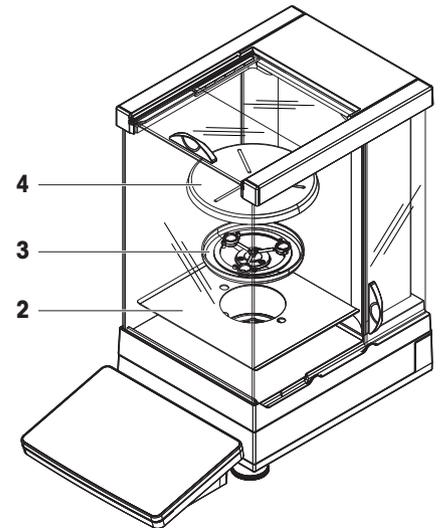


4.4.1.4 Assembling comparators 0.1 mg and 1 mg with LevelMatic weighing pan

- 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.

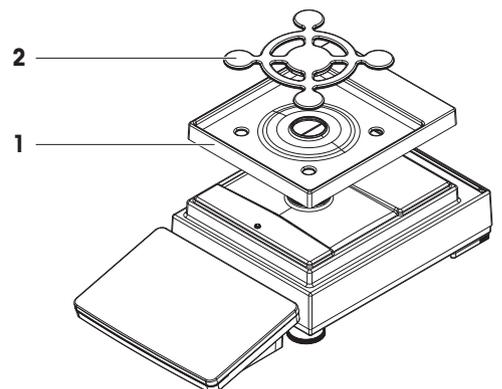


- 4 Place the bottom plate (2) into the Pro draft shield.
- 5 Place the LevelMatic holder (3) into the Pro draft shield on top of the bottom plate (2).
- 6 Place the LevelMatic weighing pan (4) into the Pro draft shield on top of the LevelMatic weighing pan holder (3).



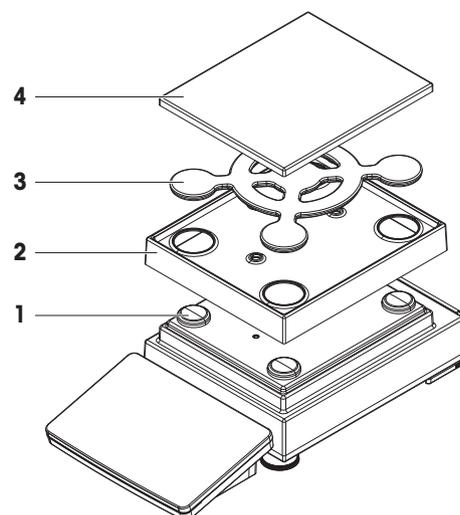
4.4.1.5 Assembling balances 1 mg with SmartPan weighing pan

- 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.



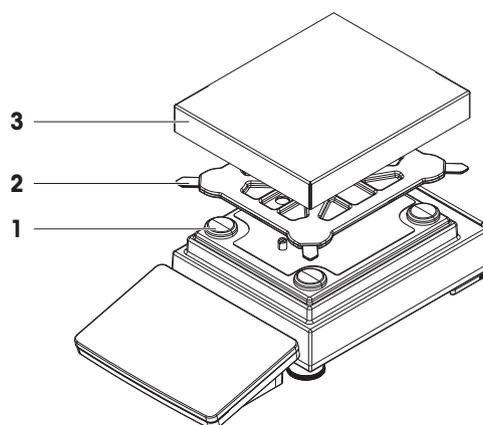
4.4.1.6 Assembling balances 5 mg and 10 mg with SmartPan weighing pan

- 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

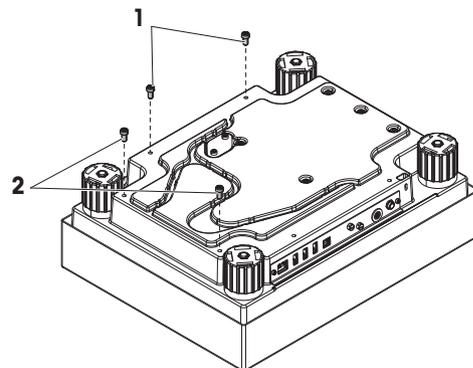
The terminal can be attached to the long side or to the short side of the L weighing platform.



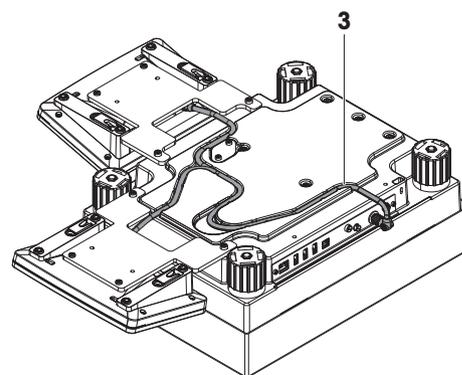
Note

On L weighing platforms, the terminal holder can be used with both balances and comparators.

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



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



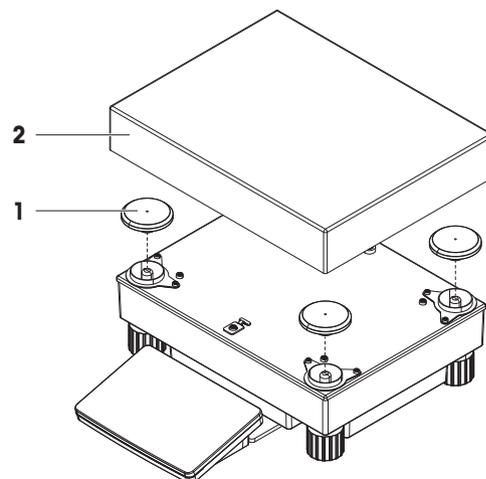
Note

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

- 6 Turn the weighing platform.

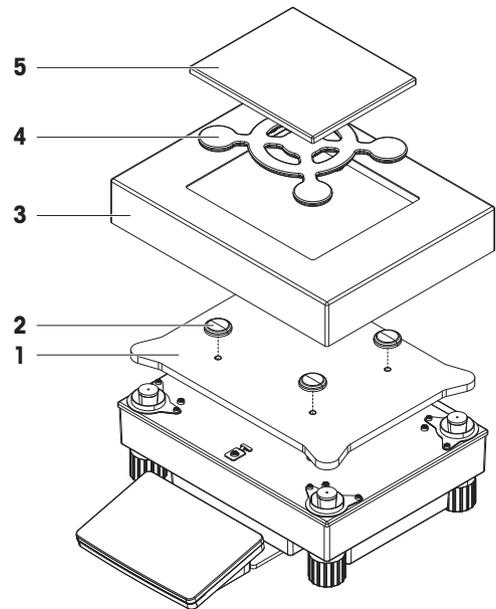
4.4.2.2 Assembling balances 100 mg and 1 g

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



4.4.2.3 Assembling balances 10 mg with SmartPan weighing pan

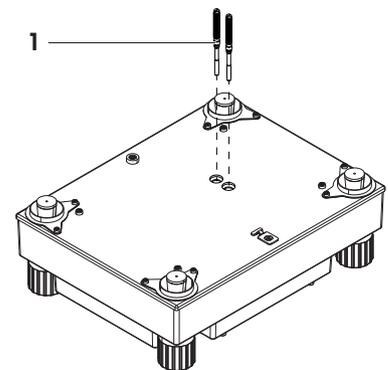
- 1 Place the adapter plate (1) on top of the weighing platform.
- 2 Place the weighing pan support caps (2) on top of the adapter plate.
- 3 Place the draft shield element (3) on top of the adapter plate (1).
- 4 Place the SmartPan weighing pan (4) on top of the weighing pan support caps (2).
- 5 Place 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)

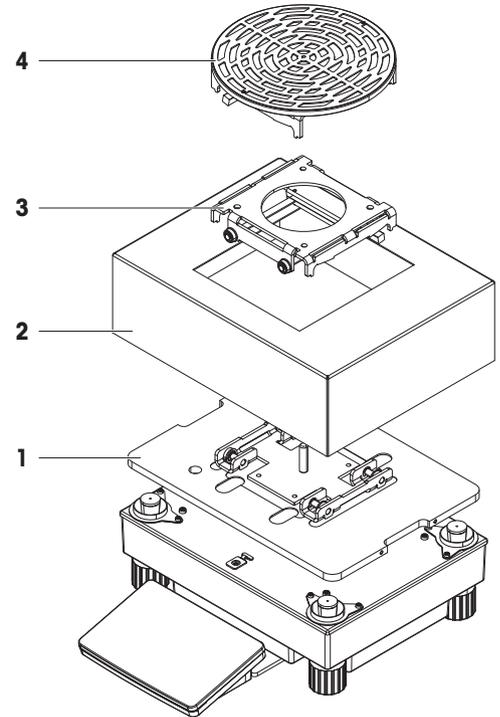
Transport safety screws are used to prevent damaging the load cell during transport. Before installing the weighing pan, the transport safety screws on top of the weighing platform must be removed. Keep the transport safety screws for transporting the comparator.

- 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).



4.4.2.6 Assembling the comparator XPR64002LC-T



For instructions on how to assemble the comparator model XPR64002LC-T, refer to the Installation Instructions delivered with the comparator.

4.5 Putting into operation

4.5.1 Connecting the balance



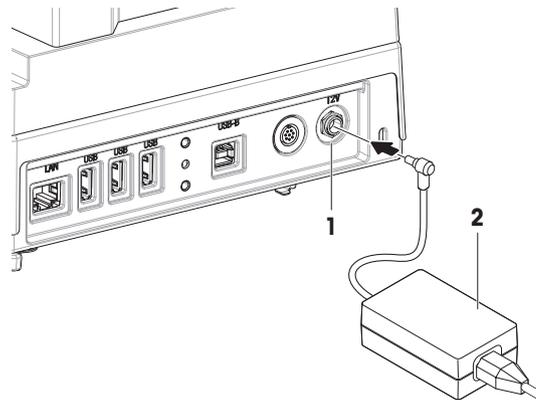
WARNING

Death or serious injury due to electric shock

Contact with parts that carry a live current can lead to death or injury.

- 1 Only use the METTLER TOLEDO power cable and AC/DC adapter designed for your instrument.
- 2 Connect the power cable to a grounded power outlet.
- 3 Keep all electrical cables and connections away from liquids and moisture.
- 4 Check the cables and the power plug for damage and replace them if damaged.

- 1 Install the cables in such a way that they cannot be damaged or interfere with operation.
 - 2 Insert the plug of the AC/DC adapter (2) into the power inlet of the instrument (1).
 - 3 Secure the plug by firmly tightening the knurled nut.
 - 4 Insert the plug of the power cable into a grounded power outlet that is easily accessible.
- ➔ The balance performs a self-test after connection to the power supply and is then ready to use.



Note

Do not connect the instrument to a power outlet controlled by a switch. After switching on the instrument, it must warm up before giving accurate results.

See also

📖 General data ▶ Page 173

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 name** 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 name** 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 75
- 📖 Users ▶ Page 86

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

Navigation: ▼ **Methods** > ⚙️ **Adjustments**

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

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

4.5.6 Setting the balance to standby mode

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

4.5.7 Switching off the balance

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



Note

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

See also

📄 Switching on the balance ► Page 40

4.6 Performing a simple weighing

4.6.1 Zeroing the balance

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

4.6.2 Taring the balance

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

- 1 Open the draft shield, if applicable.
- 2 Clear the weighing pan.

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

4.6.3 Performing a weighing

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

4.6.4 Completing the weighing

- 1 To save the **Results list**, tap **Complete**.
 - ➔ The window **Complete task** opens.
 - 2 Select an option to save or print the **Results list**.
 - ➔ The respective dialog opens.
 - 3 Follow the instructions from the wizard.
 - 4 Tap **✓ Complete**.
- ➔ The **Results list** is saved/printed and then cleared.

4.7 Transporting, packing and storing



NOTICE

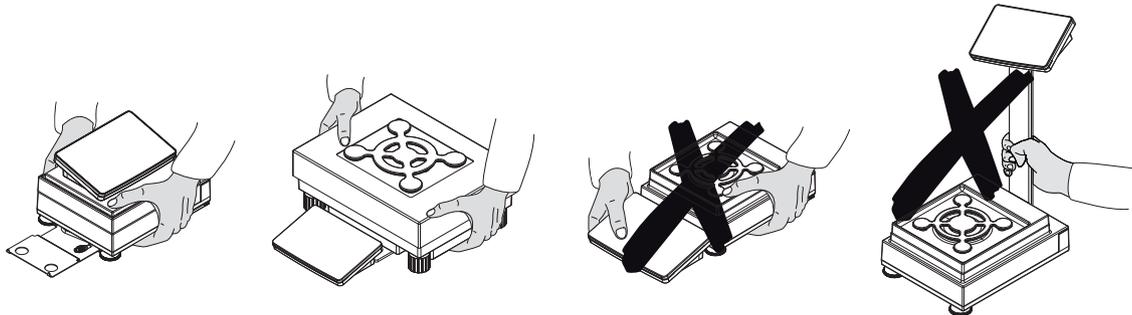
Damage to the draft shield, terminal or additional terminal stand

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

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

4.7.1 Transporting the balance over short distances

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



See also

- 📄 Selecting the location ▶ Page 29
- 📄 Switching on the balance ▶ Page 40
- 📄 Leveling the balance ▶ Page 41
- 📄 Performing an internal adjustment ▶ Page 41

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

- 📄 Removing and installing the transport safety screws (only for comparators) ▶ Page 38

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

- 📄 Technical Data ▶ Page 173

4.8 Installing devices

4.8.1 Connecting a printer via USB



NOTICE

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

- To use the printer, consult its User Manual.

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

Adding a printer via the balance settings

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

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

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

See also

📖 **Devices / Printers** ▶ Page 97

4.8.2 Connecting a printer via Bluetooth

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

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

- 7 Tap **→Next** to confirm the Bluetooth connection.
 - ➔ The dialog closes, the printer is connected to the balance via Bluetooth.
 - ➔ The dialog **Printer settings** opens.
- 8 If needed, configure the printer or print a test page.



Note

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



Note

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

See also

- Bluetooth ▶ Page 97
- Devices / Printers ▶ Page 97

4.8.3 Connecting a USB device

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



NOTICE

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

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

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

See also

- Devices / Printers ▶ Page 97

4.9 Weighing below the balance

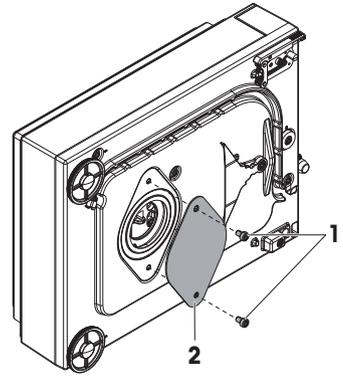
All models with S weighing platform are equipped with a weighing hook for below-the-balance weighing. Models with L weighing platform are not equipped with a weighing hook. The weighing hook for L weighing platforms can be ordered as an accessory.

See also

- Dimensions ▶ Page 196

4.9.1 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.



4.9.2 L weighing platform

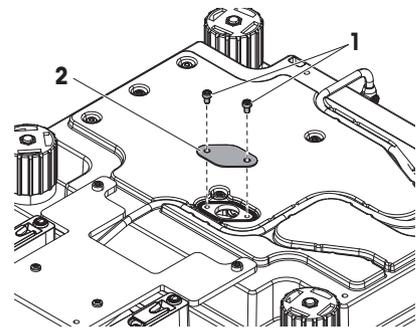


NOTICE

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

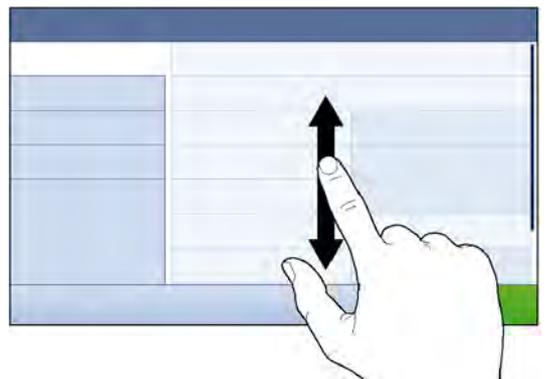
5.1.1 Selecting or activating an item

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



5.1.2 Scrolling

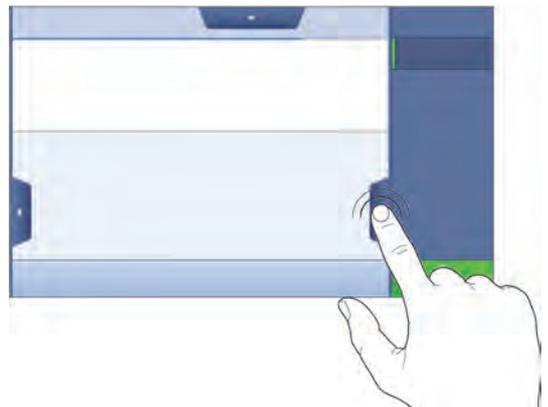
- Move the list up/down.



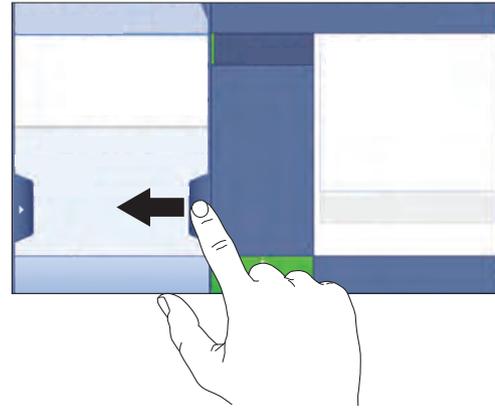
5.1.3 Using the fly-in panels

Three fly-in panels are placed along the sides of the main weighing screen.

- 1 Place the finger on one tab along one side of the screen, e.g., ◀.



- Keep the finger on the tab and slide it in the direction towards which the arrow is pointing.



Note

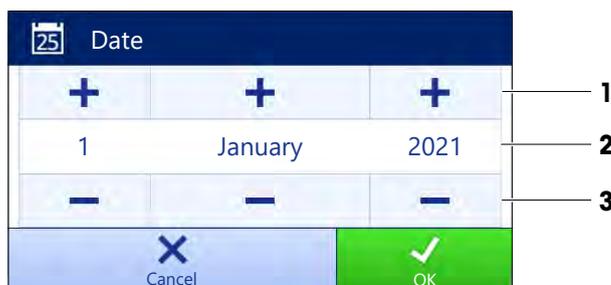
The fly-in panels can also be opened or closed by tapping the associated tab.

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 cursor position. The cursor 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 93

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" ▶ Page 49])
- **Simple formulation** (see [Method "Simple formulation" ▶ Page 51])
- **Interval weighing** (see [Method "Interval weighing" ▶ Page 52])
- **Titration** (see [Method "Titration" ▶ Page 54])
- **Density determination** (see [Method "Density determination" ▶ Page 55])
- **SQC** (see [Method "SQC" ▶ Page 57])
- **Piece Counting** (see [Method "Piece Counting" ▶ Page 61])

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 settings of the weighing item, e.g., target weight and tolerances, can be specified for one or multiple weighing items. Two different methods exist:

- **General weighing:**
 - Select this method if you want to work with a single set of parameters.
- **General weighing (itemized):**
 - Select this method if you want to define the parameters for multiple weighing items. A method with multiple weighing items is 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 methods with multiple weighing items (itemized) ▶ Page 64].



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 99
- 📖 Using methods with multiple weighing items (itemized) ▶ Page 64

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 (itemized)**.
- 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**.
 - ➔ If setting up a method with multiple weighing items, the wizard opens the section **4. Weighing items**.
- 6 Select a weighing item from the list and define the **Sample ID**, **Unit**, **Target weight**, **-Tolerance**, and **+Tolerance**.
- 7 To add a weighing item, tap **+** **Item** or **▣ Clone**.
- 8 Tap **→ Next**.
 - ➔ The method wizard opens the section **5. Save**.
- 9 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 in the center of 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 result**.
 - ➔ The weighing result is saved to the **Results list**.
- 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 **Results list** 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 result from the **Results list**. Open the **Results list**, select a result to exclude, and tap **Exclude result**.

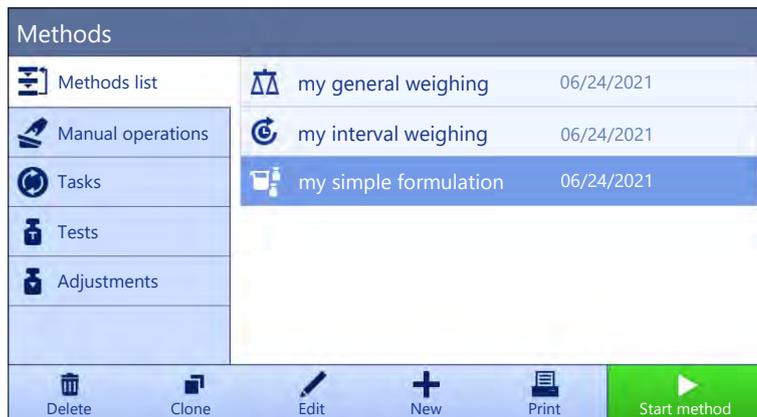
The window **Complete task** always appears after completing the task, even if the results are saved automatically.

5.2.3 Method "Simple formulation"

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

The settings of the weighing item, e.g., target weight and tolerances, can be specified for one or multiple weighing items. 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 (itemized):**
 - Select this method if you want to follow a predefined solution recipe of one or several components. A method with multiple weighing items is 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 methods with multiple weighing items (itemized) ▶ Page 64].



For details about method settings:

See also

- 📄 Settings: method "Simple formulation" ▶ Page 110
- 📄 Using methods with multiple weighing items (itemized) ▶ Page 64

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 (itemized)**.
- 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 (itemized)**, the wizard opens the optional creating section **4. Weighing items**.
- 7 Select a weighing item from the list and define the **Sample ID**, **Unit**, **Target weight**, **-Tolerance**, and **+Tolerance**.
 - ➔ The method wizard opens the section **5. Save**.
- 8 Tap **✓ Finish** to save the new method.
 - ➔ The method has been created and appears in the list.

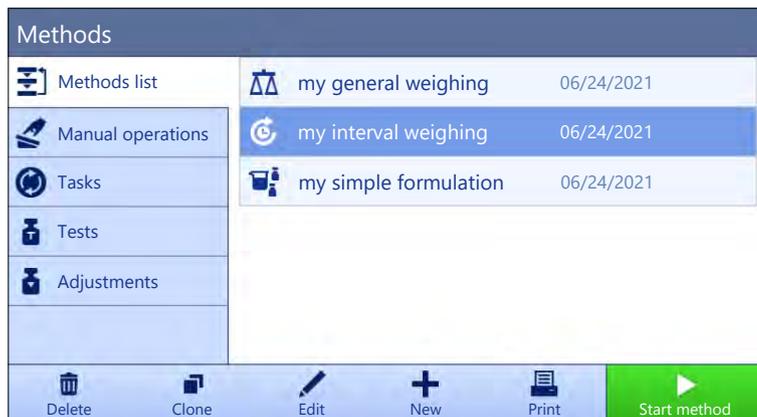
5.2.3.2 Method "Simple formulation"

This example describes how to perform a **Simple formulation** with two components. It explains the basic functions of the method. 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 in the center of 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 result**.
 - ➔ The weighing result is saved to the **Results list**.
- 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 result**.
 - ➔ The weighing result is saved to the **Results list**.
- 16 Tap **☰ Complete** and select if you want to print or export the **Results list**.
 - ➔ The weight task is completed and the balance returns to the main weighing screen.

5.2.4 Method "Interval weighing"

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



For details about method settings:

See also

📄 Settings: method "Interval weighing" ▶ Page 119

5.2.4.1 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 section **3. Configuration**.
- 5 Select a **Approximate interval**, the number of **Measurements**, select a **Tolerance profile** and tap **→ Next**.
 - ➔ The method wizard opens the section **4. Weighing item**.
- 6 Select a **Unit** for the weighing and tap **→ Next**.
 - ➔ The method wizard opens the 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 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 **Results list** shows the current counter.
- 11 Wait until the process is finished.
 - ➔ The **Results list** 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 results 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 **Results list**.



Note

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

5.2.5 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

 Settings: method "Titration" ▶ Page 123

5.2.5.1 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 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.

5.2.5.2 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 in the center of 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 **Results list**.
 - ➔ The weighing result is saved to the **Results list**.
 - 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.

5.2.6 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. On the other hand, the **Density determination** 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, for example, using a pycnometer.

Methods		
 Methods list	 my general weighing	06/24/2021
 Manual operations	 my density	06/24/2021
 Tasks		
 Tests		
 Adjustments		
 Delete	 Clone	 Edit
 New	 Print	 Start method

For details about method settings:

See also

 Settings: method "Density determination" ▶ Page 131

5.2.6.1 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 determination**.
- 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 **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 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.

5.2.6.2 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.
 - 📖 **Note**
For approved balances, if the zeroing fails, use the function **Perform initial zero**, see [Service menu ▶ Page 99].
 - ➔ The **Results list** 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.

5.2.7 Method "SQC"

The method **SQC** (statistical quality control) is used to gather statistical data about samples to, ultimately, control their quality. This method offers advanced statistical capabilities and can be highly automatized.

The **SQC** method requires a specific license in order to be available on your balance. Contact your METTLER TOLEDO sales representative to purchase the SQC license. After you get your personal license key, sign in to the Software Portal (<https://activation.mt.com/>), and activate your license key. For more details, consult the instructions provided with your license key.



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 "SQC" ▶ Page 138

5.2.7.1 Creating a method "SQC"

Navigation: ▼ **Methods** > ☰ **Methods list**

- The SQC license key is activated for the balance.
- 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 **SQC**.
 - 3 Tap **→ Next**.
 - ➔ The method wizard opens the section **2. Identification**.
 - 4 Define the **Method name**.
 - 5 Define **Number of task IDs** and their respective settings.
 - 6 Tap **→ Next**.
 - ➔ The method wizard opens the section **3. Configuration**.

- 7 Select a **Tolerance profile**.
- 8 If using an automatic feeder LV12 for this method, activate the **Automatic feeder support** and specify the **Number of weighing items**, **Discharge feeder at the end**, and the **Feed rate**.
- 9 Tap **→ Next**.
 - ➔ The method wizard opens the section **4. Weighing item**.
- 10 If using a liquid of known density, the results on the weighing screen can be shown in units of volume. If desired, activate the setting **Liquid** and specify the **Liquid density**.
- 11 Specify the **Nominal** weight or volume of an individual weighing item. Alternatively, activate **Use measured average as nominal** and define a **Plausibility reference**.
- 12 Define the tolerance above (**+Tolerance T1**) and below (**-Tolerance T1**).
- 13 If using a second band of tolerances, activate **T2 tolerances** and define **+Tolerance T2** and **-Tolerance T2**.
 - ➔ The method wizard opens the section **5. Save**.
- 14 Tap **✓ Finish** to save the new method.
 - ➔ The method has been created and appears in the list.

5.2.7.2 Performing a "SQC" on packaged goods

The SQC method can be used on samples of a production line for packaged goods. This is illustrated here using the example of water bottles. The specific settings that are appropriate to your application depend on your products, your industry, the regulations of your country, etc.

Setting up the method

- The SQC license key is activated for the balance.
 - A method **SQC** has been created.
- 1 Open the **Methods** section.
 - 2 Select a method **SQC** from the **Methods list**.
 - 3 Tap **✎ Edit**.

Editing ID format

- 1 Tap **ID format**.
- 2 Set the **Number of task IDs** to 2.
- 3 To use the **Task ID 1** to identify the batch ID, do not change its **Task description**.
- 4 To use the **Task ID 2** to identify the product number, edit its **Task description**. For example, type in "Product ID".

Editing Weighing

- 1 Tap **⚙ Weighing**.
- 2 Enable the option **Custom time span statistics 1**.
- 3 To gather statistics for a single batch, tap **Statistics 1 - Name** and type in "Single batch".
- 4 Leave the **Electrostatic** settings disabled to reduce the time required to weigh each item.

The time span of the custom statistics is controlled by the user. The label is given in the method as an indication to the user, but the statistics must be reset by the user manually when the time span has elapsed.

Editing Weighing item

- 1 Tap **⚙ Weighing item**.
- 2 Enable the option **Liquid**.
- 3 Specify the density of the liquid, for example 1 g/ml for water.
- 4 Enable **Calculate net weight excl. packaging**.
- 5 Specify the weight of the **Packaging**. In this case, this is the weight of a single empty bottle, e.g., 125 g.
- 6 Specify the **Nominal** volume of the liquid, e.g., 1 liter.
- 7 Set the **+Tolerance T1** and the **-Tolerance T1** to 1.5%.

- 8 Enable the **T2 tolerances**.
- 9 Set the **+Tolerance T2** and the **-Tolerance T2** to 3%.

Editing Automation

- 1 Tap  **Automation**.
- 2 Enable **Automatic zero** and leave **Automatic zero threshold** to its default value.
- 3 Set **Automatic result** to **Without sample tare**. Leave **Automatic result threshold** to its default value and **Weight trigger** to **Exceeding**.

Editing Print / Export

- 1 Keep the default **Print / Export** settings.
- 2 Tap  **Save**.

Running the method

- 1 Select the method from the **Methods list**.
- 2 Tap  **Start method**.
 - ➔ The main weighing screen appears with the selected method.
- 3 Fill in the user-specific task IDs: "Batch ID" and "Product ID".
- 4 Press  to zero the balance.
- 5 Add one item on the weighing pan. In this example, that is one filled water bottle.
 - ➔ As soon as the weight is stable, the result is automatically added to the **Results list**.
 - ➔ For each individual result, the status indicator shows the status of the result: **OK**, **Not OK**, or **Excluded**.
 - ➔ If the result is within the **Plausibility limits**, the value is added to the statistics.
- 6 Remove the item from the weighing pan.
 - ➔ The balance starts an automatic zeroing.
- 7 Repeat until the desired number of items is reached.
- 8 Tap  **Complete** to open the printing options.
 - ➔ The dialog **Complete task** appears.
- 9 Print or export the results if needed.
- 10 Tap  **Complete**.
 - ➔ The individual results are deleted from the **Results list**, but are still included in the time span statistics.
- 11 To print the time span statistics, select the statistics in the **Results list** and tap  **Print**.

Resetting the statistics

When the time span of the custom statistics has elapsed, the user needs to reset the statistics manually.

- 1 Open the **Results list**.
- 2 Tap the time span statistics that you want to reset.
- 3 Tap  **Reset**.

5.2.7.3 Performing a "SQC" with automatic feeder

In this particular example, the SQC method is used to test medical pills. The pills are dispensed one by one on the weighing pan by the automatic feeder LV12. The specific settings that are appropriate to your application depend on your products, your industry, the regulations of your country, etc.

Setting up the method

- The SQC license key is activated for the balance.
 - A method **SQC** has been created.
 - An automatic feeder LV12 is installed on the balance.
- 1 Open the **Methods** section.
 - 2 Select a method **SQC** from the **Methods list**.

- 3 Tap  **Edit**.

Editing ID format

- 1 Tap  **ID format**.
- 2 Set the **Number of task IDs** to 3.
- 3 To use the **Task ID 1** to identify the batch ID, do not change its **Task description**.
- 4 To use the **Task ID 2** to identify the product number, edit its **Task description**. For example, type in "Product ID".
- 5 To use the **Task ID 3** to identify the production line, edit its **Task description**. For example, type in "Production line".

Editing Weighing

- 1 Tap  **Weighing**.
 - 2 Enable the option **Custom time span statistics 1**.
 - 3 To gather daily statistics, tap **Statistics 1 - Name** and type in "Daily".
 - 4 Enable the option **Custom time span statistics 2**.
 - 5 To gather weekly statistics, tap **Statistics 2 - Name** and type in "Weekly".
 - 6 Leave the **Electrostatic** settings disabled to reduce the time required to weigh each item.
- The time span of the custom statistics is controlled by the user. The label is given in the method as an indication to the user, but the statistics must be reset by the user manually when the time span has elapsed.

Editing Weighing item

- 1 Tap  **Weighing item**.
- 2 Enable **Use measured average as nominal**.
- 3 Set the **Plausibility reference** to the approximate weight of a single pill, e.g., 1 g.
- 4 Set the **Plausibility limits** to 20% .
- 5 Set the **+Tolerance T1** and the **-Tolerance T1** to 5%.
- 6 Enable the **T2 tolerances**.
- 7 Set the **+Tolerance T2** and the **-Tolerance T2** to 10%.

Editing Automation

- 1 Tap  **Automation**.
- 2 If not already done while creating the method, enable the **Automatic feeder support**.
- 3 Set the **Number of weighing items** to 20.
- 4 Set the **Tare Mode** to **Automatic tare**.

Editing Print / Export

- 1 Keep the default **Print / Export** settings.
- 2 Tap  **Save**.

Running the method

- 1 Select the method from the **Methods list**.
- 2 Tap  **Start method**.
 - ➔ The main weighing screen appears with the selected method.
- 3 Fill in the user-specific task IDs: "Batch ID", "Product name", and "Production line".
- 4 Press  **0**  to zero the balance.
- 5 Place a sample vessel on the weighing pan, big enough to collect all the pills that will be dispensed by the automatic feeder. Make sure that there is no contact between the sample vessel and the automatic feeder.
- 6 Tap   **Start** to start the weighing process.
 - ➔ Due to the method configuration, the balance tares automatically before it starts dispensing the pills.
 - ➔ The automatic feeder dispenses the pills one by one.

- ➔ As soon as the weight is stable, the result is automatically added to the **Results list**.
 - ➔ For each individual result, the status indicator shows the status of the result: **OK**, **Not OK**, or **Excluded**.
 - ➔ If the result is within the **Plausibility limits**, the value is added to the statistics.
 - ➔ When the number of items passing the plausibility check is reached, the **Results list** opens.
- 7 Tap **Complete** to open the printing options.
 - ➔ The dialog **Complete task** appears.
 - 8 Print or export the results if needed.
 - 9 Tap **Complete**.
 - ➔ The individual results are deleted from the **Results list**, but are still included in the time span statistics.
 - 10 To print the time span statistics, select the statistics in the **Results list** and tap **Print**.

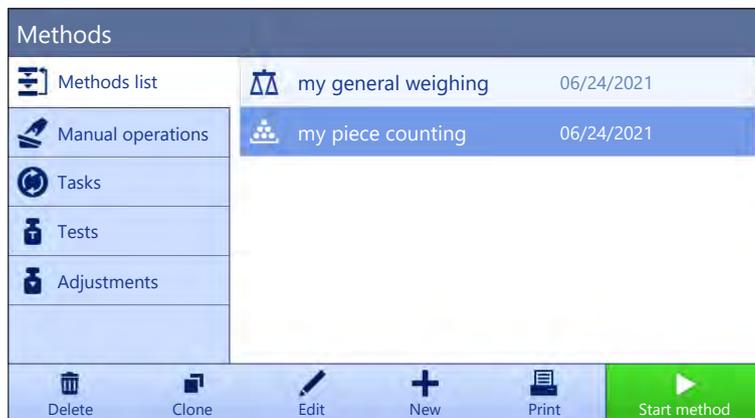
Resetting the statistics

When the time span of the custom statistics has elapsed, the user needs to reset the statistics manually.

- 1 Open the **Results list**.
- 2 Tap the time span statistics that you want to reset.
- 3 Tap **Reset**.

5.2.8 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.



For details about method settings:

See also

Settings: method "Piece Counting" ▶ Page 146

5.2.8.1 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 section **5. Save**.
- 7 Tap ✓ **Finish** to save the new method.
- ➔ The method has been created and appears in the list.

5.2.8.2 Performing a "Piece Counting"

This section describes how the method **Piece Counting** is being used in a task example. In this example we are weighing pieces in a sample vessel.

- 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 with the selected method opens. The balance displays the defined target value, the tolerance and the current average weight of one piece.
- 4 Press ➔ **0** ← to zero the balance.
or
If a container is used, place the container (1) on the weighing pan (2) and press ➔ **T** ← to tare the balance.
 - ➔ The tare-measurement starts with **Taring...**
- 5 If not yet done, enter the average weight for a known number of pieces in the method settings. This serves as reference for the piece counting. Tap  to capture the weight of the items on the weighing pan and use it as reference weight.
- 6 Place the pieces in the sample vessel.
- 7 Close the draft shield (if applicable) and wait until the weight stabilizes.
- 8 Tap + **Add result**.
 - ➔ The weighing result is saved to the **Results list**.
- 9 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 **Results list** 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 result from the **Results list**. Open the **Results list**, select a result to exclude, and tap **Exclude result**.

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

5.2.9 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 99

5.2.10 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 multiple weighing items exist in the original method, those will be cloned as well.

- 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.

5.2.11 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.

5.2.12 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**.

5.2.13 Using methods with multiple weighing items (itemized)

Working with itemized methods can simplify the workflow, especially when several weighings with different predefined target weights have to be carried out one after the other. Information such as a target weight and tolerances can be defined for each weighing item within a single task. This may save time and increase quality of weighing processes consisting of multiple steps.

Before multiple weighing items can be used in the weighing process, they must be defined. The two ways of creating a weighing method that includes several weighing items are:

- Directly define the multiple weighing items during the method creating process.
- Use the **Results list** of a running method to define a new method with multiple weighing items.

The following methods use multiple weighing items:

- **General weighing (itemized)**
- **Simple formulation (itemized)**

5.2.13.1 Creating a new method with multiple weighing items (itemized)

This example describes how to define multiple weighing items for the method **General weighing (itemized)**.

- 1 Open the **Methods** section.
 - 2 Tap **+ New** in the action bar.
 - 3 Tap **Method type** and select **General weighing (itemized)**.
 - 4 Step through the method wizard until step **4. Weighing items**.
 - ➔ The dialog **4. Weighing items** appears.
 - 5 Select a weighing item from the list and define the **Sample ID**, **Unit**, **Target weight**, **-Tolerance**, and **+Tolerance**.
 - 6 Tap **→ Next**.
 - 7 Tap **✓ Finish**.
- ➔ The method has been created and appears in the list.

5.2.13.2 Creating an itemized method from a completed task

It is possible to create a method with multiple items while performing a method that includes a single item, providing that the method type allows it. This example describes how to create a method **General weighing (itemized)** based on a method **General weighing**.

- 1 Start a method **General weighing**.
 - 2 Perform three weighings and add the results to the **Results list** by tapping **+ Add result**.
 - ➔ The results are saved to the **Results list**.
 - 3 Tap **⋮ More**.
 - 4 Tap **📄 Save as method (itemized)**.
 - 5 Define a **Method name**.
 - 6 Tap **✓ OK**.
- ➔ A method **General weighing (itemized)** including three items is created and added to the **Methods list** with the name defined by the user.

5.2.13.3 Performing an itemized method

After creating a method with multiple items, it can be started.

- 1 Open the **Methods** section.
- 2 Select an itemized method from the **Methods list**.
- 3 Tap **▶ Start method**.
 - ➔ The main weighing screen opens. The target weight and the tolerance limits defined in the method appear.

5.3 Test weights

5.3.1 Defining an individual 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** >  **Test weights**



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.

- The dialog **Test weights** is open.
- 1 Tap  **Test weight**.
- 2 Define the test weight settings and confirm with  **Finish**.
- ➔ The test weight is defined and will be available later in the test procedure.

5.3.2 Defining a combined test weight

The user can combine test weights to achieve a test weight capacity that is not available as a single standard weight. For example, a weight of 10 g and a weight of 20 g can be combined and used as a test weight of 30 g. Each combined test weight can include two or three test weights. The class of a specific combined weight can only be as good as the worst class of the individual test weights it contains. As for any other test weight, combined test weight can be used to carry out external tests and adjustments.

Navigation:  **Methods** >  **Tests** >  **Test weights**

- The dialog **Test weights** is open.
- At least two individual test weights are defined.
- 1 Tap  **Combined weight**.
- 2 Enter a **Test weight name**.
- 3 Select the **Minimum weight class** for the combined weight.
- 4 Tap **Weights**.
 - ➔ The individual weights of at least **Minimum weight class** are shown.
- 5 Select the weights to include in the combined weight.
- 6 Tap  **OK**.
 - ➔ The **Nominal weight** is calculated as the sum of the selected individual weights.
- 7 Tap  **Save**.
 - ➔ The combined test weight is defined and will be available later in the test procedure.

5.4 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**

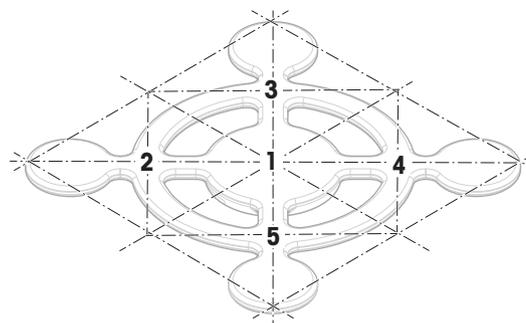
5.4.1 Overview routine tests

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.

5.4.1.1 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 (1). 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).



5.4.1.2 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, a load is placed and measured at the same location on the weighing pan several times. 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 the repeatability of the balance at one test point, without tare weight.
- **Repeatab. - Tare - 1 TP:** To test the repeatability of the balance at one test point, with a tare weight.

5.4.1.3 Sensitivity test

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 the sensitivity of the balance at one test point, without tare weight.
- **Sensitivity - 2 TP:** To test the sensitivity of the balance at two test points, without tare weight.
- **Sensitivity - Tare - 1 TP:** To test the sensitivity of the balance at one test point, with a tare weight.
- **Sensitivity - Tare - 2 TP:** To test the sensitivity of the balance at two test points, with a tare weight.

5.4.2 Creating a 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 details about test settings:

See also

📖 Tests settings ▶ Page 155

5.4.3 Performing a test



NOTICE

Incorrect weighing results due to wrong handling of the test weights.

- Only handle test weights with gloves, tweezers, weight forks, or weight handles.

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.

See also

-  Defining an individual test weight ▶ Page 65
-  Defining a combined test weight ▶ Page 65
-  Tests settings ▶ Page 155

5.4.3.1 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 clean. Have at hand: the test weight, gloves, and the appropriate tools to handle the test weight.
- 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 added to the **Results list** 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 added to the **Results list** 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 added to the **Results list** 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 added to the **Results list** 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 added to the **Results list** 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

-  Settings: Eccentricity test ▶ Page 155
-  Troubleshooting ▶ Page 170

5.4.3.2 Performing a "Repeatability test"

In this section, all 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 clean. Have at hand: the test weight, gloves, and the appropriate tools to handle the test weight.
- 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 added to the **Results list**.
- 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 a certain number of 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 clean. Have at hand: the test weight, gloves, and the appropriate tools to handle the test weight.

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 added to the **Results list**.

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 added to the **Results list**.

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 added to the **Results list**.

- ➔ Depending on the specified **Number of repetitions** you have to repeat the last two 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

 Settings: Repeatability test ▶ Page 158

 Troubleshooting ▶ Page 170

5.4.3.3 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 clean. Have at hand: the test weight, gloves, and the appropriate tools to handle the test weight.
- 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 added to the **Results list**.
- 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 clean. Have at hand: the test weight, gloves, and the appropriate tools to handle the test weight.
- 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 added to the **Results list**.
- 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 added to the **Results list**.
- 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

 Settings: Sensitivity test ▶ Page 160

 Troubleshooting ▶ Page 170

5.4.4 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 the test settings.

See also

 Tests settings ▶ Page 155

5.4.5 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.

5.4.6 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:

5.4.7 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 83

5.5 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**

5.5.1 Internal adjustment

5.5.1.1 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:

See also

 Adjustments settings ▶ Page 163

5.5.1.2 Performing an "Internal adjustment"

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

5.5.2 External adjustment

5.5.2.1 Editing an "External adjustment"

- 1 Open the **Methods** section.
 - 2 Tap  **Adjustments**.
 - 3 Tap  **Edit**.
 - 4 Set the **Strategy** to **External adjustment**.
 - 5 Tap  **Test weights - Edit test weight**.
➔ The dialog **Test weights - Edit test weight** opens.
 - 6 Select a test weight from the list and tap  **OK**
- or -
tap  **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

 Adjustments settings ▶ Page 163

5.5.2.2 Performing an "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 clean. Have at hand: the test weight, gloves, and the appropriate tools to handle the test weight.
- 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

 Defining an individual test weight ▶ Page 65

 Defining a combined test weight ▶ Page 65

5.5.3 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, adjustment trigger, and correction.

See also

 History ▶ Page 83

5.6 External devices

Navigation: ▶ **Balance menu** >  **Settings** >  **Devices / Printers**

5.6.1 Adding a 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. However, only one printer of a specific type can be active at any given time. When connecting a new printer or the same type, the printer of the same type that was previously active is deactivated automatically. After connecting a new printer, verify the status of all other printers.

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**.

5.6.2 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.

5.6.3 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.

5.6.4 Printing a test page

If you have installed a printer, a test page can be printed.

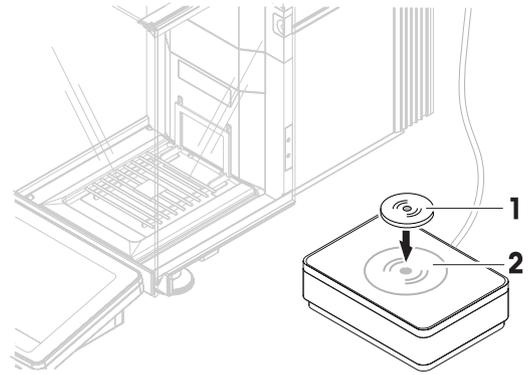
- 1 Select the printer in the list of devices.
- 2 Tap **🖨 Print test page**

5.6.5 Using an RFID reader

5.6.5.1 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 an 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.



5.6.5.2 Formatting an RFID tag

Navigation: ▶ Balance menu > Maintenance > Format RFID

- 1 Tap **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 format the RFID tag, tap **Format**.
 - ➔ The RFID tag was formatted.

5.6.5.3 Reading data from an RFID tag

Navigation: ▶ Balance menu > Maintenance > Format RFID

- 1 Tap **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 the stored data.
- 3 To format the RFID tag, tap **Format**. To close the dialog, tap **Cancel**.

5.7 User management



NOTICE

Loss of data due to missing password or User name

Protected menu areas cannot be accessed without **User name** or password.

- Note **User name** and password and keep them in a safe place.

5.7.1 Activating the user management

Navigation: ▶ Balance menu > Settings > Balance > General > User management

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

- 1 Tap **Active** 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.

5.7.2 Disabling the user management

Navigation: ▶ Balance menu > ⚙ Settings > ⚙ Balance > ⚙ 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.

5.7.3 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

Activating the user management ▶ Page 75

5.7.3.1 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.

5.7.3.2 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.

5.7.3.3 Deleting users or user groups

Requirements for deleting:

- You logged in as administrator.

Navigation: ▶ Balance menu > 👤 Users > 👤 Users

- 1 Select the **User name** of the user to delete.
 - ➔ 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.

5.8 Tolerance profiles

Navigation: ▶ Balance menu > ⚙ Settings > ⚖ Balance > ⚖ 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.

If changes are made to the default tolerance profile, the status of the routine tests will be set to **Never executed**.

5.9 Data management

Navigation: ▶ Balance menu > 🛠 Maintenance > 📄 Import / Export

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

The following data can be imported or exported:

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

5.9.1 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.

5.9.2 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.

5.10 Password protection and balance reset

5.10.1 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 78].
- Users with permission to configure user management can change the password of any user. See [Changing a password ▶ Page 78].
- 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 79]

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 79].

5.10.1.1 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.

 **Note**

Any password is valid.

- 4 Tap  **OK**.
- ➔ The password has been changed.

5.10.1.2 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.

5.10.1.3 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.

5.10.2 Logging in and logging out

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

5.10.2.1 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.

5.10.2.2 Logging out

Navigation: ▶ **Balance menu** >  **Exit/Block balance**

- Tap  **Logout**.
 - ➔ You are logged out.

5.10.3 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 79].

5.10.3.1 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.

5.10.3.2 Unblocking the balance

- The balance is blocked and the blocking screen is open.
- 1 Tap  **Unblock balance**.
 - 2 Type in the unblocking password, if applicable.
 - 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.

5.10.4 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. The alibi memory settings and alibi entries remain unchanged.

5.11 Automated dosing

Automated dosing methods, namely **Automated dosing** and **Automated solution prep.**, can only be performed on XPR analytical automatic balances. However, any XPR balance connected to an RFID reader can be used to read/edit the data from any dosing head.

5.11.1 Managing the dosing head data

Each dosing head includes an RFID tag that can exchange data with the instrument. You can remove the dosing head and insert it into another dosing module or liquid module, where the data is immediately available.

Note

The data on RFID tag of the dosing head can also be accessed any XPR balance equipped by an external RFID reader.

Navigation: ▼ **Methods** > ✎ **Manual operations** > 📄 **Manage dosing head data**

Editing the dosing head data

- 1 Tap 📄 **Manage dosing head data**.
 - ➔ The dialog box opens in which the dosing head data is displayed.
- 2 Tap ✎ **Edit** to edit the data of the attached dosing head.
- 3 Tap ✓ **OK** to save the data.

Copying the dosing head data

The data stored on a dosing head can be copied to another dosing head with this function. Re-entering all the required data on a new dosing head with the same or similar substances is not necessary.

- A first dosing head, from which data will be copied, is attached to the dosing or liquid module.
- A second dosing head, on which the data will be saved, is available.

- 1 Tap 📄 **Manage dosing head data**.
 - ➔ The dialog box opens in which the dosing head data is displayed.
- 2 Tap 📄 **Copy** to copy the data of the attached dosing head.
- 3 Follow the instructions from the wizard.

Available fields for dosing head data

Depending on the type of dosing head, the following data is stored on the RFID tag.

Parameter	Description	Values
Substance	Specifies the name of the substance.	Text (0...20 characters)
Lot ID	Defines the batch identification.	Text (1...15 characters)
Verify expiry date before dosing	Defines whether the expiry date is verified before dosing.	Active Inactive*
Expiry date	Specifies the expiry date of the substance.	Date
Set the filling date	Defines whether the filling date must be specified.	Active Inactive*
Filling date	Specifies the date when the dosing head was filled.	Date
ID 1 field label... ID 3 field label	Defines the label of the user-defined fields.	Text (0...10 characters)
ID 1 value...ID 3 value	Defines the values of the user-defined fields.	Text (0...15 characters)
Molar mass	Defines the molar mass of the substance.	Numeric (1...10000 g/mol)
Purity	Defines the purity of the substance.	Numeric (0.001...100%)
Density	Defines the liquid density. This field is only available for liquid dosing heads.	Numeric (1 g/ml* 0.01...10 g/ml)
Verify quantity before dosing	Defines whether the remaining quantity in the dosing head is verified before dosing.	Active Inactive*

Remaining quantity	Residual quantity of substance in the dosing head. When filling the dosing head, insert the weight of the substance in this field. To use the weight on the weighing pan, tap  .	Numeric (0.01 ... 999999 mg)
Verify dose limit before dosing	Defines whether the dose limit of the dosing head is verified before dosing. This field is only available for powder dosing heads.	Active* Inactive
Remaining doses	Shows the number of dosing operations still available with this dosing head, before reaching the Dose limit . The Remaining doses is calculated based on the Dose limit and the Number of total dosages . This field is only available for powder dosing heads. It is only available when Verify dose limit before dosing is set to Active	Numeric
Dose limit	Specifies the maximum number of dosing operations with this dosing head. This field is only available for powder dosing heads.	Numeric (250* 0... 50000)
Number of total dosages	Shows the number of dosing operations performed with this dosing head until now. This field is only available for powder dosing heads. It is only available when Verify dose limit before dosing is set to Active .	Numeric
Tapping while dosing	Activates the automatic start of the tapper during dosing. Note that tapping can lead to compacting effects with some powders. This field is only available for powder dosing heads.	Active* Inactive
Tapping before dosing	Activates the automatic start of the tapper before each dosing. Note that tapping can lead to compacting effects with some powders. This field is only available for powder dosing heads.	Active Inactive*
Pump pressure	Defines the pump pressure for the liquid dosing operation. This field is only available for liquid dosing heads.	0.3 0.4 0.5 bar*
Dosing head type	Shows the type of the dosing head.	Text
Dosing head ID	Shows the unique ID of the dosing head.	Text

* Factory setting

5.11.2 Changing the pump pressure

The pump pressure can be adjusted, depending on the liquid and dosing head used. The pump pressure is saved as a setting on the dosing head, see [Managing the dosing head data ► Page 81].

6 Software Description

6.1 Balance menu settings

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

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

-  **Leveling aid**, see [Leveling aid ▶ Page 83]
-  **History**, see [History ▶ Page 83]
-  **Balance info**, see [Balance info ▶ Page 86]
-  **Users** (only appears when user management is activated), see [Users ▶ Page 86]
-  **Settings**, see [Settings ▶ Page 88]
-  **Maintenance**, see [Maintenance ▶ Page 99]

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

 Leveling the balance ▶ Page 41

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.

Button	Name	Description
	Filter	Tap to filter the list: <ul style="list-style-type: none">• By date range• By user ID
	Print	Tap to print the displayed entries.
	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.

Button	Name	Description
	Filter	Tap to filter the list: <ul style="list-style-type: none">• By date range• By user ID
	Print	Tap to print the displayed entries.
	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 **Results list**. Each alibi record contains the following information:

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



Note

When the **Weight capture mode** is set to **Immediate**, alibi records are only created for stable results.

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 **Results list**. This can be fixed in service mode, where alibi records can be deleted or the retention period can be shortened.

Button	Name	Description
	Filter	Tap to filter the list: <ul style="list-style-type: none">• By date range• By record ID range

Button	Name	Description
	Print	Tap to print the displayed entries.
	Export	Tap to export the displayed entries.
	Show alibi memory status	Tap to show information about the alibi memory status: <ul style="list-style-type: none"> • Used memory • Number of remaining records • Retention period • Oldest records • 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. It can be edited in service mode.
	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.

Button	Name	Description
	Filter	Tap to filter the list: <ul style="list-style-type: none"> • By date range • By technician
	Print	Tap to print the displayed entries.
	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.

Button	Name	Description
	Filter	Tap to filter the list: <ul style="list-style-type: none"> • By date range • By user ID

Button	Name	Description
	Print	Tap to print the displayed entries.
	Close	Tap to return to the section History .

6.1.3 Balance info

Navigation: ▶ **Balance menu** >  **Balance info**

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

- **Identification**
- **Hardware**
- **Software**
- **Maintenance**

Button	Name	Description
	License agreement	Tap to open the licence agreement.
	Close	Tap to return to the Balance menu .

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 individual users
-  **Groups**: settings for user groups

An unlimited number of users can be created. 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 75

6.1.4.1 General

Navigation: ▶ **Balance menu** >  **Users** >  **General**

Parameter	Description	Values
Automatic logout	Defines if the user is automatically logged out after a predefined Wait time .	Active* Inactive
Wait time	Defines after how long the user automatically gets logged out when no activity is recorded on the balance. This setting is only available if Automatic logout is set to Active .	Numeric (15 minutes* 1...60 minutes)

User proposals	Defines if a list of users appears on the login screen. Active: A list of all users appears, from which a User name can be selected. Inactive: The user needs to type in his User name by hand at login.	Active* 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* Not allowed

* Factory setting

6.1.4.2 Users

Navigation: ► Balance menu >  Users >  Users

Parameter	Description	Values
User name	Defines a unique identifier for the user. 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* 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

An unlimited number of users can be created. 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

Block / unblock balance	Defines if the group is allowed to block or unblock the balance.	Active Inactive
Configure methods	Defines if the group is allowed to: <ul style="list-style-type: none"> • create new methods • edit methods • delete methods • lock or unlock methods • import or export methods 	Active Inactive

Execute service commands	Defines if the group is allowed to: <ul style="list-style-type: none"> • access service function • block/unblock the balance • view adjustment state • generate support files 	Active Inactive
Configure system	Defines if the group is allowed to: <ul style="list-style-type: none"> • modify system settings • import system settings • configure peripherals • perform software updates • perform application or factory settings 	Active Inactive
Configure user management	Defines if the group is allowed to: <ul style="list-style-type: none"> • print or export/import user management settings • modify user management settings • enable or disable user management 	Active Inactive
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 Results list .	Active Inactive
Reset the time span statistics	Defines if the group is allowed to: <ul style="list-style-type: none"> • reset the time span statistics when using the method SQC 	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 Change history .	Active Inactive
Configure routine tests / GWP	Defines if the group is allowed to: <ul style="list-style-type: none"> • configure routine tests • import or export routine tests • configure and import test weights • configure tolerance profiles • activate/deactivate the GWP approval mode 	Active Inactive
Start routine tests	Defines if the group is allowed to perform routine tests.	Active Inactive

The settings related to the screen brightness and the sound can be edited by all users and changes are applied to all users. Any user can set a user-specific language for the balance interface without influencing the settings of other users.

6.1.5 Settings

This section describes the settings of the balance that can be changed to suit specific requirements. The balance settings apply to the entire weighing system and to all users.

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:

-  Weighing / Quality
-  Date / Time / Language / Format
-  Screen / StatusLight / Sound
-  General

Weighing / Quality

Navigation: ► Balance menu >  Settings >  Balance >  Weighing / Quality

Parameter	Description	Values
Leveling warning	Defines the action when the balance is out of level When Forced leveling is selected and the balance is out of level, no weighing value can be added to the Results list (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 section contains several settings that are described in the table Tolerance profiles below.	
Automatic weight value output	Defines if and in which manner (MT-SICS and/or HID) the weighing values should be exported. This section contains several settings that are described in the table Automatic weight value output below.	
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: <ul style="list-style-type: none"> • 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	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: <ul style="list-style-type: none"> • 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 [Changes ▶ Page 85].	Active Inactive*
Balance recalib. reminder	Defines whether the user is reminded about the upcoming expiry date of the calibration.	Active* Inactive
Days in advance	Defines the number of days before the due date the recalibration reminder is shown. This setting is only available if Balance recalib. reminder is set to Active .	Numeric (30 days* 0...400 days)
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 unblocks the balance. If User management is Active , only users with the appropriate rights can unblock the balance.	None* Block
Days before blocking	Defines the number of days before the reminder informs about the upcoming expiry date.	Numeric (30 days* 0...400 days)
Weight recalib. reminder	Defines whether the user is reminded about the upcoming expiry date of the test weight calibration.	Active Inactive*
Days in advance	Defines the number of days before the due date the recalibration reminder is shown. This setting is only available if Weight recalib. reminder is set to Active .	Numeric (30 days* 0...400 days)
Service reminder	Defines whether the user is reminded about the upcoming due date of the service.	Active Inactive*
Days in advance	Defines the number of days before the due date the service reminder is shown. This setting is only available if Service reminder is set to Active .	Numeric (30 days* 0...400 days)

* 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 77]

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 maximum 3 characters can be added.	None* Neutral White Yellow Red Blue Green 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 None*

Environment	<p>Defines the environmental conditions of the balance.</p> <p>Very stable: For an environment that is free from any drafts and vibrations.</p> <p>Stable: For an environment that is practically free from drafts and vibrations.</p> <p>Standard: For an average working environment subject to moderate variations in the ambient conditions.</p> <p>Unstable: For an environment where the conditions are from time to time changing.</p> <p>Very unstable: For an environment where the conditions are continuously changing.</p>	Very stable Stable Standard* Unstable Very unstable
Weighing mode	<p>Defines the filter settings of the balance.</p> <p>Universal: For all standard weighing applications.</p> <p>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.</p> <p>Dynamic: The dynamic weighing function determines the weight of a moving sample.</p>	Universal* Sensor mode Dynamic
Value release	<p>Defines the speed at which the balance regards the measured value as stable and available for capture.</p> <p>Very fast: recommended if you require fast results and repeatability is not very important.</p> <p>Very reliable: provides very good repeatability of the measured results but prolongs the stabilization time.</p> <p>Some intermediate settings can also be chosen from.</p>	Very fast Fast Fast and reliable* Reliable Very reliable
Display readability	<p>Determines the readability [d] of the balance display.</p> <p>1d: Shows the maximum resolution</p> <p>2d: Shows the final digit in increments of 2</p> <p>5d: Shows the final digit in increments of 5</p> <p>10d: 10 times smaller resolution</p> <p>100d: 100 times smaller resolution</p> <p>1000d: 1000 times smaller resolution</p>	1d* 2d 5d 10d 100d 1000d
Zero drift compensation	<p>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.</p>	Active* Inactive
Allowed units	<p>Defines the units that are allowed in this tolerance profile.</p>	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	<p>Defines which weighing values are transferred via the communication interface, e.g., USB, Ethernet.</p> <p>Results: The weighing values are transferred only when they are added to the Results list.</p> <p>Continuous: The weighing values are transferred continuously via the interface defined under LabX / Services > MT-SICS.</p> <p>Additional fields are available, depending on the chosen option.</p>	Results* Continuous
Target	<p>Defines the way the weighing values are transferred.</p> <p>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.</p> <p>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.</p> <p>HID / MT-SICS: The data is transferred in HID and MT-SICS format in parallel.</p> <p>MT-SICS configurable: The data is transferred in a user-defined MT-SICS format.</p> <p>This setting is only available if Output mode is set to Results.</p>	HID* HID / MT-SICS MT-SICS MT-SICS configurable
Weight field length	<p>Defines the number of digits that will be transferred into the application on the computer, e.g., into an Excel field.</p> <p>This setting is only available if Output mode is set to Results.</p>	Numeric (1* 0...20)
Sign	<p>Defines if the weighing result is displayed with an algebraic sign.</p> <p>For all values: Each weighing result is preceded by a plus or minus sign.</p> <p>For negative values: Only negative values are preceded by a minus sign. Positive values are transferred without algebraic sign.</p> <p>This setting is only available if Output mode is set to Results.</p>	For all values For negative values*
Sign position	<p>Defines if the algebraic sign is positioned at the first place of the weight field or directly in front of the weight digits.</p> <p>This setting is only available if Output mode is set to Results.</p>	Left of weight field Left of weight digits*
Decimal delimiter	<p>Defines the character used to separate the whole and fractional part of a numeric value.</p> <p>This setting is only available if Output mode is set to Results.</p>	, .*
Net indicator	<p>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.</p> <p>This setting is only available if Output mode is set to Results.</p>	Active Inactive*
Net indicator field length	<p>Defines the field length of the Net indicator.</p> <p>This setting is only available if Output mode is set to Results and Net indicator is set to Active.</p>	Numeric (2* 1...2)

Unit	Defines if a weighing unit is being shown in the weighing field. This setting is only available if Output mode is set to Results .	Active* Inactive
Unit field length	Defines the field length of the weighing unit. This setting is only available if Output mode is set to Results and Unit is set to Active .	Numeric (1* 1...6)
Field delimiter	Defines a character or sequence of characters to separate data fields. This setting is only available if Output mode is set to Results .	None Space* TAB , ;
End of line character	Defines a character or sequence of characters signifying the end of a line. This setting is only available if Output mode is set to Results .	CRLF CR LF TAB None Enter*
Updates/sec.	Defines the rate at which data is transferred. This setting is only available if Output mode is set to Continuous .	2 5 6* 10
Format	Defines the format of the transferred data. This setting is only available if Output mode is set to Continuous .	MT-SICS* PM 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.	Date
Time	Defines the current time. Use the plus/minus buttons to define the time.	Time
Language	Defines the language of the interface navigation.	English Deutsch Français 日本語 中文 Español Italiano Русский Português Polski Magyar 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* MMM D YYYY DD.MM.YYYY MM/DD/YYYY YYYY-MM-DD YYYY/MM/DD YYYY年M月D日
Time format	Selects the time format.	24:MM* 12:MM 24.MM 12.MM
Keyboard layout	Defines the language of the keyboard layout.	English German French Spanish Japanese Simplified Chinese Russian Czech Polish Hungarian
System defaults	Defines the default settings that are applied for newly created users. This setting is only available if User management is set to Active .	

* 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 % 40 % 60 % 80 %* 100 %
Sound volume	Defines the volume of the terminal sound.	Inactive 20 % 40 % 60 %* 80 % 100 %
Sound on key press	Defines if there is a sound when a key is pressed.	Active* Inactive
Sound on info	Defines if there is a sound when an information appears on the screen.	Active* Inactive
Sound on warning	Defines is there is a sound when a warning appears on the screen.	Active* Inactive
Sound on error	Defines is there is a sound in case of an error.	Active* Inactive
StatusLight	<p>Activates/deactivates the StatusLight.</p> <p>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.</p> <ul style="list-style-type: none"> • 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	<p>Defines the brightness of the activated StatusLight.</p> <p>This setting is only available if StatusLight is set to Active or Active (without green light).</p>	20 % 40 % 60 %* 80 % 100 %

* Factory setting

General

Navigation: ► Balance menu > ⚙ Settings > ⚖ Balance > ⚙ General

Parameter	Description	Values
Balance ID	<p>Defines the ID of the balance. This name could be used to communicate with the balance over a network.</p> <p>No space or special characters are allowed.</p>	Text (0...22 characters)
Standby	<p>Defines if the balance automatically enters standby mode after not being used for a predefined Wait time.</p> <p>If User management is active, the user will be automatically logged out when the balance switches to standby mode.</p> <p>The standby mode can always be started manually by pressing .</p>	Active* Inactive
Wait time	<p>Defines after how long the balance automatically switches to standby mode when not used.</p> <p>This setting is only available if Standby is set to Active.</p>	Numeric (10 minutes* 0...60 minutes)

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. The possibility to export to File server is only available if a File server is configured (see [LabX / Services ▶ Page 98]).	USB storage device* File server
User management	Activates/Deactivates the User management .	Active Inactive*

* Factory setting

6.1.5.2 Modules / Dosing

Navigation: ▶ Balance menu > ⚙ Settings > 🏠 Modules / Dosing

Dosing module / Dosing head

Parameter	Description	Values
Dosing head label	Defines the template of the dosing head label to be printed, i.e., which data is included on the label and in which format. This section contains several settings that are described in the table Dosing head label below.	

Dosing head label

Parameter	Description	Values
Copies	Defines how many copies of the label are printed.	Numeric
Used template	Chooses the label template.	Available labels are shown below.

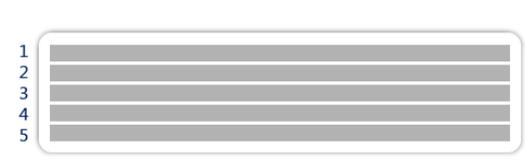
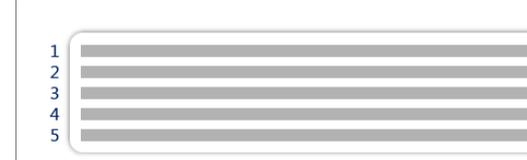
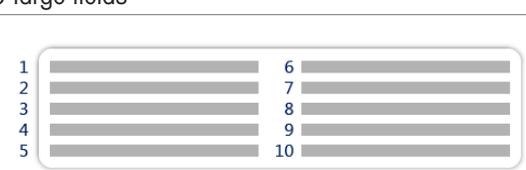
Field settings

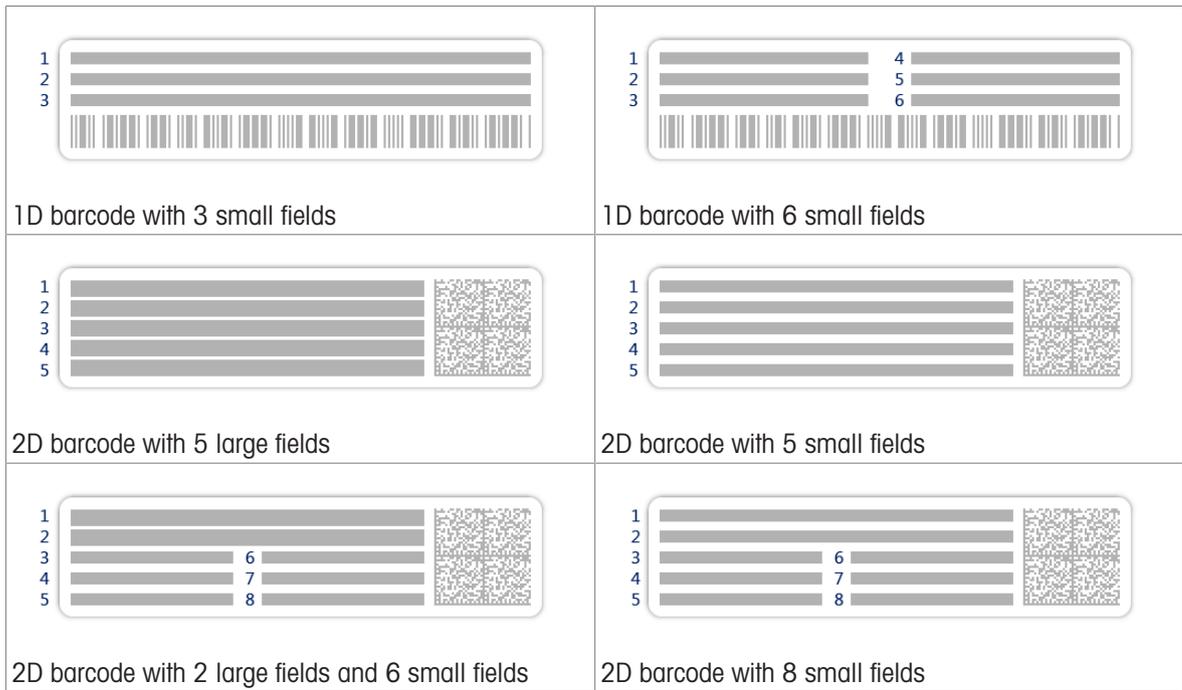
The content of each label field can be defined individually.

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.

Available labels

The following label layouts can be selected:

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



6.1.5.3 Interfaces

Navigation: ► Balance menu > ⚙ Settings > 📶 Interfaces

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

- 📶 Ethernet
- 📶 Bluetooth

Ethernet

The **Ethernet** interface allows to connect the balance to a network in order to:

- store weighing results as XML files on a share folder
- communicate remotely with the balance using the MT-SICS communication protocol or LabX

Navigation: ► Balance menu > ⚙ Settings > 📶 Interfaces > 📶 Ethernet

Parameter	Description	Values
Host name	Defines the balance host name.	Text (1...22 characters)
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 settings of the Ethernet connection will be automatically set. Manual: The settings of 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 address of the primary DNS (domain name system) server.	000.000.000.000... 255.255.255.255
DNS server (secondary)	Defines the 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
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* 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

* Factory setting

6.1.5.4 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: to print weighing results on strip paper Label printer: to print weighing results on labels	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: to print weighing results on strip paper Label printer: to print weighing results on labels	Strip printer Label printer*
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*

* Factory setting

ErgoSens

Navigation: ► Balance menu > ⚙ Settings > 🖨 Devices / Printers > 📡 ErgoSens

Parameter	Description	Values
Function	Defines which function is to be executed when triggering the device.	None* Zero Tare Add result

* Factory setting

Foot switch

Navigation: ► Balance menu > ⚙ Settings > 🖨 Devices / Printers > 📡 Foot switch

Parameter	Description	Values
Function	Defines which function is to be executed when triggering the device.	None* Zero Tare Add result

* Factory setting

6.1.5.5 LabX / Services

Several services are available to communicate with the balance: **LabX service**, **MT-SICS service**, or **Web service**. Note that only one service can be enabled at any given time.

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	Inactive: No connection to LabX will be established. Network: A network connection to LabX will be established on startup. The Port must be specified. USB: A USB connection to LabX will be established on startup.	Inactive* Network USB
MT-SICS service	Inactive: No MT-SICS port will be opened. Network: An MT-SICS network port will be opened on startup. The Port must be specified. USB: An MT-SICS USB port will be opened on startup.	Inactive* Network USB
Web service	If set to Active , a network port will be opened on startup. Use the menu Web service configuration to configure the service. The complete Web service documentation is available online (www.mt.com/labweighing-software-download).	Inactive* Active
File server	Allows to define a file server to import/export data. If set to Active , use the menu File server configuration to configure the server.	Active Inactive*

* Factory setting

6.1.5.6 Printing the settings

Navigation: ► Balance menu > ⚙ 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.

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

-  Data management ▶ Page 77
-  Using an RFID reader ▶ Page 74
-  Software update ▶ Page 168
-  Resetting the balance ▶ Page 80

6.1.6.1 Service menu

Navigation: ▶ Balance menu >  Maintenance >  Service menu

Button	Name	Description
	Show adjustment state	Tap to open information about: <ul style="list-style-type: none">• Prescaler• Temperature compensation• Production linearization• Standard calibration• Production calibration• User linearization• User calibration
	Save support file	Tap to save support file (all relevant information to an error) on a USB storage device 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.
	Perform initial zero	Tap to perform an initial zero of the balance. This can be useful when using accessories whose weight exceeds the zeroing range of the balance, for example a density kit. This function is only available for approved balances.

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 (itemized)** are described. Settings can be edited for a newly created method or an already existing method.

Navigation: ▼ Methods >  Methods list >  my general weighing >  Edit

The settings of the method **General weighing** are grouped as follows:

-  **General**
-  **ID format**
-  **Weighing**
-  **Weighing item**, only available for the method **General weighing**
-  **Weighing items**, only available for the method **General weighing (itemized)**
-  **Automation**
-  **Print / Export**

See also

-  [Creating a method "General weighing" ▶ Page 50](#)
-  [Editing a method ▶ Page 62](#)

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.	Text (1...22 characters)
Comment	The method can be described with a comment.	Text (0...128 characters)
Lock method	Locks the method to prevent further editing.	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 Number of task IDs is larger than 0, the settings Task ID , Task description and Prefix/Default value are available 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

Task 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 setting is only available when the corresponding Task ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This setting is only available is the corresponding Task ID is set to Automatic timestamp .	Text (0...32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the Number of result IDs is larger than 0, the settings Result ID , Result description and Prefix/Default value are available 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 to which is appended a unique number (counter).	Manual with default* Automatic counter
Result 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 setting is only available when the corresponding Result ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the result ID. This setting is only available if the corresponding Result ID is set to Automatic counter .	Text (0...32 characters)

* Factory setting

6.2.1.3 Weighing

Parameter	Description	Values
Show info weight	When set to Active , a secondary weight is displayed on the weighing screen.	Active Inactive*
Info unit	Defines the unit of the Info weight . This setting is only available if Show info weight is set to Active .	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 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.	Tolerance profiles are created by the user for specific balances and applications.
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 does not wait for a stable weight. The system waits for the defined Weight capture delay , then the weight value from the weight stream is captured. Dynamic : After the Weight capture delay , the balance calculates the weight as the average of a number of weighing values over a defined duration (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 setting is only available if Weight capture mode is set to Immediate or Dynamic .	Numeric (5 seconds* 0...60 seconds)
Weight capture duration	Defines the time during which the weight is captured and averaged. This setting is only available when the Weight capture mode is set to Dynamic .	Numeric (10 s* 3...120 s)

* Factory setting

Statistics

Parameter	Description	Values
Activate statistics	<p>If Activate statistics is set to Active, the following statistics will be calculated:</p> <p>Count: Number of items used for the statistics</p> <p>Sum: sum of all value (decimal places and unit according to the method settings)</p> <p>Minimum: smallest value (decimal places and unit according to the method settings)</p> <p>Maximum: largest value (decimal places and unit according to the method setting)</p> <p>Range: difference between the largest and smallest values (decimal places and unit according to the method settings)</p> <p>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 associated tolerance profile (unit according to the method settings).</p> <p>Standard deviation: standard deviation rounded to 1 digit more than the configured decimal places in the associated tolerance profile (unit according to the method settings)</p> <p>Relative standard deviation: relative standard deviation (rounded to 2 decimal places, in %)</p> <p>The statistical values are calculated and displayed as soon as a result is added or updated.</p>	Active Inactive*

* Factory setting

Electrostatic

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

* Factory setting

See also

 Creating a method "General weighing" ▶ Page 50

6.2.1.4 Weighing item / Weighing items

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 (itemized)** in **Weighing items**.

Parameter	Description	Values
Sample ID	<p>Defines the name of the sample.</p> <p>This setting is only available for methods containing several weighing items (itemized).</p>	Text (0...32 characters)
Unit	Defines the unit of the 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	<p>Defines the lower tolerance limit.</p> <p>This setting is only available if a Target weight is defined.</p>	Numeric

+Tolerance	Defines the upper tolerance limit. This setting is only available if a Target weight is defined.	Numeric
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See also

-  Creating a method "General weighing" ▶ Page 50
-  Using methods with multiple weighing items (itemized) ▶ Page 63

6.2.1.5 Automation

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

* Factory setting

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 that the automatic feeder will deliver to the balance.	Numeric (20* 1...100)
Plausibility limits	<p>Defines the plausibility limit for measured values.</p> <p>The plausibility limit relates to the defined target weight.</p> <p>Example: With a plausibility limit of 30%, all weight values that are within $\pm 30\%$ 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.</p>	Numeric (30%* 0...100%)
Discharge feeder at the end	<p>Specifies if the automatic feeder is emptied of all objects after the task.</p> <p>Active: The automatic feeder feeds at the configured discharge feed rate and stops 90 seconds after the last object has passed the light barrier.</p> <p>Inactive: No automatic emptying.</p>	Active Inactive*

Feed rate	Defines the rate at which the automatic feeder delivers the items to the balance.	Slow Normal* Fast Very fast
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* Factory setting

Weighing automation

Parameter	Description	Values
Automatic zero	Active: the balance is automatically zeroed when the weight falls below a predefined threshold.	Active Inactive*
Automatic zero threshold	Defines the threshold of the Automatic zero . This setting is only available if Automatic zero is set to Active .	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. Preset tare: Allows you to enter manually a numerical entry of a fixed tare weight.	None* Automatic tare Preset tare
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 setting is only available if Tare Mode is set to Automatic tare .	Numeric
Preset tare 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 setting is only available if Tare Mode is set to Preset tare .	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. If Automatic feeder support is activated, the setting Automatic result is automatically set to Without sample tare and cannot be edited.	None With sample tare* Without sample tare
Automatic result threshold	Defines the threshold of the Automatic result . The result is automatically added to the Results list only if the weight of the sample is larger than the defined threshold. This setting is only available if Automatic result is set to Active .	Numeric

Weight trigger	<p>Defines the behaviour of the option Automatic result threshold.</p> <p>Exceeding: The weighing result is generated when the weight exceeds the defined threshold.</p> <p>Falling below: The weighing result is generated when the weight falls below the defined threshold.</p> <p>This setting is only available if Automatic result is set to Without sample tare.</p> <p>If Automatic feeder support is activated, the setting Weight trigger is automatically set to Exceeding and cannot be edited.</p>	Exceeding* Falling below
Automatic tare after result	If set to Active , the balance is automatically tared when a result is added to the Results list .	Active Inactive*
Automatic task completion	<p>Active: the balance automatically completes a running task after the result of the last weighing item has been added to the Results list.</p> <p>This setting is only available if the method is using multiple weighing items.</p>	Active Inactive*

* Factory setting

See also

 Creating a method "General weighing" ▶ Page 50

6.2.1.6 Print / Export

Parameter	Description	Values
Strip printout and data export	<p>Defines the content of the printout and/or export, as well as which printing/exporting actions are performed automatically when the task is complete.</p> <p>This section contains several settings that are described in the table Strip printout and data export below.</p>	
Label printout for task	<p>Defines the template of the task label to be printed, i.e., which data is included on the label and in which format.</p> <p>This section contains several settings that are described in the table Label printout for task below.</p>	
Label printout for weighing item	<p>Defines the template of the weighing item label to be printed, i.e., which data is included on the label and in which format.</p> <p>This section contains several settings that are described in the table Label printout for weighing item below.</p>	
Label cutting	<p>Defines if the labels should be cut after printing.</p> <p>Per label: Each label is cut once printed.</p> <p>Per task: The labels are cut when the task is complete.</p> <p>This setting is only relevant if the connected label printer can cut labels.</p>	Off* Per label Per task

* Factory setting

6.2.1.6.1 Strip printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the Results list 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*
Results 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 result .	Active Inactive*

* Factory setting

Strip printout template

This menu item can be used to define which information is printed by the strip printer.

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

- To disable all check boxes at once, tap **Deselect all**.
 - ➔ All parameters are set to **Inactive**.
- To enable 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 and/or footer to be printed.	Title* Title text* Date/time User Signature* Separating lines* Group titles
Balance information	Defines which information about the balance is being printed.	Balance type Balance ID* Balance serial number Software version
Quality information	Defines which quality information is being printed.	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.	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.	Weight* Tare weight Gross weight Info weight Date/time* Stability

* Factory setting

6.2.1.6.2 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*
Copies	Defines how many copies of the label are printed.	Numeric
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. This setting is only available 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.

* Factory setting

6.2.1.6.3 Label printout for weighing item

Parameter	Description	Values
Automatic label printout for weighing item	When set to Active , the weighing item label is automatically printed when tapping Add result .	Active Inactive*
Copies	Defines how many copies of the label are printed.	Numeric
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

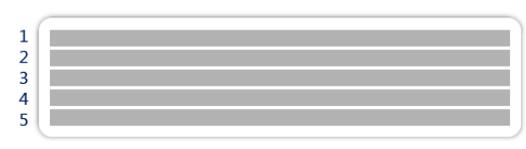
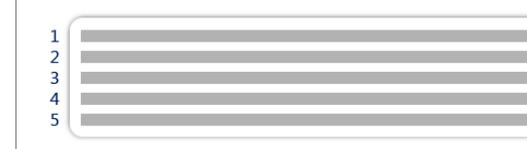
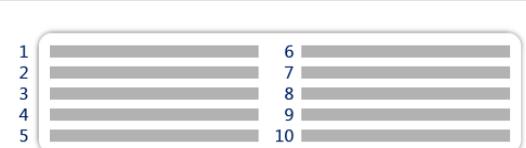
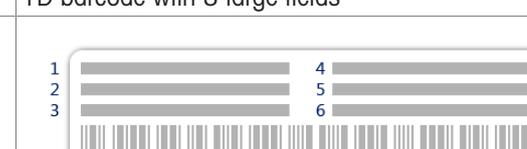
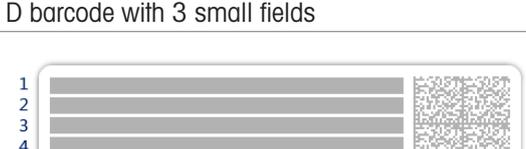
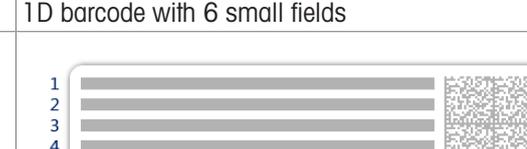
The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

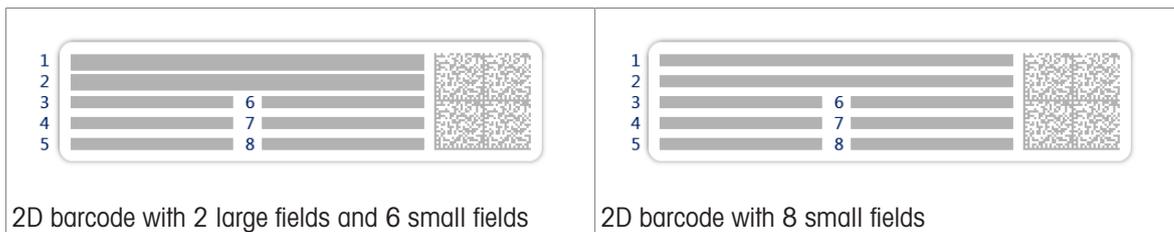
Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. This setting is only available when the selected Used template contains several 2D codes.	TAB* Form feed Carriage return Space User defined
Barcode field 1	Defines which information appears in each barcode. The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

* Factory setting

6.2.1.6.4 Available labels

The following label layouts can be selected:

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



6.2.2 Settings: method "Simple formulation"

Navigation: ▼ Methods > ☰ Methods list > 🏠 my simple formulation > ✎ Edit

The settings of the method **Simple formulation** are grouped as follows:

- ☰ **General**
- 🏠 **Formulation**
- 🆔 **ID format**
- ⚖️ **Weighing**
- ⚖️ **Weighing item**, only available for the method **Simple formulation**
- ⚖️ **Weighing items**, only available for the method **Simple formulation (itemized)**
- ⚙️ **Automation**
- 🖨️ **Print / Export**

See also

- 📄 Creating a method "Simple formulation" ▶ Page 51
- 📄 Editing a method ▶ Page 62

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.	Text (1...22 characters)
Comment	The method can be described with a comment.	Text (0...128 characters)
Lock method	Locks the method to prevent further editing.	Active Inactive*

* Factory setting

6.2.2.2 Formulation

Parameter	Description	Values
Calculate target	<p>Defines the basis for the calculation of the target weight.</p> <p>Flask volume: Calculates the target weight according to the reference flask volume and the actual flask volume.</p> <p>Target concentration: Calculates the target weight according to the desired target concentration.</p> <p>This setting is only available for methods of the type Simple formulation (itemized).</p>	None* Flask volume Target concentration
Calculate concentration per component	<p>Calculates the concentration of the final solution.</p> <p>If the Concentration unit expressed as a molar concentration (mol/l or mmol/l): the calculation is based on the Purity, Reference flask volume, Molar mass, and weight of component.</p> <p>If the Concentration unit is expressed as a mass concentration (mg/ml, mg/l, µg/ml, g/ml, or g/l): the calculation is based on the Purity, Reference flask volume, and weight of component.</p> <p>If the Concentration unit is expressed as a mass ratio (%): the calculation is based on the Purity, Reference weight, and weight of component.</p>	Active Inactive*
Calculate amount of component	<p>Calculates the amount of component (in mol) based on the Molar mass and weight of component.</p>	Active Inactive*
Concentration unit	<p>Defines the concentration unit.</p> <p>This setting is only available if Calculate concentration per component is set to Active.</p>	mol/l* mmol/l mg/ml mg/l µg/ml g/ml g/l %
Reference flask volume	<p>Defines the volume of the reference flask.</p> <p>This setting is only available if Concentration unit is not set to %.</p>	Numeric (1 ml* 1...999999 ml)
Reference weight (100%)	<p>Defines the reference weight.</p> <p>Instead of entering the reference weight manually, place the reference weight on the weighing pan and tap the button . The applied weight is directly taken over as a reference weight.</p> <p>This setting is only available if Concentration unit is set to %.</p>	Depending on the capacity of the balance.

* Factory setting

Production and expiry date

Parameter	Description	Values
Production date	<p>Defines the production date.</p> <p>Current date: The production date is set automatically to the date when starting the weighing task.</p> <p>Manual input: The production date can be entered manually when starting the weighing task.</p>	None Current date* Manual input
Expiry date	<p>Defines the expiry date of the substance.</p> <p>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).</p> <p>Manual input: The expiry date can be entered manually when starting the weighing task.</p>	None* Period Manual input

Period	Defines the period of the expiry date. This setting is only available if Expiry date is set to Period .	Numeric (1 day* 1...9999 days)
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* Factory setting

See also

📖 Creating a method "Simple formulation" ▶ Page 51

6.2.2.3 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the Number of task IDs is larger than 0, the settings Task ID , Task description and Prefix/Default value are available 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
Task 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 setting is only available when the corresponding Task ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This setting is only available is the corresponding Task ID is set to Automatic timestamp .	Text (0...32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the Number of result IDs is larger than 0, the settings Result ID , Result description and Prefix/Default value are available 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 to which is appended a unique number (counter).	Manual with default* Automatic counter
Result 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 setting is only available when the corresponding Result ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the result ID. This setting is only available if the corresponding Result ID is set to Automatic counter .	Text (0...32 characters)

* Factory setting

6.2.2.4 Weighing

Parameter	Description	Values
Show info weight	When set to Active , a secondary weight is displayed on the weighing screen.	Active Inactive*
Info unit	Defines the unit of the Info weight . This setting is only available if Show info weight is set to Active .	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.	Tolerance profiles are created by the user for specific balances and applications.

Electrostatic

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

* Factory setting

See also

 Creating a method "Simple formulation" ▶ Page 51

6.2.2.5 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 (itemized)** in **Weighing items**.

Initial values for weighing

Parameter	Description	Values
Molar mass	Defines the molar mass of the component. The molar mass of an ion is calculated by adding the atomic weight of the individual atoms the ion is composed of. This setting is available if Calculate amount of component is set to Active or if the Concentration unit is expressed in molar concentration.	Numeric (1 ... 10000 g/mol)
Purity	To define the purity of the component. This setting is only available if Calculate concentration per component or Calculate amount of component is set to Active .	Numeric (100%* 0.001 ... 100%)
Unit	Defines the unit of the 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 setting is only available if a Target weight is defined.	Numeric

+Tolerance	Defines the upper tolerance limit. This setting is only available if a Target weight is defined.	Numeric
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* Factory setting

See also

 Creating a method "Simple formulation" ▶ Page 51

6.2.2.6 Weighing items

This section is only available for the method **Simple formulation (itemized)**.

Parameter	Description	Values
Component ID	Defines the name of the component.	Text (0...32 characters)
Molar mass	Defines the molar mass of the component. The molar mass of an ion is calculated by adding the atomic weight of the individual atoms the ion is composed of. This setting is available if Calculate amount of component is set to Active or if the Concentration unit is expressed in molar concentration.	Numeric (1...10000 g/mol)
Purity	To define the purity of the component. This setting is only available if Calculate concentration per component or Calculate amount of component is set to Active .	Numeric (100%* 0.001...100%)
Unit	Defines the unit of the weighing result.	The available units depend on the balance model.
Target weight	Defines the target weight of the component. If Calculate target is set to Target concentration , the Target weight is calculated and cannot be edited manually.	Numeric
Target concentration	Defines the target concentration of the component. This setting is only available if Calculate target is set to Target concentration .	Numeric (0% 0.001...100%)
-Tolerance	Defines the lower tolerance limit. This setting is only available if a Target weight or Target concentration is defined.	Numeric
+Tolerance	Defines the upper tolerance limit. This setting is only available if a Target weight or Target concentration is defined.	Numeric

* Factory setting

See also

 Creating a method "Simple formulation" ▶ Page 51

 Using methods with multiple weighing items (itemized) ▶ Page 63

6.2.2.7 Automation

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

* Factory setting

Weighing automation

Parameter	Description	Values
Automatic zero	Active: the balance is automatically zeroed when the weight falls below a predefined threshold.	Active Inactive*
Automatic zero threshold	Defines the threshold of the Automatic zero . This setting is only available if Automatic zero is set to Active .	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. Preset tare: Allows you to enter manually a numerical entry of a fixed tare weight.	None* Automatic tare Preset tare
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 setting is only available if Tare Mode is set to Automatic tare .	Numeric
Preset tare 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 setting is only available if Tare Mode is set to Preset tare .	Numeric
Automatic tare after result	If set to Active , the balance is automatically tared when a result is added to the Results list .	Active Inactive*

Automatic task completion	Active: the balance automatically completes a running task after the result of the last weighing item has been added to the Results list . This setting is only available if the method is using multiple weighing items.	Active Inactive*
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* Factory setting

See also

 Creating a method "Simple formulation" ▶ Page 51

6.2.2.8 Print / Export

Parameter	Description	Values
Strip printout and data export	Defines the content of the printout and/or export, as well as which printing/exporting actions are performed automatically when the task is complete. This section contains several settings that are described in the table Strip printout and data export below.	
Label printout for task	Defines the template of the task label to be printed, i.e., which data is included on the label and in which format. This section contains several settings that are described in the table Label printout for task below.	
Label printout for weighing item	Defines the template of the weighing item label to be printed, i.e., which data is included on the label and in which format. This section contains several settings that are described in the table Label printout for weighing item below.	
Label cutting	Defines if the labels should be cut after printing. Per label: Each label is cut once printed. Per task: The labels are cut when the task is complete. This setting is only relevant if the connected label printer can cut labels.	Off* Per label Per task

* Factory setting

6.2.2.8.1 Strip printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the Results list 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*
Results 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 result .	Active Inactive*

* Factory setting

Strip printout template

This menu item can be used to define which information is printed by the strip printer.

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

- 1 To disable all check boxes at once, tap **Deselect all**.

- ➔ All parameters are set to **Inactive**.
- 2 To enable 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 and/or footer to be printed.	Title* Title text* Date/time User Signature* Separating lines* Group titles
Balance information	Defines which information about the balance is being printed.	Balance type Balance ID* Balance serial number Software version
Quality information	Defines which quality information is being printed.	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.	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.	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.	Weight* Tare weight Gross weight Info weight Date/time* Stability

* Factory setting

6.2.2.8.2 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*
Copies	Defines how many copies of the label are printed.	Numeric
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. This setting is only available 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.

* Factory setting

6.2.2.8.3 Label printout for weighing item

Parameter	Description	Values
Automatic label printout for weighing item	When set to Active , the weighing item label is automatically printed when tapping Add result .	Active Inactive*
Copies	Defines how many copies of the label are printed.	Numeric
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

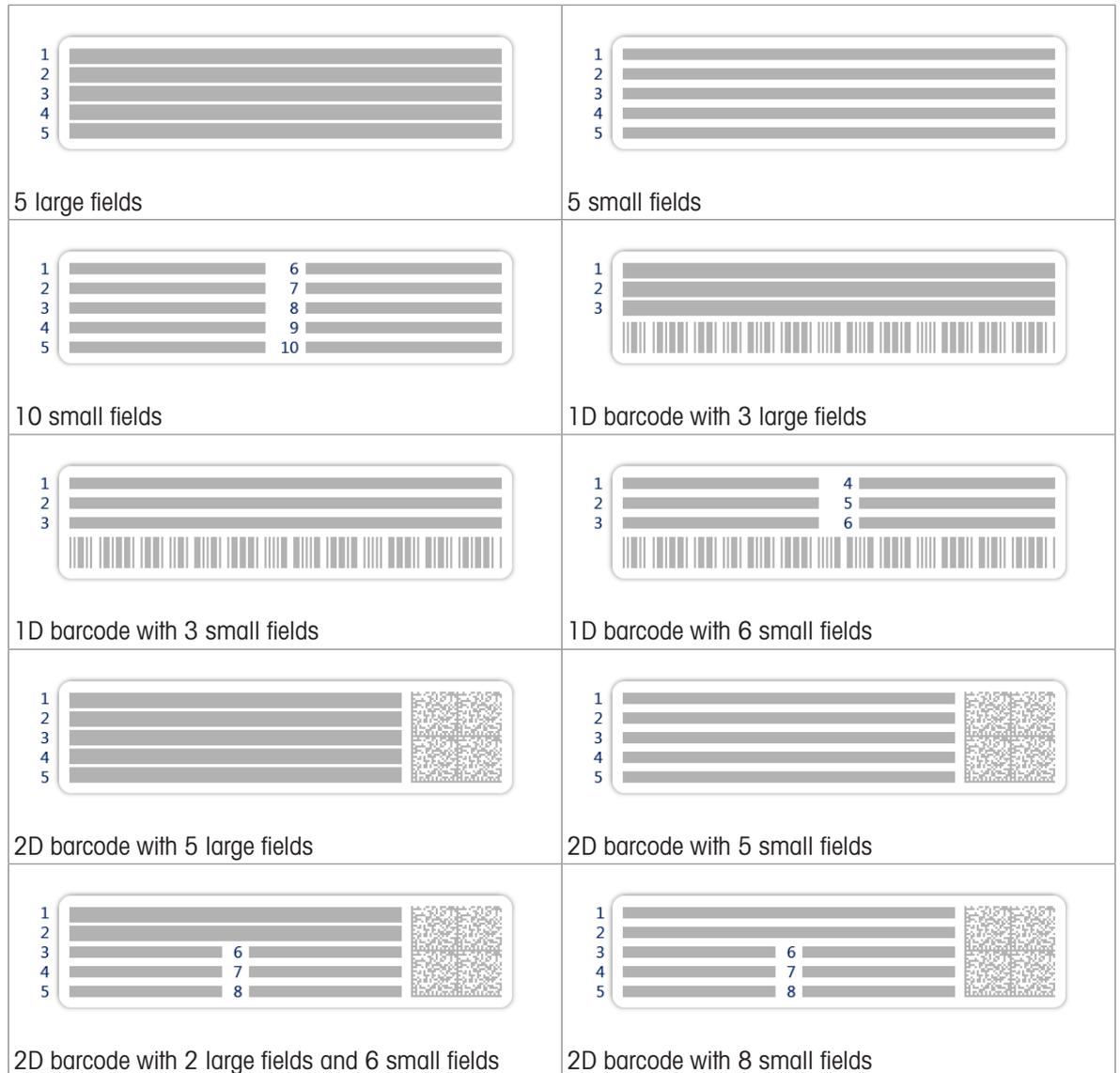
The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. This setting is only available 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.

* Factory setting

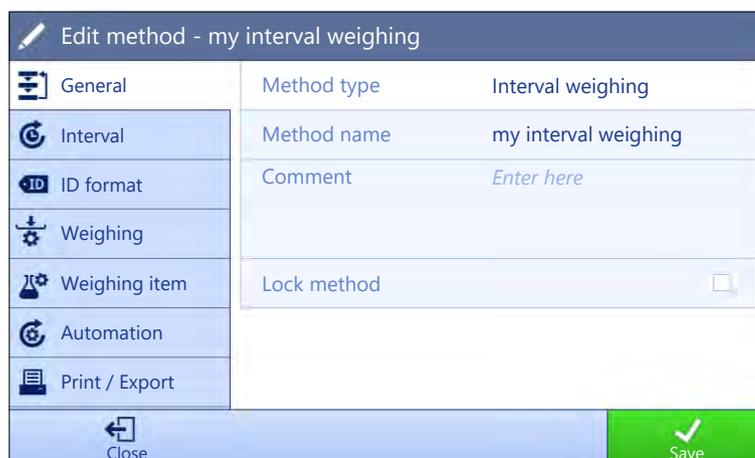
6.2.2.8.4 Available labels

The following label layouts can be selected:



6.2.3 Settings: method "Interval weighing"

Navigation: ▼ Methods > ☰ Methods list > ⌚ my interval weighing > ✎ Edit



The settings of the method **Interval weighing** are grouped as follows:

-  **General**
-  **Interval**
-  **ID format**
-  **Weighing**
-  **Weighing item**
-  **Automation**
-  **Print / Export**

See also

-  Creating a method "Interval weighing" ▶ Page 53
-  Editing a method ▶ Page 62

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.	Text (1...22 characters)
Comment	The method can be described with a comment.	Text (0...128 characters)
Lock method	Locks the method to prevent further editing.	Active Inactive*

* Factory setting

6.2.3.2 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 53

6.2.3.3 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the Number of task IDs is larger than 0, the settings Task ID , Task description and Prefix/Default value are available 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

Task 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 setting is only available when the corresponding Task ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This setting is only available is the corresponding Task ID is set to Automatic timestamp .	Text (0...32 characters)

* Factory setting

6.2.3.4 Weighing

Parameter	Description	Values
Show info weight	When set to Active , a secondary weight is displayed on the weighing screen.	Active Inactive*
Info unit	Defines the unit of the Info weight . This setting is only available if Show info weight is set to Active .	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.	Tolerance profiles are created by the user for specific balances and applications.

See also

 Creating a method "Interval weighing" ▶ Page 53

6.2.3.5 Weighing item

Initial values for weighing

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

See also

 Creating a method "Interval weighing" ▶ Page 53

6.2.3.6 Automation

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

* Factory setting

See also

 Creating a method "Interval weighing" ▶ Page 53

6.2.3.7 Print / Export

Parameter	Description	Values
Strip printout and data export	<p>Defines the content of the printout and/or export, as well as which printing/exporting actions are performed automatically when the task is complete.</p> <p>This section contains several settings that are described in the table Strip printout and data export below.</p>	

6.2.3.7.1 Strip printout and data export

Automatic data output

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

* Factory setting

6.2.4 Settings: method "Titration"

Navigation: ▼ Methods > ☰ Methods list > 🔍 my titration > ✎ Edit

The settings of the method **Titration** are grouped as follows:

- ☰ **General**
- 🔍 **Titration**
- 🆔 **ID format**
- ⚙️ **Weighing**
- 🧪 **Weighing item**
- ⚙️ **Automation**
- 🖨️ **Print / Export**

See also

- 📄 Creating a method "Titration" ▶ Page 54
- 📄 Editing a method ▶ Page 62

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.	Text (1...22 characters)
Comment	The method can be described with a comment.	Text (0...128 characters)
Lock method	Locks the method to prevent further editing.	Active Inactive*

* Factory setting

6.2.4.2 Titration

Parameter	Description	Values
RFID option	Defines the behavior of the RFID reader. Write only: The RFID reader can only write content on the RFID tag. Read and write: The RFID 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 of the liquid. This setting is only available if RFID option is set to Write only or Read and write .	Numeric (1.0000 g/ml* 0...100 g/ml)

Correction factor	Defines the titration correction factor. This setting is only available if RFID option is set to Write only or Read and write .	Numeric (1.0000* 1 0...1000000)
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* Factory setting

See also

 Creating a method "Titration" ▶ Page 54

6.2.4.3 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the Number of task IDs is larger than 0, the settings Task ID , Task description and Prefix/Default value are available 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 setting is only available when the corresponding Task ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This setting is only available is the corresponding Task ID is set to Automatic timestamp .	Text (0...32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the Number of result IDs is larger than 0, the settings Result ID , Result description and Prefix/Default value are available 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 to which is appended a unique number (counter).	Manual with default* Automatic counter
Result 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 setting is only available when the corresponding Result ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the result ID. This setting is only available if the corresponding Result ID is set to Automatic counter .	Text (0...32 characters)

* Factory setting



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.

6.2.4.4 Weighing

Parameter	Description	Values
Show info weight	When set to Active , a secondary weight is displayed on the weighing screen.	Active Inactive*
Info unit	Defines the unit of the Info weight . This setting is only available if Show info weight is set to Active .	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.	Tolerance profiles are created by the user for specific balances and applications.
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 setting is only available if Weight capture mode is set to Immediate .	Numeric (5 seconds* 0...60 seconds)

* Factory setting

Electrostatic

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

* Factory setting

See also

Creating a method "Titration" ▶ Page 54

6.2.4.5 Weighing item

Initial values for weighing

Parameter	Description	Values
Unit	Defines the unit of the 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 setting is only available if a Target weight is defined.	Numeric
+Tolerance	Defines the upper tolerance limit. This setting is only available if a Target weight is defined.	Numeric

6.2.4.6 Automation

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

* Factory setting

Weighing automation

Parameter	Description	Values
Automatic zero	Active: the balance is automatically zeroed when the weight falls below a predefined threshold.	Active Inactive*
Automatic zero threshold	Defines the threshold of the Automatic zero . This setting is only available if Automatic zero is set to Active .	Numeric
Tare Mode	<p>Defines the tare mode.</p> <p>None: No automatic tare.</p> <p>Automatic tare: The balance stores automatically the first stable weight as the tare weight.</p> <p>Preset tare: Allows you to enter manually a numerical entry of a fixed tare weight.</p>	None* Automatic tare Preset tare

Automatic tare threshold	<p>Defines the threshold of the option Tare Mode.</p> <p>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.</p> <p>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.</p> <p>This setting is only available if Tare Mode is set to Automatic tare.</p>	Numeric
Preset tare value	<p>Defines a weight value for the pretare function.</p> <p>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.</p> <p>This setting is only available if Tare Mode is set to Preset tare.</p>	Numeric
Automatic result	<p>Automatically generates a weighing result after a threshold is reached.</p> <p>None: No automatic result will be generated.</p> <p>Without sample tare: After a weight value that reached the threshold is being removed from the weighing pan, the balance is not being tared.</p>	None* Without sample tare
Automatic result threshold	<p>Defines the threshold of the Automatic result.</p> <p>The result is automatically added to the Results list only if the weight of the sample is larger than the defined threshold.</p> <p>This setting is only available if Automatic result is set to Active.</p>	Numeric
Weight trigger	<p>Defines the behaviour of the Automatic result threshold.</p> <p>Exceeding: The weighing result is generated when the weight exceeds the defined threshold.</p> <p>Falling below: The weighing result is generated when the weight falls below the defined threshold.</p> <p>This setting is only available if Automatic result is set to Without sample tare.</p>	Exceeding* Falling below
Automatic tare after result	<p>If set to Active, the balance is automatically tared when a result is added to the Results list.</p>	Active Inactive*

* Factory setting

See also

 Creating a method "Titration" ▶ Page 54

6.2.4.7 Print / Export

Parameter	Description	Values
Strip printout and data export	<p>Defines the content of the printout and/or export, as well as which printing/exporting actions are performed automatically when the task is complete.</p> <p>This section contains several settings that are described in the table Strip printout and data export below.</p>	
Label printout for task	<p>Defines the template of the task label to be printed, i.e., which data is included on the label and in which format.</p> <p>This section contains several settings that are described in the table Label printout for task below.</p>	

Label printout for weighing item	Defines the template of the weighing item label to be printed, i.e., which data is included on the label and in which format. This section contains several settings that are described in the table Label printout for weighing item below.	
Label cutting	Defines if the labels should be cut after printing. Per label: Each label is cut once printed. Per task: The labels are cut when the task is complete. This setting is only relevant if the connected label printer can cut labels.	Off* Per label Per task

* Factory setting

6.2.4.7.1 Strip printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the Results list 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*
Results 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 result .	Active Inactive*

* Factory setting

Strip printout template

This menu item can be used to define which information is printed by the strip printer.

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

- To disable all check boxes at once, tap **Deselect all**.
➔ All parameters are set to **Inactive**.
- To enable 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 and/or footer to be printed.	Title* Title text* Date/time User Signature* Separating lines* Group titles
Balance information	Defines which information about the balance is being printed.	Balance type Balance ID* Balance serial number Software version
Quality information	Defines which quality information is being printed.	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.	Method name Method comment Task IDs Automatic result settings
Weighing item information	Defines which information about the weighing items is being printed.	Show excluded weighing items Result state* Result IDs* Density Correction factor 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.	Weight* Tare weight Gross weight Info weight Date/time* Stability

* Factory setting

6.2.4.7.2 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*
Copies	Defines how many copies of the label are printed.	Numeric
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. This setting is only available 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.

* Factory setting

6.2.4.7.3 Label printout for weighing item

Parameter	Description	Values
Automatic label printout for weighing item	When set to Active , the weighing item label is automatically printed when tapping Add result .	Active Inactive*
Copies	Defines how many copies of the label are printed.	Numeric

Used template	Chooses the label template.	Available labels are shown below.
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* 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

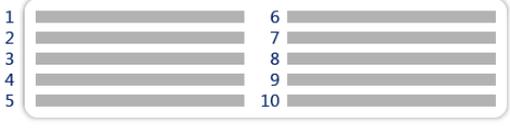
The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

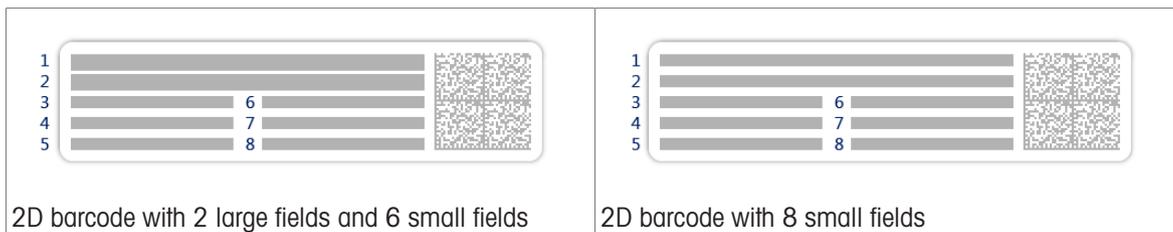
Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. This setting is only available when the selected Used template contains several 2D codes.	TAB* Form feed Carriage return Space User defined
Barcode field 1	Defines which information appears in each barcode. The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

* Factory setting

6.2.4.7.4 Available labels

The following label layouts can be selected:

 <p>1 2 3 4 5</p> <p>5 large fields</p>	 <p>1 2 3 4 5</p> <p>5 small fields</p>
 <p>1 2 3 4 5</p> <p>10 small fields</p>	 <p>1 2 3</p> <p>1D barcode with 3 large fields</p>
 <p>1 2 3</p> <p>1D barcode with 3 small fields</p>	 <p>1 2 3</p> <p>1D barcode with 6 small fields</p>
 <p>1 2 3 4 5</p> <p>2D barcode with 5 large fields</p>	 <p>1 2 3 4 5</p> <p>2D barcode with 5 small fields</p>



6.2.5 Settings: method "Density determination"

Navigation: ▼ **Methods** > ☰ **Methods list** > 📄 **my density** > ✎ **Edit**

✎ Edit method - my density

☰ General	Method type	Density determination
📄 Density	Method name	my density
📄 ID format	Comment	<i>Enter here</i>
⚙️ Weighing	Lock method	<input type="checkbox"/>
⚙️ Weighing item		
⚙️ Automation		
🖨️ Print / Export		

🔙 Close
✔ Save

The settings of the method **Density determination** are grouped as follows:

- ☰ **General**
- 📄 **Density**
- 📄 **ID format**
- ⚙️ **Weighing**
- ⚙️ **Weighing item**
- ⚙️ **Automation**
- 🖨️ **Print / Export**

See also

- 📄 [Creating a method "Density determination" ▶ Page 56](#)
- 📄 [Editing a method ▶ Page 62](#)

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.	Text (1...22 characters)
Comment	The method can be described with a comment.	Text (0...128 characters)
Lock method	Locks the method to prevent further editing.	Active Inactive*

* Factory setting

6.2.5.2 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. Liquid (pycnometer) : Determines the density of a liquid in a glass vessel, such as a pycnometer. Liquid (sinker) : Determines the density of a liquid. Solid : Determines the density of a solid with the help of a density kit.	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/cm ³ * kg/m ³ g/l
Density value decimal places	Defines the number of decimal places with which the density is displayed and saved.	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 is applied.	Active* Inactive

* Factory setting

See also

 Creating a method "Density determination" ► Page 56

6.2.5.3 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the Number of task IDs is larger than 0, the settings Task ID , Task description and Prefix/Default value are available 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
Task 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 setting is only available when the corresponding Task ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This setting is only available is the corresponding Task ID is set to Automatic timestamp .	Text (0...32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the Number of result IDs is larger than 0, the settings Result ID , Result description and Prefix/Default value are available 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 to which is appended a unique number (counter).	Manual with default* Automatic counter
Result 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 setting is only available when the corresponding Result ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the result ID. This setting is only available if the corresponding Result ID is set to Automatic counter .	Text (0...32 characters)

* Factory setting

6.2.5.4 Weighing

Parameter	Description	Values
Show info weight	When set to Active , a secondary weight is displayed on the weighing screen.	Active Inactive*
Info unit	Defines the unit of the Info weight . This setting is only available if Show info weight is set to Active .	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.	Tolerance profiles are created by the user for specific balances and applications.
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 setting is only available if Weight capture mode is set to Immediate .	Numeric (5 seconds* 0...60 seconds)

* Factory setting

Statistics

Parameter	Description	Values
Activate statistics	<p>If Activate statistics is set to Active, the following statistics will be calculated:</p> <p>Count: Number of items used for the statistics</p> <p>Sum: sum of all value (decimal places and unit according to the method settings)</p> <p>Minimum: smallest value (decimal places and unit according to the method settings)</p> <p>Maximum: largest value (decimal places and unit according to the method setting)</p> <p>Range: difference between the largest and smallest values (decimal places and unit according to the method settings)</p> <p>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 associated tolerance profile (unit according to the method settings).</p> <p>Standard deviation: standard deviation rounded to 1 digit more than the configured decimal places in the associated tolerance profile (unit according to the method settings)</p> <p>Relative standard deviation: relative standard deviation (rounded to 2 decimal places, in %)</p> <p>The statistical values are calculated and displayed as soon as a result is added or updated.</p>	Active Inactive*

* Factory setting

See also

 Creating a method "Density determination" ► Page 56

6.2.5.5 Weighing item

The **Weighing item** settings are different for the three types of **Density determination**. The settings for **Initial values for weighing** are presented separately for each **Determination type**.

Initial values for weighing – Determination type: Solid

Parameter	Description	Values
Unit	Defines the unit of the weighing result.	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)
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 auxiliary liquid. This setting is only available if Aux. liquid is set to Custom .	Text (0...32 characters)
Aux. liquid density	Defines the density of the custom auxiliary liquid. This setting is only available if Aux. liquid is set to Custom .	Numeric (0.00001... 100 g/cm ³)

* Factory setting

Initial values for weighing – Determination type: Liquid (sinker)

Parameter	Description	Values
Unit	Defines the unit of the weighing result.	The available units depend on the balance model.
Temperature	Defines the temperature of the liquid.	Numeric (10°C...30.9°C)
Sinker volume	Defines the volume of the sinker in cm ³ .	Numeric (0.0001...500 cm ³)

Initial values for weighing – Determination type: Liquid (pycnometer)

Parameter	Description	Values
Unit	Defines the unit of the weighing result.	The available units depend on the balance model.
Temperature	Defines the temperature of the liquid.	Numeric (10°C...30.9°C)
Pycnometer volume	Defines volume of the pycnometer in cm ³ .	Numeric (0.001...10000 cm ³)
Pycnometer weight	Defines the weight of the pycnometer.	Numeric

See also

 Creating a method "Density determination" ▶ Page 56

6.2.5.6 Automation

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

* Factory setting

See also

 Creating a method "Density determination" ▶ Page 56

6.2.5.7 Print / Export

Parameter	Description	Values
Strip printout and data export	Defines the content of the printout and/or export, as well as which printing/exporting actions are performed automatically when the task is complete. This section contains several settings that are described in the table Strip printout and data export below.	

6.2.5.7.1 Strip printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the Results list 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

Strip printout template

This menu item can be used to define which information is printed by the strip printer.

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

- To disable all check boxes at once, tap **Deselect all**.
➔ All parameters are set to **Inactive**.
- To enable 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 and/or footer to be printed.	Title* Title text* Date/time User Signature* Separating lines* Group titles
Balance information	Defines which information about the balance is being printed.	Balance type Balance ID* Balance serial number Software version
Quality information	Defines which quality information is being printed.	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.	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 Air density compensation
Weighing item information	Defines which information about the weighing items is being printed.	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.	Weight* Tare weight Gross weight Info weight Date/time* Stability

* Factory setting

6.2.6 Settings: method "SQC"

Navigation: ▼ Methods > ☰ Methods list > 🏠 my SQC > ✎ Edit

The settings of the method **SQC** are grouped as follows:

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

See also

- 📖 Creating a method "SQC" ▶ Page 57
- 📖 Editing a method ▶ Page 62

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.	Text (1...22 characters)
Comment	The method can be described with a comment.	Text (0...128 characters)
Lock method	Locks the method to prevent further editing.	Active Inactive*

* Factory setting

6.2.6.2 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the Number of task IDs is larger than 0, the settings Task ID , Task description and Prefix/Default value are available 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

Task 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 setting is only available when the corresponding Task ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This setting is only available is the corresponding Task ID is set to Automatic timestamp .	Text (0...32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the Number of result IDs is larger than 0, the settings Result ID , Result description and Prefix/Default value are available 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 to which is appended a unique number (counter).	Manual with default* Automatic counter
Result 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 setting is only available when the corresponding Result ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the result ID. This setting is only available if the corresponding Result ID is set to Automatic counter .	Text (0...32 characters)

* Factory setting

6.2.6.3 Weighing

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.	Tolerance profiles are created by the user for specific balances and applications.

Statistics

Parameter	Description	Values
Custom time span statistics 1	<p>Allows the user to define a custom time span for the calculation of statistics. If activated, the weighing information of each new item is added to the batch statistics until the statistics are Reset manually by the user.</p> <p>If Custom time span statistics 1 is set to Active, the following statistics will be calculated:</p> <p>Count: number of items used for the statistics</p> <p>Sum: sum of all value (decimal places and unit according to the method settings)</p> <p>Minimum: smallest value (decimal places and unit according to the method settings)</p> <p>Maximum: largest value (decimal places and unit according to the method setting)</p> <p>Range: difference between the largest and smallest values (decimal places and unit according to the method settings)</p> <p>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 associated tolerance profile (unit according to the method settings).</p> <p>Standard deviation: standard deviation rounded to 1 digit more than the configured decimal places in the associated tolerance profile (unit according to the method settings)</p> <p>Relative standard deviation: relative standard deviation (rounded to 2 decimal places, in %)</p> <p>The statistical values are calculated and displayed as soon as a result is added or updated.</p>	Active Inactive*
Statistics 1 - Name	<p>Defines the name of the custom time span statistics.</p> <p>This setting is only available if Custom time span statistics 1 is set to Active.</p>	Text (1...22 characters)
Custom time span statistics 2	<p>Allows the user to define a second custom time span for the calculation of the statistics. Refer to the description of Custom time span statistics 1 for more details.</p>	Active Inactive*
Statistics 2 - Name	<p>Defines the name of the custom time span statistics.</p> <p>This setting is only available if Custom time span statistics 2 is set to Active.</p>	Text (1...22 characters)

* Factory setting

Electrostatic

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

* Factory setting

See also

 Creating a method "SQC" ▶ Page 57

6.2.6.4 Weighing item

Parameter	Description	Values
Liquid	If the weighing item is a liquid, the Nominal value is specified as a volume instead of a weight. If Liquid is set to Active , the Liquid density must be provided.	Active Inactive*
Unit	Defines the unit of the Nominal weight or volume.	The available units depend on other method settings.
Liquid density	Defines the density of the liquid. This density is used to convert the weighing result to a volume. This setting is only available if Liquid is set to Active .	Numeric
Calculate net weight excl. packaging	Defines if the net weight excluding the packaging should be calculated for each item. If set to Active , a defined Packaging is subtracted from each weighing.	Active Inactive*
Packaging	Defines the reference weight of the packaging. Instead of entering the reference weight manually, place the empty packaging on the weighing pan and tap the button  . The applied weight is directly taken over as a reference weight. This setting is only available if Calculate net weight excl. packaging is set to Active .	Depending on the capacity of the balance.
Use measured average as nominal	Allows the nominal value to be calculated from the average of all items.	Active Inactive*
Plausibility reference	Defines a reference nominal value for plausibility check, only if the nominal value is calculated from the average of all items. This setting is only available if Use measured average as nominal is set to Active .	Numeric
Nominal weight	Defines the value for the nominal weight. The nominal weight is defined as the expected weight of the measured object.	Numeric
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 $\pm 30\%$ 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%)
-Tolerance T1	Defines the lower tolerance limit.	Numeric
+Tolerance T1	Defines the upper tolerance limit.	Numeric
T2 tolerances	Defines if a second set of tolerances is used. The T2 tolerances must be bigger than the T1 tolerances. If set to Active , the statistics will report the number of counts as follows: <ul style="list-style-type: none"> • Count above +T2 • Count between +T1 and +T2 • Count between -T1 and +T1 • Count between -T2 and -T1 • Count below -T2 	Active Inactive*
-Tolerance T2	Defines the lower tolerance limit. This setting is only available if T2 tolerances is set to Active	Numeric

+Tolerance T2	Defines the upper tolerance limit. This setting is only available if T2 tolerances is set to Active	Numeric
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* Factory setting

See also

📖 Creating a method "SQC" ▶ Page 57

6.2.6.5 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. 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* Task ID 1 ...
Number of weighing items	Defines the number of items used for the weighing task.	Numeric

* Factory setting

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*
Discharge feeder at the end	Specifies if the automatic feeder is emptied of all objects after the task. 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 at which the automatic feeder delivers the items to the balance.	Slow Normal* Fast Very fast

* Factory setting

Weighing automation

Parameter	Description	Values
Automatic zero	Active: the balance is automatically zeroed when the weight falls below a predefined threshold.	Active Inactive*
Automatic zero threshold	Defines the threshold of the Automatic zero . This setting is only available if Automatic zero is set to Active .	Numeric

Tare Mode	<p>Defines the tare mode.</p> <p>None: No automatic tare.</p> <p>Automatic tare: The balance stores automatically the first stable weight as the tare weight.</p> <p>Preset tare: Allows you to enter manually a numerical entry of a fixed tare weight.</p>	None* Automatic tare Preset tare
Automatic tare threshold	<p>Defines the threshold of the option Tare Mode.</p> <p>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.</p> <p>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.</p> <p>This setting is only available if Tare Mode is set to Automatic tare.</p>	Numeric
Preset tare value	<p>Defines a weight value for the pretare function.</p> <p>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.</p> <p>This setting is only available if Tare Mode is set to Preset tare.</p>	Numeric
Automatic result	<p>Automatically generates a weighing result after a threshold is reached.</p> <p>None: No automatic result will be generated.</p> <p>Without sample tare: After a weight value that reached the threshold is being removed from the weighing pan, the balance is not being tared.</p> <p>If Automatic feeder support is activated, the setting Automatic result is automatically set to Without sample tare and cannot be edited.</p>	None* Without sample tare
Automatic result threshold	<p>Defines the threshold of the Automatic result.</p> <p>The result is automatically added to the Results list only if the weight of the sample is larger than the defined threshold.</p> <p>This setting is only available if Automatic result is set to Active.</p>	Numeric
Weight trigger	<p>Defines the behaviour of the option Automatic result threshold.</p> <p>Exceeding: The weighing result is generated when the weight exceeds the defined threshold.</p> <p>Falling below: The weighing result is generated when the weight falls below the defined threshold.</p> <p>This setting is only available if Automatic result is set to Without sample tare.</p> <p>If Automatic feeder support is activated, the setting Weight trigger is automatically set to Exceeding and cannot be edited.</p>	Exceeding* Falling below
Automatic tare after result	<p>If set to Active, the balance is automatically tared when a result is added to the Results list.</p>	Active Inactive*

* Factory setting

See also

 Creating a method "SQC" ▶ Page 57

6.2.6.6 Print / Export

Parameter	Description	Values
Strip printout and data export	Defines the content of the printout and/or export, as well as which printing/exporting actions are performed automatically when the task is complete. This section contains several settings that are described in the table Strip printout and data export below.	

6.2.6.6.1 Strip printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the Results list 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*
Results 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 result .	Active Inactive*

* Factory setting

Strip printout template

This menu item can be used to define which information is printed by the strip printer.

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

- To disable all check boxes at once, tap  **Deselect all**.
➔ All parameters are set to **Inactive**.
- To enable 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 and/or footer to be printed.	Title* Title text* Date/time User Signature* Separating lines* Group titles
Balance information	Defines which information about the balance is being printed.	Balance type* Balance ID* Balance serial number* Software version
Quality information	Defines which quality information is being printed.	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.	Method name* Method comment Task IDs* Start and end date/time Automatic result settings In tolerance chart* Count* Average* Minimum* Maximum* Range* Standard deviation* Relative standard deviation* Count above +T2* Count between +T1 and +T2* Count between -T1 and +T1* Count between -T2 and -T1* Count below -T2*
Weighing item information	Defines which information about the weighing items is being printed/exported.	Show excluded weighing items Result state Result IDs* Liquid density* Calculate net weight excl. packaging* Packaging* Use measured average as nominal* GWP Approved state Electrostatic charge Level state MinWeigh state Tolerance state Nominal and tolerances* Plausibility reference and tolerances* Plausibility limits*
Result detail information	Defines which information related to the result of the measurement is being printed.	Weight* Tare weight Gross weight Info weight Date/time* Stability

* Factory setting

6.2.7 Settings: method "Piece Counting"

Navigation: ▼ Methods >  Methods list >  my piece counting >  Edit



The settings of the method **Piece Counting** are grouped as follows:

-  **General**
-  **ID format**
-  **Weighing**
-  **Weighing item**
-  **Automation**
-  **Print / Export**

See also

-  Creating a method "Piece Counting" ▶ Page 61
-  Editing a method ▶ Page 62

6.2.7.1 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.	Text (1...22 characters)
Comment	The method can be described with a comment.	Text (0...128 characters)
Lock method	Locks the method to prevent further editing.	Active Inactive*

* Factory setting

6.2.7.2 ID format

Task IDs

Parameter	Description	Values
Number of task IDs	Defines the number of task IDs. If the Number of task IDs is larger than 0, the settings Task ID , Task description and Prefix/Default value are available 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
Task 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 setting is only available when the corresponding Task ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the task ID. This setting is only available is the corresponding Task ID is set to Automatic timestamp .	Text (0...32 characters)

* Factory setting

Result IDs

Parameter	Description	Values
Number of result IDs	Defines the number of result IDs. If the Number of result IDs is larger than 0, the settings Result ID , Result description and Prefix/Default value are available 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 to which is appended a unique number (counter).	Manual with default* Automatic counter
Result 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 setting is only available when the corresponding Result ID is set to Manual with default .	Text (0...32 characters)
Prefix	Defines a prefix for the result ID. This setting is only available if the corresponding Result ID is set to Automatic counter .	Text (0...32 characters)

* Factory setting

6.2.7.3 Weighing

Parameter	Description	Values
Show info weight	When set to Active , a secondary weight is displayed on the weighing screen.	Active Inactive*
Info unit	Defines the unit of the Info weight . This setting is only available if Show info weight is set to Active .	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.	Tolerance profiles are created by the user for specific balances and applications.
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 setting is only available if 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 associated tolerance profile (unit according to the method settings). Standard deviation: standard deviation rounded to 1 digit more than the configured decimal places in the associated tolerance profile (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 "Piece Counting" ▶ Page 61](#)

6.2.7.4 Weighing item

Initial values for weighing

Parameter	Description	Values
Reference PCS	Defines the number of items used to determine the average weight per item.	Numeric (1* 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 setting is only available if a Target weight is defined.	Numeric
+Tolerance	Defines the upper tolerance limit. This setting is only available if a Target weight is defined.	Numeric

* Factory setting

See also

 Creating a method "Piece Counting" ► Page 61

6.2.7.5 Automation

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

* Factory setting

Weighing automation

Parameter	Description	Values
Automatic zero	Active: the balance is automatically zeroed when the weight falls below a predefined threshold.	Active Inactive*
Automatic zero threshold	Defines the threshold of the Automatic zero . This setting is only available if Automatic zero is set to Active .	Numeric

Tare Mode	<p>Defines the tare mode.</p> <p>None: No automatic tare.</p> <p>Automatic tare: The balance stores automatically the first stable weight as the tare weight.</p> <p>Preset tare: Allows you to enter manually a numerical entry of a fixed tare weight.</p>	None* Automatic tare Preset tare
Automatic tare threshold	<p>Defines the threshold of the option Tare Mode.</p> <p>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.</p> <p>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.</p> <p>This setting is only available if Tare Mode is set to Automatic tare.</p>	Numeric
Preset tare value	<p>Defines a weight value for the pretare function.</p> <p>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.</p> <p>This setting is only available if Tare Mode is set to Preset tare.</p>	Numeric
Automatic result	<p>Automatically generates a weighing result after a threshold is reached.</p> <p>None: No automatic result will be generated.</p> <p>Without sample tare: After a weight value that reached the threshold is being removed from the weighing pan, the balance is not being tared.</p>	None* Without sample tare
Automatic result threshold	<p>Defines the threshold of the Automatic result.</p> <p>The result is automatically added to the Results list only if the weight of the sample is larger than the defined threshold.</p> <p>This setting is only available if Automatic result is set to Active.</p>	Numeric
Weight trigger	<p>Defines the behaviour of the Automatic result threshold.</p> <p>Exceeding: The weighing result is generated when the weight exceeds the defined threshold.</p> <p>Falling below: The weighing result is generated when the weight falls below the defined threshold.</p> <p>This setting is only available if Automatic result is set to Without sample tare.</p>	Exceeding* Falling below
Automatic tare after result	<p>If set to Active, the balance is automatically tared when a result is added to the Results list.</p>	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 61](#)

6.2.7.6 Print / Export

Parameter	Description	Values
Strip printout and data export	Defines the content of the printout and/or export, as well as which printing/exporting actions are performed automatically when the task is complete. This section contains several settings that are described in the table Strip printout and data export below.	
Label printout for task	Defines the template of the task label to be printed, i.e., which data is included on the label and in which format. This section contains several settings that are described in the table Label printout for task below.	
Label printout for weighing item	Defines the template of the weighing item label to be printed, i.e., which data is included on the label and in which format. This section contains several settings that are described in the table Label printout for weighing item below.	
Label cutting	Defines if the labels should be cut after printing. Per label: Each label is cut once printed. Per task: The labels are cut when the task is complete. This setting is only relevant if the connected label printer can cut labels.	Off* Per label Per task

* Factory setting

6.2.7.6.1 Strip printout and data export

Automatic data output

Parameter	Description	Values
Strip printer	Activates/Deactivates automatic printing of the Results list 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*
Results 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 result .	Active Inactive*

* Factory setting

Strip printout template

This menu item can be used to define which information is printed by the strip printer.

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

- To disable all check boxes at once, tap **Deselect all**.
➔ All parameters are set to **Inactive**.
- To enable 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 and/or footer to be printed.	Title* Title text* Date/time User Signature* Separating lines* Group titles

Balance information	Defines which information about the balance is being printed.	Balance type Balance ID* Balance serial number Software version
Quality information	Defines which quality information is being printed.	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.	Method name Method comment Task IDs Automatic result settings Count Sum Average Minimum Maximum Standard deviation Relative standard deviation PCS below -Tolerance PCS above +Tolerance
Weighing item information	Defines which information about the weighing items is being printed.	Show excluded weighing items Result state* Result IDs* GWP Approved state Level state* MinWeigh state Tolerance state* Target and tolerances state* Reference PCS Reference average weight*
Result detail information	Defines which information related to the result of the measurement is being printed.	Weight* Tare weight Gross weight Info weight Date/time* Stability

* Factory setting

6.2.7.6.2 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*
Copies	Defines how many copies of the label are printed.	Numeric
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. This setting is only available 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.

* Factory setting

6.2.7.6.3 Label printout for weighing item

Parameter	Description	Values
Automatic label printout for weighing item	When set to Active , the weighing item label is automatically printed when tapping Add result .	Active Inactive*
Copies	Defines how many copies of the label are printed.	Numeric
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

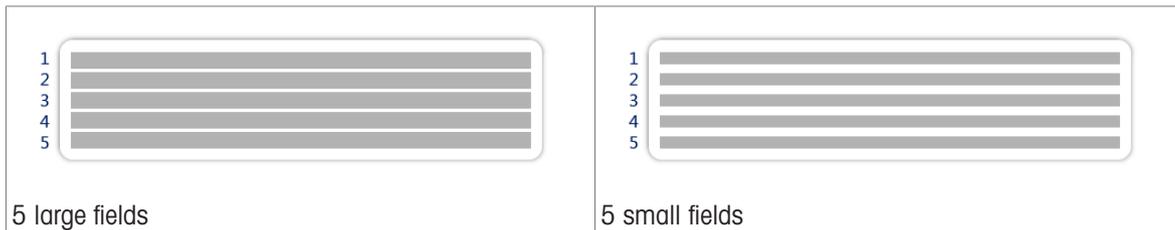
The content of each barcode field can be defined individually. This section is only available when the selected **Used template** contains at least one 2D code.

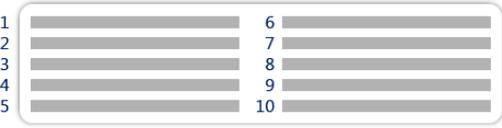
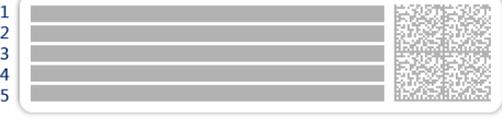
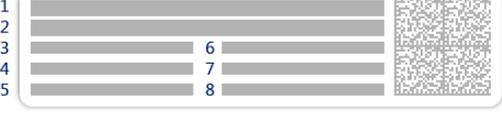
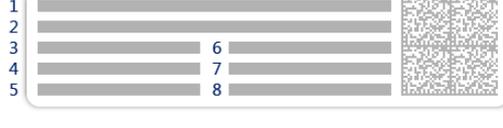
Parameter	Description	Values
Delimiter	Defines the delimiter between the barcode entries. This setting is only available when the selected Used template contains several 2D codes.	TAB* Form feed Carriage return Space User defined
Barcode field 1	Defines which information appears in each barcode. The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

* Factory setting

6.2.7.6.4 Available labels

The following label layouts can be selected:



 <p>10 small fields</p>	 <p>1D barcode with 3 large fields</p>
 <p>1D barcode with 3 small fields</p>	 <p>1D barcode with 6 small fields</p>
 <p>2D barcode with 5 large fields</p>	 <p>2D barcode with 5 small fields</p>
 <p>2D barcode with 2 large fields and 6 small fields</p>	 <p>2D barcode with 8 small fields</p>

6.3 Test weights settings

6.3.1 Settings: individual test weight

Navigation: ▼ Methods > 📦 Tests > 📦 Test weights > 📦 my weight 1 > ✎ Edit

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)
Nominal weight	Defines the approximate, rounded value of the Actual weight .	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 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.	Date
Certificate	If the certificate of the test weight is available, set to Active and fill in the additional information related to the certificate (see below).	Active Inactive*

Certificate ID	Defines the certificate ID. This setting is only available if Certificate ID is set to Active .	Text (1...22 characters)
Certificate date	Defines the certificate date. This setting is only available if Certificate ID is set to Active .	Date
Weight set ID	Defines the weight set ID.	Text (1...22 characters)

* Factory setting

6.3.2 Settings: combined test weight

Navigation: ▼ Methods > Tests > Test weights > my weight 1+2 > Edit

Parameter	Description	Values
Test weight name	Defines the name of the test weight.	Text (1...22 characters)
Nominal weight	Shows the sum of the nominal weights of all the individual weights included in this combined weight.	Numeric
Minimum weight class	Defines the minimum weight class according to OIML or ASTM. The customized tolerance class Own can also be selected. When choosing the weights that compose the combined weight, only the individual weights with a class better or equal to the selected Minimum weight class are shown.	E1 E2 F1 F2 M1 M2 M3 ASTM000 ASTM00 ASTM0 ASTM0 ASTM1 ASTM2 ASTM3 ASTM4 ASTM5 ASTM6 ASTM7 Own*
Weights	Displays a list of the available individual test weights. A total of two or three individual test weights can be selected. Only the individual weights with a class better or equal to the selected Minimum weight class are shown.	List of individual test weights

* Factory setting

6.4 Tests settings

6.4.1 Settings: Eccentricity test

Navigation: ▼ Methods > Tests > my eccentricity test > Edit

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* Inactive
Show preparation instructions	If activated, a predefined preparatory instruction is displayed in the test sequence.	Active* Inactive
Automatic print	When activated, the test results are immediately printed on the enabled strip printer after the test result has been calculated.	Active 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* On actual weight (CMV)

* Factory setting

Test point

Parameter	Description	Values
Nominal weight	Defines the nominal value of the weight that will be used for the test.	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*

* Factory setting

Eccentricity limits

Parameter	Description	Values
Control limit	Defines 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
Warning limit	Defines the upper or lower limit that, if exceeded or not reached, makes more stringent process monitoring necessary. The Warning limit must 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

3. Test weights

A configured test weight can be selected. For information on test weights definition and settings, see [Test weights ▶ Page 65] and [Test weights settings ▶ Page 154].

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 number 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. This setting is only available if Block balance is set to Active .	Numeric (3* 0...9)

* Factory setting

5. Test planning

Parameter	Description	Values
Planning type	Specifies the schedule for the test to be performed. Manually: The test is performed manually. Daily: A task is generated every day at the specified time. Weekly: A task is generated at least once a week. Additional days can be selected if required. Monthly: A task is generated every month at the specified day and time. Quarterly: A task is generated every three months at the specified time. Annually: A task is generated once a year at the specified time.	Manually* Daily Weekly Monthly Quarterly Annually
Start time	Defines the time when the test is due. This setting is only available if Planning type is not set to Manually .	Time

* Factory setting

Notification

This section does not appear when **Planning type** is set to **Manually**.

Parameter	Description	Values
(x) hours before test	Defines the number of hours before a notification informs about the upcoming planned test.	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 section only appears when **Planning type** is set to **Weekly**.

Parameter	Description	Values
Preferred days	Defines the preferred weekday for the execution of the test.	Monday* Tuesday* Wednesday* Thursday* Friday* Saturday Sunday

* Factory setting

Preferred day for execution

This section only appears when **Planning type** is set to **Monthly**.

Parameter	Description	Values
Day of the week	Defines the preferred day for execution of the test. If None is selected, the test will be scheduled for a month after the last execution.	None* Monday Tuesday Wednesday Thursday Friday Saturday Sunday
Week of the month	Defines the occurrence of a given day of week within a month. This setting is only available if Day of the week is not set to None .	First* Second Third Fourth

* Factory setting

See also

- Defining an individual test weight ▶ Page 65
- Defining a combined test weight ▶ Page 65
- Creating a new test ▶ Page 66

6.4.2 Settings: Repeatability test

Navigation: ▼ Methods >  Tests >  my repeatability test >  Edit

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* Inactive
Show preparation instructions	If activated, a predefined preparatory instruction is displayed in the test sequence.	Active* Inactive
Automatic print	When activated, the test results are immediately printed on the enabled strip printer after the test result has been calculated.	Active 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* On actual weight (CMV)
Number of repetitions	Defines the number of weight measurements of a series.	Numeric (10* 2...15)

* Factory setting

Tare

This section only appears when **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 nominal value of the weight that will be used for the test.	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*
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* Factory setting

Test limits

Parameter	Description	Values
Control limit	Defines 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. The minimum value is 40% of the balance readability. Result if the Control limit is exceeded: The test failed, the balance is out of specification.	Numeric
Warning limit	Defines the upper or lower limit that, if exceeded or not reached, makes more stringent process monitoring necessary. The Warning limit must 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

3. Test weights

A configured test weight can be selected. For information on test weights definition and settings, see [Test weights ▶ Page 65] and [Test weights settings ▶ Page 154].

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 number 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. This setting is only available if Block balance is set to Active .	Numeric (3* 0...9)

* Factory setting

5. Test planning

Parameter	Description	Values
Planning type	Specifies the schedule for the test to be performed. Manually : The test is performed manually. Daily : A task is generated every day at the specified time. Weekly : A task is generated at least once a week. Additional days can be selected if required. Monthly : A task is generated every month at the specified day and time. Quarterly : A task is generated every three months at the specified time. Annually : A task is generated once a year at the specified time.	Manually* Daily Weekly Monthly Quarterly Annually

Start time	Defines the time when the test is due. This setting is only available if Planning type is not set to Manually .	Time
------------	--	------

* Factory setting

Notification

This section does not appear when **Planning type** is set to **Manually**.

Parameter	Description	Values
(x) hours before test	Defines the number of hours before a notification informs about the upcoming planned test.	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 section only appears when **Planning type** is set to **Weekly**.

Parameter	Description	Values
Preferred days	Defines the preferred weekday for the execution of the test.	Monday* Tuesday* Wednesday* Thursday* Friday* Saturday Sunday

* Factory setting

Preferred day for execution

This section only appears when **Planning type** is set to **Monthly**.

Parameter	Description	Values
Day of the week	Defines the preferred day for execution of the test. If None is selected, the test will be scheduled for a month after the last execution.	None* Monday Tuesday Wednesday Thursday Friday Saturday Sunday
Week of the month	Defines the occurrence of a given day of week within a month. This setting is only available if Day of the week is not set to None .	First* Second Third Fourth

* Factory setting

See also

-  Defining an individual test weight ▶ Page 65
-  Defining a combined test weight ▶ Page 65
-  Creating a new test ▶ Page 66

6.4.3 Settings: Sensitivity test

Navigation: ▼ Methods >  Tests >  my sensitivity test >  Edit

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* Inactive
Show preparation instructions	If activated, a predefined preparatory instruction is displayed in the test sequence.	Active* Inactive
Automatic print	When activated, the test results are immediately printed on the enabled strip printer after the test result has been calculated.	Active 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* On actual weight (CMV)

* Factory setting

Tare

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 nominal value of the weight that will be used for the test.	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 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
Warning limit	Defines the upper or lower limit that, if exceeded or not reached, makes more stringent process monitoring necessary. The Warning limit must 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

* Factory setting

3. Test weights

A configured test weight can be selected. For information on test weights definition and settings, see [Test weights ▶ Page 65] and [Test weights settings ▶ Page 154].

4. Error management

Parameter	Description	Values
Block balance	<p>Defines the behavior of the balance if a test has failed.</p> <p>Active: The balance will be blocked after a specified number of failed tests. In this case, the balance cannot be used anymore until a user with the appropriate right unblocks the balance.</p> <p>Inactive: Blocking is not activated.</p>	Active Inactive*
Allowed number of retries	<p>Defines the maximum allowed retries until the balance will be blocked.</p> <p>This setting is only available if Block balance is set to Active.</p>	Numeric (3* 0...9)

* Factory setting

5. Test planning

Parameter	Description	Values
Planning type	<p>Specifies the schedule for the test to be performed.</p> <p>Manually: The test is performed manually.</p> <p>Daily: A task is generated every day at the specified time.</p> <p>Weekly: A task is generated at least once a week. Additional days can be selected if required.</p> <p>Monthly: A task is generated every month at the specified day and time.</p> <p>Quarterly: A task is generated every three months at the specified time.</p> <p>Annually: A task is generated once a year at the specified time.</p>	Manually* Daily Weekly Monthly Quarterly Annually
Start time	<p>Defines the time when the test is due.</p> <p>This setting is only available if Planning type is not set to Manually.</p>	Time

* Factory setting

Notification

This section does not appear when **Planning type** is set to **Manually**.

Parameter	Description	Values
(x) hours before test	Defines the number of hours before a notification informs about the upcoming planned test.	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 section only appears when **Planning type** is set to **Weekly**.

Parameter	Description	Values
Preferred days	Defines the preferred weekday for the execution of the test.	Monday* Tuesday* Wednesday* Thursday* Friday* Saturday Sunday

* Factory setting

Preferred day for execution

This section only appears when **Planning type** is set to **Monthly**.

Parameter	Description	Values
Day of the week	Defines the preferred day for execution of the test. If None is selected, the test will be scheduled for a month after the last execution.	None* Monday Tuesday Wednesday Thursday Friday Saturday Sunday
Week of the month	Defines the occurrence of a given day of week within a month. This setting is only available if Day of the week is not set to None .	First* Second Third Fourth

* Factory setting

See also

- 📖 Defining an individual test weight ▶ Page 65
- 📖 Defining a combined test weight ▶ Page 65
- 📖 Creating a new test ▶ Page 66

6.5 Adjustments settings

Navigation: ▼ **Methods** > 🛠 **Adjustments** > 🛠 **Internal adjustment** > ✎ **Edit**

1. Strategy

Parameter	Description	Values
Strategy	Defines the type of adjustment to be performed. When Strategy is set to No adjustment or External adjustment , no other settings are available.	Internal adjustment* External adjustment No adjustment
Automatic print	When activated, the adjustment results are immediately printed on the enabled strip printer after the result has been calculated.	Active Inactive*

* Factory setting

2. Specification

Parameter	Description	Values
'As found' test	At the start of the adjustment sequence, an internal sensitivity test is automatically performed to evaluate the current status. The test results are displayed and recorded.	Active Inactive*
'As left' test	When the adjustment is complete, an internal sensitivity test is automatically performed. The test results are displayed and recorded.	Active Inactive*

* Factory setting

Limits

These settings only appear when one of the options '**As found**' test or '**As left**' test is activated.

Parameter	Description	Values
Control limit	Defines 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 upper or lower limit that, if exceeded or not reached, makes more stringent process monitoring necessary. The Warning limit must 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 between one and three start times per day. It can also be defined on which 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 the execution of the task. The number of start times to be defined is specified by Schedule .	Time
Preferred days	Defines the days for the scheduled adjustments. This setting is only available if Schedule is not set to Inactive .	Monday Tuesday Wednesday Thursday Friday Saturday Sunday

* Factory setting

See also

-  Defining an individual test weight ▶ Page 65
-  Defining a combined test weight ▶ Page 65
-  Editing an "Internal adjustment" ▶ Page 72
-  Editing an "External adjustment" ▶ Page 72

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	<ul style="list-style-type: none">• 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.	<ul style="list-style-type: none">• After cleaning• After assembling the balance• After a software update• Depending on your internal regulations (SOP)	see "Tests"
Cleaning	<ul style="list-style-type: none">• After every use• After changing the substance• Depending on the degree of pollution• Depending on your internal regulations (SOP)	see "Cleaning"
Updating the software	<ul style="list-style-type: none">• Depending on your internal regulations (SOP).• After a new software release.	see "Software update"

See also

- 📄 Adjustments ▶ Page 72
- 📄 Tests ▶ Page 65
- 📄 Cleaning ▶ Page 165
- 📄 Software update ▶ Page 168

7.2 Cleaning

7.2.1 Disassembling the Pro draft shield for cleaning

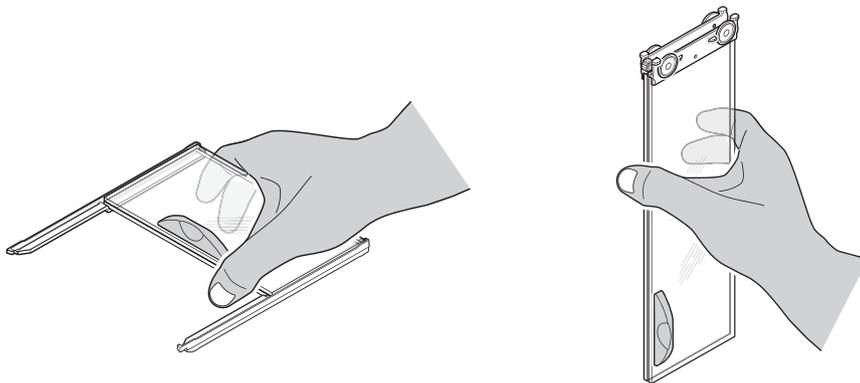


CAUTION

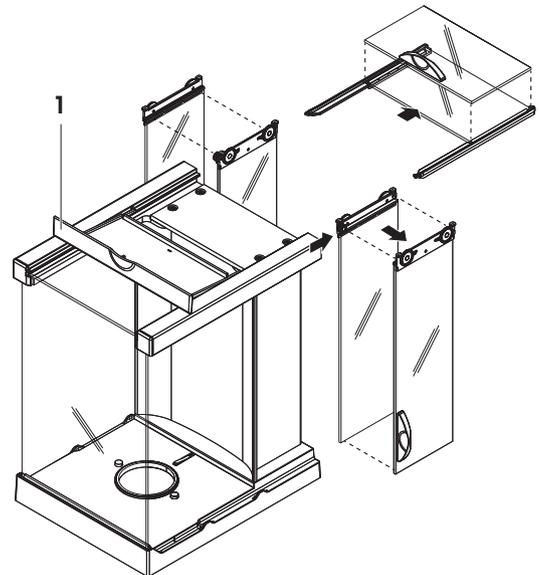
Injury due to sharp objects or broken glass

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



NOTICE

Damage to the instrument due to inappropriate cleaning methods

If liquid enters the housing, it can damage the instrument. The surface of the instrument can be damaged by certain cleaning agents, solvents, or abrasives.

- 1 Do not spray or pour liquid on the instrument.
- 2 Only use the cleaning agents specified in the Reference Manual (RM) of the instrument or the guide "8 Steps to a Clean Balance".
- 3 Only use a lightly moistened, lint-free cloth or a tissue to clean the instrument.
- 4 Wipe off any spills immediately.



For further information on cleaning a balance, consult "8 Steps to a Clean Balance".

► www.mt.com/lab-cleaning-guide

Cleaning around the balance

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

Cleaning the terminal

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

Cleaning the removable parts

- Clean the removed part with a damp cloth or a tissue and a mild cleaning agent or clean in a dishwasher up to 80 °C.

Cleaning the weighing unit

- 1 Disconnect the balance from the AC/DC adapter.
- 2 Use a lint-free cloth moistened with a mild cleaning agent to clean the surface of the balance.
- 3 Remove powder or dust with a disposable tissue first.
- 4 Remove sticky substances with a damp lint-free cloth and a mild solvent, e.g., isopropanol or ethanol 70%.

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 performing a sensitivity test after cleaning the balance.
 - 9 Press **→0←** to zero the balance.
- ➔ The balance is ready to be used.

See also

- 📖 Leveling the balance ▶ Page 41
- 📖 Technical Data ▶ Page 173
- 📖 Performing an internal adjustment ▶ Page 41
- 📖 Performing a "Sensitivity test" ▶ Page 69

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 77

7.3.1 Updating the software

- A USB storage device containing the software installer (zip file format) is connected to the balance.
- 1 Tap  **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  **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 41
-  Performing an internal adjustment ▶ Page 41

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 full.	–	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.	–	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
	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 an 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 your METTLER TOLEDO service 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 your METTLER TOLEDO service representative to adjust the side doors.

Error symptom	Possible cause	Diagnostic	Remedy
The user interface responds slowly.	Too many results are included in the Results list of a task.	Check the Results list 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 (model no. FSP060-DHAN3):	Input: 100 – 240 V AC \pm 10%, 50 – 60 Hz, 1.8 A Output: 12 V DC, 5 A, LPS, SELV
AC/DC adapter (model no. FSP060-DIBAN2):	Input: 100 – 240 V AC \pm 10%, 50 – 60 Hz, 1.5 A Output: 12 V DC, 5 A, LPS, SELV
Cable for AC/DC adapter:	3-core, with country-specific plug
Balance power consumption:	12 V DC \pm 10%, 2.25 A
Polarity:	

Protection and standards

Overvoltage category:	II
Degree of pollution:	2
Standards for safety and EMC:	See Declaration of Conformity
Range of application:	Use only indoors in dry locations

Environmental conditions

The limit values apply when the balance is used under the following environmental conditions:

Height above mean sea level:	Up to 5000 m
Ambient temperature:	+10 – +30 °C
Temperature change, max.:	5 °C/h
Relative air humidity:	30 – 70%, non-condensing
Acclimatization time:	At least 4 hours after placing the instrument in the same location where it will be put into operation.
Warm-up time:	At least 30 minutes after connecting the balance to the power supply. When switched on from standby, the instrument is ready for operation immediately.

The balance can be used under the following environmental conditions. However, the weighing performances of the balance may be outside the limit values:

Ambient temperature:	+5 °C – +40 °C
Relative air humidity:	20% to max. 80% at 31 °C, decreasing linearly to 50% at 40 °C, non-condensing

The balance can be disconnected and stored in its packaging under the following conditions:

Ambient temperature:	-25 – +70 °C
Relative air humidity:	10 – 90%, non-condensing

Environmental conditions for comparators

Comparators need to be used under the following environmental conditions to reach the specified performances:

Acclimatization time:	At least 8 hours after placing the instrument in the same location where it will be put into operation.
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

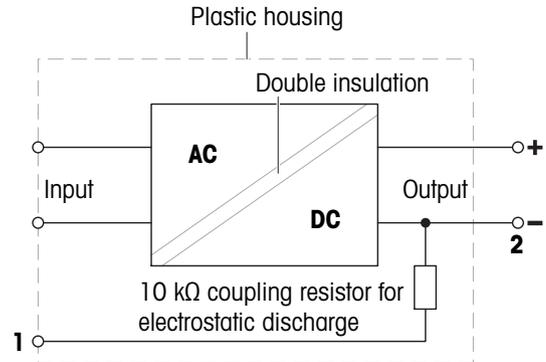
9.2 Explanatory notes for the METTLER TOLEDO AC/DC adapter

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 k Ω 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) ▲	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) ▲	0.4 mg	0.48 mg
Minimum weight (USP, tolerance = 0.10%) ▼	240 mg	120 mg
Minimum weight (tolerance = 1%) ▼	24 mg	12 mg
Settling time	2 s	2 s
Dimensions and 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
Weighing pan diameter	–	–
Usable height of draft shield	245 mm	245 mm
Balance weight	7.8 kg	7.8 kg
Weights for routine testing		
Weights (OIML class)	200 g (F2) / 10 g (F2)	200 g (F2) / 20 g (F2)
Weights (ASTM class)	200 g (ASTM 1) / 10 g (ASTM 1)	200 g (ASTM 1) / 20 g (ASTM 1)

▲ after adjustment with internal weight

▼ 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) ▲	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) ▲	0.3 mg	0.3 mg
Minimum weight (USP, tolerance = 0.10%) ▼	140 mg	0.16 g
Minimum weight (tolerance = 1%) ▼	14 mg	0.016 g
Settling time	2 s	1.5 s
Dimensions and 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
Weighing pan diameter	–	–
Usable height of draft shield	245 mm	245 mm
Balance weight	7.8 kg	7.8 kg
Weights for routine testing		
Weights (OIML class)	500 g (F2) / 20 g (F2)	500 g (F2) / 20 g (F2)
Weights (ASTM class)	500 g (ASTM 1) / 20 g (ASTM 1)	500 g (ASTM 1) / 20 g (ASTM 1)

▲ after adjustment with internal weight

▼ 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) ▲	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) ▲	1.2 mg	1.2 mg	6 mg
Minimum weight (USP, tolerance = 0.10%) ▼	1 g	1 g	1.6 g
Minimum weight (tolerance = 1%) ▼	100 mg	100 mg	160 mg
Settling time	1.5 s	1.5 s	1.5 s
Dimensions and 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
Weighing pan diameter	–	–	–
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)	200 g (F2) / 10 g (F2)	500 g (F2) / 20 g (F2)	500 g (F2) / 20 g (F2)
Weights (ASTM class)	200 g (ASTM 1) / 10 g (ASTM 1)	500 g (ASTM 1) / 20 g (ASTM 1)	500 g (ASTM 1) / 20 g (ASTM 1)

▲ after adjustment with internal weight

▼ determined at 5% load, k = 2

	XPR1203S	XPR3003S	XPR5003S
Limit values			
Capacity	1210 g	3.1 kg	5.1 kg
Nominal load	1200 g	3000 g	5000 g
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) ▲	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) ▲	1.5 mg	1.8 mg	3 mg
Minimum weight (USP, tolerance = 0.10%) ▼	820 mg	1.2 g	2 g
Minimum weight (tolerance = 1%) ▼	82 mg	120 mg	200 mg
Settling time	1.5 s	2 s	2 s
Dimensions and other specifications			
Balance dimensions (W × D × H)	214 × 411 × 368 mm	214 × 411 × 102 mm	214 × 411 × 368 mm
Weighing pan dimensions (W × D)	127 × 127 mm	127 × 127 mm	127 × 127 mm
Weighing pan diameter	–	–	–
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)	1000 g (F2) / 50 g (F2)	2 kg (F2) / 100 g (F2)	5 kg (F2) / 200 g (F2)
Weights (ASTM class)	1000 g (ASTM 1) / 50 g (ASTM 1)	2 kg (ASTM 1) / 100 g (ASTM 1)	5 kg (ASTM 4) / 200 g (ASTM 4)

▲ after adjustment with internal weight

▼ 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)	0.005 g (200 g)
Sensitivity offset (at nominal load) ▲	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) ▲	1.2 mg	1.2 mg	6 mg
Minimum weight (USP, tolerance = 0.10%) ▼	1 g	1 g	1.6 g
Minimum weight (tolerance = 1%) ▼	100 mg	100 mg	160 mg
Settling time	1.5 s	1.5 s	1.5 s
Dimensions and other specifications			
Balance dimensions (W × D × H)	194 × 411 × 102 mm	194 × 411 × 102 mm	194 × 411 × 102 mm
Weighing pan dimensions (W × D)	127 × 127 mm	127 × 127 mm	127 × 127 mm
Weighing pan diameter	–	–	–
Usable height of draft shield	–	–	–
Balance weight	5.7 kg	5.7 kg	5.7 kg
Weights for routine testing			
Weights (OIML class)	200 g (F2) / 10 g (F2)	500 g (F2) / 20 g (F2)	500 g (F2) / 20 g (F2)
Weights (ASTM class)	200 g (ASTM 1) / 10 g (ASTM 1)	500 g (ASTM 1) / 20 g (ASTM 1)	500 g (ASTM 1) / 20 g (ASTM 1)

▲ after adjustment with internal weight

▼ 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	3000 g	6000 g
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) ▲	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) ▲	4 mg	5 mg
Minimum weight (USP, tolerance = 0.10%) ▼	6 g	6 g
Minimum weight (tolerance = 1%) ▼	600 mg	600 mg
Settling time	2 s	2 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	194 × 411 × 102 mm	194 × 411 × 102 mm
Weighing pan dimensions (W × D)	170 × 203 mm	170 × 203 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	7.6 kg	7.6 kg
Weights for routine testing		
Weights (OIML class)	2 kg (F2) / 100 g (F2)	5 kg (F2) / 200 g (F2)
Weights (ASTM class)	2 kg (ASTM 1) / 100 g (ASTM 1)	5 kg (ASTM 4) / 200 g (ASTM 4)

▲ after adjustment with internal weight

▼ 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	2000 g	4000 g
Readability	0.01 g	0.01 g	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 (1000 g)	30 mg (2 kg)
Sensitivity offset (at nominal load) ▲	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 (1000 g)	10 mg (2 kg)
Sensitivity offset (at nominal load) ▲	12 mg	25 mg	16 mg
Minimum weight (USP, tolerance = 0.10%) ▼	8.2 g	8.2 g	8.2 g
Minimum weight (tolerance = 1%) ▼	820 mg	820 mg	820 mg
Settling time	1.2 s	1.2 s	1.2 s
Dimensions and other specifications			
Balance dimensions (W × D × H)	194 × 411 × 102 mm	194 × 411 × 102 mm	195 × 394 × 97 mm
Weighing pan dimensions (W × D)	172 × 205 mm	170 × 203 mm	172 × 205 mm
Weighing pan diameter	–	–	–
Usable height of draft shield	–	–	–
Balance weight	7.3 kg	8.2 kg	7.9 kg
Weights for routine testing			
Weights (OIML class)	1000 g (F2) / 50 g (F2)	2 kg (F2) / 100 g (F2)	2 kg (F2) / 200 g (F2)
Weights (ASTM class)	1000 g (ASTM 1) / 50 g (ASTM 1)	2 kg (ASTM 1) / 100 g (ASTM 1)	2 kg (ASTM 1) / 200 g (ASTM 1)

▲ after adjustment with internal weight

▼ determined at 5% load, k = 2

	XPR6002S	XPR6002SDR
Limit values		
Capacity	6.1 kg	6.1 kg
Nominal load	6000 g	6000 g
Readability	0.01 g	0.1 g
Capacity of fine range	–	1200 g
Readability in fine range	–	0.01 g
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) ▲	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
Linearity deviation	6 mg	20 mg
Eccentricity deviation (at test load)	10 mg (2 kg)	30 mg (2 kg)
Sensitivity offset (at nominal load) ▲	12 mg	30 mg
Minimum weight (USP, tolerance = 0.10%) ▼	8.2 g	10 g
Minimum weight (tolerance = 1%) ▼	820 mg	1 g
Settling time	1.2 s	1.2 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	194 × 411 × 102 mm	194 × 411 × 102 mm
Weighing pan dimensions (W × D)	170 × 203 mm	170 × 203 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	8.2 kg	8.2 kg
Weights for routine testing		
Weights (OIML class)	5 kg (F2) / 200 g (F2)	5 kg (F2) / 200 g (F2)
Weights (ASTM class)	5 kg (ASTM 4) / 200 g (ASTM 4)	5 kg (ASTM 4) / 200 g (ASTM 4)

▲ after adjustment with internal weight

▼ determined at 5% load, k = 2

	XPR8002S	XPR10002S
Limit values		
Capacity	8.1 kg	10.1 kg
Nominal load	8000 g	10000 g
Readability	0.01 g	0.01 g
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) ▲	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) ▲	12 mg	12 mg
Minimum weight (USP, tolerance = 0.10%) ▼	8.2 g	8.2 g
Minimum weight (tolerance = 1%) ▼	820 mg	820 mg
Settling time	1.5 s	1.5 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	194 × 411 × 102 mm	194 × 411 × 102 mm
Weighing pan dimensions (W × D)	170 × 203 mm	170 × 203 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	7.7 kg	7.7 kg
Weights for routine testing		
Weights (OIML class)	5 kg (F2) / 200 g (F2)	10 kg (F2) / 500 g (F2)
Weights (ASTM class)	5 kg (ASTM 4) / 200 g (ASTM 4)	10 kg (ASTM 4) / 500 g (ASTM 4)

▲ after adjustment with internal weight

▼ 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	4000 g	6000 g
Readability	0.1 g	0.1 g
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) ▲	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) ▲	50 mg	50 mg
Minimum weight (USP, tolerance = 0.10%) ▼	82 g	82 g
Minimum weight (tolerance = 1%) ▼	8.2 g	8.2 g
Settling time	0.8 s	0.8 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	194 × 411 × 99 mm	194 × 411 × 99 mm
Weighing pan dimensions (W × D)	190 × 223 mm	190 × 223 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	6.6 kg	6.6 kg
Weights for routine testing		
Weights (OIML class)	2 kg (F2) / 200 g (F2)	5 kg (F2) / 200 g (F2)
Weights (ASTM class)	2 kg (ASTM 4) / 200 g (ASTM 4)	5 kg (ASTM 4) / 200 g (ASTM 4)

▲ after adjustment with internal weight

▼ determined at 5% load, k = 2

	XPR8001S	XPR10001S
Limit values		
Capacity	8.1 kg	10.1 kg
Nominal load	8000 g	10000 g
Readability	0.1 g	0.1 g
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) ▲	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) ▲	120 mg	120 mg
Minimum weight (USP, tolerance = 0.10%) ▼	82 g	82 g
Minimum weight (tolerance = 1%) ▼	8.2 g	8.2 g
Settling time	1 s	1 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	194 × 411 × 99 mm	194 × 411 × 99 mm
Weighing pan dimensions (W × D)	190 × 223 mm	190 × 223 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	6.6 kg	6.6 kg
Weights for routine testing		
Weights (OIML class)	5 kg (F2) / 200 g (F2)	10 kg (F2) / 500 g (F2)
Weights (ASTM class)	5 kg (ASTM 4) / 200 g (ASTM 4)	10 kg (ASTM 4) / 500 g (ASTM 4)

▲ after adjustment with internal weight

▼ 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	1.3 mg
Repeatability in fine range	–	–
Repeatability ABA (5 cycles at nominal load)	0.00025 g	0.5 mg
Repeatability ABA (5 cycles at 5% load)	0.1 mg	0.5 mg
Linearity deviation	1 mg	3 mg
Eccentricity deviation (at test load)	2 mg (1000 g)	10 mg (2 kg)
Eccentricity deviation with LEVEL-MATIC or hanging pan (at test load)	0 mg (1000 g)	0 mg (2 kg)
Sensitivity offset (at nominal load) ▲	10 mg	15 mg
Sensitivity temperature drift	0.0003%/°C	0.0003%/°C
Typical values		
Repeatability	0.3 mg	0.8 mg
Repeatability in fine range	–	–
Repeatability (at 5% load)	–	–
Repeatability ABA (5 cycles at nominal load)	0.15 mg	0.4 mg
Repeatability ABA (5 cycles at 5% load)	0.1 mg	0.4 mg
Linearity deviation	0.5 mg	1 mg
Eccentricity deviation (at test load)	–	3 mg (2 kg)
Sensitivity offset (at nominal load) ▲	6.8 mg	8 mg
Minimum weight (USP, tolerance = 0.10%) ▼	600 mg	1600 mg
Minimum weight (tolerance = 1%) ▼	60 mg	160 mg
Settling time	3.5 s	10 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	214 × 268 × 368 mm	214 × 268 × 368 mm
Weighing pan dimensions (W × D)	–	–
Weighing pan diameter	130 mm	130 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)	2 kg (F2) / 100 g (F2)	5 kg (F2) / 200 g (F2)
Weights (ASTM class)	2 kg (ASTM 1) / 100 g (ASTM 1)	5 kg (ASTM 4) / 200 g (ASTM 4)

▲ after adjustment with internal weight

▼ 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	1.5 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	0.8 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 LEVEL-MATIC or hanging pan (at test load)	0 g (1000 g)	0 mg (2 kg)	0 mg (5 kg)
Sensitivity offset (at nominal load) ▲	10 mg	15 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 (at 5% load)	–	–	–
Repeatability ABA (5 cycles at nominal load)	0.5 mg	0.7 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 mg	3.2 mg
Eccentricity deviation (at test load)	2.6 mg (1000 g)	3 mg (2 kg)	–
Sensitivity offset (at nominal load) ▲	6.8 mg	8 mg	34 mg
Minimum weight (USP, tolerance = 0.10%) ▼	1.2 g	2 g	4 g
Minimum weight (tolerance = 1%) ▼	0.12 g	0.2 g	0.4 g
Settling time	3.5 s	3.5 s	3.5 s
Dimensions and other specifications			
Balance dimensions (W × D × H)	214 × 268 × 368 mm	214 × 268 × 368 mm	214 × 268 × 115 mm
Weighing pan dimensions (W × D)	127 × 127 mm	–	–
Weighing pan diameter	–	130 mm	130 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)	2 kg (F2) / 100 g (F2)	5 kg (F2) / 200 g (F2)	10 kg (F2) / 500 g (F2)
Weights (ASTM class)	2 kg (ASTM 1) / 100 g (ASTM 1)	5 kg (ASTM 4) / 200 g (ASTM 4)	10 kg (ASTM 4) / 500 g (ASTM 4)

▲ after adjustment with internal weight

▼ 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	0.01 g	0.1 g
Capacity of fine range	–	4.2 kg
Readability in fine range	–	0.01 g
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) ▲	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) ▲	12 mg	25 mg
Minimum weight (USP, tolerance = 0.10%) ▼	20 g	36 g
Minimum weight (tolerance = 1%) ▼	2 g	3.6 g
Settling time	1.5 s	1.5 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	360 × 434 × 147 mm	360 × 434 × 147 mm
Weighing pan dimensions (W × D)	203 × 170 mm	203 × 170 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	12.7 kg	12.7 kg
Weights for routine testing		
Weights (OIML class)	10 kg (F2) / 500 g (F2)	20 kg (F2) / 1000 g (F2)
Weights (ASTM class)	10 kg (ASTM 4) / 500 g (ASTM 4)	20 kg (ASTM 4) / 1000 g (ASTM 4)

▲ after adjustment with internal weight

▼ 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	0.1 g	0.1 g
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) ▲	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) ▲	120 mg	200 mg
Minimum weight (USP, tolerance = 0.10%) ▼	82 g	82 g
Minimum weight (tolerance = 1%) ▼	8.2 g	8.2 g
Settling time	1.5 s	1.5 s
Dimensions and 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
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	10.3 kg	10.3 kg
Weights for routine testing		
Weights (OIML class)	10 kg (F2) / 500 g (F2)	10 kg (F2) / 500 g (F2)
Weights (ASTM class)	10 kg (ASTM 4) / 500 g (ASTM 4)	10 kg (ASTM 4) / 500 g (ASTM 4)

▲ after adjustment with internal weight

▼ determined at 5% load, k = 2

	XPR32001L	XPR64001L
Limit values		
Capacity	32.1 kg	64.1 kg
Nominal load	32 kg	64 kg
Readability	0.1 g	0.1 g
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) ▲	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) ▲	250 mg	300 mg
Minimum weight (USP, tolerance = 0.10%) ▼	82 g	82 g
Minimum weight (tolerance = 1%) ▼	8.2 g	8.2 g
Settling time	1.5 s	1.8 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	360 × 434 × 122 mm	362 × 434 × 123 mm
Weighing pan dimensions (W × D)	360 × 280 mm	362 × 282 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	10.3 kg	12 kg
Weights for routine testing		
Weights (OIML class)	20 kg (F2) / 1000 g (F2)	50 kg (F2) / 2 kg (F2)
Weights (ASTM class)	20 kg (ASTM 4) / 1000 g (ASTM 4)	50 kg (ASTM 4) / 2 kg (ASTM 4)

▲ after adjustment with internal weight

▼ 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) ▲	1.6 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) ▲	320 mg	320 mg
Minimum weight (USP, tolerance = 0.10%) ▼	820 g	820 g
Minimum weight (tolerance = 1%) ▼	82 g	82 g
Settling time	1.2 s	1.5 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	360 × 434 × 122 mm	362 × 434 × 123 mm
Weighing pan dimensions (W × D)	360 × 280 mm	362 × 282 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	10.3 kg	12 kg
Weights for routine testing		
Weights (OIML class)	20 kg (F2) / 1000 g (F2)	50 kg (F2) / 2 kg (F2)
Weights (ASTM class)	20 kg (ASTM 4) / 1000 g (ASTM 4)	50 kg (ASTM 4) / 2 kg (ASTM 4)

▲ after adjustment with internal weight

▼ 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)	0.3 g (10 kg)
Eccentricity deviation with LEVEL-MATIC or hanging pan (at test load)	0 mg (10 kg)
Sensitivity offset (at nominal load) ▲	0.2 g
Sensitivity temperature drift	0.0003%/°C
Typical values	
Repeatability	4 mg
Repeatability in fine range	–
Repeatability (at 5% load)	–
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)	–
Sensitivity offset (at nominal load) ▲	140 mg
Minimum weight (USP, tolerance = 0.10%) ▼	8 g
Minimum weight (tolerance = 1%) ▼	0.8 g
Settling time	8 s
Dimensions and other specifications	
Balance dimensions (W × D × H)	360 × 280 × 185 mm
Weighing pan dimensions (W × D)	–
Weighing pan diameter	220 mm
Usable height of draft shield	–
Balance weight	13.7 kg
Weights for routine testing	
Weights (OIML class)	20 kg (F2) / 1000 g (F2)
Weights (ASTM class)	20 kg (ASTM 4) / 1000 g (ASTM 4)

▲ after adjustment with internal weight

▼ 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)	0.25 g (10 kg)	0.5 g (20 kg)
Eccentricity deviation with LEVEL-MATIC or hanging pan (at test load)	0 g (10 kg)	0 g (20 kg)
Sensitivity offset (at nominal load) ▲	0.32 g	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 (at 5% load)	–	–
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)	–
Sensitivity offset (at nominal load) ▲	140 mg	650 mg
Minimum weight (USP, tolerance = 0.10%) ▼	13 g	20 g
Minimum weight (tolerance = 1%) ▼	1.3 g	2 g
Settling time	8 s	8 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	362 × 282 × 123 mm	360 × 280 × 185 mm
Weighing pan dimensions (W × D)	362 × 282 mm	–
Weighing pan diameter	–	220 mm
Usable height of draft shield	–	–
Balance weight	12.1 kg	13.7 kg
Weights for routine testing		
Weights (OIML class)	20 kg (F2) / 1000 g (F2)	50 kg (F2) / 2 kg (F2)
Weights (ASTM class)	20 kg (ASTM 4) / 1000 g (ASTM 4)	50 kg (ASTM 4) / 2 kg (ASTM 4)

▲ after adjustment with internal weight

▼ 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	0.01 g	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)	0.4 g (20 kg)	0.5 g (20 kg)
Eccentricity deviation with LEVEL-MATIC or hanging pan (at test load)	0 g (20 kg)	0 g (20 kg)
Sensitivity offset (at nominal load) ▲	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 (at 5% load)	–	–
Repeatability ABA (5 cycles at nominal load)	20 mg	20 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) ▲	650 mg	650 mg
Minimum weight (USP, tolerance = 0.10%) ▼	36 g	36 g
Minimum weight (tolerance = 1%) ▼	3.6 g	3.6 g
Settling time	8 s	8 s
Dimensions and other specifications		
Balance dimensions (W × D × H)	362 × 282 × 123 mm	362 × 282 × 123 mm
Weighing pan dimensions (W × D)	362 × 282 mm	362 × 282 mm
Weighing pan diameter	–	–
Usable height of draft shield	–	–
Balance weight	12.1 kg	12.1 kg
Weights for routine testing		
Weights (OIML class)	50 kg (F2) / 2 kg (F2)	50 kg (F2) / 2 kg (F2)
Weights (ASTM class)	50 kg (ASTM 4) / 2 kg (ASTM 4)	50 kg (ASTM 4) / 2 kg (ASTM 4)

▲ after adjustment with internal weight

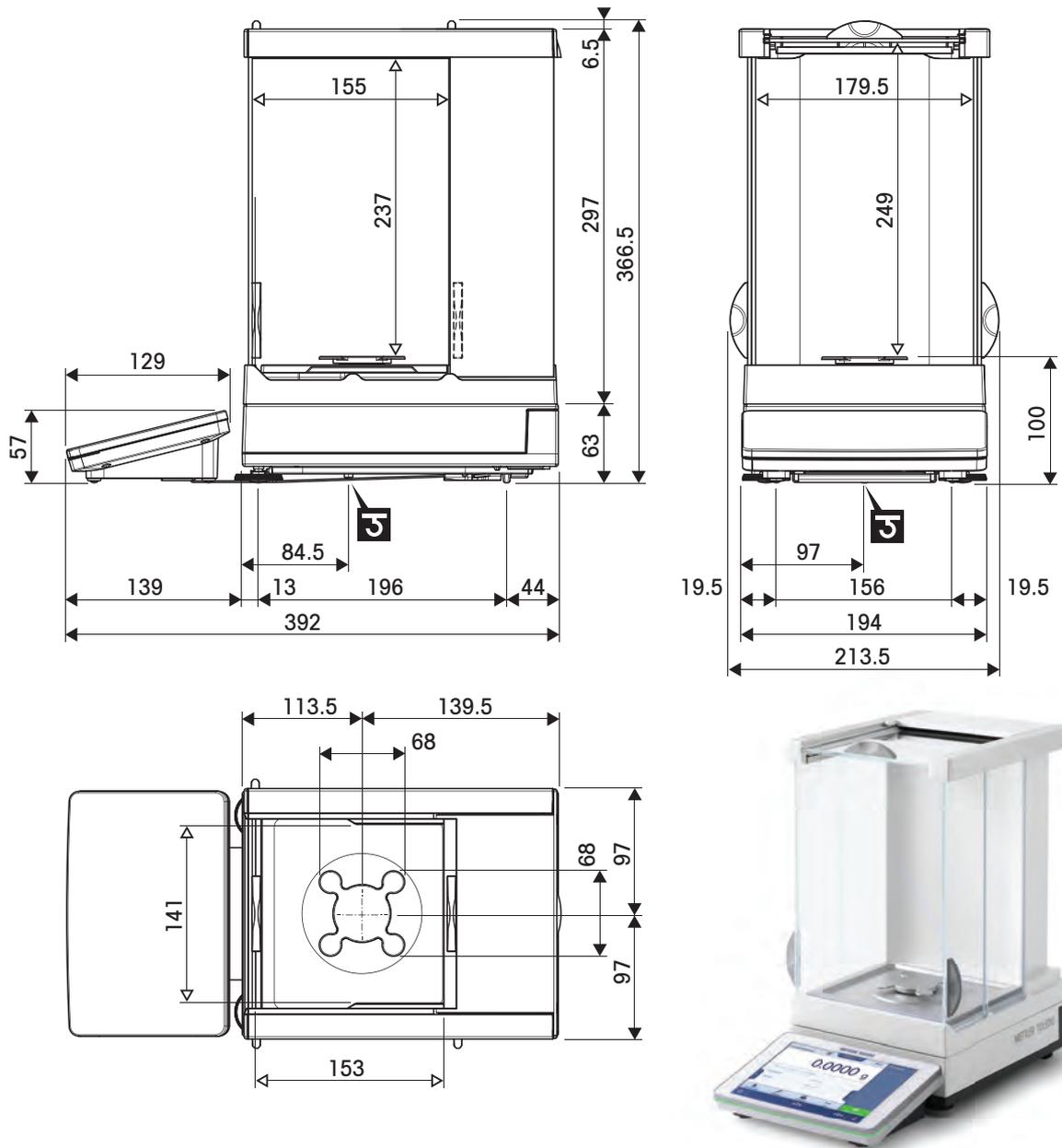
▼ determined at 5% load, k = 2

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

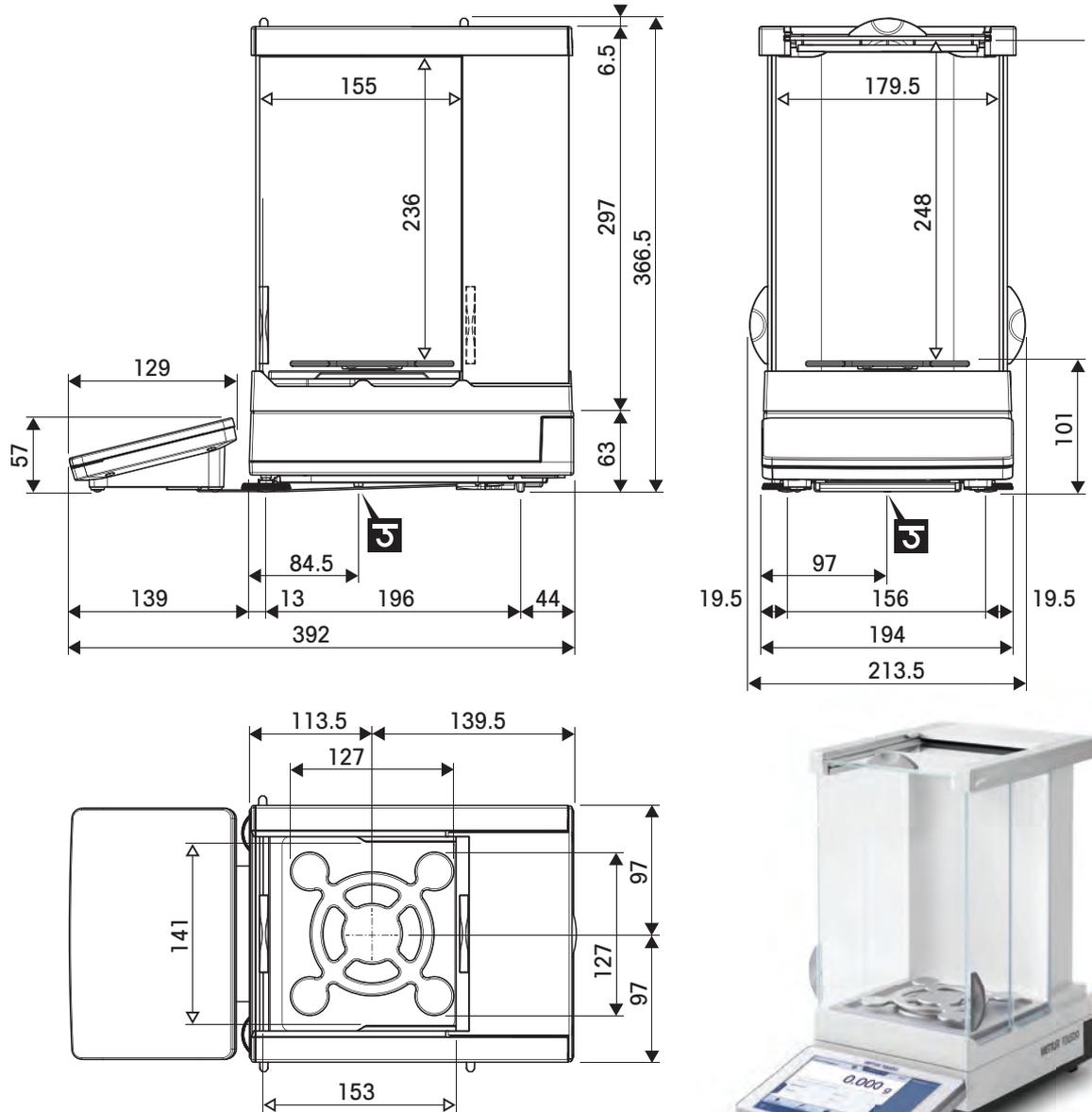
Models: XRP204S, XPR404S, XPR504S, XPR504SDR



	Outer dimensions [mm]
	Clear dimensions [mm]
	Position of the weighing hook axle

9.4.1.2 Readability 1 mg, with Pro draft shield and SmartPan weighing pan

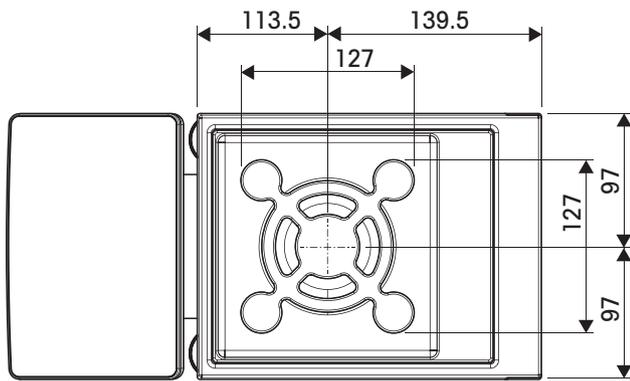
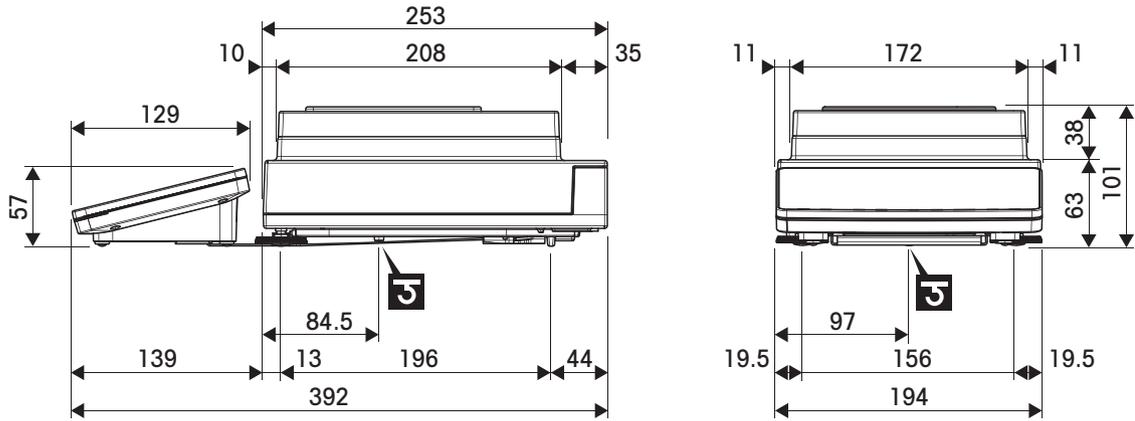
Models: XPR303S, XPR603S, XPR603SDR, XPR1203S, XPR3003S, XPR5003S



	Outer dimensions [mm]
	Clear dimensions [mm]
	Position of the weighing hook axle

9.4.1.3 Readability 1 mg, with SmartPan weighing pan

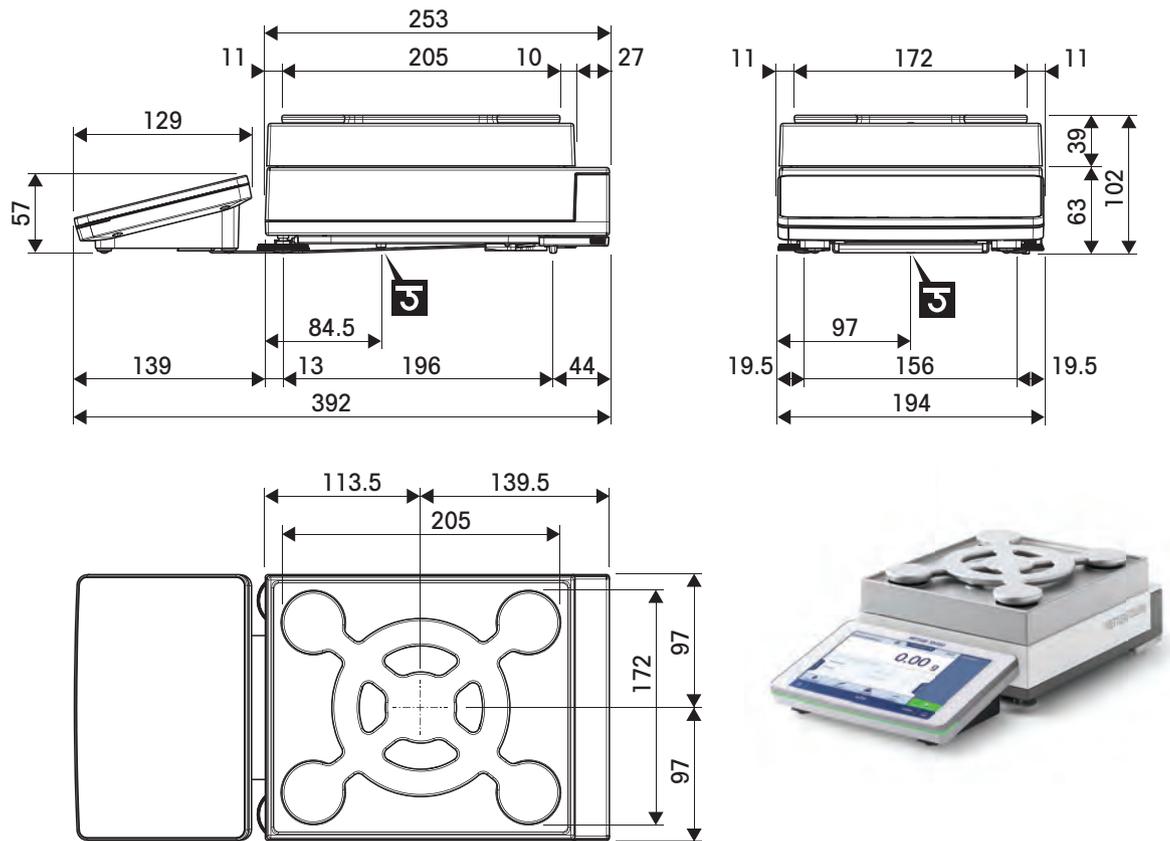
Models: XPR303SN, XPR603SN, XPR603SNDR



↔	Outer dimensions [mm]
	Position of the weighing hook axle

9.4.1.4 Readability 5 mg / 10 mg, with SmartPan weighing pan

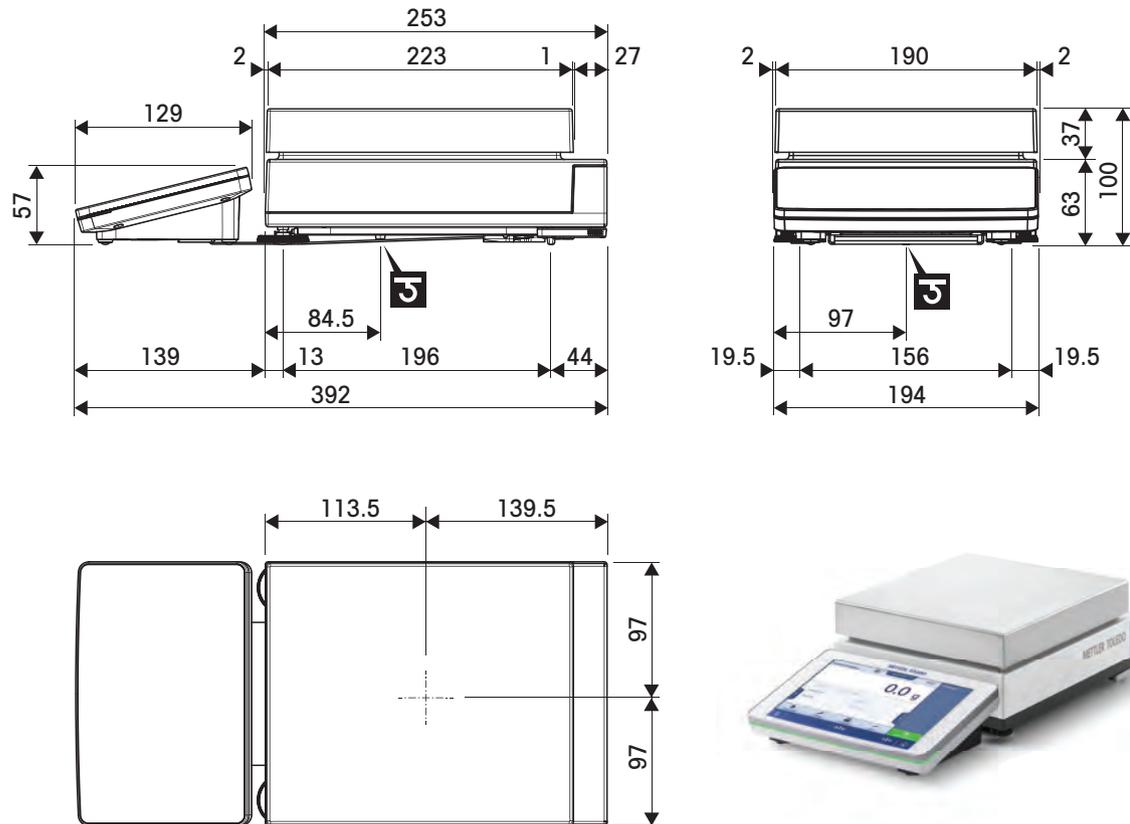
Models: XPR3003SD5, XPR6003SD5, XPR1202S, XPR2002S, XPR4002S, XPR6002S, XPR6002SDR, XPR8002S, XPR10002S



↔	Outer dimensions [mm]
⌋	Position of the weighing hook axle

9.4.1.5 Readability 100 mg

Models: XPR4001S, XPR6001S, XPR8001S, XPR10001S

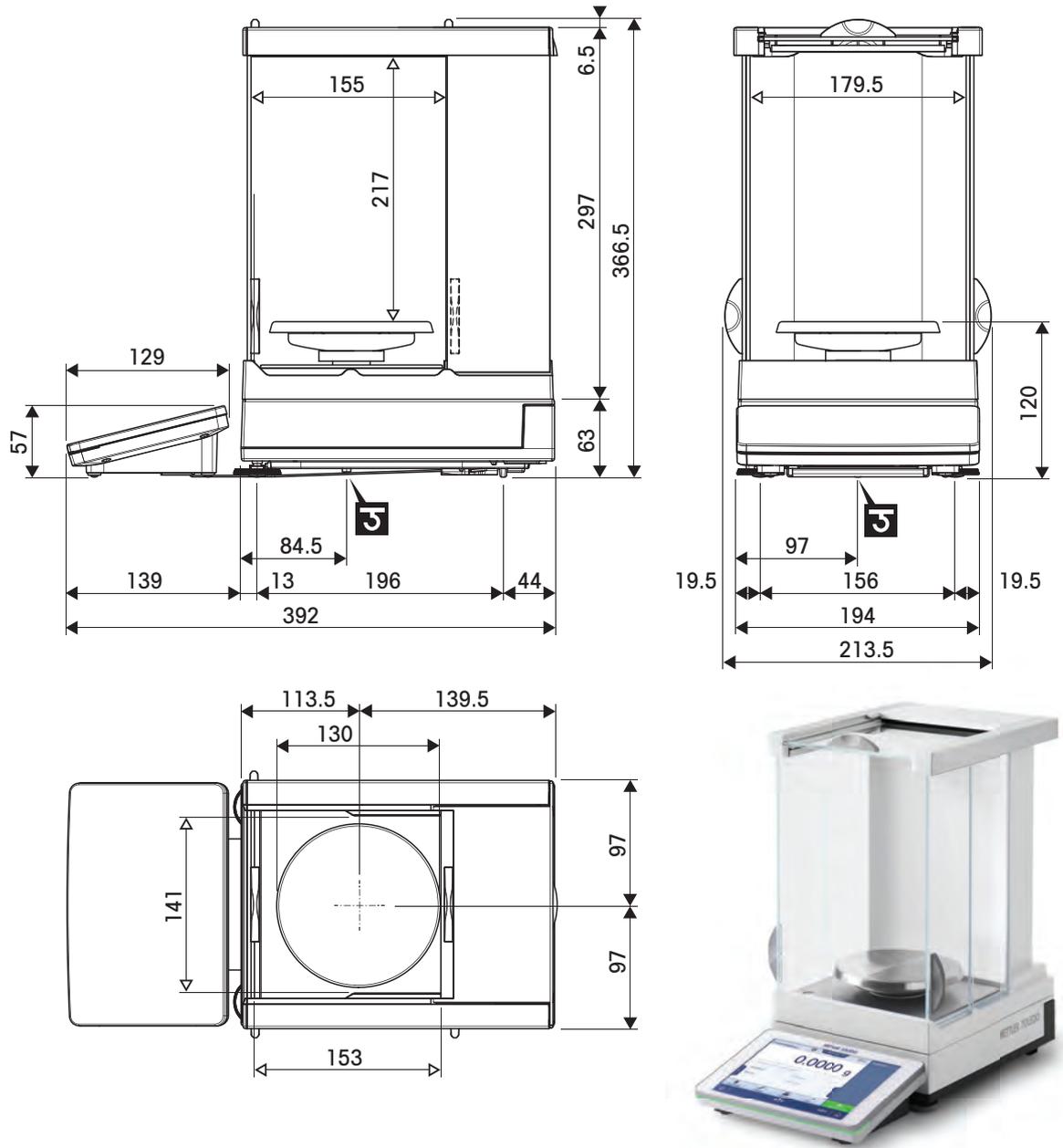


↔	Outer dimensions [mm]
J	Position of the weighing hook axle

9.4.2 Comparators with S weighing platform

9.4.2.1 Readability 0.1 mg, with Pro draft shield and LevelMatic weighing pan

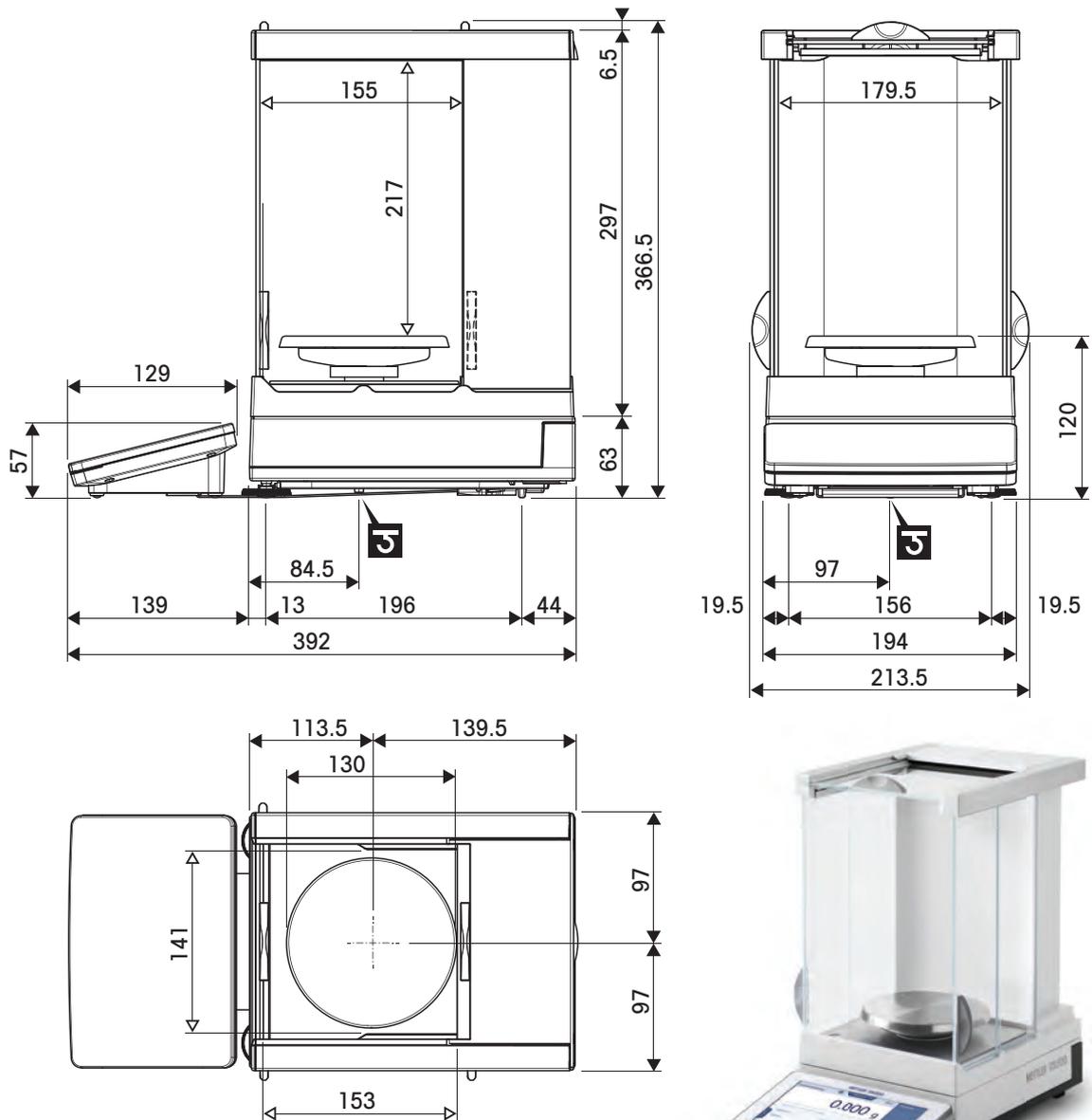
Models: XPR2004SC, XPR5004SC



	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

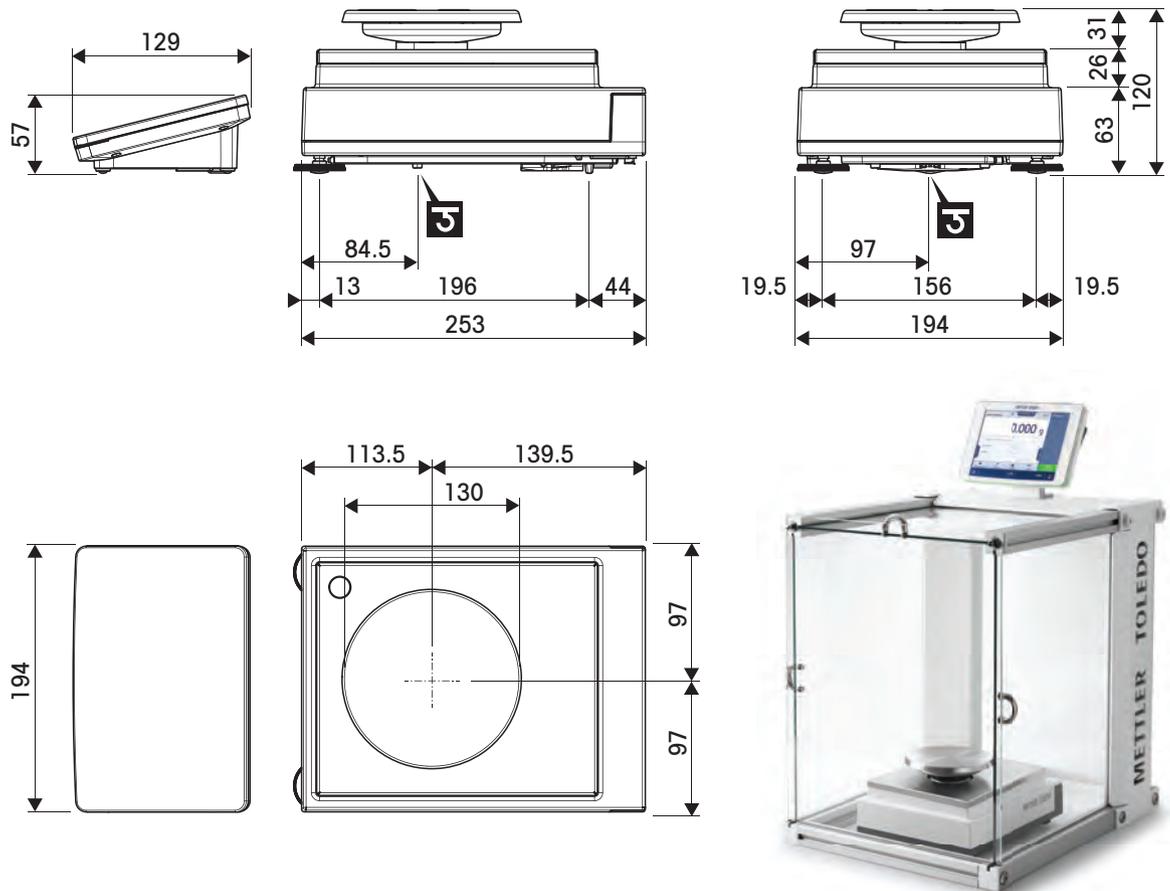
Models: XPR5003SC



	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

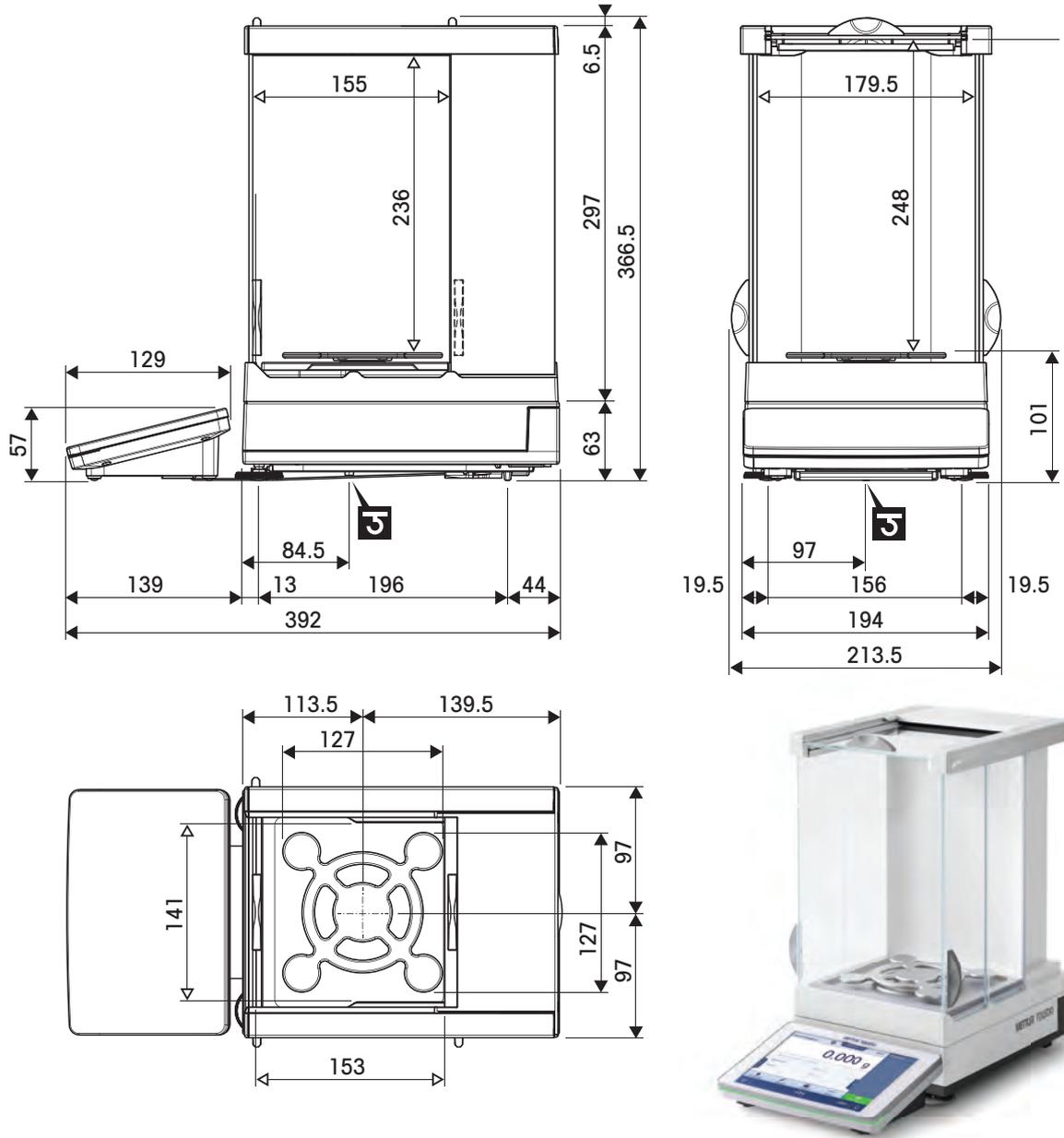
Models: XPR10003SC



↔	Outer dimensions [mm]
◁ ▷	Clear dimensions [mm]
5	Position of the weighing hook axle

9.4.2.4 Readability 1 mg, with Pro draft shield

Models: XPR2003SC

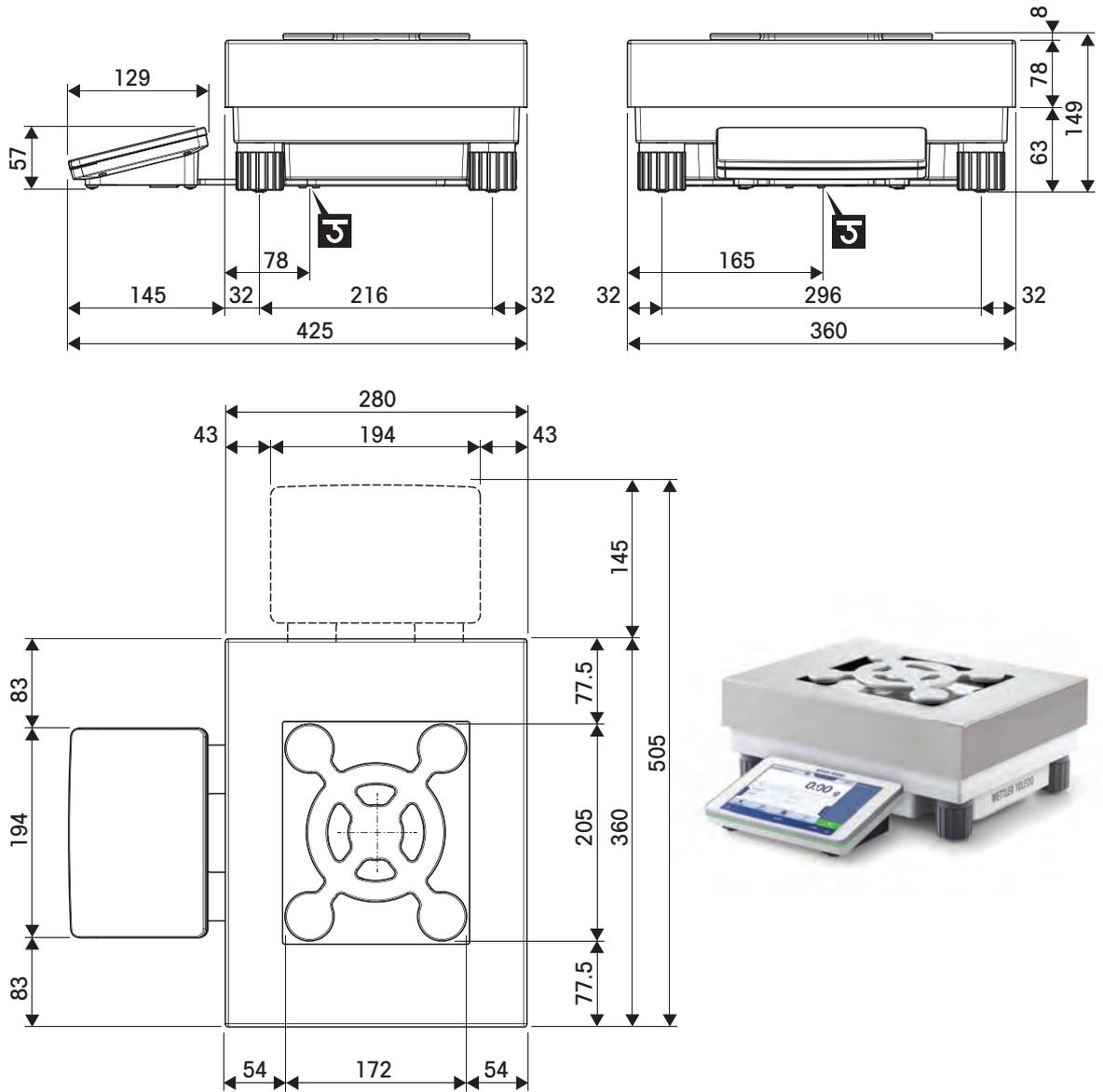


	Outer dimensions [mm]
	Clear dimensions [mm]
J	Position of the weighing hook axle

9.4.3 Balances with L weighing platform

9.4.3.1 Readability 10 mg, with SmartPan weighing pan

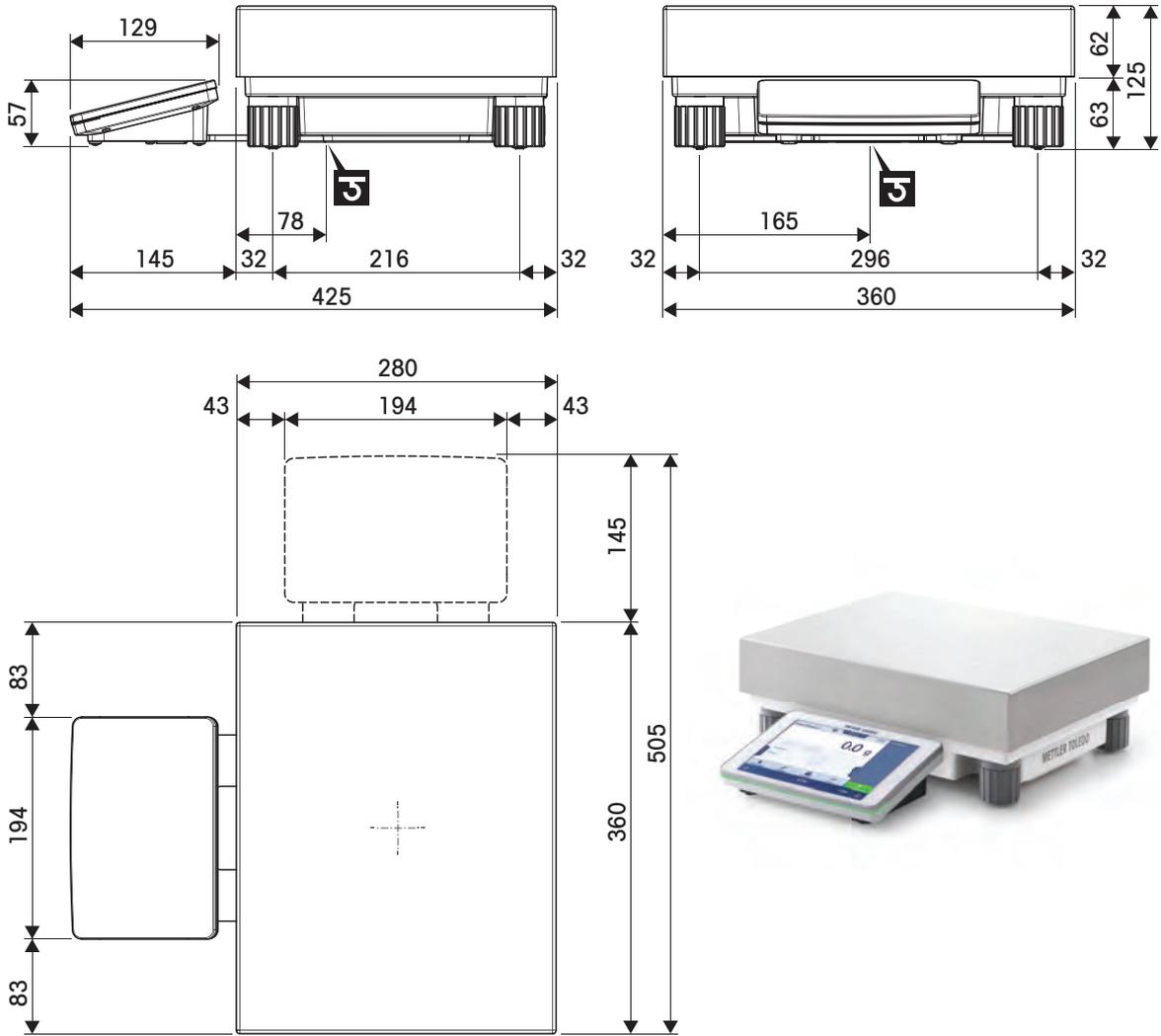
Models: XPR15002L, XPR20002LDR



↔	Outer dimensions [mm]
J	Position of the weighing hook axle

9.4.3.2 Readability 100 mg / 1 g

Models: XPR10001L, XPR16001L, XPR32001L, XPR64001L, XPR32000L, XPR64000L

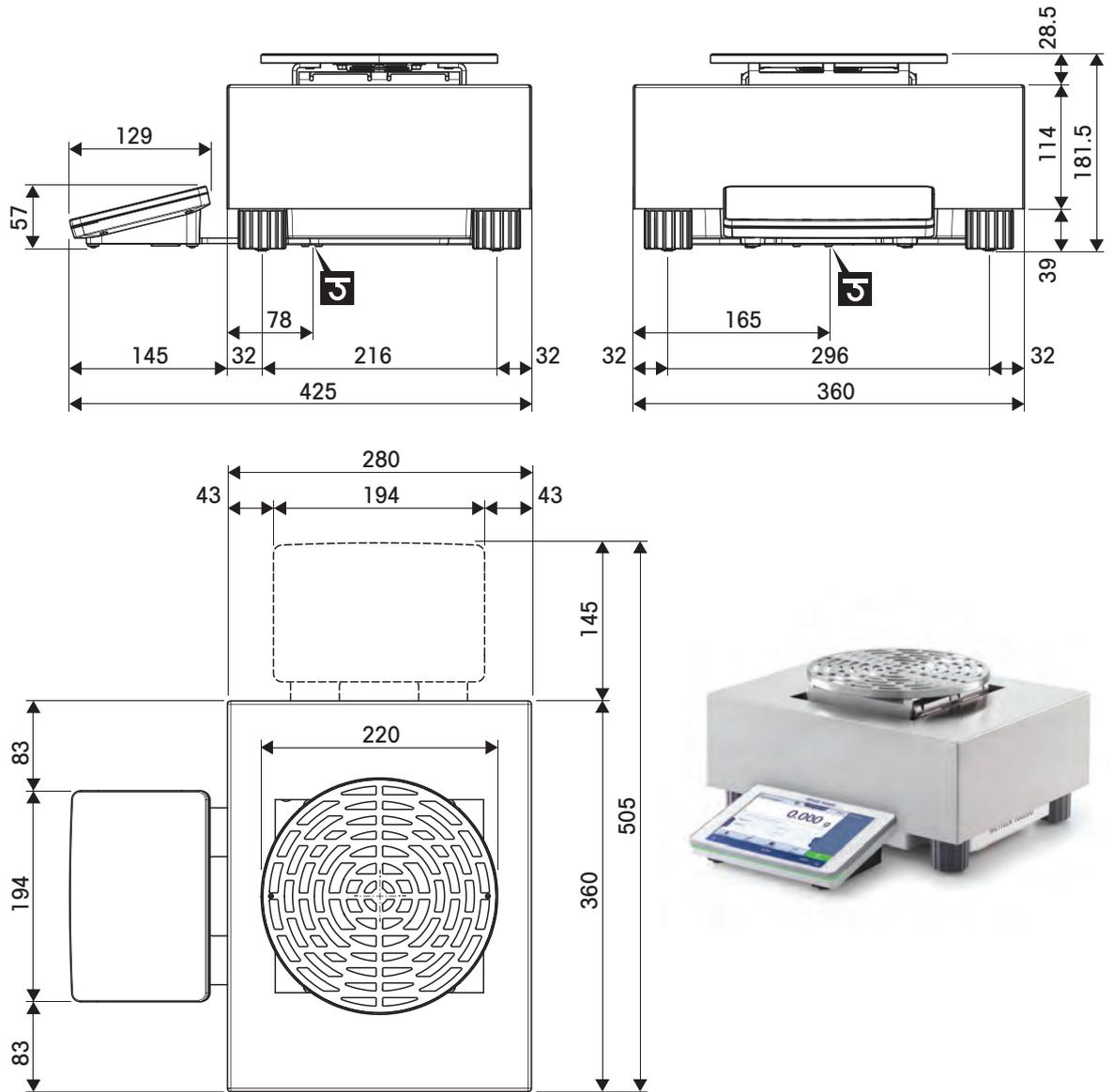


↔	Outer dimensions [mm]
G	Position of the weighing hook axle

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

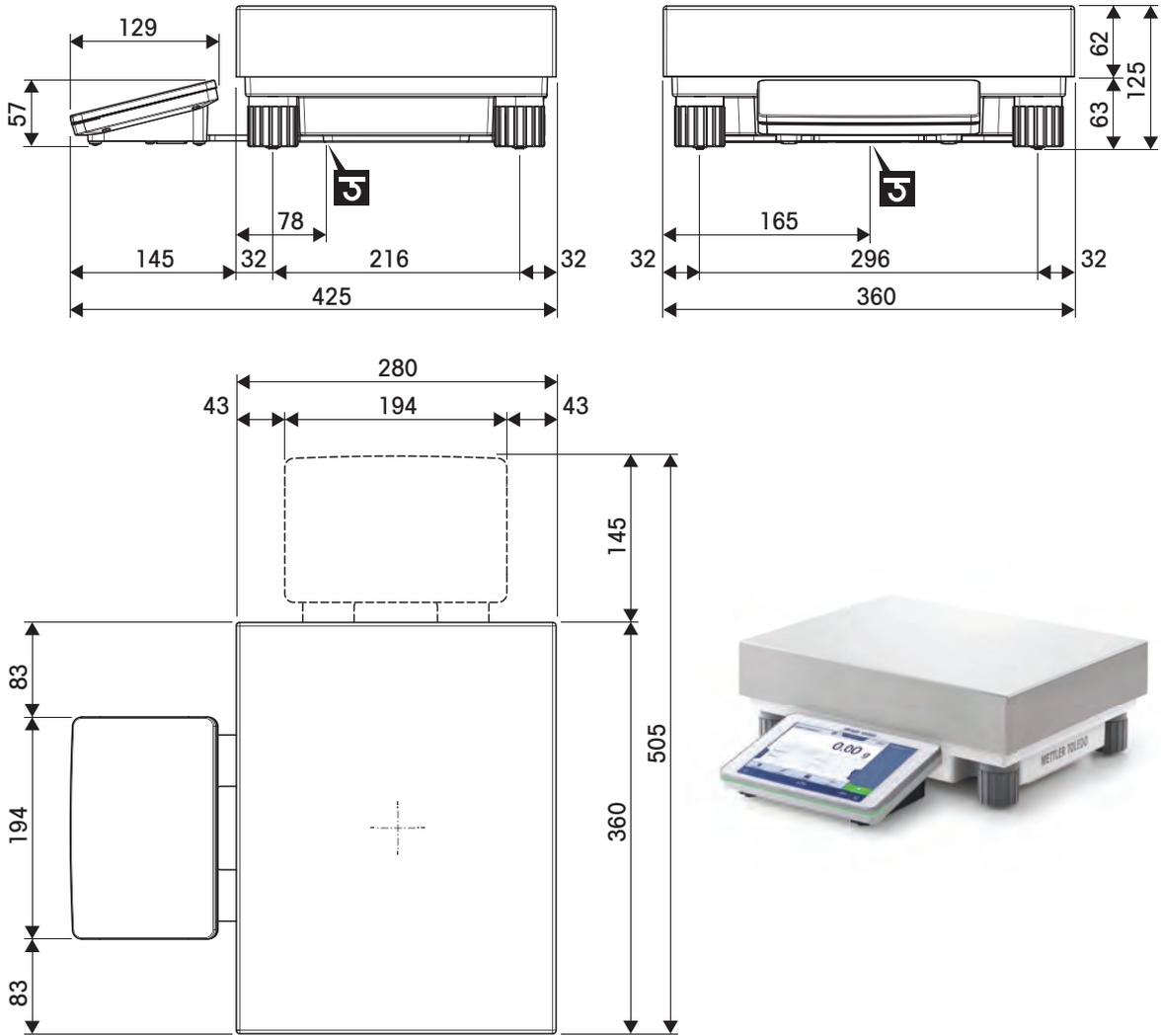
Models: XPR26003LC, XPR64003LD5C



↔	Outer dimensions [mm]
J	Position of the weighing hook axle

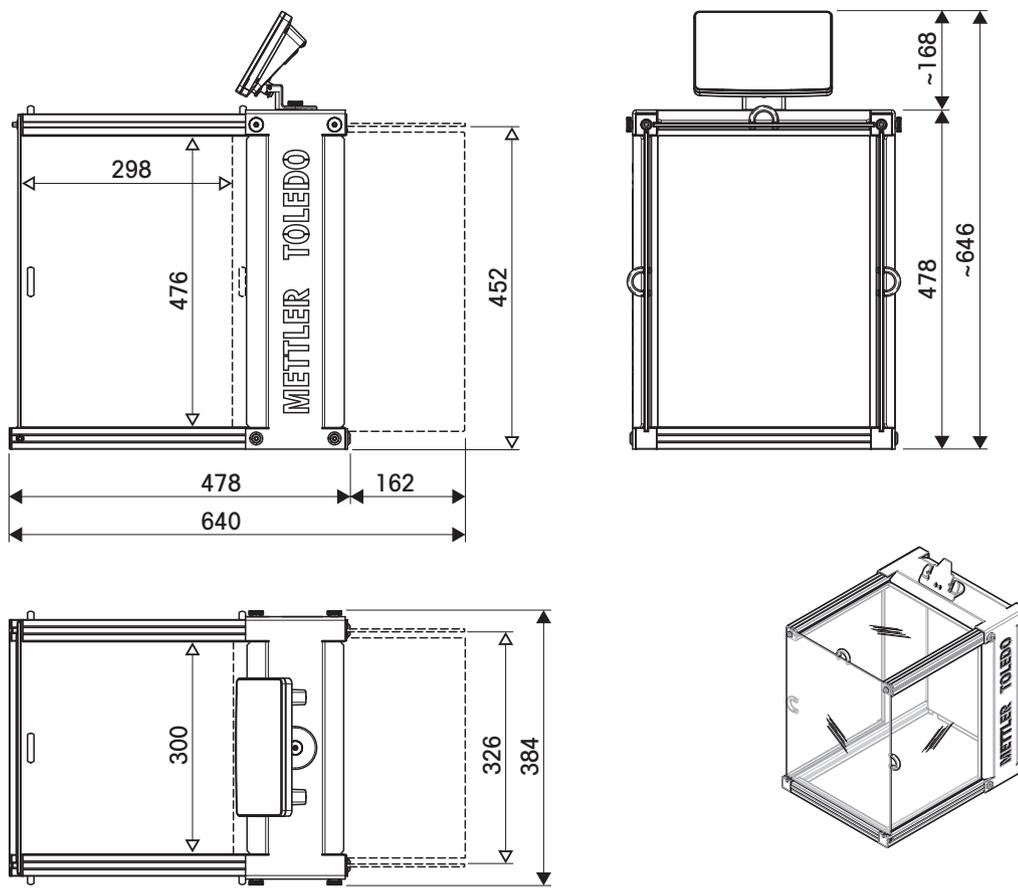
9.4.4.2 Readability 5 mg / 10 mg

Models: XPR32003LD5C, XPR64002LC



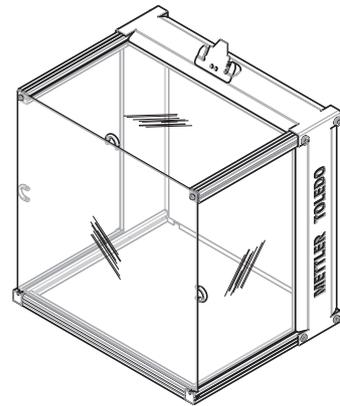
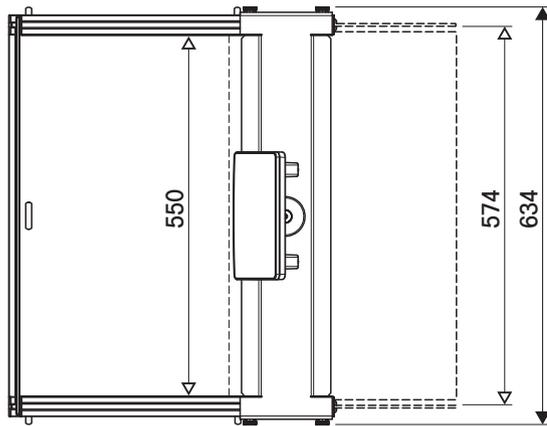
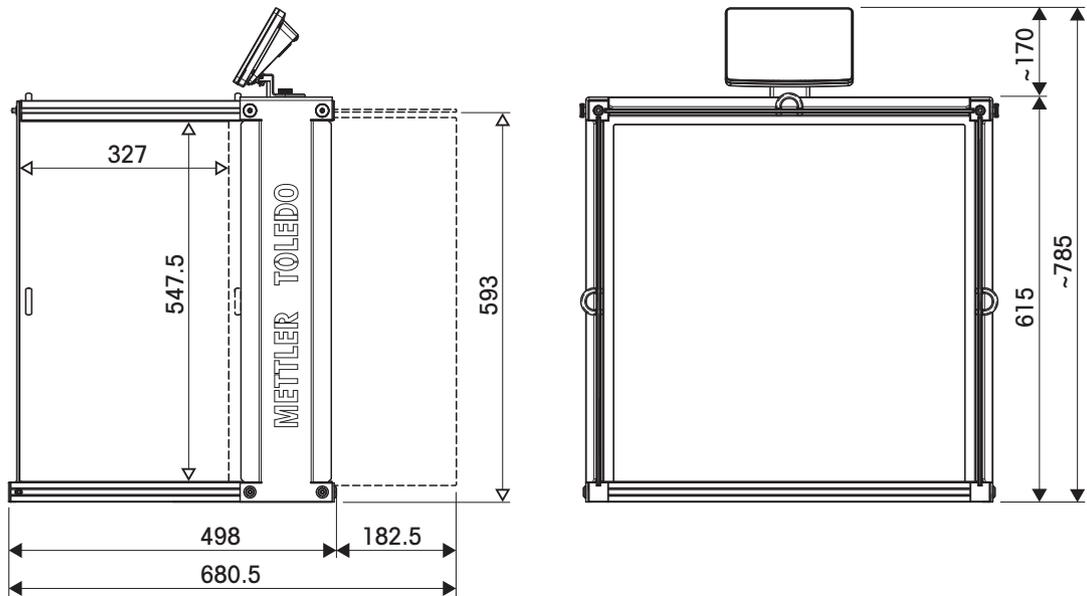
↔	Outer dimensions [mm]
G	Position of the weighing hook axle

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]
3	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

Accessories are additional components that could help you in your workflow.

	Description	Order no.
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 x 223 mm, "S" platform	11132625
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 Usable height: 175 mm	30300928
	Draft shield XP-W12, dimensions (W x D x H): 300 mm x 450 mm x 450 mm, for S weighing platform	11134430



Draft shield XP-W64, dimensions (W x D x H): 550 mm x 470 mm x 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

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-electrode (11107764)

11107766



Compact ionizer with stand (USB)

30499859



Additional compact ionizer (USB) for Compact ionizer with stand (30499859)

30496446

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

Density determination



Density kit

30300933



Sinker 10 mL

210260



Calibrated Sinkers 10mL

210672



Calibrated Thermometer

11132685

Printers



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

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

RFID readers / writers / cards



EasyScan USB
Reads and writes RFID tags.

30416173



Smart Tag
Set of 50 pieces
Set of 200 pieces

30101517

30101518

Hands-free accessories



Foot switch, optional switch for remote operation (USB connection)

30312558



ErgoSens, optical sensor for remote operation (USB connection)

30300915

Barcode readers



Corded USB barcode reader

30417466

Anti-theft devices



Anti-theft cable with lock

11600361

Cables for RS232C interfaces



USB-RS232 cable (to connect a balance via RS232C to a USB port)

64088427



USB-RS232 cable with integrated null modem to connect peripherals and computers via RS232C to an XPR/XSR balance

30576241

Wireless interfaces



Bluetooth RS232C serial adapter ADP-BT-S

30086494

For wireless connection between:

- instrument and computer (depending on the instrument model)
- printer and instrument



Bluetooth USB adapter for wireless connection to P-5x printer (additional Bluetooth RS232 serial adapter 30086494 required)

30416089

Software



LabX Balance Express

11153120

Stand-alone system, includes one balance license.



LabX Balance Server

11153121

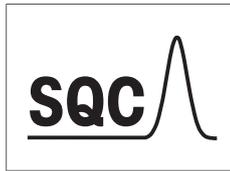
Client server system, includes one balance license.



LabX 1 Balance instrument license

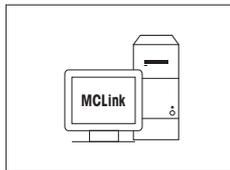
11153220

Single additional instrument license for Express or Server edition.



SQC license

30539260



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

Adjustment weights



OIML / ASTM Weights (with calibration certificate)
see www.mt.com/weights

Various



EasyHub USB

30468768



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

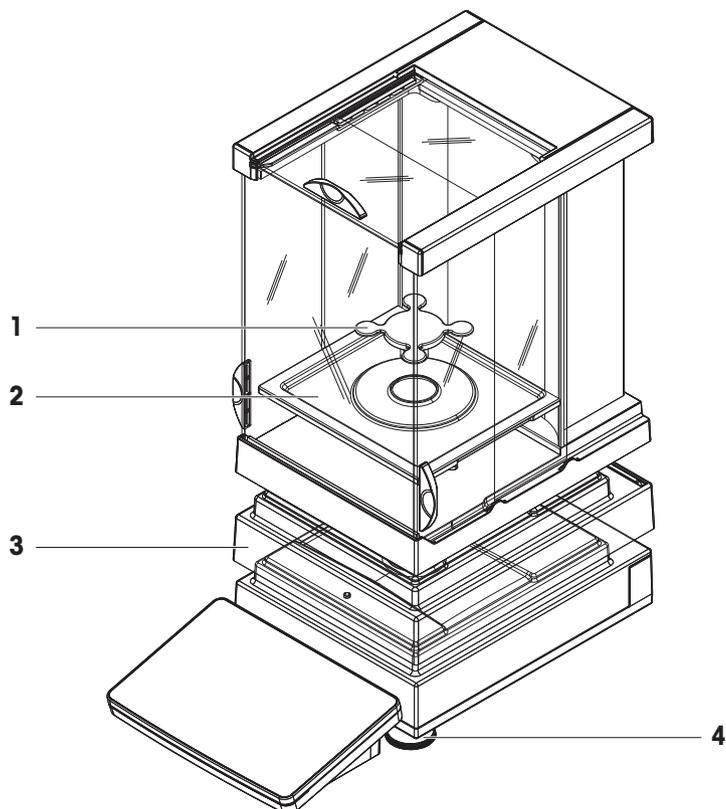
30061260

11.2 Spare parts

Spare parts are parts that are delivered with the original instrument but that can be replaced, if needed, without the help of a service technician.

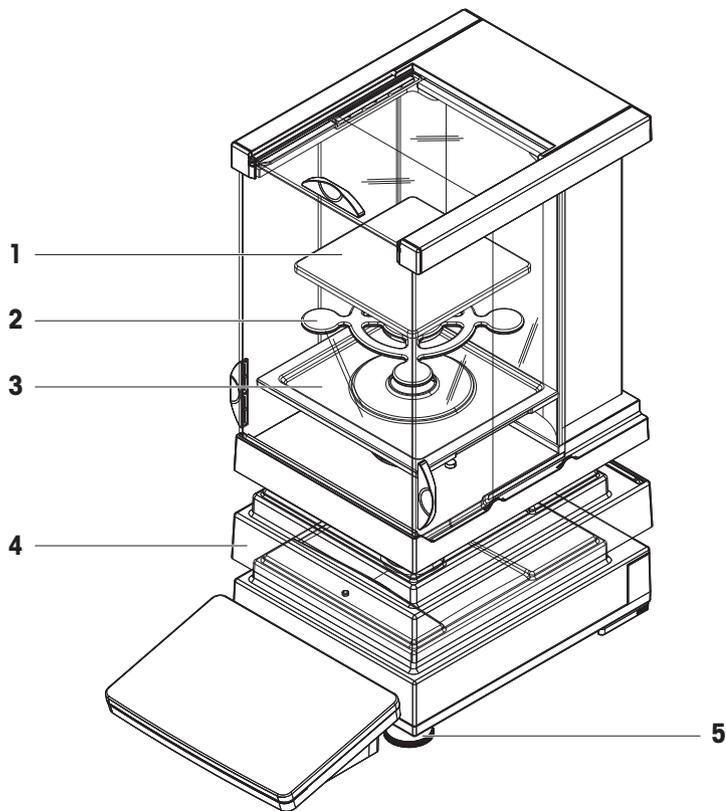
11.2.1 Balances S weighing platform

11.2.1.1 Balance S platform, readability 0.1 mg, SmartPan, Pro draft shield



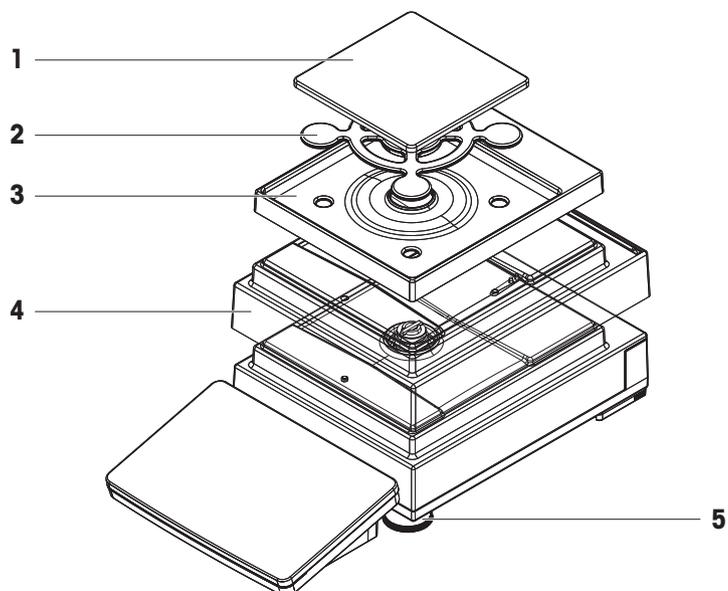
	Order no.	Designation	Remarks
1	30416103	SmartPan weighing pan	68 × 68 mm
2	30416102	Drip tray	For models with draft shield
3	30300967	Protective cover housing	–
4	30072531	Leveling foot	Including: 1 pcs

11.2.1.2 Balance S platform, readability 1 mg, SmartPan, Pro draft shield



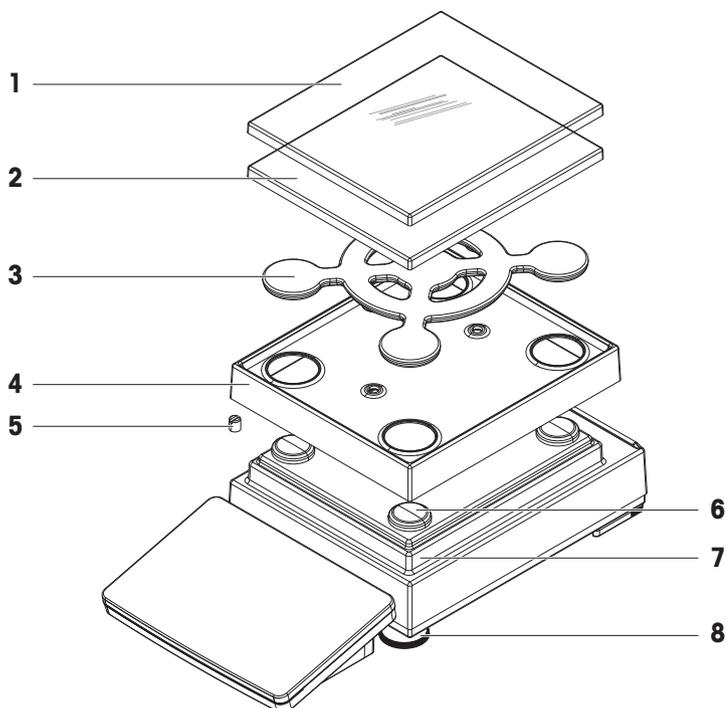
	Order no.	Designation	Remarks
1	30215433	Weighing pan	127 × 127 mm
2	30215431	SmartPan weighing pan	127 × 127 mm
3	30416102	Drip tray	For models with draft shield
4	30300967	Protective cover housing	–
5	30072531	Leveling foot	Including: 1 pcs

11.2.1.3 Balance S platform, readability 1 mg, SmartPan



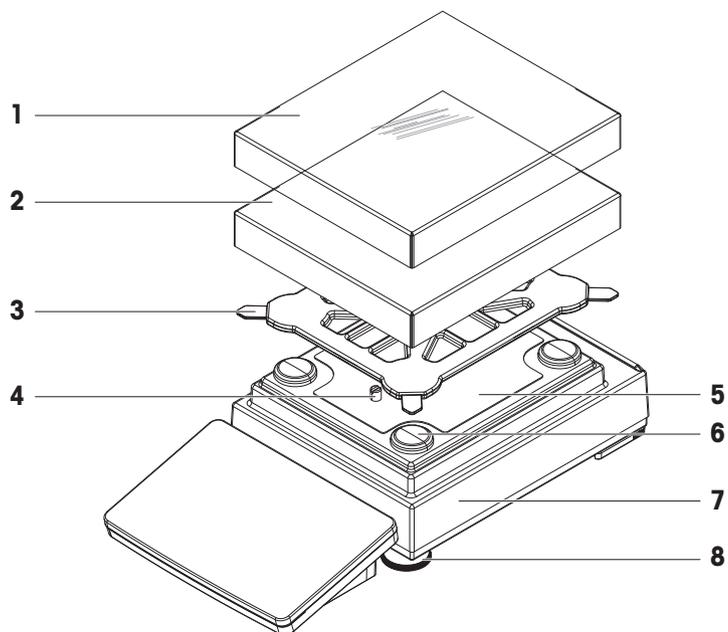
	Order no.	Designation	Remarks
1	30215433	Weighing pan	127 × 127 mm
2	30215431	SmartPan weighing pan	127 × 127 mm
3	30416108	Drip tray	For models without draft shield
4	30300967	Protective cover housing	–
5	30072531	Leveling foot	Including: 1 pcs

11.2.1.4 Balance S platform, readability 5 mg / 10 mg, SmartPan



	Order no.	Designation	Remarks
1	30106207	Protective cover weighing pan	172 × 205 mm
2	30215056	Weighing pan	172 × 205 mm
3	30215057	SmartPan weighing pan	172 × 205 mm
4	30113501	Drip tray	For models without draft shield
5	30215373	Stop screw	Including: 2 pcs
6	11131029	Cap pan support	–
7	30300966	Protective cover housing	–
8	30072531	Leveling foot	Including: 1 pcs

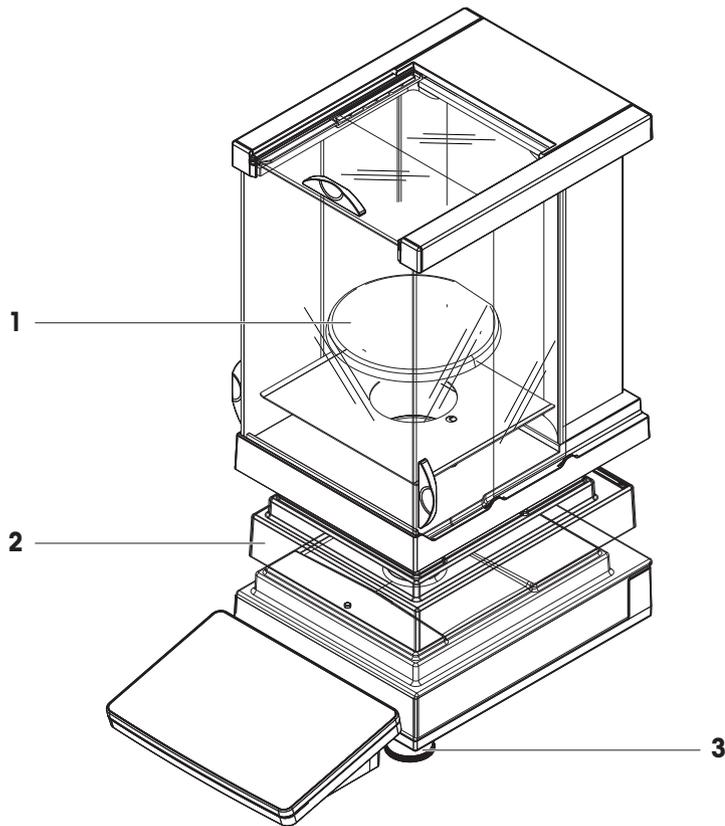
11.2.1.5 Balance S platform, readability 100 mg



	Order no.	Designation	Remarks
1	30106204	Protective cover weighing pan	190 × 223 mm
2	11131031	Weighing pan	190 × 223 mm
3	11131037	Pan support	–
4	11131073	Stop screw	Including: 1 pcs
5	11131067	Fastening plate	–
6	11131029	Cap pan support	–
7	30300966	Protective cover housing	–
8	30072531	Leveling foot	Including: 1 pcs

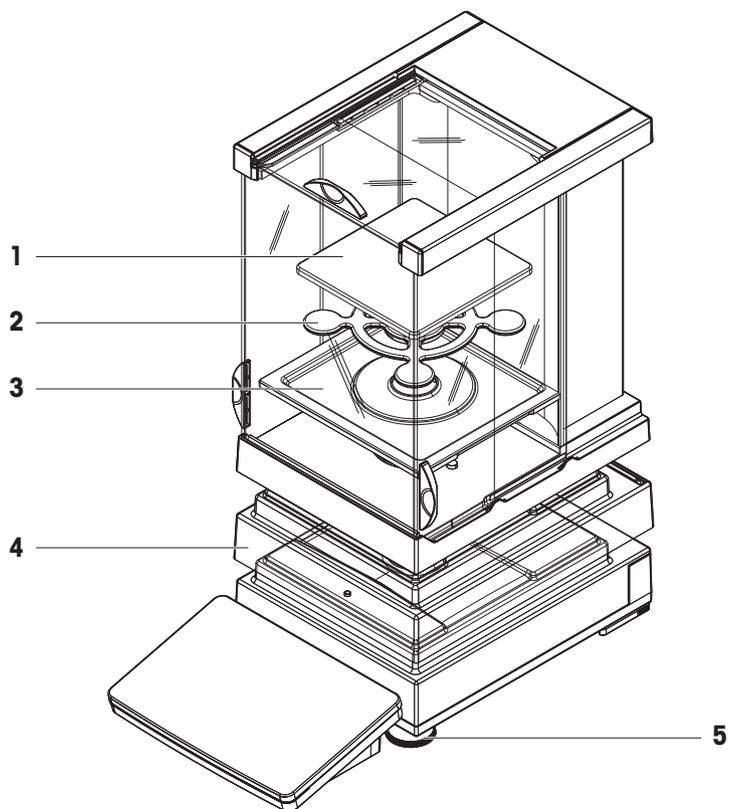
11.2.2 Comparators S weighing platform

11.2.2.1 Comparator S platform, readability 0.1 mg / 1 mg, LEVEL-MATIC, Pro draft shield or W12 draft shield



	Order no.	Designation	Remarks
1	11131123	LEVEL-MATIC weighing pan	—
2	30300967	Protective cover housing	—
3	30072531	Leveling foot	Including: 1 pcs

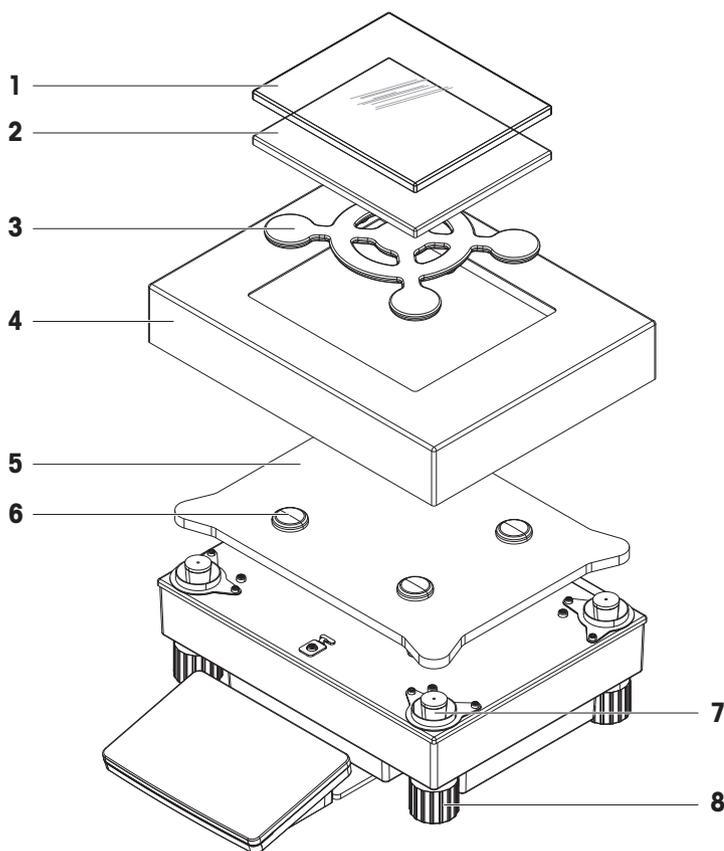
11.2.2.2 Comparator S platform, readability 1 mg, SmartPan, Pro draft shield



	Order no.	Designation	Remarks
1	30215433	Weighing pan	127 × 127 mm
2	30215431	SmartPan weighing pan	127 × 127 mm
3	30416102	Drip tray	For models with draft shield
4	30300967	Protective cover housing	–
5	30072531	Leveling foot	Including: 1 pcs

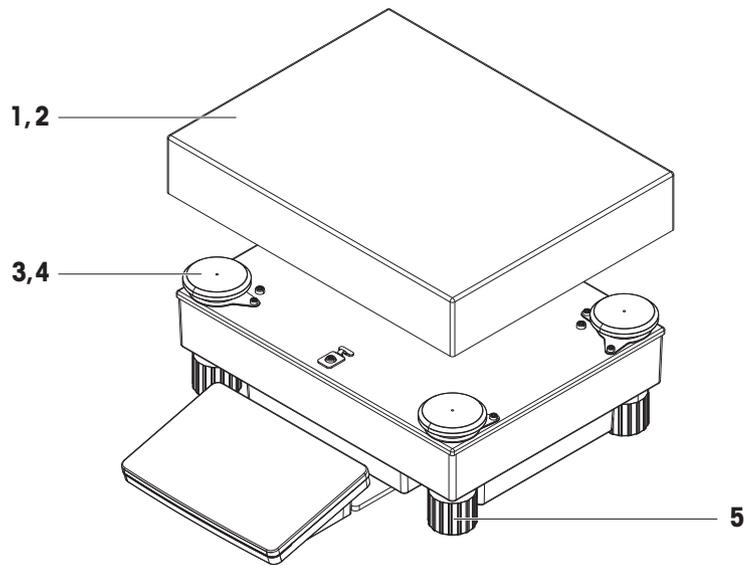
11.2.3 Balances L weighing platform

11.2.3.1 Balance L platform, readability 10 mg, SmartPan



	Order no.	Designation	Remarks
1	30106207	Protective cover weighing pan	172 × 205 mm
2	30215056	Weighing pan	172 × 205 mm
3	30215057	SmartPan weighing pan	172 × 205 mm
4	30215365	Draft shield element	–
5	30215366	Adapter plate	–
6	11131029	Cap pan support	–
7	30416106	Pan support	Including: 4 pcs
8	11133102	Leveling foot	Including: 1 pcs

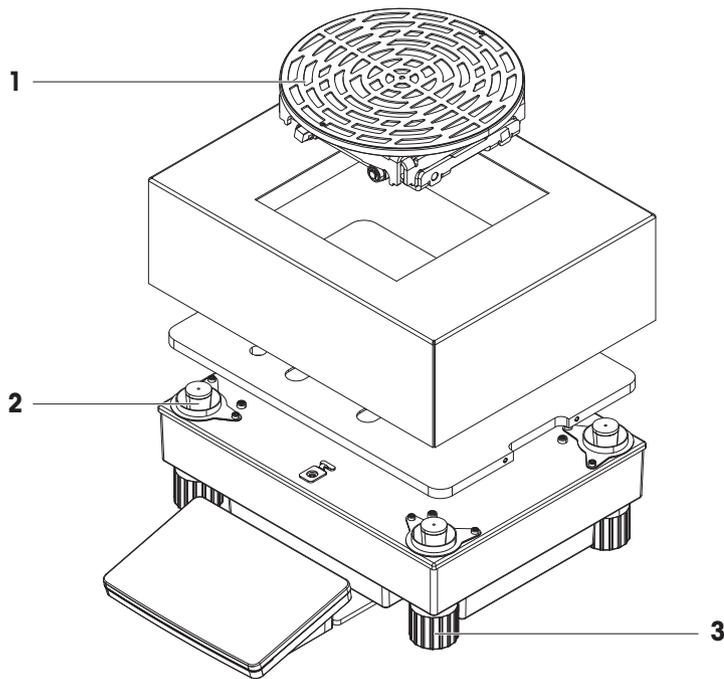
11.2.3.2 Balance L platform, readability 100 mg / 1 g



	Order no.	Designation	Remarks
1	239105	Weighing pan (≤ 32 kg)	280 × 360 mm
2	11102124	Weighing pan (≤ 64 kg)	280 × 360 mm
3	30416105	Cap pan support (≤ 32 kg)	Including: 4 pcs
4	30416107	Cap pan support (≤ 64 kg)	Including: 4 pcs
5	11133102	Leveling foot	Including: 1 pcs

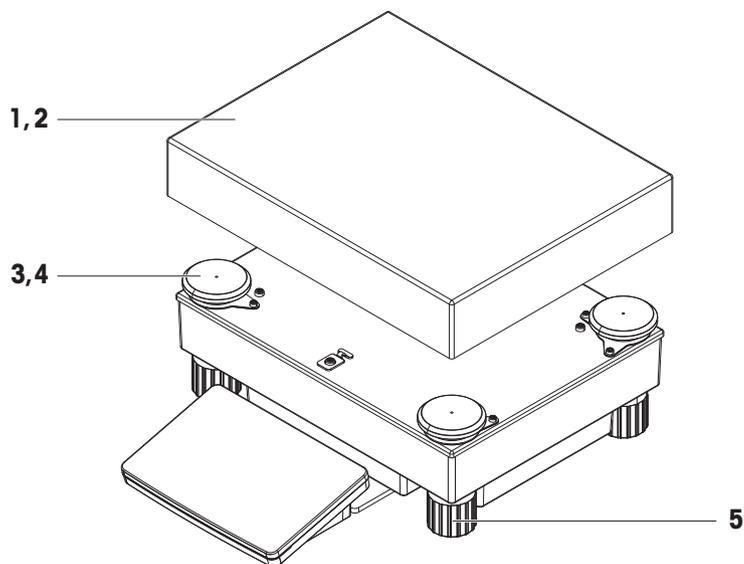
11.2.4 Comparators L weighing platform

11.2.4.1 Comparator L platform, readability 1 mg / 5 mg, LEVEL-MATIC, W64 draft shield



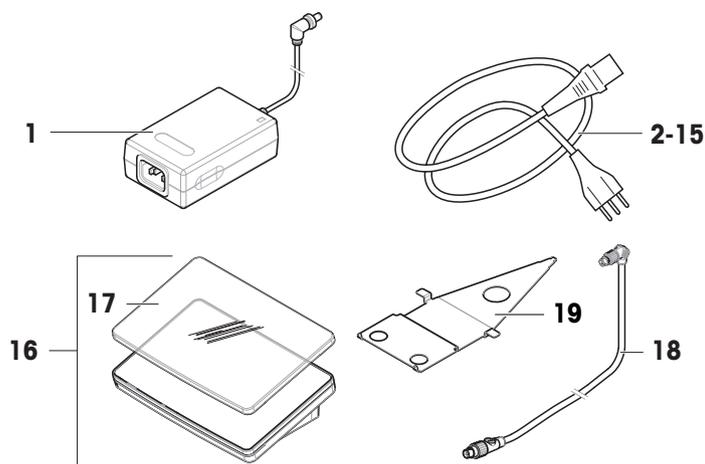
	Order no.	Designation	Remarks
1	11120415	LEVEL-MATIC weighing pan	—
2	30416106	Pan support	Including: 4 pcs
3	11133102	Leveling foot	Including: 1 pcs

11.2.4.2 Comparator L platform, readability 5 mg / 10 mg



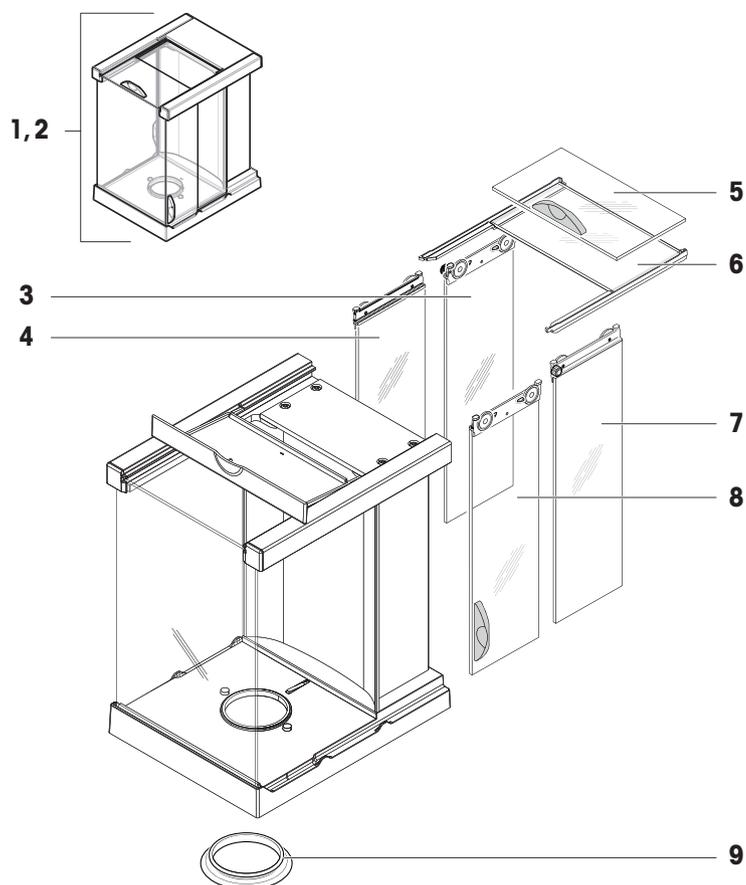
	Order no.	Designation	Remarks
1	239105	Weighing pan (≤ 32 kg)	280 × 360 mm
2	11102124	Weighing pan (≤ 64 kg)	280 × 360 mm
3	30416105	Cap pan support (≤ 32 kg)	Including: 4 pcs
4	30416107	Cap pan support (≤ 64 kg)	Including: 4 pcs
5	11133102	Leveling foot	Including: 1 pcs

11.2.5 Miscellaneous



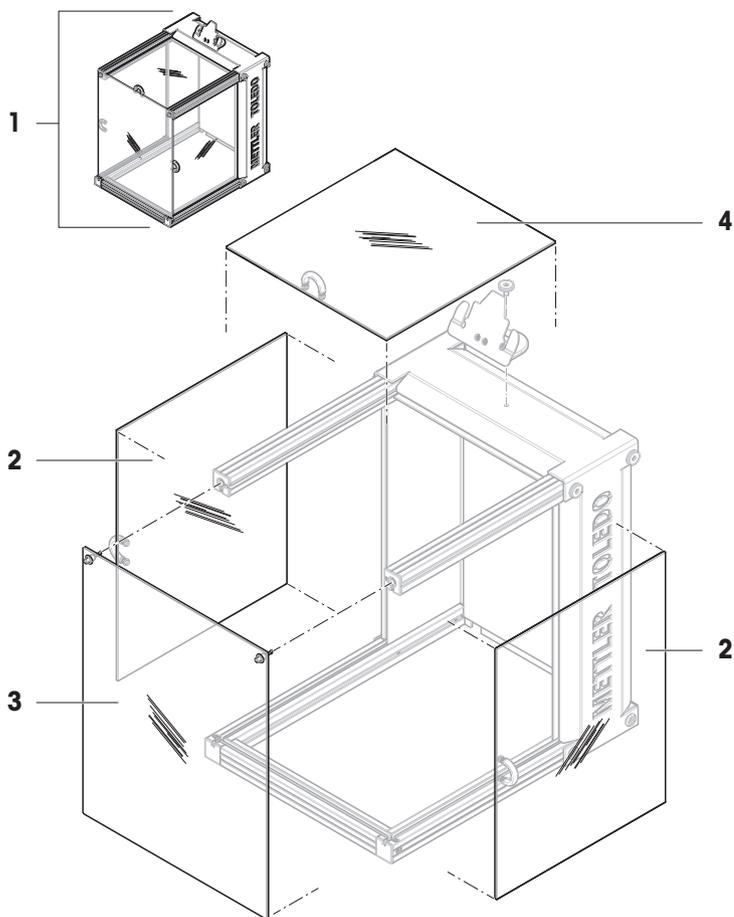
	Order no.	Designation	Remarks
1	30388323	AC/DC adapter	Output: 12 V DC, 5 A
2	88751	Power cable AU	—
3	30015268	Power cable BR	—
4	87920	Power cable CH	—
5	30047293	Power cable CN	—
6	87452	Power cable DK	—
7	87925	Power cable EU	—
8	89405	Power cable GB	—
9	225297	Power cable IL	—
10	11600569	Power cable IN	—
11	87457	Power cable IT	—
12	11107881	Power cable JP	—
13	11107880	Power cable TH, PE	—
14	88668	Power cable US	—
15	89728	Power cable ZA	—
16	30317506	Terminal PRPT	Including: protective cover
17	30125377	Protective cover	For terminal (PRAT, PRPT)
18	30416123	Cable terminal	—
19	30416121	Holder terminal	For S platform

11.2.6 Pro draft shield



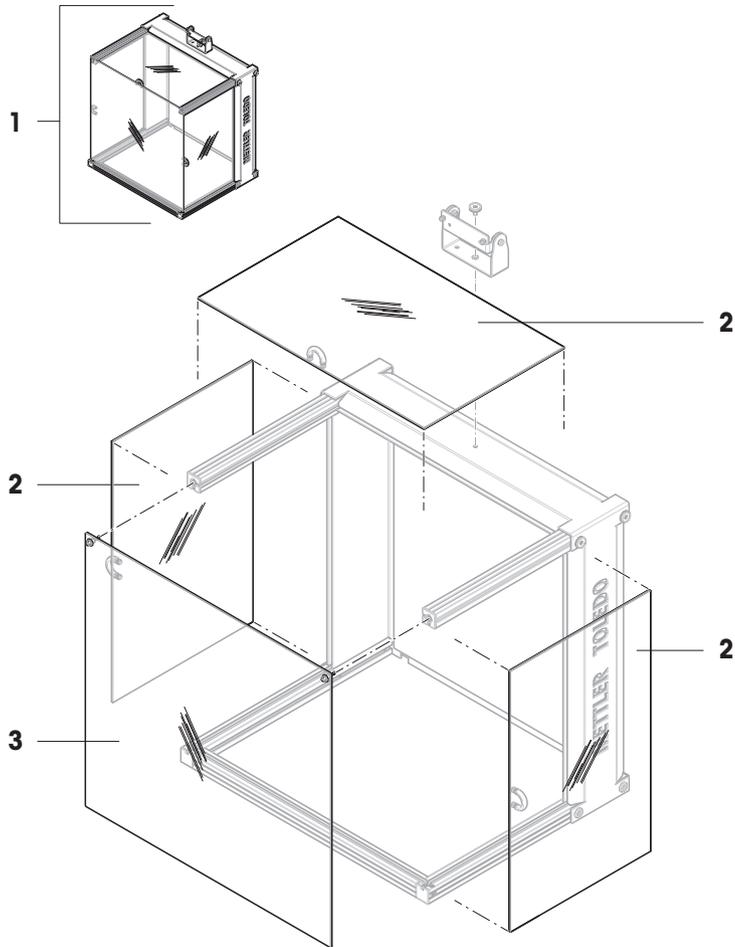
	Order no.	Designation	Remarks
1	30416154	Draft shield Pro	For models with "Levelmatic"
2	30300926	Draft shield Pro	—
3	11133079	Door back left	—
4	11133080	Door front left	—
5	11133082	Door top front	Including: handle
6	11133081	Door top back	—
7	11133077	Door back right	—
8	11133078	Door front right	—
9	30416104	Seal draft shield	—

11.2.7 W12 draft shield



	Order no.	Designation	Remarks
1	11134430	Draft shield W12	—
2	11134466	Door side	Including: 1 door side; Excluding: handle
3	11134468	Door front	—
4	11134467	Door top	Excluding: handle

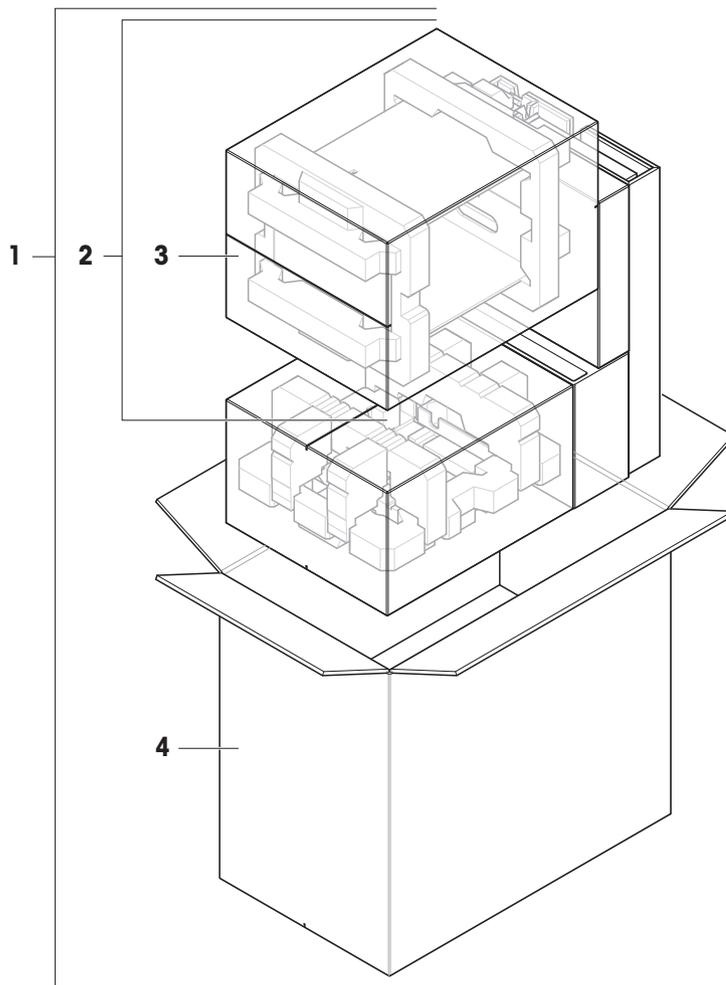
11.2.8 W64 draft shield



	Order no.	Designation	Remarks
1	11134470	Draft shield W64	–
2	11134469	Door side/top	Including: 1 door side/top; Excluding: handle
3	11134429	Door front	–

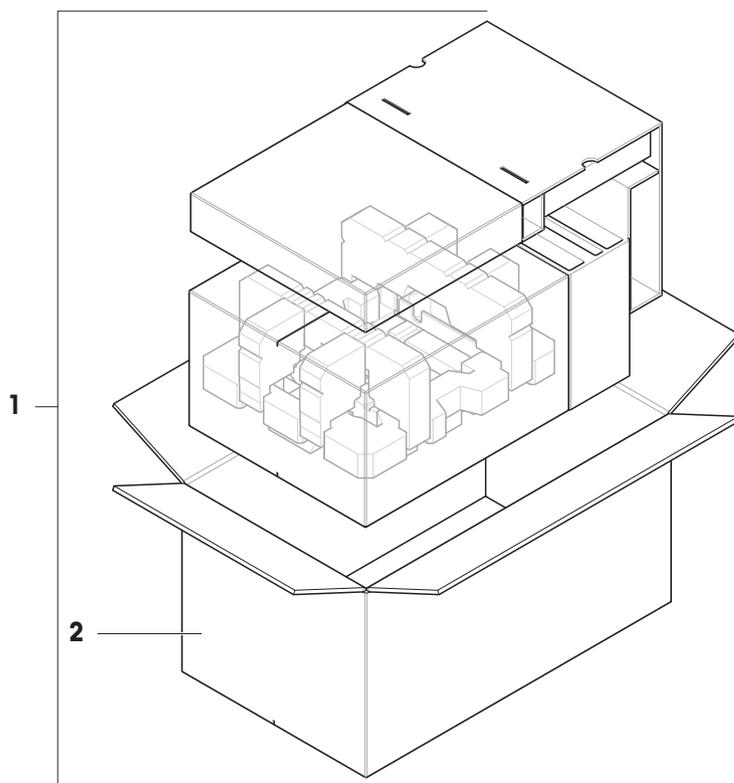
11.2.9 Packaging

11.2.9.1 S platform with draft shield



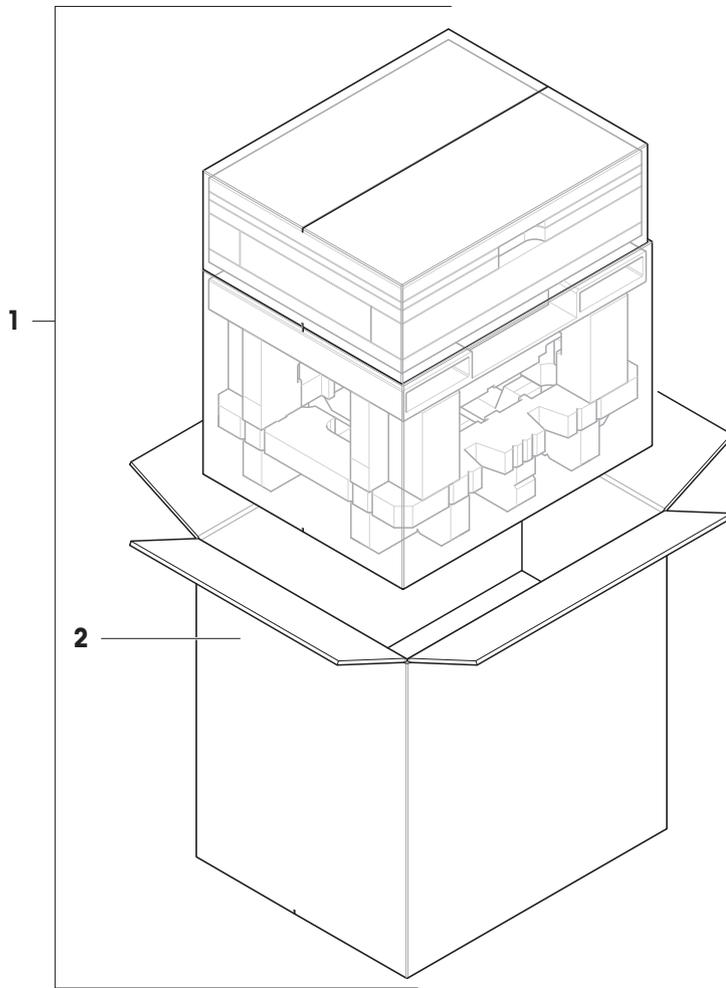
	Order no.	Designation	Remarks
1	30416124	Packaging complete	—
2	30416157	Packaging XPR Pro draft shield	—
3	30416159	Export carton XPR, XSR draft shield	—
4	30416156	Export carton	—

11.2.9.2 S platform without draft shield



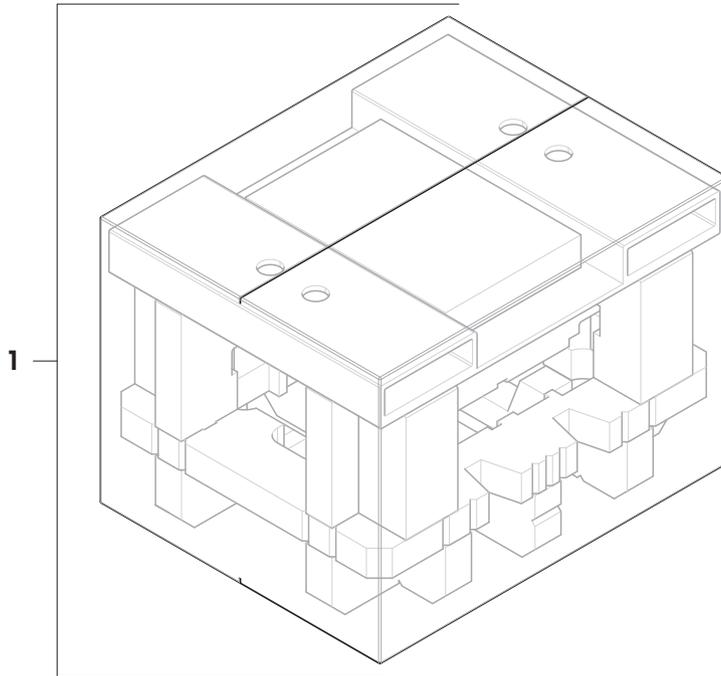
	Order no.	Designation	Remarks
1	30416160	Packaging complete	–
2	30416161	Export carton	–

11.2.9.3 L platform, readability 10 mg



	Order no.	Designation	Remarks
1	30416125	Packaging complete	—
2	30008482	Export carton	—

11.2.9.4 L platform, readability 100 mg and 1g



	Order no.	Designation	Remarks
1	30416162	Packaging complete	—

Index

A

AC/DC adapter	173, 175
acclimatization	
time	173
adjustment	26, 72
external	72, 73
internal	72
setting	163
alibi memory	84
altitude	173
approved balance	99
automatic feeder	59, 104, 142

B

balance information	86
barcode reader	
add	73
block	
balance	80
Bluetooth	97
brightness	94

C

clean	
draft shield	165
clone	
method	63
combined test weight	65
compliance information	13
convention	9
create	
eccentricity test	66
method	49
repeatability test	66
sensitivity test	66
user	76
user group	76

D

delete	
method	63
task	63
density determination	
create a method	56
perform	56
setting	131

device	
barcode reader	73, 97
ErgoSens	98
external	73, 97
foot switch	98
printer	73, 97
RFID reader	74
disposal	211
dosing head	
copy data	81
data fields	81
edit data	81
draft shield	
clean	165

E

eccentricity test	67
create	66
setting	155
edit	
method	62
environmental condition	29, 173
ErgoSens	98
Ethernet	96
EULA	40
external	
adjustment	72, 73
device	73, 97

F

foot switch	98
-------------	----

G

general weighing	
create a method	50
perform	50
setting	100

H

history	83
humidity	173

I

install	
put into operation	39
site	29
terminal	31, 37

interface			
Bluetooth		97	
Ethernet		96	
internal			
adjustment		72	
interval weighing			
create a method		53	
perform		53	
setting		120	
L			
LabX		98	
level			
balance		41	
indicator		24	
leveling aid		41, 83	
leveling aid		41, 83	
light			
StatusLight		94	
location		29	
log in		40, 79	
log out		79	
LV12		59, 104, 142	
M			
main weighing screen		24	
memory			
alibi		84	
method		25	
clone		63	
create		49	
delete		63	
edit		62	
perform		49	
type		49	
MT-SICS		98	
O			
overview			
terminal		22	
type plate		22	
P			
pack			
balance		43	
password			
log in		40	
new user		76	
reset		79	
perform a method			
density determination		56	
general weighing		50	
interval weighing		53	
piece counting		62	
simple formulation		52	
SQC		58, 59	
titration		55	
piece counting			
create a method		61	
perform		62	
setting		146	
power supply			
see AC/DC adapter		173	
pressure			
pump		82	
printer		73, 97	
add		73	
pump			
pressure		82	
R			
repeatability test		68	
create		66	
setting		158	
reset			
password		79	
RFID			
reader		54, 74	
tag		54	
S			
safety information		15	
sensitivity test		69	
create		66	
setting		160	
service			
LabX		98	
MT-SICS		98	
web		98	
setting			
adjustment		163	
density determination		131	
eccentricity test		155	
general weighing		100	
interval weighing		120	

piece counting	146	test weight	65
repeatability test	158	setting	154
sensitivity test	160	time	
simple formulation	110	acclimatization	173
SQC	138	warm up	40, 173
test	155	titration	
titration	123	create a method	54
simple formulation		perform	55
create a method	51	setting	123
perform	52	transport	
setting	110	long distance	43
SmartTrac	24	short distance	42
software		type plate	
version	9	overview	22
sound			
terminal	94	U	
SQC		unblock	
create a method	57	balance	80
perform	58, 59	USB device	
setting	138	add	73
standby	22, 41	user	
StatusLight	94	create	76
store		delete	77
balance	43	group	76
switch on/off	40, 41	management	75
symbol	9	name	40
warning	15		
T		W	
tare	22, 41	warm up	
task	63	time	40, 173
temperature	173	warning symbol	15
acclimatization time	173	web service	98
warm-up time	173	weighing aid	
terminal		SmartTrac	24
brightness	94	weighing screen	24
install	31, 37	weight	
overview	22	test weight	65
sound	94	Z	
StatusLight	94	zero	22, 41
test	25, 65	initial	99
create	66		
eccentricity	67		
repeatability	68		
sensitivity	69		
setting	155		

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- Choose the appropriate balance or scale
- Calibrate and operate your weighing equipment with security
- Comply with quality and compliance standards in laboratory and manufacturing

 www.mt.com/GWP

www.mt.com/XPR-precision

For more information

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