Operating Instructions

Original Operating Instructions

Cubis®

MCA Models

Semi-microbalances | High-load Microbalances



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SARTORIUS

Contents

1 About These Instructions 7
1.1 Validity 7
1.2 Related Documents 7
1.3 Target Groups 7
1.4 Symbols Used 8
1.4.1 Warnings in Operation Descriptions 8
1.4.2 Other Symbols Used 8

2 Safety Instructions 9
2.1 Intended Use 9
2.1.1 Modifications to the Device 9
2.1.2 Repairs and Maintenance on the Device 10
2.2 Qualifications of Personnel 10
2.3 Functionality of the Device Parts 10
2.4 Safety Information on the Device 10
2.5 Electrical Equipment 11
2.5.1 Power Supply Unit and Power Supply Cable 11
2.5.2 Connection Point for Power Supply Unit and Power Supply Cable 11
2.6 Conduct in an Emergency 11
2.7 Accessories 11
2.8 Risk of Injury During Transporting 12
2.9 Glass Breakage 12
2.10 Trip Hazard From Connection Cable! 12

3 Device Description 13
3.1 Device Overview 13
3.2 Draft Shield 14
3.3 Components in the Weighing Compartment 15
3.4 Connections 16
3.4.1 Back of the Device 16
3.4.2 Rear Wall of Weighing Compartment 17
3.4.3 Operating Display 17
3.5 Protective Caps and Covers for Connections 18
3.6 Conformity-assessed Devices 19
3.7 Accessories 19
3.8 Below-balance Weighing 19

4 Operating Design 20
4.1 Operating Elements in the Main Menu 20
4.2 Operating Elements in Task Management 21
4.3 Operating Elements in the Weighing Display 22
4.4 User Guide 23
4.4.1 Messages 23
4.4.2 Help Function 23
4.4.3 Advanced Operator Guidance 24
4.5 Status Center 25
4.6 Keypad 26
4.7 Status Display of the Buttons 26

4.8 Buttons in the Operating Display 27
4.8.1 Buttons for Navigation or Organization in Displays 27
4.8.2 Buttons for Editing or Managing Entries 28
4.8.3 Buttons for Weighing, Printing, and Export Functions 30
4.9 Displays in the Operating Display 31
4.10 Applications and Tasks 32
4.11 Licensable Device Functions 32
4.12 Navigating the Menus 33
4.13 Menu Structure 35
4.13.1 Main Menu 35
4.13.2 "Settings" Menu 36

5 Installation 42
5.1 Scope of Delivery 42
5.2 Selecting an Installation Site 43
5.3 Unpacking 43
5.4 Attaching or Removing the Operating Display 43
5.5 Placing the Device on its Side and Installing 44
5.6 Inserting the Connection Cable for the Operating Display 44
5.7 Inserting the Connection Cable for Ethernet 45
5.8 Positioning the Weighing Pan and Associated Components 45
5.9 Installing the Draft Shield 46
5.10 Installing the Control Unit 47
5.11 Acclimatization 47

6 Getting Started 48
6.1 Attaching the Connection Cable for the Operating Display 48
6.2 Attaching the Connection Cable for Ethernet 48
6.3 Connecting the Power Supply Unit to the Device 48
6.4 Connecting the Power Supply 49
6.5 Connecting Accessories 49
6.6 Attaching Protective Caps and Covers 49

7 System Settings 50
7.1 Switching the Device On or Off 50
7.2 User Login or Logout 50
7.3 Performing System Settings 51
7.4 Using the Help Function 51
7.5 Activating Applications (QAPPs) 52
7.5.1 Activating QAPP Package With All Applications 52
7.5.2 Activating Individual Applications From QAPP Package 53
7.6 Switching Off the isoCAL Function 53
7.7 Activating, Deactivating or Configuring the Ionizer 53
7.8 Configuring Motorized Opening and Closing of the Draft Shield 54
7.9 Managing User Data 54
7.9.1 Assigning a Password 54
7.9.2 Changing User Profile or User Role 55
7.9.3 Creating a User Profile 55
7.9.4 Creating a User Role 55

7.10 Setting Up Device for Network Printer . . . 56
7.10.1 Selecting Configuration for Network Printing . . . 56
7.10.2 Setting Up Device for Network Printer via Independent Wi-Fi Network . . . 56
7.10.3 Setting Up Device for Network Printer via Company Network . . . 57
7.10.4 Configuring Print Profiles . . . 58
7.11 Downloading Additional Information . . . 58

8 Operation . . . 59
8.1 Observing Warm-up Time . . . 59
8.2 Manually Opening and Closing the Draft Shield . . . 59
8.3 Opening and Closing the Motorized Draft Shield . . . 59
8.3.1 Opening or Closing on the Operating Display . . . 59
8.3.2 Opening or Closing via Proximity Sensors . . . 60
8.3.3 Opening or Closing a Motorized Draft Shield at the Door Handle . . . 60
8.4 Leveling the Device . . . 60
8.5 Calibration, Adjustment or Linearization . . . 61
8.5.1 Adjusting With the isoCAL Function . . . 61
8.5.2 Internally Calibrating and Adjusting the Device . . . 62
8.6 Creating a Task . . . 63
8.7 Adding Weighing and Print Profiles to a Task . . . 63
8.8 Weighing . . . 63
8.9 Weighing and Printing with ID Marking . . . 64
8.9.1 Saving Values for Printouts . . . 64
8.9.2 Marking Saved Values as Invalid . . . 65
8.9.3 Marking Saved Values as Valid . . . 65
8.9.4 Printing Saved Values . . . 66
8.9.5 Exiting the Task . . . 66
8.10 Viewing the Data Storage Device . . . 66
8.11 Starting the Ionization Process . . . 67
8.12 Running Applications (Examples) . . . 67
8.12.1 Executing the "Unit change" Function . . . 67
8.12.2 Executing the "Statistics" Function (from"Essentials" QAPP Package) . . . 68

9 Cleaning and Maintenance . . . 69
9.1 Preparing the Device for Cleaning . . . 69
9.2 Cleaning the Device . . . 69
9.3 Maintenance Schedule . . . 70
9.4 Re-starting the System . . . 70
9.5 Performing a Software Update . . . 70
9.6 Performing a QAPP Center Update . . . 71

10 Malfunctions . . . 73
10.1 Malfunctions on the Operating Display or During Weighing Processes . . . 73

11 Decommissioning . . . 74
11.1 Decommissioning the Device . . . 74
11.2 Dismantling Device Parts . . . 74
11.2.1 Removing the Weighing Pan and Associated Components . . . 74
11.2.2 Dismantling the Draft Shield . . . 75
11.2.3 Dismounting the Connection Cable . . . 76

12 Transportation 76
12.1 Transporting the Device 76

13 Storage and Shipping 77
13.1 Storage 77
13.2 Returning the Device and Parts 77

14 Disposal 78
14.1 Disposing of the Device and Parts 78

15 Technical Data 79
15.1 Dimensions and Weights 79
15.2 Installation Conditions 79
15.3 Ambient Conditions 80
15.3.1 Protection Class 80
15.4 Storage Conditions 80
15.5 Electrical Data 81
15.5.1 Power Supply 81
15.5.2 Safety of Electrical Equipment 81
15.5.3 Electromagnetic Compatibility 81
15.5.4 Interfaces 82
15.6 Wait Times 82
15.7 Model-specific and Licensable Device Functions 82
15.8 Ionizer when Using Device in an Isolator with Protective Argon Atmosphere 82
15.9 Recommended Calibration Weight 83
15.9.1 Semi-microbalance 83
15.9.2 High-capacity Microbalance 83
15.10 Conditions for isoCAL Function 84
15.11 Data Storage Device 84
15.12 Integrated Clock 84
15.13 Backup Battery 84
15.14 Materials 85
15.15 Cleaning Agents and Cleaning Procedures 86
15.15.1 Approved Cleaning Agents 86
15.15.2 Approved cleaning process 86
15.16 Metrological Data 87
15.16.1 Semi-microbalance 87
15.16.2 High-capacity Microbalance 88

16 Accessories and Spare Parts 90
16.1 Accessories 90
16.2 Spare Parts 91

17 Sartorius Service 92

18 Conformity Documents 92

19 Trademark Information 92

20 Index 95

1 About These Instructions

1.1 Validity

These instructions are part of the device; they must be read in full and stored. These instructions apply to the device in the following versions:

Device	Model
Cubis® Semi-microbalance	MCA226S-3 | MCA225S-3 | MCA225P-3 | MCA125S-3
Cubis® High-capacity Microbalance	MCA116S-3 | MCA66S-3 | MCA66P-3 | MCA36S-3 | MCA36P-3

1.2 Related Documents

▶ In addition to these instructions, please observe the following documents:
- Instructions for the accessories used, e.g. printers or weighing pans
- Optional: Additional information about cleaning the device (Best Cleaning Practices for Cubis® II Ultra-High Resolution Balances)

1.3 Target Groups

These instructions are addressed to the following target groups. The target groups must possess the knowledge specified below.

Target Group	Knowledge and Qualifications
Operator	The operator is familiar with the device and the associated work processes. The operator understands the hazards which may arise when working with the device and knows how to prevent them.*

* If a person in the target group operates the software interface of the device, they are also the "user".

1.4 Symbols Used

1.4.1 Warnings in Operation Descriptions

⚠ WARNING
Denotes a hazard that may result in death or serious injury if it is **not** avoided.

⚠ CAUTION
Denotes a hazard that may result in moderate or minor injury if it is **not** avoided.

NOTICE
Denotes a hazard that may result in property damage if it is **not** avoided.

1.4.2 Other Symbols Used

▶	Required action: Describes activities that must be carried out. The activities in the sequence must be carried out in succession.
▷	Result: Describes the result of the activities carried out.
[ ]	Refers to operating and display elements. Indicates status, warning, and error messages.
M	Indicates information for legal metrology for conformity-assessed (verified) devices. Conformity-assessed devices are also referred to as "verified" in these instructions.

Figures in These Instructions

Depending on the device configuration, the figures depicting the device and operating display may differ slightly from the supplied device. The variants shown in these instructions are examples.

2 Safety Instructions

2.1 Intended Use

The device is a high-resolution balance, which can be used in laboratories. The device was developed to accurately determine the mass of materials in liquid, paste, powder, or solid form.

Appropriate containers must be used for loading certain materials, e.g., when weighing chemicals.

The device can be operated as follows:

- In stand-alone operation
- Connected to a PC
- Integrated into a network

The device is intended solely for use in accordance with these instructions. Any further use beyond this is considered **improper** and may impair the protection supported by the device, e.g. protection against mechanical dangers.

Foreseeable Misuse

The following applications are **not** permitted: Operation under any atmosphere other than the normal atmosphere.

Operating Conditions for the Device

Do **not** use the device in potentially explosive environments. Only use the device indoors.

Do **not** use the device in a vacuum or negative pressure environment (maximum air pressure see Chapter “15.3 Ambient Conditions”, page 80).

Do **not** use physical measures to alter the as-delivered state of the device, and only connect approved accessories (see Chapter “16 Accessories and Spare Parts”, page 90).

Adhere to the maintenance and calibration intervals for the device (see Chapter “9.3 Maintenance Schedule”, page 70).

The device may only be used with the equipment and under the operating conditions described in the Technical Data section of these instructions.

2.1.1 Modifications to the Device

If the device is modified: Persons may be put at risk. Device-specific documents and product approvals may lose their validity.

For queries regarding modifications to the device, contact Sartorius.

2.1.2 Repairs and Maintenance on the Device

Device repairs and maintenance may only be carried out by persons with specialized knowledge of the device. If the device is **not** repaired or maintained by a specialist: Persons may be put at risk. Device-specific documents and product approvals may lose their validity.

Sartorius recommends that any repair work, even that carried out after the end of the warranty period, is carried out by Sartorius Service or after consulting with Sartorius Service.

Only the maintenance tasks described in these instructions should be carried out. For maintenance tasks that need to be carried out by Sartorius Service, contact Sartorius Service.

2.2 Qualifications of Personnel

Persons who do not possess adequate knowledge about how to use the device safely may injure themselves and other persons.

If a particular qualification is required for an activity: The target group will be specified. If **no** qualification is specified: The activity may be carried out by the "Operator" target group.

2.3 Functionality of the Device Parts

Non-functioning device parts, e.g., as a result of damage or wear, can cause malfunctions. There is a risk of injury to persons.

- If device parts are **not** functioning: Do **not** use the device.
- Comply with the maintenance intervals (intervals and maintenance tasks see Chapter "9.3 Maintenance Schedule", page 70).

2.4 Safety Information on the Device

Symbols, e.g., warnings and safety stickers, are safety information for handling the device. Missing or illegible safety information may result in this information **not** being observed. There is a risk of injury to persons.

- Do **not** conceal, remove, or modify the symbols.
- Replace the symbols if they become illegible.

2.5 Electrical Equipment

2.5.1 Power Supply Unit and Power Supply Cable

The use of an **unauthorized** power supply unit or power supply cable may cause life-threatening injuries as a result of electric shocks, for example.

- ▶ Only use the original power supply unit and power supply cable provided with the device.
- ▶ If the power supply unit or power supply cable needs to be replaced: Contact Sartorius Service. Do **not** repair or modify the power supply unit or power supply cable.

2.5.2 Connection Point for Power Supply Unit and Power Supply Cable

If the connection point for the power supply unit and power supply cable is not suitable: People can become seriously injured, e.g., due to electric shocks.

- ▶ Protect the power supply unit and the power supply cable from liquids.
- ▶ Do **not** use a damaged power supply unit or power supply cable.

2.6 Conduct in an Emergency

If an emergency occurs, e.g., due to the malfunctions of the device or dangerous situations: Persons may be injured. The device must be immediately taken out of operation:

- ▶ Disconnect the device from the power supply.
- ▶ Secure the device to prevent it from re-starting.

2.7 Accessories

The use of unsuitable accessories can affect the functionality and safety of the device and have the following consequences:

- — Risk of injury to persons
- — Damage, malfunctions, or failure of the device

- ▶ Only use accessories that have been approved by Sartorius and are safe for use.

2.8 Risk of Injury During Transporting

If the device is **not** transported correctly: The device could fall and cause an injury, e.g. a foot injury. If the device is **not** placed down correctly, e.g., on a laboratory table: Fingers might be crushed.

- ▶ Disconnect the device from all connections at the installation site.
- ▶ Use both hands when transporting the device and setting it down. To do this, reach sideways under the device with both hands in the rear part of the device.
- ▶ Do **not** carry the device on the draft shield or the control unit.

2.9 Glass Breakage

Glass components can break if they fall or are handled incorrectly. Glass fragments can cause cuts.

- ▶ Do **not** use sharp or hard objects on the operating display.
- ▶ Do **not** allow items to fall onto the operating display.
- ▶ In the event of damage to the operating display or draft shield, do **not** use the device. Contact Sartorius Service.

2.10 Trip Hazard From Connection Cable!

If the device's connection cables, e.g. the power supply cable, are laid haphazardly: People may trip over the connection cables and injure themselves.

- ▶ Lay all connection cables in such a way, that trip hazards are avoided.

3 Device Description

3.1 Device Overview

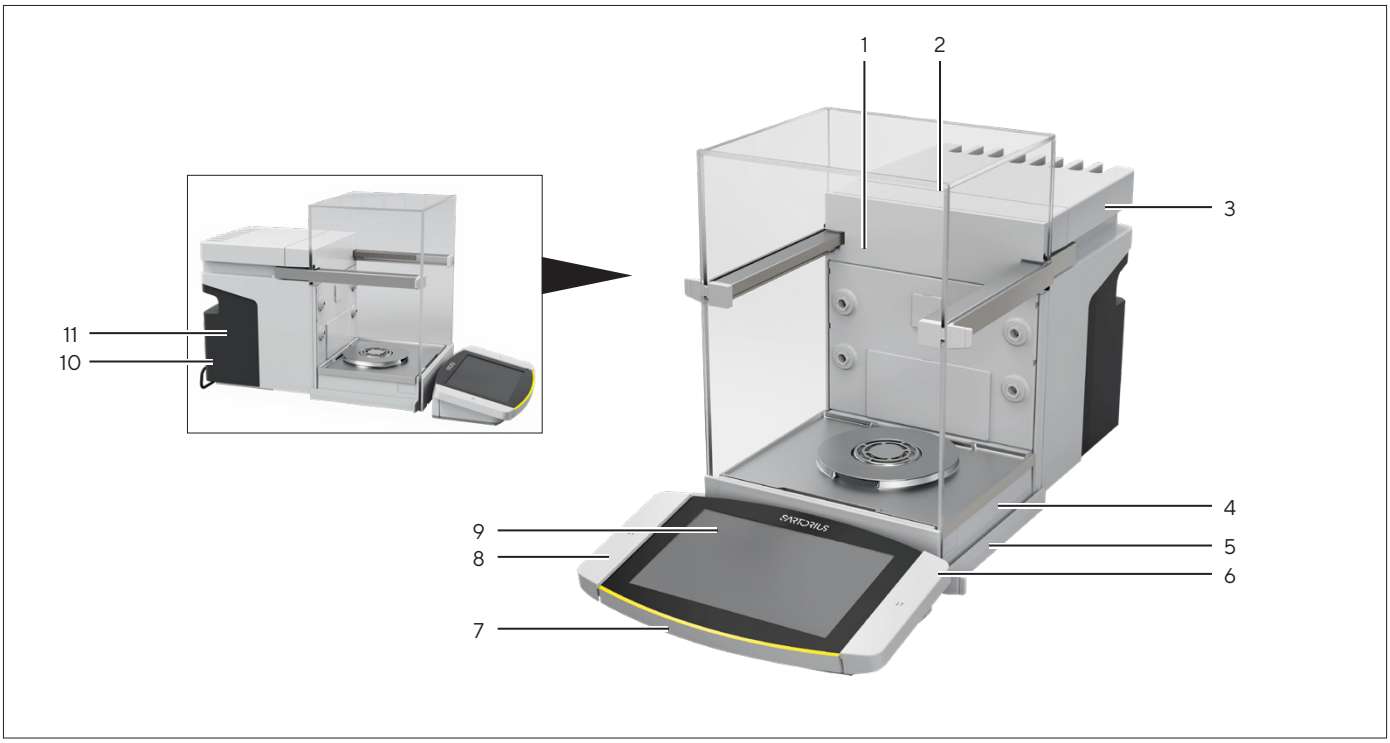


Fig. 1: Cubis® high-capacity micro balance, with motorized draft shield and 50 mm weighing pan (example)

Pos.	Name	Description
1	Weighing chamber	
2	Draft shield	
3	Cooling element	
4	Weighing module	Contained in the housing.
5	Leveling foot	Motorically adjustable. Located on the bottom of the device.
6	Proximity sensor	Only high-capacity microbalance: The proximity sensor is intended for contact-free opening or closing of the following components: – Doors of a motorized draft shield – If mounted in the device: Motorized Inner Draft Shield
7	Control unit	Removable.
8	Palm-operated key	Enables opening of the doors of a motorized draft shield.
9	Operating display	
10	Manufacturer's ID label	Contains additional information about the device (model-dependent).
11	Type plate	

3.2 Draft Shield

The draft shield can be opened motorically or manually, depending on the version of the device.

When opening the draft shield, the top and side doors slide backwards. The top and side doors can be opened together or independently.

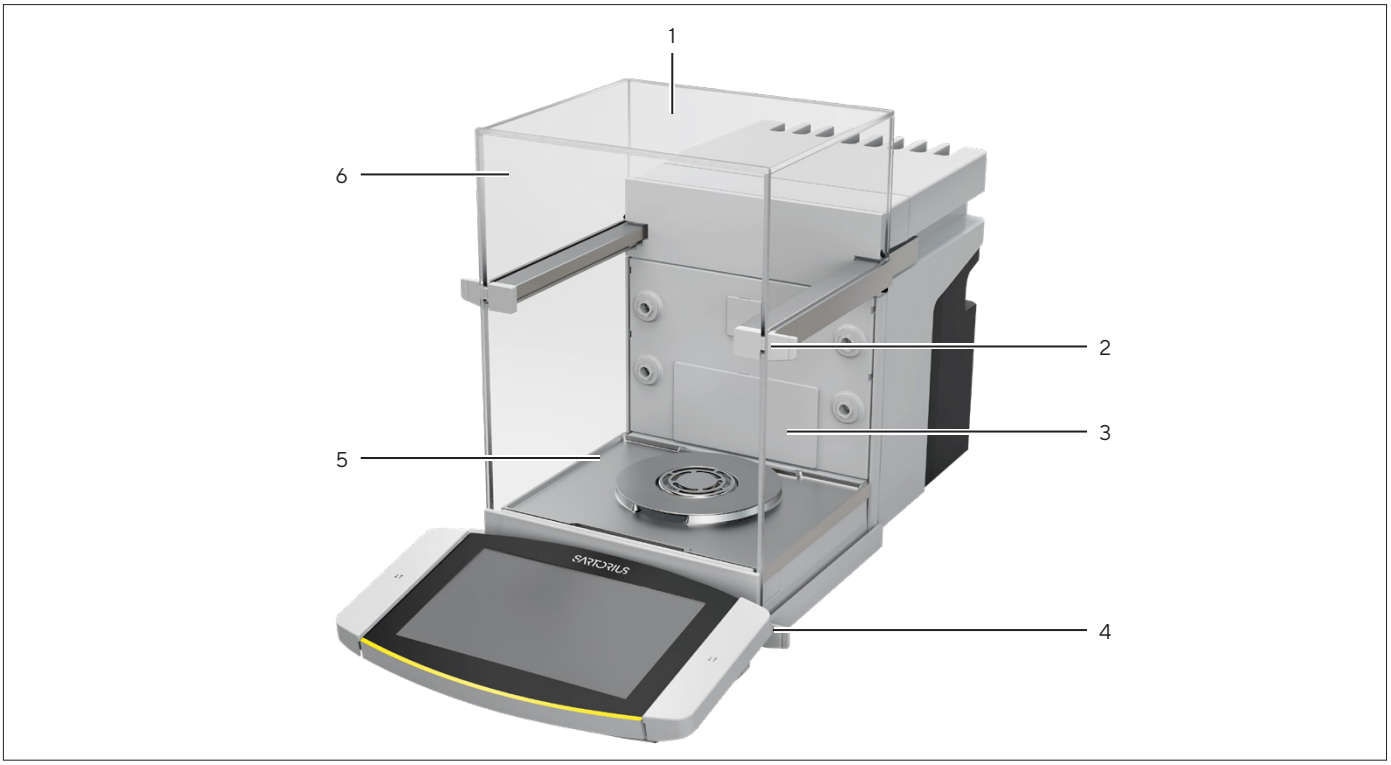


Fig. 2: Draft shield, motorized, all doors closed (example)

Pos.	Name	Description
1	Rear panel	Is installed on delivery.
2	Top door handle	Opens the top door.
3	Side door	
4	Bottom door handle	Opens the side door.
5	Front panel	
6	Top door	Consists of one top panel and two side panels.

3.3 Components in the Weighing Compartment

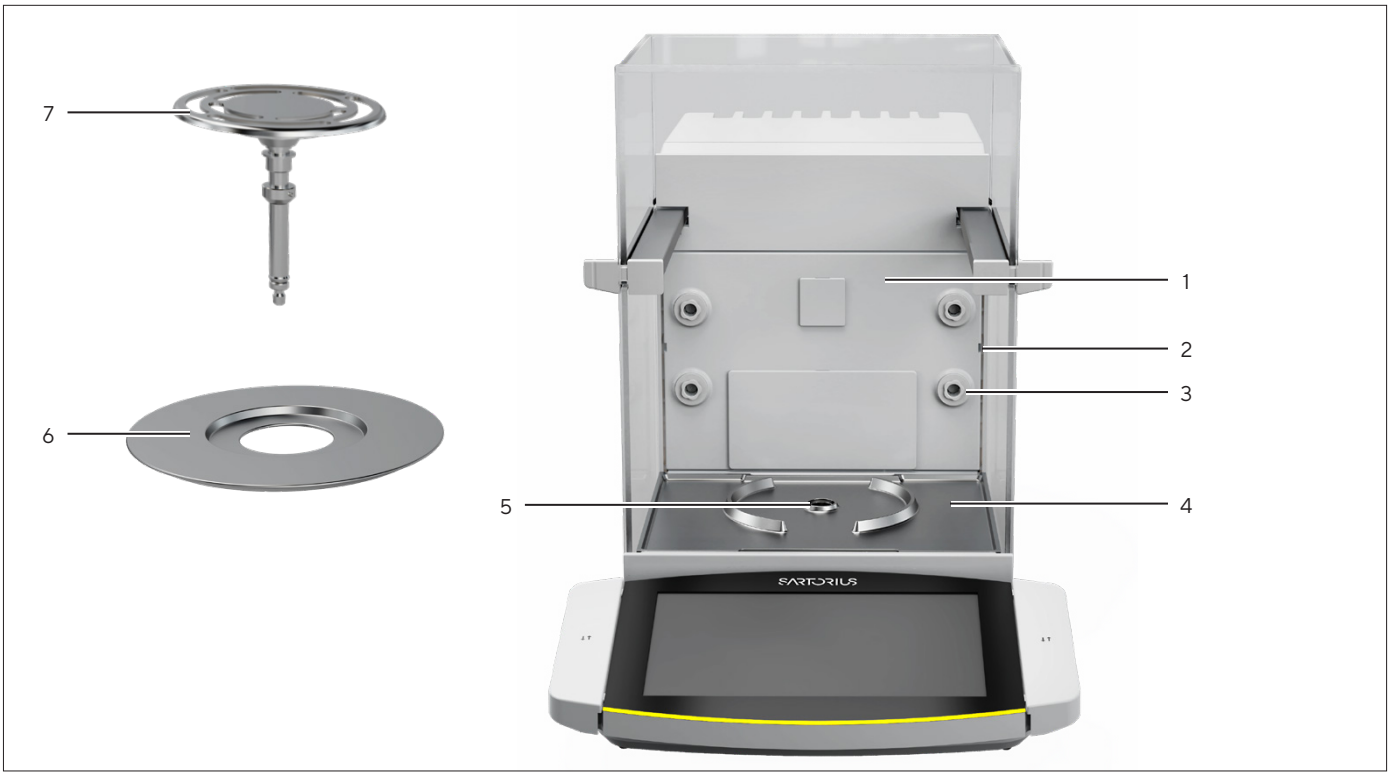


Fig. 3: Components in the weighing compartment and 50 mm weighing pan (example)

Pos.	Name	Description
1	Rear wall of weighing compartment	
2	Guide for glass insert	Available as an accessory.
3	Ionizer nozzle	The ionizer function must be activated in the control display.
4	Base plate of weighing compartment	Can be taken out, e.g. for cleaning.
5	Pan retainer	Holds the weighing pan. Prevents the weighing pan from turning.
6	Shield plate	Only necessary for 50 mm weighing pan.
7	Weighing pan	50 mm or 90 mm weighing pan (depending on the model)

3.4 Connections

3.4.1 Back of the Device

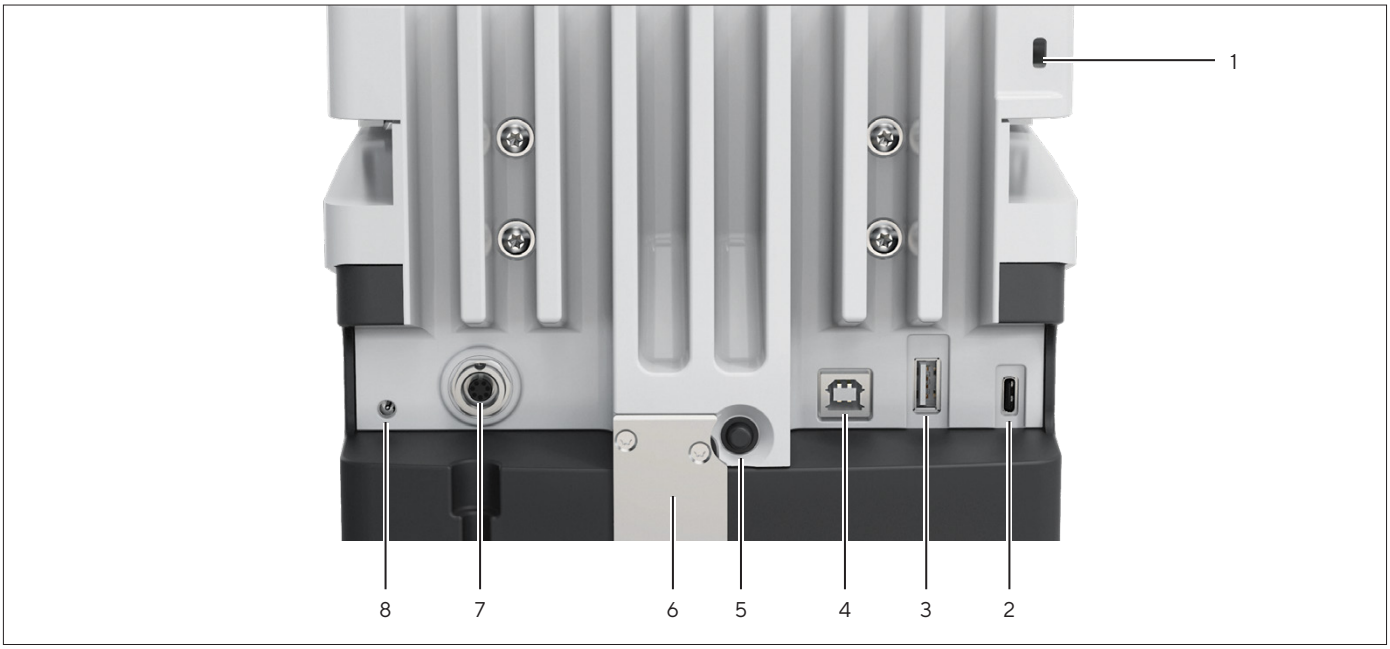


Fig. 4: Connections on the back of the device, seal for conformity-assessed devices removed

Pos.	Name	Description
1	Slot	For attaching a “Kensington” anti-theft device.
2	USB-C connection	For connecting accessories.
3	USB-A connection	For connecting accessories.
4	USB-B connection	For connection to a PC.
5	On key	When using the customized switch-on settings: Switches the device on.
6	Access switch	Protects the device from changes to the device settings. Is sealed for conformity-assessed devices.
7	Connection for operating display	Receives the connection cable for the operating display.
8	Power supply	

3.4.2 Rear Wall of Weighing Compartment



Fig. 5: Connections on the rear wall of the weighing compartment, bezels removed

Pos.	Name	
1	Connection for an internal climate module	Available as an accessory.
2	Connection for the weighing compartment base module	For accessories, e.g. motorized inner draft shield or sample holder.

3.4.3 Operating Display

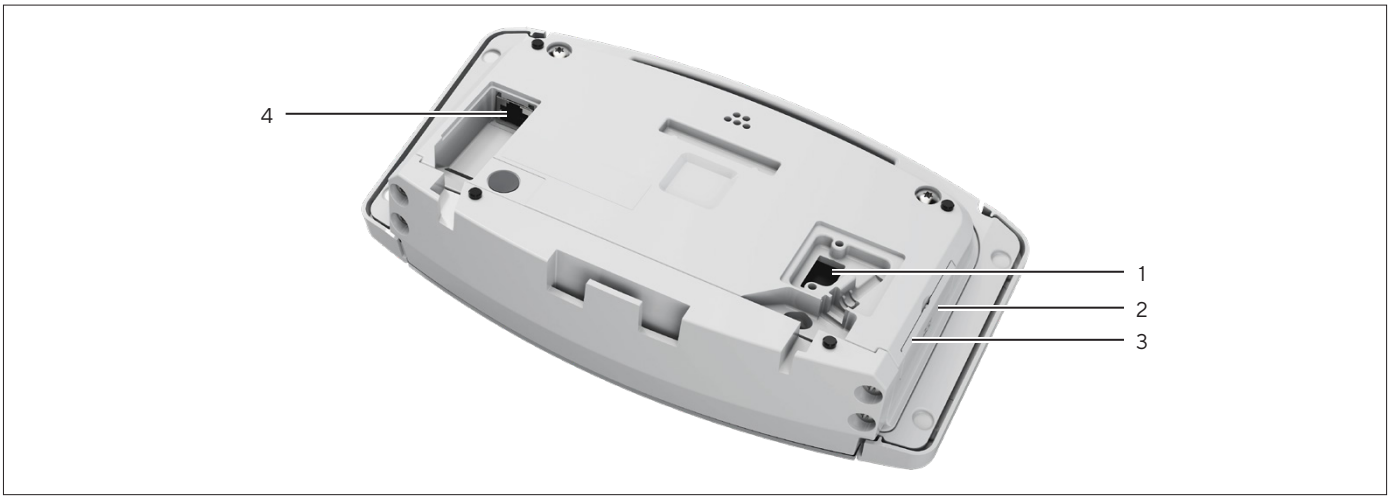


Fig. 6: Connections to the operating display, some covers removed

Pos.	Name	Description
1	Weighing module connection	Receives the connection cable for the operating display.
2	USB-C connection	For connecting accessories (**not** shown)
3	USB-A connection	For connecting accessories (**not** shown)
4	Ethernet connection	For connection to a network.

3.5 Protective Caps and Covers for Connections

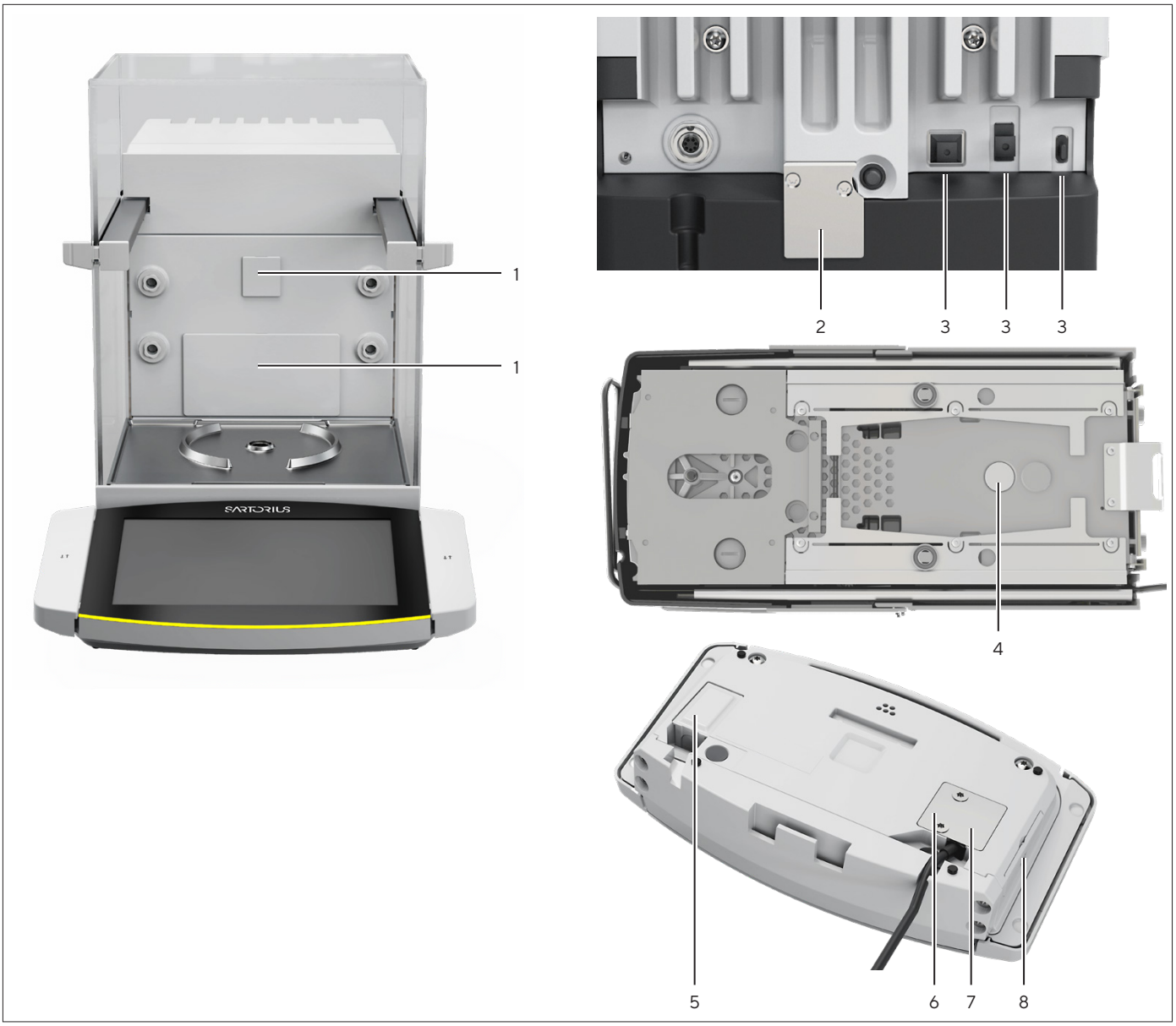


Fig. 7: Protective caps and covers on the rear wall of the weighing compartment, the back of the device and the operating display

Pos.	Name	Description
1	Cover for rear wall of weighing compartment	Installed in the rear wall of the weighing compartment.
2	Seal for conformity-assessed devices	Screwed onto the device and labeled with a sticker.
3	Protective cap for USB connection	Removable.
4	Cover for below-balance weighing	Screwed on.
5	Cover for Ethernet connection	Removable.
6	Cover for weighing module connection	Screwed on.
7	Seal	Screwed on **(not** depicted).
8	Cover for USB connection	Removable.

3.6 Conformity-assessed Devices

Some settings of conformity-assessed models are protected against operator changes, e.g. “external calibration”. This measure is intended to ensure the suitability of the devices for use in legal metrology.

3.7 Accessories

Accessories are available for the device. These enable the device to be customized to the specific conditions during weighing procedures, e.g. weighing pan, sample holder or inner draft shield.

3.8 Below-balance Weighing

The device is suitable for below-balance weighing. Samples can be suspended for weighing using below-balance weighing, e.g. samples, which do **not** fit on the weighing pan. Below-balance weighing is possible under the following conditions:

- The device must be set up on a weighing table with recess.
- For below-balance weighing, a below-balance weighing hook must be inserted in the device base (see Chapter “16 Accessories and Spare Parts”, page 90).

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In legal metrology:

- The below-balance weighing equipment may **not** be used.
- The cover of the below-balance weighing equipment may **not** be removed.

4 Operating Design

4.1 Operating Elements in the Main Menu

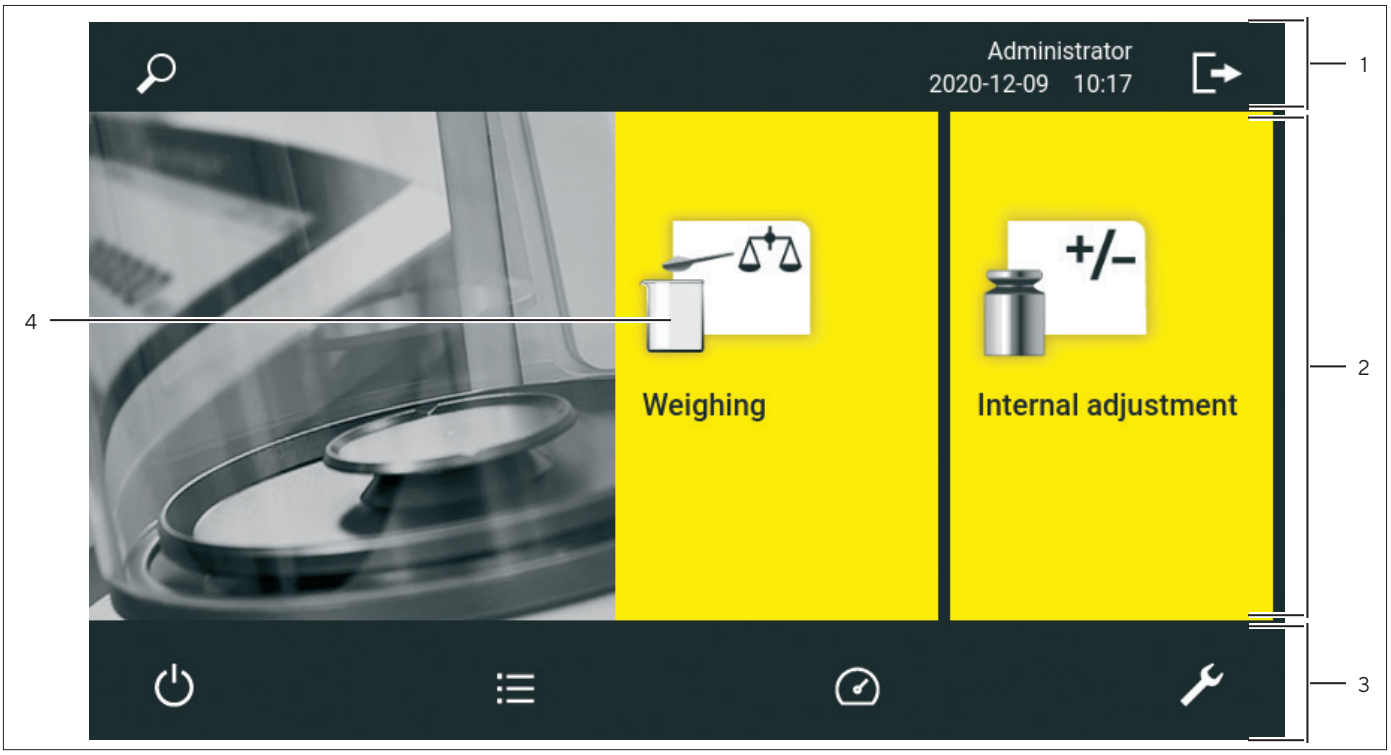


Fig. 8: Operating elements in the main menu (example)

Pos.	Name	Description
1	Navigation and function bar	– Enables navigation and searching in menus and lists. – In the “Settings” Menu: Displays the name of the menu.
2	Available tasks	Displays all tasks available for the active user.
3	Function bar	Displays available submenus and operating functions for the current display and current user.
4	Task	Starts the described task.

4.2 Operating Elements in Task Management



Fig. 9: Operating elements in Task Management (example)

Pos.	Name	Description
1	Navigation and function bar	– Enables navigation and searching in menus and lists. – Enables the addition of tasks. – Opens the QAPP Center. – Displays the name of the menu.
2	Available tasks	– Displays all available tasks. – Opens a summary of the properties for the displayed task.

4.3 Operating Elements in the Weighing Display

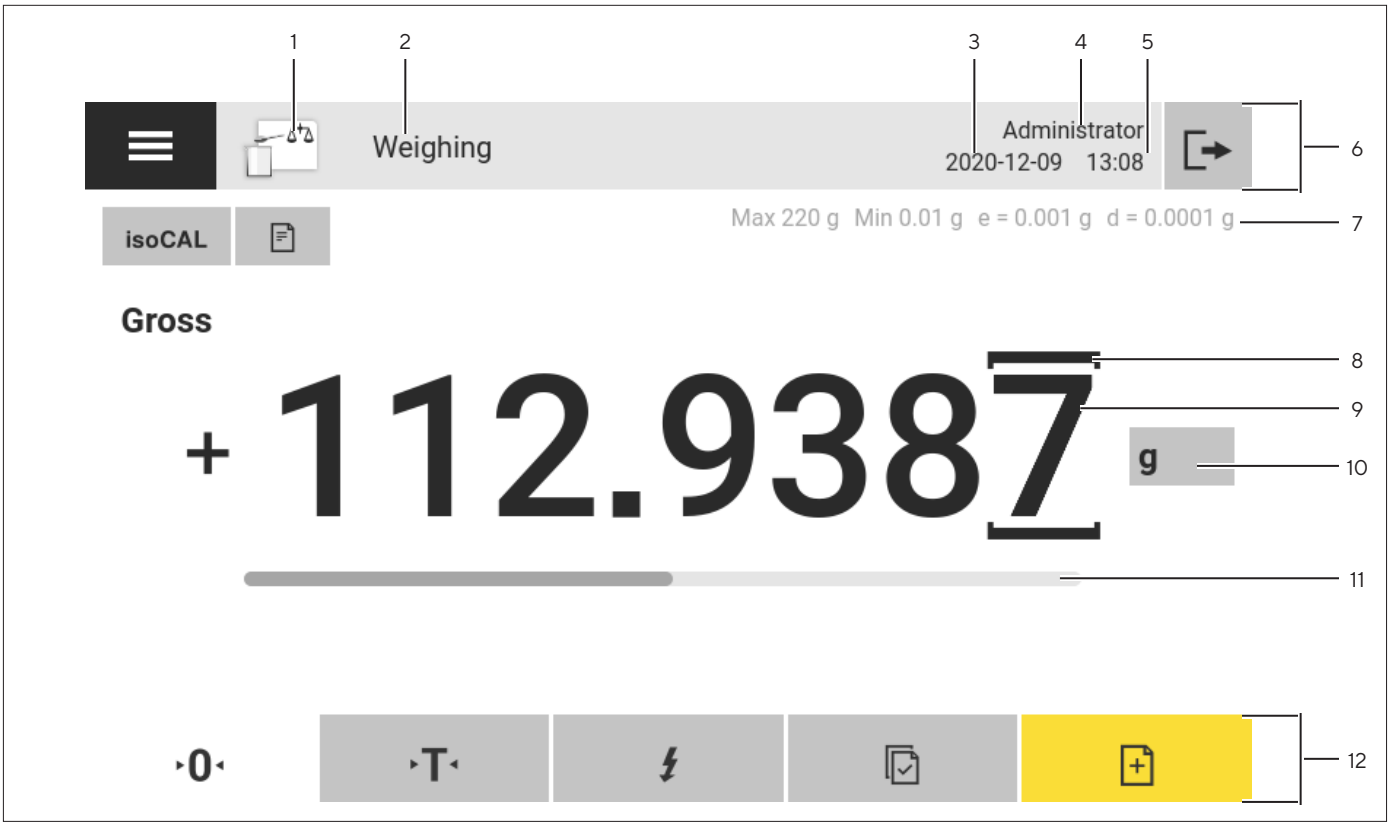


Fig. 10: Weighing display (example)

Pos.	Name	Description
1	Application symbol	Displays the symbol for the active application.
2	Task name	Displays the name of the active task.
3	Date display	Displays the current date.
4	Username	Displays the name of the active user profile.
5	Time display	Displays the current time.
6	Navigation bar	Enables navigating the menus.
7	Metrological data	
8	Labeled points	Labels the differentiated points.
9	Weight value display	In the selected unit and resolution
10	Weighing unit	– Displays the selected unit, e.g. grams, [g]. – Enables the unit and resolution to be selected.
11	Capacity display	Displays the measured value as a percentage of weighing capacity utilization.
12	Function bar	Displays available operating functions for the current display.

4.4 User Guide

4.4.1 Messages

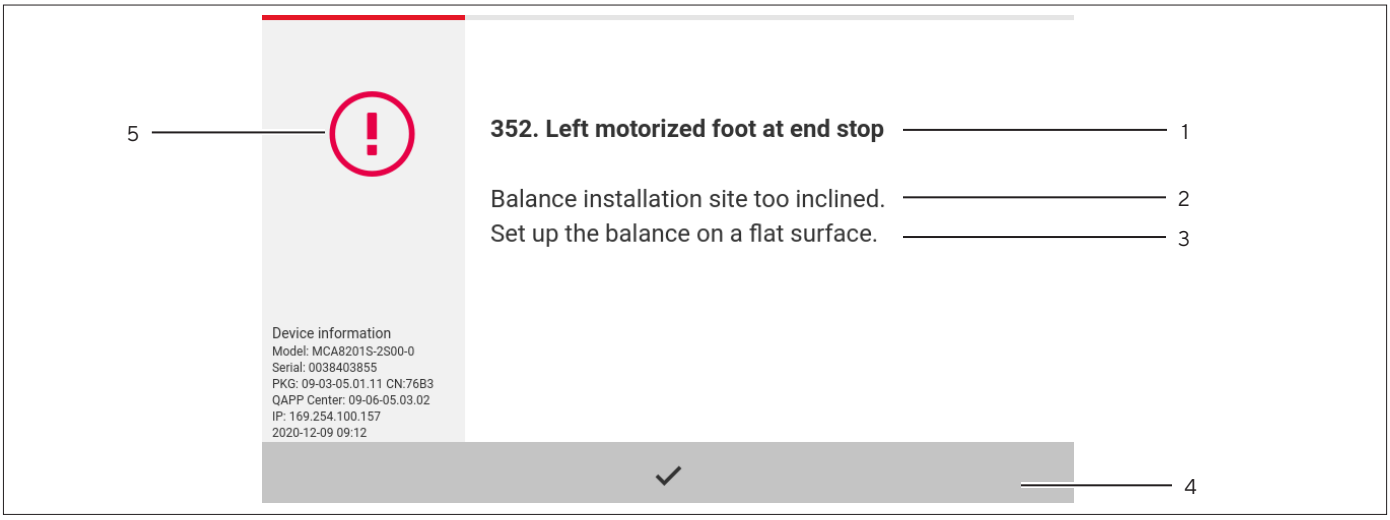


Fig. 11: Error message (example)

Pos.	Name	Description
1	Title	Specifies the type of message, with or without error number.
2	Description	Specifies the cause.
3	Solution	Specifies the measures necessary to eliminate the cause of the message.
4	Confirm	Confirms and closes the message.
5	Message type	Indicates that the message is a status message, warning message, or an error message.

4.4.2 Help Function

For some menus, additional descriptions of menu or parameter contents can be accessed, e.g. printing concept or user management. The help texts have a full text search and are equipped with links. The help texts can be exported.



Fig. 12: Help function in the “Settings” menu (example)

Pos.	Name	Description
1	[Help] button	
2	[Export] button	

4.4.3 Advanced Operator Guidance

Some applications have advanced operator guidance. The advanced operator guidance guides the user through the active task and comprises multiple switchable displays depending on the configured application:

- First display: Shows the step currently being carried out as a graphic display.
- Second display: Shows the current parameters for the task.
- Third display, only for applications with statistics function: Represents statistical information as a bar chart.

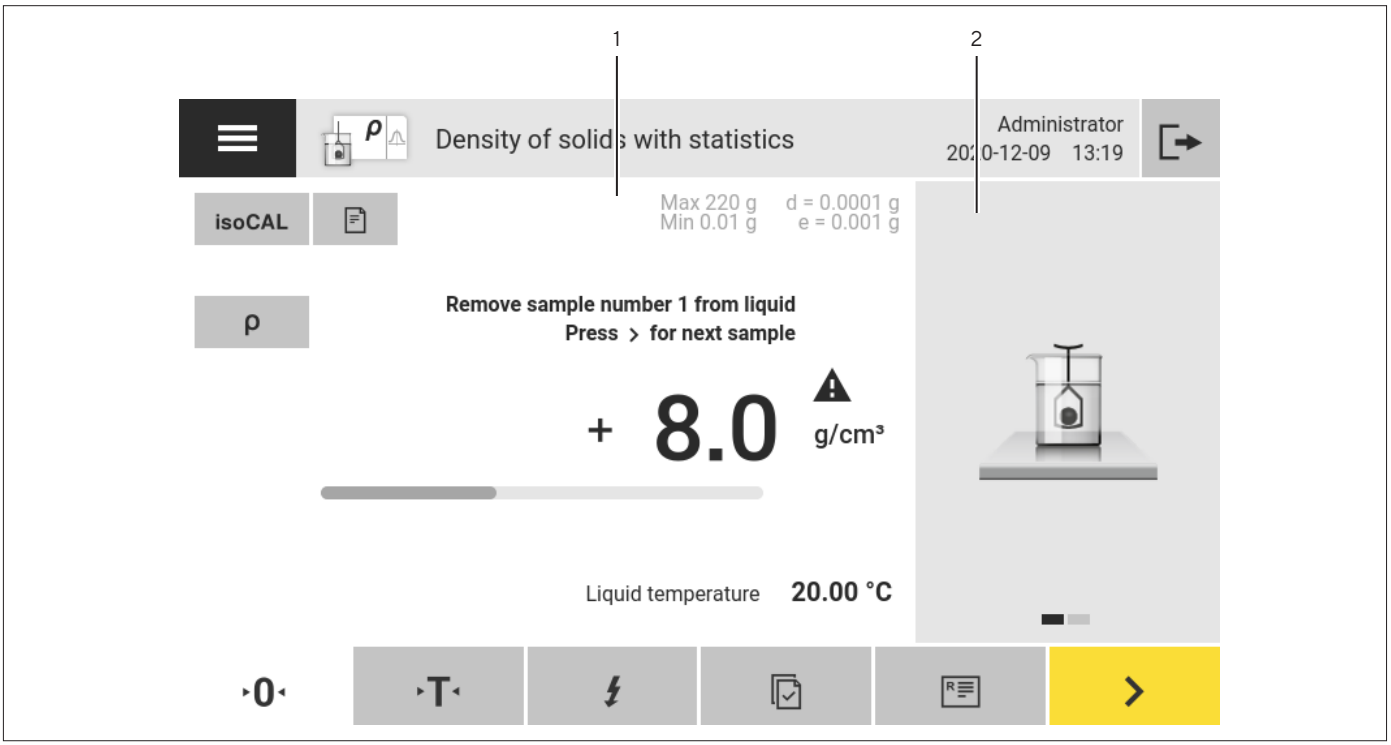


Fig. 13: Advanced operator guidance (example)

Pos.	Name	Description
1	Weighing display with operator guidance	
2	Advanced Operator Guidance	

4.5 Status Center

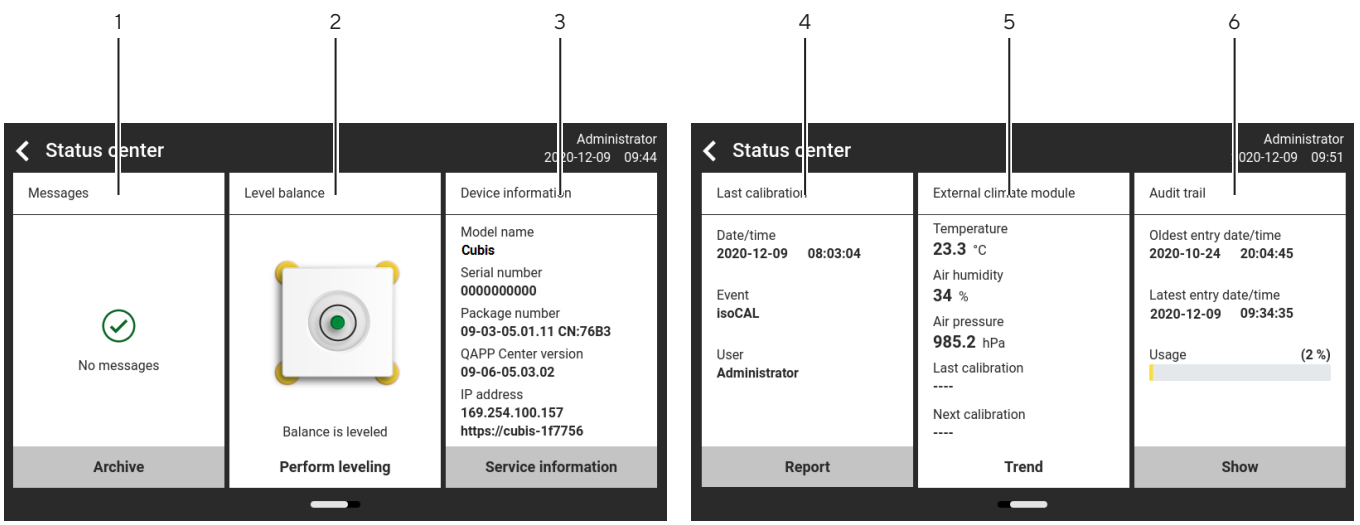


Fig. 14: Status Center (example)

Pos.	Name	Description
1	Messages	Displays information, warning, and error messages.
2	Leveling status	Displays the status of the level.
3	Status for the device	Displays the general device information.
4	Calibration and adjustment report	Displays the data for the last adjustment and calibration.
5	Climate data status	Displays the data from the optional climate module.
6	Audit trail	Displays the oldest and newest audit trail entry and the memory usage in percent.
7	Cleaning status	Displays the cleaning status of the device (when using the Cleaning QAPP, **not** shown).

4.6 Keypad

The keypad is intended for entering values in entry fields and is adapted to the selected language. If an entry field is activated: The alphanumeric keypad or numerical keypad appears.

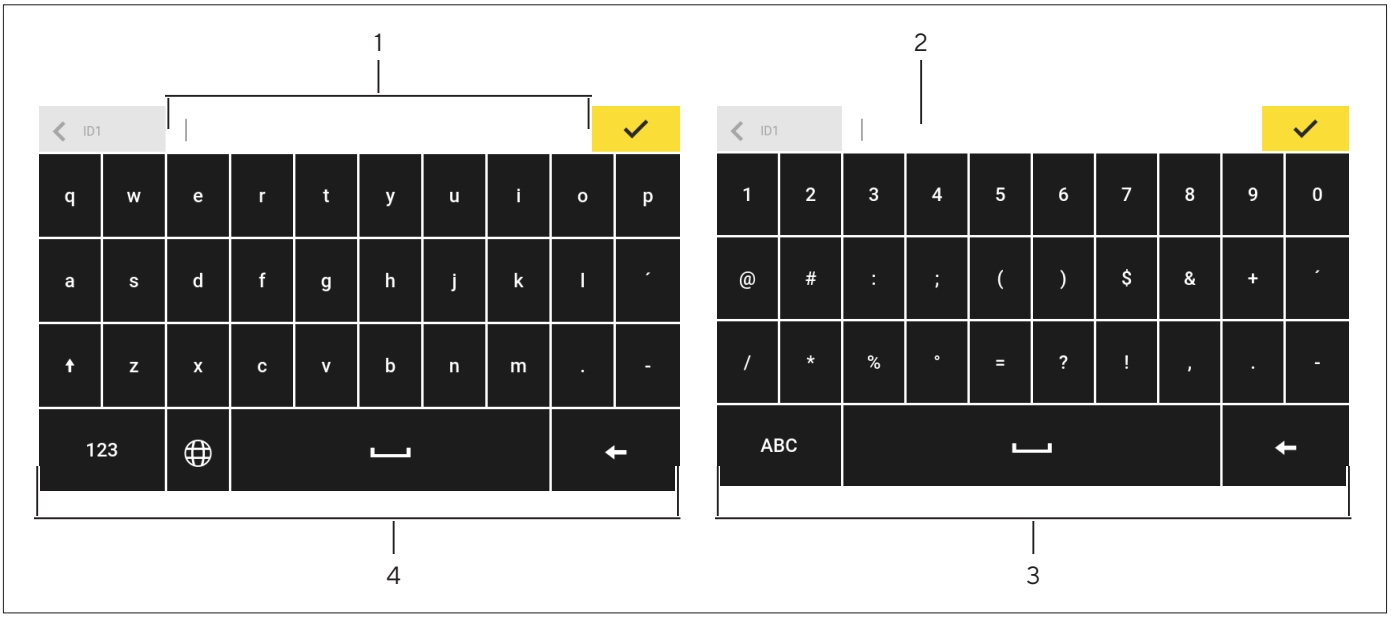


Fig. 15: Alphanumeric keypad and numerical keypad (example)

Pos.	Name	Description
1	Entry field	
2	Input assistance	Indicates which values can be entered in the entry field, e.g. only numbers.
3	Numeric keypad	
4	Alphanumeric keypad	

4.7 Status Display of the Buttons

Symbol	Name	Description
	Predominant button	Indicates that the function must be executed. The button is color-highlighted.
	Secondary button	Indicates that the function can be executed. The button is highlighted gray.
	Inactive button	Indicates that the function currently **cannot** be executed. The button is grayed out.

4.8 Buttons in the Operating Display

4.8.1 Buttons for Navigation or Organization in Displays

Symbol	Name	Description
	[Menu] button	Quits the active task and opens the main menu.
	[Back] button	– Returns to the previous display. – In the main menu: Accesses the last-performed task.
	[Search] button	Displays options for browsing tasks and list elements.
	[Filter] button	Displays options for filtering tasks and list elements.
	[Sort] button	Displays options for sorting tasks and list elements.
	[Standby] button	Switches the operating display to standby mode.
	[Task Management] button	Opens Task Management.
	[Status Center] button	Opens the Status Center.
	[Setup] button	Opens the “Settings” menu.
	[User Logout] button	Logs the currently active user out and accesses the login display.
	[User Login] button	Accesses the login display.
	[Next] button	Accesses the next display, e.g. the next processing step for a wizard.
	[Active Search] button	Displays an active search for tasks or list elements.
	[Active Filter] button	Displays an active filter for tasks or list elements.
	[Sort Ascending] button	Sorts tasks or list elements in ascending order.
	[Sort Descending] button	Sorts tasks or list elements in descending order.
	[10 Positions Forward] button	Jumps forwards 10 positions in tasks or list elements.

Symbol	Name	Description
10>	[10 Positions Right] button	Jumps 10 positions to the right in tasks or list elements.
Service Information	[Service Information] button	Opens the “Settings”/“Device Settings”/“Device Information”/“Service” menu.
Archive	[Status Archive] button	Opens an overview of all status messages, warning messages, and error messages.
Perform leveling	[Leveling] button	Opens the Leveling Wizard.
	[Warning] button	Opens the list of current warning messages.
	[Error] button	Opens the list of current error messages.
	[Info] button	– Opens a display with additional information about the current menu. – In the Status Center: Opens the list of current status messages.
	[QAPP Center] button	Opens the QAPP Center.
	[Details] button	Shows additional information about an element.
	[Display Image] button	Displays available images or videos.
	[Close Menu] button	Closes the menu.
	[**Invalid** weight value] button	Opens a display in which all the pending messages are listed.

4.8.2 Buttons for Editing or Managing Entries

Symbol	Name	Description
	[New] button	Starts the wizard for creating new entries, e.g., a new task, or a new weighing profile or user.
	[Activate QAPP] button	Opens the display for activating an application.
	[OK] button	Saves a selection or entry.
	[More] button	Shows the keypad for entering a user-defined value.
	[Select All] button	Selects all elements of a list.

Symbol	Name	Description
	[Deselect All] button	Deselects the selection for all elements of a list.
	[Cancel] button	– Cancels the current process without saving the changed settings or values. – In the display for editing the print memory: Marks the selected value as invalid.
	[Edit] button	Accesses the Adjustment Wizard for editing the displayed element, e.g. for setting the parameters for a task.
	[Delete] button	Deletes the selected element.
	[User Activated] button	Opens an input for deactivating the user.
	[User Deactivated] button	Opens an input for activating the user.
LICENSE	[License] button	Opens the entry field for the license key for activating a QAPP package or application.
	[Keypad] button	Shows the keypad.
	[Select Character Set] button	Switches over the keypad character set for the language version.
	[Show Preset Tare 1 Function] button	Shows the preset tare 1 function.
	[Hide Preset Tare 1 Function] button	Hides the preset tare 1 function.
	[Edit password] button	Opens the entry field to change a user password.
	[Deactivate entry] button	Deactivates an entry.
	[Activate entry] button	Activates an entry.

4.8.3 Buttons for Weighing, Printing, and Export Functions

Symbol	Name	Description
	[Leveling] button	Opens the Leveling Wizard.
isoCAL	[isoCAL] button	Starts the isoCAL function.
Prc	[Result] button	Toggles between the result and weight value display for the current application, e.g. weighing in percent.
	[Zero] button	Starts zeroing.
	[Tare] button	Starts taring.
	[Tare 1] button	Stores the current weight value in the tare 1 memory.
Tare 1 0.00 g	[Tare 1 Entry] button	Opens an entry field for manually entering the tare 1 value.
	[Delete Tare 1] button	Deletes the tare 1 memory.
	[Start] button	Starts the selected application.
	[Quit] button	Quits the active application and opens the Print Memory display.
	[Confirm] button	Confirms the current display and initializes the next step.
	[Save] button	Saves the weight value and sends it to the print memory.
	[Print memory] button	Opens the Print Memory display.
	[Print] button	If the Print Memory is displayed: Exports the saved print orders via the integrated data interfaces.
	[Connect] button	Checks the connection to a connected printer and prints a test page.
	[Connector] button	Checks the connection to the respective connector.
	[Ionizer] button	Only for a licensed ionizer: Starts an ionization process.
g	[Unit change] button	– Toggles between the weight units and the resolution. – Accesses the “Unit change” function menu.
	[Restart] button	If an application is active: Deletes the saved values and restarts the application.
	[Report] button	If an application is active, e.g. density determination: Displays a report about the progress of the application.

Symbol	Name	Description
	[Result report] button	If an application is active, e.g. density determination: Displays a report about the result of the application.
	[Export] button	– Creates files depending on the context. – Releases the exported files, e.g., PDF or HTmL files, via a connector.
	[Help] button	Displays descriptions of the menu and parameter contents, e.g., weighing characteristics and weighing functions, printing concept, user management

4.9 Displays in the Operating Display

Symbol	Name	Description
	[Leveling] display	Indicates that the device is **not** leveled.
	[Print memory] display	Indicates that elements are located in the print memory.
g	[Unit symbol] display	Indicates the set weight unit, e.g. [g] for “grams”.
Gross	[Result] display	Indicates whether the weight value being displayed is a gross value or the result of an application.

	[**Invalid** weight value] display	– Together with the unit:
		  – The display shows the calculated weight value of an application, e.g. for the “Totalizing” application.
		  – The displayed weight value is less than the specified minimum initial weight.
		
		– For conformity-assessed devices without unit display:
		  – Negative gross value
		  – The device has **not** yet reached the necessary operating temperature to accurately determine the weight.
		  – The device is **not** leveled.
		  – The device requires the isoCAL function to be executed.

	[Sign] display	Indicates whether the value being displayed is positive or negative.
	[Current page] display	– Indicates that the current display is a multi-page display. – Indicates which page of a multi-page display is being displayed currently.
	[Copy] button	Indicates that data are being copied.
	[Selection] display	Indicates that an entry is selected in a list.
	[Target value] display	Shows the target value in the capacity display.

4.10 Applications and Tasks

QAPP applications (applications) are grouped together in QAPP packages. The device is supplied with some freely accessible applications in the “Essentials” QAPP package. These applications can be used to carry out the most important functions, such as weighing and calibration.

Other applications may be activated in the QAPP Center for a fee. The applications contain additional or specific functions, such as user management or specific weighing functions.

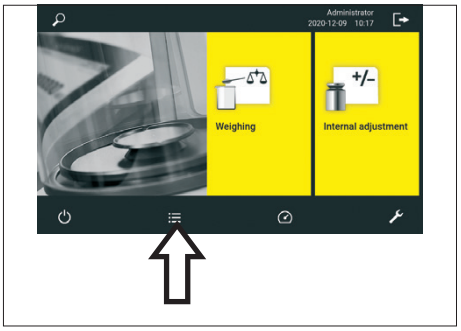
An application must be configured as a task before it can be used. Specific settings need to be applied for this, with the help of the assistant function. Tasks are visible to all users who have the required role to perform the task.

4.11 Licensable Device Functions

Some device functions are licensable. In order for these device functions to be usable, they must be activated in the QAPP Center for a fee. The device functions may be activated upon delivery or they can be activated later on in the QAPP Center (for licensable device functions, see Chapter 15.7, page 82).

4.12 Navigating the Menus

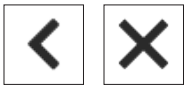
Procedure



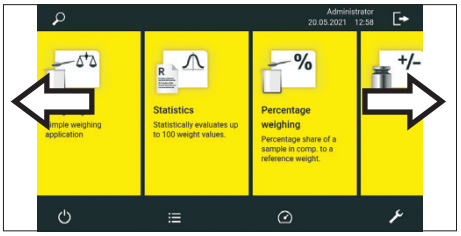
▶ To open a menu: Press the button for the desired menu, e.g. the [Task Management] button.
▷ The menu opens and the name of the open menu is displayed in the navigation bar.



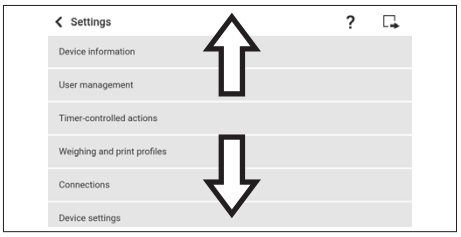
▶ To return to the main menu from other displays: Press the [Menu] button or press the [Back] button (multiple times) until the main menu is displayed.



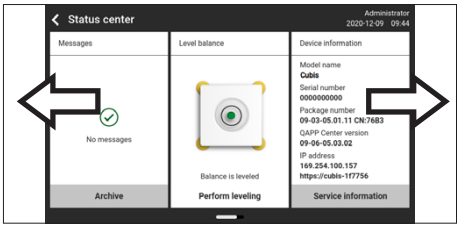
▶ To exit a display: Press the [Back] or [Cancel] button.



▶ To scroll through the available tasks: Swipe the task bar to the left or right.

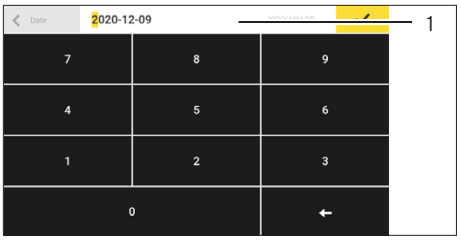


▶ To scroll through the lists in a menu: Swipe the list downwards or upwards.

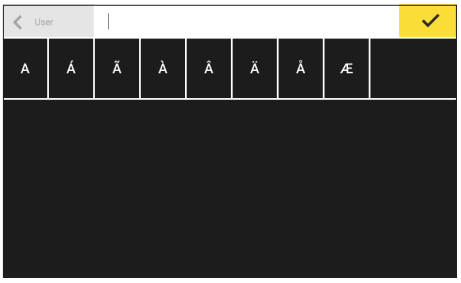


▶ To display the next or previous page in a display containing several pages, e.g. in the Status Center: Swipe the display to the left or right.

- ▶ If a value needs to be selected from a list:
  - ▶ Scroll to the desired value in the display. To do this, swipe the display upwards or downwards.
  - ▶ Press the desired value.
  - ▶ To confirm the selection: Press the [OK] button.
- ▷ The selected value is saved and the list closes.



- ▶ If elements from a display need to be filtered or a display needs to be browsed:
  - ▶ Press the [Search] or [Filter] button.
  - ▷ The keypad is displayed.
  - ▶ Type the searched value or value to be filtered into the entry field (1) using the keypad.
  - ▶ Press the [OK] button.
- ▶ To close the entry field for searching and filtering without starting a search or filter operation: Do **not** enter a value in the entry field or delete the entered value.
  - ▶ Press the [OK] button.



- ▶ If language-specific characters need to be entered using the keypad:
  - ▶ Press and hold a letter on the keypad.
  - ▷ If language-specific characters are available for the letter being pressed: A display opens containing all the language-specific characters available for the letter being pressed.
  - ▶ To select a language-specific character and return to the keypad display: Tap on the desired language-specific character.

4.13 Menu Structure

4.13.1 Main Menu

▶ Navigating the menus (see Chapter 4.12, page 33).

Level 1	Level 2	Level 3	Description
Task management			Displays all available tasks. Opens a summary of the properties for the displayed task.
	QAPP Center	QAPP package	– Lists the QAPPs contained in a QAPP package. – Displays the licensing status of the QAPPs. – Leads to the input screen for the licensing of the QAPP package.
Status Center			Display information about the device status, e.g. level status, amount of storage or messages.
Settings	Device Information		
	User Management		
	Access Management*		
	Timer-controlled Actions		
	Weighing and Print Profiles		
	Connections		
	Device Settings		
	Device Maintenance		

* If a related QAPP is activated: The menu is shown.

4.13.2 “Settings” Menu

▶ Navigating the menus (see Chapter 4.12, page 33).

Level 1	Level 2	Level 3	Description
Device information	General device information		Displaces general device information, e.g. model name, serial number, QAPP Center version.
	Service		Displays general information on service-related topics, e.g. phone number, last maintenance or qualification data.
	View data storage device		Display, sort, browse, or export the contents of the data storage device.
	View audit trail		If an audit trail license has been purchased: Display, sort, browse, or export the contents of the audit trail memory.
	Software licenses		Display the list of all open source software modules used.
User management			Display or edit the 4 standard user profiles, e.g. password, language. Create or edit additional user profiles, user roles, and rules*.
Access Management*	Role management		Display or edit the 4 standard user roles. Create or edit additional user roles.
	Rules		Define the rules for failed attempts at password entry.
	Local password rules		Define the permissible characters, length, and validity time for the password.
	LDAP server configuration		Configure the data for device communication with an LDAP server.
Timer-controlled actions			Display the created timer-controlled actions, e.g. “Start task”.
Weighing and print profiles	Weighing		Display and manage the saved weighing profiles.
	YDP30		Display and manage the saved print profiles, e.g. print profiles for the printer YDP30 or print profiles for PDF or CSV.
	PDF		
	CSV		
	PC direct		
	SBI direct		
	Web service report		
	Data file		

* If a related QAPP is activated: The menu is shown.

Level 1	Level 2	Level 3	Description
Connections	Connectors	USB	Display and manage the saved connectors, e.g. a USB stick.
		YDP30-NET	
		FTP	If this extension has been configured in the QAPP Center: The connection to the FTP or FTPS servers facilitates file transfer using the FTP or FTPS protocol.
		FTPS	
		Network printer	Display and manage the saved network printers.
		SMB	If the "Windows File Server" extension has been configured in the QAPP Center: The connection to a Windows file server facilitates file transfer using a Server Message Block (SMB protocol).
		HTTP	If the "Windows File Server" extension has been configured in the QAPP Center: Enables data connection to a server with service end points (web services, ReST).
		HTTPS	
		HTTP (dynamic)	
		HTTPS (dynamic)	
	Network	General settings	Define the device host name.
		Ethernet	Display and manage settings for the device's Ethernet or Wi-Fi connection.
		Wi-Fi	
		Diagnostics	
	Website / web services	Website access	Determines the settings for the display of the website for the device. Depending on the settings for the website access, a user log-in may be required. The user has the same access rights for the website as on the device.
		Web service password	Define the password for the web services.
	Certificates	Trusted certification authorities	Display and export the trusted certification authorities (CA).
		Device certificates	Display and export the device certificates.
		Trust unknown certification authorities	Specifies the security for unknown certification authorities.
	Interfaces	Serial communication over network	Display and edit the profile for the Ethernet connection.
		COM-RS232 interface	Display and edit the profile for the RS232 connection.
		USB-B interface	Display and edit the profile for the USB-B connection.

* If a related QAPP is activated: The menu is shown.

Level 1	Level 2	Level 3	Description
Connections	SBI protocol	Format	Configure the settings for the data output and data output format.
		Output	Define whether the output takes place with or without stability.
		Automatic data output	Activate or deactivate the output rate for automatic data output.
		Display SBI error messages	Activates or deactivates the error messages for the SBI protocol.
		Formatting output values	Defines the line length for the data output.
	Climate modules		View the settings for the connected climate module, e.g. the internal climate module.
	Connected devices	Motion sensor	If a motion sensor is connected to the device: Define the number and functions of the gestures.
		External USB keys	If an external USB peripheral device is connected to the device, e.g. a keyboard or foot switch: Define the functions of the USB keys. In this way, key functions for the device can be triggered via the external USB peripheral device.

* If a related QAPP is activated: The menu is shown.

Level 1	Level 2	Level 3	Description
Device settings	Date and time	NTP configuration	Activate or deactivate time synchronization via NTP.
		Set the date and time	Enter the date and time. Determine the time zone.
	Safe weighing	isoCAL execution mode	Set the isoCAL function.
		isoCAL limit rule	Define rules for triggering the isoCAL function.
		User-defined warning limit	Specify the warning limit for the maximum percentage deviation compared to the reference weight. When the warning limit is reached, a message is displayed.
		Safety level	Set the alert level for the message indicating that the isoCAL function must be executed.
	Preload	Show current preload	Displays the currently set preload.
		Set preload	Sets a preload for technical equipment that needs to be constantly on the device. In this case the maximum capacity is reduced by the set preload.
		Delete preload	Deletes the set preload.
	Calibration/ adjustment report	Automatic printout for isoCAL	Activates the data output for the isoCAL function.
		Automatic printout for cal./adj. Task	Activates the data output for the calibration and adjustment function.
		Print profile	Defines the output device on which a printout must be carried out.
	Minimum weight*		Functions for monitoring the permissible operating range.
	Measurement uncertainty*		Functions for dynamic display of the measurement uncertainty for the weight value.
	Device ID		Determine the device identifier.
	Electronic signature*	Sign report	Activate or deactivate the electronic signature.

* If a related QAPP is activated: The menu is shown.

Level 1	Level 2	Level 3	Description
Device settings	Draft shield*	Left/right palm key	Set the function of the left and right palm key.
		Automatic mode	If enabled: Closes the draft shield, carries out the function, and opens the draft shield again.
		Sensor mode*	Activates or deactivates the proximity sensors.
		Left proximity sensor*	Set the sensitivity of the left proximity sensor.
		Right proximity sensor*	Set the sensitivity of the right proximity sensor.
		Opening angle for left button*	Set the opening angle of the motorized inner draft shield for the left palm key.
		Opening angle for right button*	Set the opening angle of the motorized inner draft shield for the right palm key.
	Ionizer*	Activation ionizer	Define the switch-on behavior for the ionizer.
		Intensity	Define the intensity of the ionization process.
		Start-up duration	Define the duration of the ionization process in seconds.
	Start-up behavior	Initial zeroing/taring	Activate or deactivate automatic zeroing and taring when starting the device.
		Automatic login	Activate or deactivate automatic log-in of the last user when starting the device.
		User identification service	Activates a user identification for the service.
		Automatic start of task	Select or deactivate automatic start of a task when staring the device. All tasks that are configured on the device can be selected.
	Device cleaning*	Cleaning support	Functions to support device cleaning

When the following conditions have been met: The menu or parts of the menu are open:
- The motorized draft shield is activated.
- The device is fitted with a proximity sensor.
- A motorized inner draft shield is mounted.

Level 1	Level 2	Level 3	Description
Device settings	Display settings	Display brightness	Define the brightness of the operating display.
		Power button	Select the “Energy saving” or “Switch off” function.
		Color scheme*	Define the settings for the operating display color scheme.
	Sound (Loudspeaker)	Touch sounds	Activate or deactivate the acoustic signal when operating a button.
		Message sounds	Activate or deactivate the acoustic signal for messages.
		Sound for end-of-action	Activate or deactivate the acoustic signal for the end of an action.
Device Maintenance	Update firmware	List of connectors and then list of firmware	— Starts a firmware update. — **Not** for conformity-assessed devices.
	Install QAPP Center	List of connectors and then list of QAPP Centers	Updates the QAPP Center using the selected connector.
	Install customized QAPP	List of connectors and then list of customized QAPPs	Updates a customized QAPP using the selected connector.
	Device data backup	List of connectors	Saves the device data on the selected connector.
	Restore device data	List of connectors	Loads saved device data from the selected connector.
	Export device settings	List of device settings	Save the desired settings on a selected connector.
	Import device settings	List of connectors for import	Load selected settings, e.g. from a server or connected USB stick.
	Languages	Import language	Loads the language file from the selected connector.
		Delete imported languages	
	Reset to factory settings	Restore factory settings	
	Create diagnostic file		

* If a related QAPP is activated: The menu is shown.

5 Installation

5.1 Scope of Delivery

Article	Quantity
Device	1
Base plate of weighing compartment	1
Semi-microbalances (models MCA125S-3 | MCA225S-3 | MCA225P-3):	
90 mm weighing pan, slotted	1
Semi-microbalance (model MCA226S-3) and high-capacity microbalance:	
50 mm weighing pan, slotted	1
Shield plate for 50 mm weighing pan	1
Power supply unit	1
Country-specific power supply cable with test seal	1
USB connection cable	1
Operating display for Cubis® MCA	1
Connection cable for operating display, installed on delivery	1
Draft shield	
Front panel	1
Top door	1
Left door	1
Right door	1
Rear panel, installed on delivery	1
Devices with motorized draft shield:	
Palm-operated key, installed on the operating display on delivery	2
In-use dust cover for display and control unit	1
Operating instructions	1
Specific certificates for the device	1
'Cleaning case' with cleaning utensils, e.g. brush for cleaning	1

5.2 Selecting an Installation Site

Procedure

- ▶ Ensure that the installation conditions have been met (see Chapter “15.2 Installation Conditions”, page 79).
- ▶ **NOTICE** Risk of damage to the power supply unit from argon! Observe the instructions for using argon (see Chapter “15.3 Ambient Conditions”, page 80).

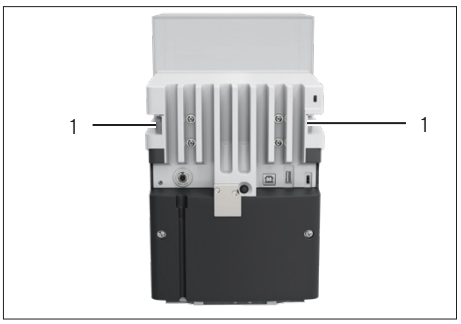
5.3 Unpacking

The device is packed in multilayer foam packaging. The device components, e.g. the weighing pan, are inserted into the second and third layers of the foam packaging.

The individual layers of the foam packaging must be removed one after the other.

Procedure

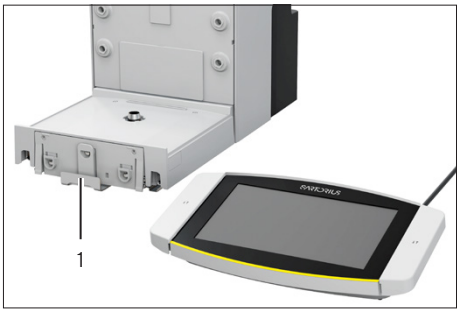
- ▶ Open the package.
- ▶ Undo the tension belt.
- ▶ Remove the top layer of foam packaging.
- ▶ Remove the second and third layers of foam packaging.
- ▶ Grip the device by the grooves (1) on the left and right-hand side and lift the device out of the bottom layer of foam packaging.
- ▶ Place the device down on a stable, completely flat surface.
- ▶ Sartorius recommends keeping the original packaging to return the device appropriately, e.g., for repairs.



5.4 Attaching or Removing the Operating Display

Procedure

- ▶ In order to attach the operating display to the device: Hook the operating display onto the operating display holder (1). The operating display must be positioned entirely on the base.
- ▶ To remove the operating display from the device: Pull the operating display up off of the operating display holder.



5.5 Placing the Device on its Side and Installing

For some installation work, the device has to be placed on its side, for example when inserting connection cables.

Material: 1 soft support base, for placing down the device

Requirement

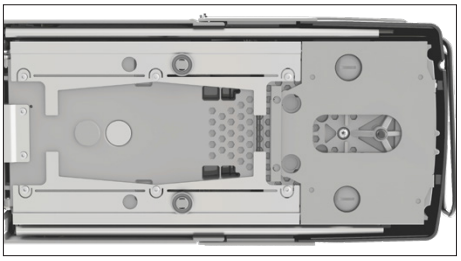
– There are **no** components installed in the pan retainer.
– All outer draft shield doors are removed: Front panel, upper panel, side panels.

⚠ CAUTION

Risk of injury when lifting or transporting!

▶ Use both hands when transporting the device and setting it down. To do this, reach sideways under the device with both hands in the rear part of the device.

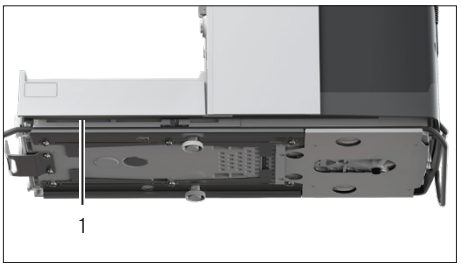
Procedure



▶ Remove the operating display from the device.
▶ If the device is to be placed on its side:
  ▶ Reach sideways under the device with both hands in the rear part of the device.
  ▶ Turn the device on its side and place it on the soft support base.
▶ If the device is to be returned to the upright position:
  ▶ Reach sideways under the device with both hands in the rear part of the device.
  ▶ Place the device back onto its base.

5.6 Inserting the Connection Cable for the Operating Display

Procedure



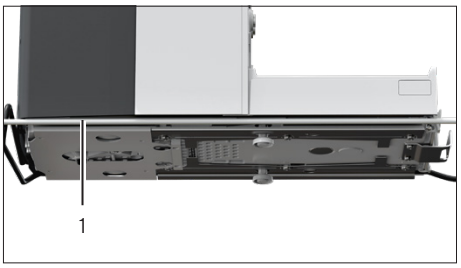
▶ Place the device on its side (see Chapter 5.5, page 44).
▶ Fully press the connection cable for the operating display into the cable channel (1) along the side of the device. The connection cable for the operating display must **not** come into contact with the side panels as this can cause device malfunctions.
▶ Place the device back onto its base.

5.7 Inserting the Connection Cable for Ethernet

An Ethernet connection cable can be attached to the device. The Ethernet connection cable must be inserted into the cable channel on the side of the device.

Material: 1 Ethernet connection cable

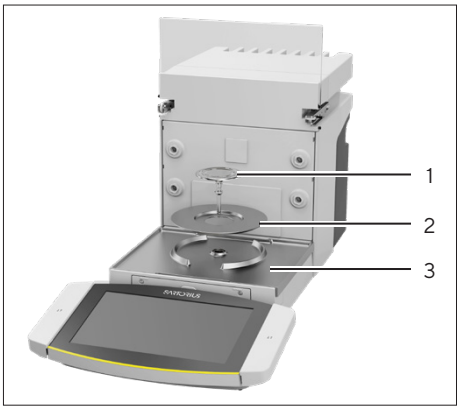
Procedure



- ▶ Place the device on its side (see Chapter 5.5, page 44).
- ▶ Fully press the Ethernet connection cable into the cable channel (1) along the side of the device. The Ethernet connection cable must **not** come into contact with the side panels as this can cause device malfunctions.
- ▶ Place the device back onto its base.

5.8 Positioning the Weighing Pan and Associated Components

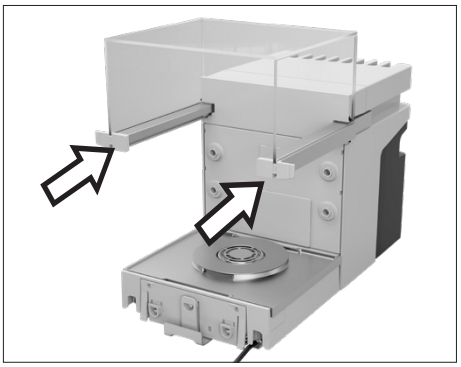
Procedure



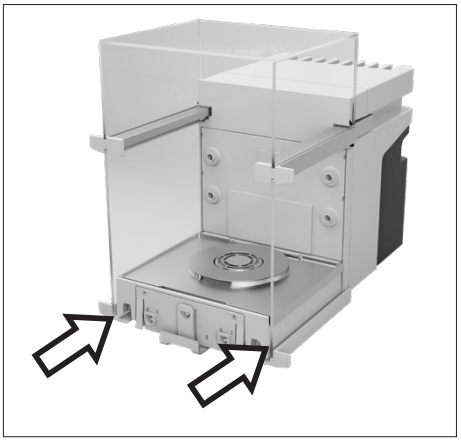
- ▶ Insert the base of the weighing compartment (3) into the device.
- ▶ If there is a weighing pan with a shield plate: Place the shield plate (2) onto the pan retainer in the base of the weighing compartment.
- ▶ Insert the weighing pan (1) into the pan retainer.
- ▶ If the weighing pan needs to be turned, e.g. with sample holders:
  - ▶ Lift the weighing pan and turn it to the left or right.
  - ▷ The weighing pan snaps into the next position of the pan retainer. This avoids accidental turning of the weighing pan.

5.9 Installing the Draft Shield

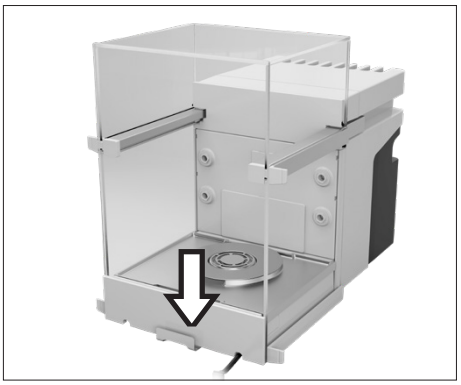
Procedure



- ▶ Remove the operating display from the device.
- ▶ Install the upper door. To do this, insert the two door panel mounts into the two guide rods on the side of the device and push backwards.



- ▶ Install the right and left doors. To do this, insert the door panel mounts, one after the other, into the guide rods at the bottom on the side of the device, and push backwards.



- ▶ Insert the panel mount for the front panel into the recesses in the front of the device.

5.10 Installing the Control Unit

The control unit can be installed in front of or next to the device.

Procedure

- ▶ Remove the operating display from the device.
- ▶ Place the control unit in the preferred position (for the dimensions for positioning the control unit, see Chapter “15.1 Dimensions and Weights”, page 79). The operating display must be positioned entirely on the base.

5.11 Acclimatization

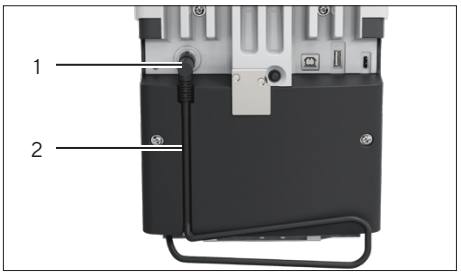
When a cold device is brought into a warm environment: The temperature difference can lead to condensation from humidity in the device (moisture formation). Moisture in the device can lead to malfunctions.

Procedure

- ▶ Allow the device to acclimatize at the installation site (for the acclimatization duration see Chapter “15.6 Wait Times”, page 82). The device must be disconnected from the power supply during that time.

6 Getting Started

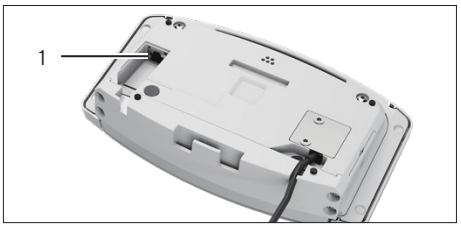
6.1 Attaching the Connection Cable for the Operating Display



Procedure

- ▶ Insert the connection cable for the operating display into the recess in the rear side of the device (2).
- ▶ Plug the connection cable for the operating display into the “Operating display connection” (1) and screw tightly by hand.

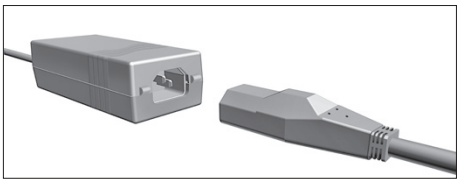
6.2 Attaching the Connection Cable for Ethernet



Procedure

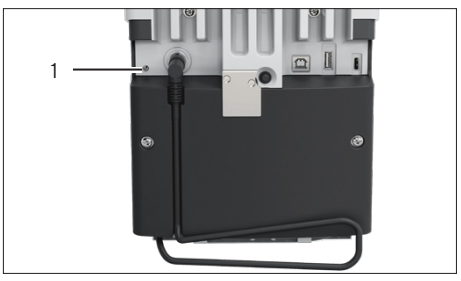
- ▶ Remove the operating display from the device.
- ▶ Remove the cover for the Ethernet connection from the operating display.
- ▶ Connect the Ethernet connection cable to the Ethernet connection (1).
- ▶ Plug the other end of the Ethernet connection cable into the Ethernet connection at the installation site.

6.3 Connecting the Power Supply Unit to the Device



Procedure

- ▶ Plug the power supply cable into the power supply unit connection.



- ▶ Connect the connection cable from the power supply unit to the “Power supply” connection (1) on the back of the device.

6.4 Connecting the Power Supply

Procedure

- ▶ Check whether the country-specific power plug matches the power supplies at the installation site.
  - ▶ If required: Contact Sartorius Service.
- ▶ Check whether the voltage specifications on the manufacturer's ID label match those of the power supply at the installation site.
  - ▶ If the input voltage is too high or too low: Do **not** connect the device to the power supply.
  - ▶ Contact Sartorius Service.
- ▶ Connect the device to the power supply at the installation site. To do this, connect the power plug from the power supply cable into the power socket.
- ▷ The device is switched on and performs the initial functions for device startup.

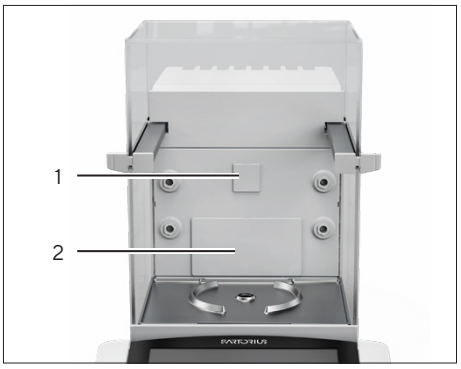
6.5 Connecting Accessories

Accessories can be connected to the device. For certain accessory parts, the covers must be removed in the wall of the weighing compartment, e.g. for connecting a sample holder module.

Requirements

The accessories must be suitable for the device (see instructions for the accessories).

Procedure



- ▶ If a cover for the rear wall of weighing compartment needs to be removed from the device: Remove the top (1) and bottom (2) covers for the rear wall of the weighing compartment from the device.
- ▶ Connect the accessories to the appropriate connections on the device (for connections for accessory parts, see instructions for accessories).

6.6 Attaching Protective Caps and Covers

If connections of the device are **not** being used during operation: We recommend using the protective caps and covers provided to seal the connections on the rear wall of the weighing compartment and on the back of the device.

Procedure

- ▶ Check whether all unused connections have been sealed.
  - ▶ If required: Seal the unused connections on the device using the corresponding covers or protective caps.

7 System Settings

7.1 Switching the Device On or Off

If the device is being connected to the power supply for the first time, or after restoring the factory settings: The device is switched on and the Setup Wizard opens. All steps in the Setup Wizard must be completed.

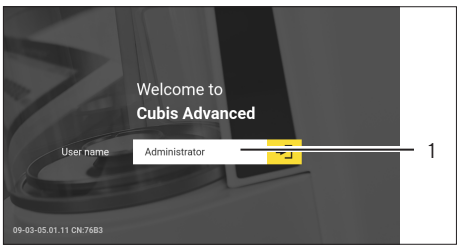
If the device is switched on after the Setup Wizard is complete and **no** passwords have been assigned for the user profiles: The user profile for the last user to be logged in is loaded.

Procedure

- ▶ If the Setup Wizard is shown: Follow the instructions in the Setup Wizard in the operating display.
- ▷ If the Setup Wizard is **not** shown: The login display is shown or the user profile of the last user to be logged in is loaded.
- ▶ To switch the device off: Disconnect the device from the power supply.

7.2 User Login or Logout

Procedure



- ▶ If the name of the desired user profile is displayed in the entry field (1) of the login display: Press the [Login] button.
- ▶ If the name of the desired user profile is **not** displayed in the entry field of the login display:
  - ▶ Tap on the entry field in the login display.
  - ▷ The user selection opens.
  - ▶ Press the name of the desired user profile.
  - ▶ If a password has been assigned for the desired user: Enter the password in the entry field and press the [OK] button.
- ▷ The user profile opens and the main menu or the last task being performed by the active user is displayed.
- ▶ To log out the active user profile from the device: Press the [Logout] button.

7.3 Performing System Settings

Default settings can be adjusted for the device and the applications in order to align with the ambient conditions and individual operating requirements.

The following settings are necessary to operate the device together with connected components:

- Set up the communication of the connected devices
- Set up additional components

The following settings are recommended to set up the device:

- Set the behavior of the isoCAL function
- Set the behavior of the motorized draft shield (only for devices with a motorized draft shield)
- If the associated QAPP is activated and the LDAP server is configured: Enter a password.

Procedure

▶ Open the main menu.
▶ Press the [Setup] button.
▶ To adjust settings: Open the desired submenu.
▶ Select the desired configuration value.
▶ Exit the menu.
▷ With some settings, the [Booting device] display appears in the operating display and the device restarts.

7.4 Using the Help Function

If help texts are available in a menu: The [Help] button is shown.

Procedure



▶ Press the [Help] button.
▶ The help texts are displayed.
▶ To navigate through the help text: Swipe the text downwards or upwards.



▶ If the full text search is to be used:
  ▶ Press the [Search] button and enter a search term.



  ▷ The [Active Search] button appears. The search hits are highlighted in yellow.



  ▶ To switch between the search hits: Press the [Next] and [Back] buttons.

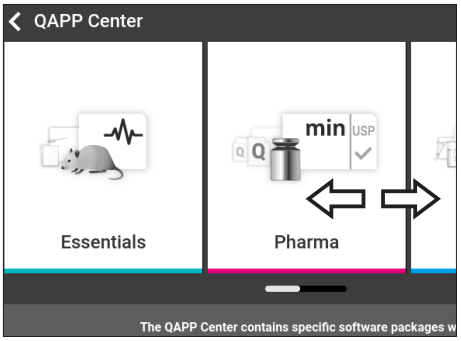




▶ To call up a structure in a help text: Press the [Info] button.
▷ The structure for the help text appears. The structure headings are links.
▶ Click on the desired heading.
▶ To export the help text: Press the [Export] button.
▷ The available connectors are displayed, e.g. the connector [USB stick].
▶ Select the connector and follow the instructions in the operating display.

7.5 Activating Applications (QAPPs)

All applications from the QAPP package “Essentials” are activated for the device at the factory. Additional applications may be activated in the QAPP center. These applications and QAPP packages can be tested for 30 days free of charge, and after that require a license.



Procedure

▶ Open the task.
▶ Press the [QAPP-Center] button.
▷ An overview of the available QAPP packages is displayed.
▶ Select the desired software application package e.g. “pharmaceuticals” or “hardware”.
▶ Select the desired QAPP package.
▷ A list of the applications contained in the QAPP package is displayed.

7.5.1 Activating QAPP Package With All Applications

Procedure

▶ Press the [License] button.
▷ The input field for the license key appears.
▶ If an additional cost is associated with the QAPP package: Enter the license key in the entry field and press the [OK] button.
▶ If no additional cost is associated with the QAPP package: Press the [OK] button.

7.5.2 Activating Individual Applications From QAPP Package

Procedure

- ▶ Press the desired application.
- ▷ A display opens containing details about the selected application.
- ▶ Press the [License] button.
- ▷ The input field for the license key appears.
- ▶ If an additional cost is associated with the application: Enter the license key in the entry field and press the [OK] button.
- ▶ If no additional cost is associated with the application: Press the [OK] button.

7.6 Switching Off the isoCAL Function

M

If the isoCAL function is switched off for a conformity-assessed device: The device can only be used in restricted temperature ranges for legal-for-trade applications (see Chapter "15.3 Ambient Conditions", page 80). The isoCAL function **cannot** be switched off for all model versions.

Procedure

- ▶ In the "Settings / Device Settings / Safe Weighing / isoCAL Execution Mode" menu, for the "isoCAL function" parameter, select the "Off" configuration value.

7.7 Activating, Deactivating or Configuring the Ionizer

Requirements

The application for use of the ionizer is activated.

Procedure

- ▶ **NOTICE** Risk of damage to the power supply unit from argon! Observe the instructions for using argon (see Chapter "15.8 Ionizer when Using Device in an Isolator with Protective Argon Atmosphere", page 82).
- ▶ To deactivate the ionizer: In the menu "Settings" / "Device Settings" / "Ionizer Activation", select the setting "OFF"
- ▶ To activate the ionizer: In the menu "Settings" / "Device Settings" / "Ionizer", set the desired intensity and duty cycle of the ionization process.
- ▶ Exit the settings menu.
- ▷ The [Ionizer] button appears in the operating display.

7.8 Configuring Motorized Opening and Closing of the Draft Shield

Pressing the palm-operated key on the operating display of the device enables the doors of the draft shield to be opened and closed motorically. The draft shield has a learning capability which enables the following opening parameters to be saved:

- It is possible to control all doors together or individually.
- The opening width of the doors can be adjusted.

Requirements

The application for use of the motorized draft shield is activated.

Procedure

▶ Close all draft shield doors.
▶ To determine how far a door is opened by pressing the palm-operated key: Manually push the door open to the desired position.
▶ If several doors are to be controlled by the palm-operated key simultaneously: Manually push the desired doors open to the desired position.
▶ Press the desired palm-operated key.
▷ All open doors are closed.
▷ The settings for motorized opening and closing of the draft shield are saved.

7.9 Managing User Data

7.9.1 Assigning a Password

Procedure

▶ Log into the device using the user profile for which a password needs to be assigned.
▶ Open the “Settings / User Management” menu.
▶ Press the [Edit Password] button.
▷ The user password input field is displayed.
▶ Enter the desired password in the entry field and confirm with the [OK] button.

7.9.2 Changing User Profile or User Role

For certain functions, the “User management” extension must be licensed in the QAPP Center.

Procedure

- ▶ To change a user profile: Open the “Settings / User Management” menu.
- ▶ To change a user role: Open the “Settings / Access management / Role management” menu.
- ▷ An overview of the saved user profiles or user roles appears.
- ▶ Select the desired user profile or user role.
- ▷ An overview of the settings appears.



- ▶ Press the [Edit] button.
- ▷ The “User settings” or “Role parameters” display appears.
- ▶ Specify the desired settings in the “User management” menu and in the “Access management” menu.
- ▶ Confirm the entries. To do this, press the [OK] button.

7.9.3 Creating a User Profile

Requirements

The “User management” extension is licensed in the QAPP Center.

Procedure

- ▶ Open the “Settings / User Management” menu.
- ▷ An overview of the saved user profiles appears.



- ▶ Press the [New] button.
- ▷ The “User Settings” display appears.
- ▶ Specify the desired settings in the “User management” menu and in the “Access management” menu.
- ▶ Confirm the entries. To do this, press the [OK] button.

7.9.4 Creating a User Role

Requirements

The “User management” extension is licensed in the QAPP Center.

Procedure

- ▶ Open the “Settings / Access management / Role management” menu.
- ▷ An overview of the saved user roles appears.
- ▶ If an existing entry is to be used as a template:
  - ▶ Select the user role.



  - ▶ Click the [Select all] button.
  - ▷ The settings are applied and it is opened in a new entry.



- ▶ If a new entry needs to be created: Press the [New] button.
- ▷ The “Role management” display appears.
- ▶ Specify the desired settings in the “User management” menu and in the “Access management” menu.
- ▶ Confirm the entries. To do this, press the [OK] button.

7.10 Setting Up Device for Network Printer

7.10.1 Selecting Configuration for Network Printing

Configuration Options	Description
Network Printing via Independent Wi-Fi Network	– Device and network printer communicate via an independent Wi-Fi network – Standard Wi-Fi components can be used – Special security measures or network settings are **not** required – Recommended configuration for easy printing, without the use of additional network functions

Setting Up Network Printing via Company Network	– Device and network printer communicate via the company network
	– All network functions of the device are available in the company network
	– The company network must meet the following requirements:
	  – DHCP server present
	  – Standard authentication methods allowed, **no** special security measures are required to log in via Wi-Fi

Procedure

- ▶ Check which configuration is suitable for network printing.

7.10.2 Setting Up Device for Network Printer via Independent Wi-Fi Network

Requirements

- – The individual user profile has the role “Administrator” or “Service”.
- – The network printer is connected to a Wi-Fi router.

Procedure

- ▶ Test the suitability of the Wi-Fi router and Wi-Fi stick (for suitability, see Chapter “16 Accessories and Spare Parts”, page 90).
- ▶ Insert the Wi-Fi stick into the device in a USB connection.
- ▶ Open the “Settings / Connections / Network / Wi-Fi” menu.
- ▶ Press the [Edit] button.
- ▶ Enter the service set identifier for the router under “Wi-Fi SSID”. The service set identifier is specified on the back of the Wi-Fi router.

- ▶ Enter the router password under “Wi-Fi password”. The password is specified on the back of the Wi-Fi router.
- ▶ Press the [Back] button.
- ▷ The status “Ready” appears in the “Wi-Fi” overview display within 10 seconds.

Creating a Network Printer

Procedure

- ▶ Open the “Settings / Connections / Connectors / YDP30-NET” menu.
- ▶ Press the [New] button.
- ▶ Enter a name for the network printer under “Connector name”, e.g., printer YDP30-NET.
- ▶ Enter the network printer IP address under “IP or host”. The IP address is specified in the network printer “Network Settings” printout.
- ▶ Confirm the entries. To do this, press the [OK] button.

7.10.3 Setting Up Device for Network Printer via Company Network

Requirements

- — The individual user profile has the role “Administrator” or “Service”.
- — The company network has a DHCP server.
- — The network printer is connected to the company network.

Procedure

- ▶ Open the “Settings / Connections / Network / Wi-Fi” menu.
- ▶ Press the [Edit] button.
- ▶ Enter the service set identifier for the company network under “Wi-Fi SSID”. The service set identifier is available from the company network administrator.
- ▶ Enter the company network password under “Wi-Fi password”. The password is available from the company network administrator.
- ▶ Press the [Back] button.
- ▷ The status “Ready” appears in the “Wi-Fi” overview display within 10 seconds.

Creating a Network Printer

Procedure

- ▶ Open the “Settings / Connections / Connectors / YDP30-NET” menu.
- ▶ Press the [New] button.
- ▶ Enter a name for the network printer under “Connector name”, e.g., printer YDP30-NET.

- ▶ Enter the network printer “HOST NAME” under “IP or host”. The HOST NAME is specified in the network printer “Network Settings” printout.
- ▶ If connection with the host name is delayed: Enter the network printer IP address under “IP or host”. The IP address is specified in the network printer “Network Settings” printout.
- ▶ Confirm the entries. To do this, press the [OK] button.
- ▶ If the IP address changes depending on the DHCP network settings: Enter the new IP address of the network printer again.

7.10.4 Configuring Print Profiles

Procedure

- ▶ Open the “Settings / Weighing and Print Profile / YDP30” menu.
- ▶ Edit a pre-configured print profile or create a new print profile by pressing the [New] button, e.g., network printer YDP30-NET.
- ▶ Follow the wizard’s instructions in the operating display for more settings.
- ▶ Confirm the entries. To do this, press the [OK] button.
- ▶ Add the created print profile to a task (see Chapter “8.7 Adding Weighing and Print Profiles to a Task”, page 63).

7.11 Downloading Additional Information

As part of the MCA firmware package on the Sartorius website, additional information is available for the device, e.g. a description of interface protocols, or a set of installation instructions for a website certificate. The information is available as a PDF file, partially in English.

Procedure

- ▶ Download the “Cubis® MCA Firmware” from the Sartorius website (www.sartorius.com).
- ▶ Find the additional information you require, e.g. the description of interface protocols.

8 Operation

8.1 Observing Warm-up Time

After connecting to the power supply, the warm-up time must be observed. This enables the device to reach its required operating temperature and ensures accurate values during weighing processes.

M If this relates to a conformity-assessed device: The weight value is marked as **invalid** during the warm-up period.

Procedure

▶ Please ensure that the warm-up time is observed (see Chapter “15.6 Wait Times”, page 82).

8.2 Manually Opening and Closing the Draft Shield

All doors can be fully or partially opened.

Procedure

▶ To open the manual draft shield, e.g. the right-hand door: Take the corresponding door handle and push backwards.
▶ To close the manual draft shield, e.g. the right-hand door: Take the corresponding door handle and push it fully forwards.

8.3 Opening and Closing the Motorized Draft Shield

8.3.1 Opening or Closing on the Operating Display

Requirements

The motorized opening and closing of the draft shield is configured (see Chapter 7.8, page 54).

Procedure

▶ Press the palm-operated key. This enables the motorized draft shield to be opened or closed motorically according to the stored setting.

8.3.2 Opening or Closing via Proximity Sensors

The proximity sensor works in “crossover mode”:

– Left proximity sensor: Opens and closes the right-hand and the upper door
– Right proximity sensor: Opens and closes the left-hand and the upper door

The sensitivity of the proximity sensors can be adjusted (see Chapter “4.13.2 “Settings” Menu”, page 36). Wearing safety gloves may inhibit the use of the proximity sensor.

If a motorized inner draft shield is mounted: The motorized inner draft shield also opens.

Requirements

A license key has been entered to use the motorized draft shield.

Procedure

▶ Hold your hand in front of the left or right proximity sensor. This enables the door to be fully opened or closed.

8.3.3 Opening or Closing a Motorized Draft Shield at the Door Handle

Procedure



▶ To open or close a door: Press on the door handle (1) of a door. The door is automatically fully opened or closed.

8.4 Leveling the Device

Leveling compensates any inclines at the device’s installation site. If leveling is necessary: The [Leveling] button appears in the weighing display and a message appears in the status center.

Procedure

▶ If the weighing display is displayed: Press the [Leveling] button.
▶ When the status center is displayed: Press the [Level] button.
▷ The Leveling Wizard opens.
▶ Follow the wizard’s instructions.

8.5 Calibration, Adjustment or Linearization

Function	Description
Calibration	The device checks how much the displayed value deviated from the specified setpoint.
Adjustment	The device corrects the deviation to the setpoint.
Linearization	The device corrects the deviation from the ideal characteristic curve and the setpoint.

The device needs to be calibrated and adjusted regularly. Various methods can be selected for this:

- Adjusting With the isoCAL Function
- Internal Calibration and Adjustment
- External Adjustment
- Internal linearization

Only internal adjustment is described below.

M External adjustment is **not** possible for conformity-assessed devices in legal metrology.

Procedure

▶ Where one of following conditions occurs, calibrate and adjust the device using the desired method:
  - Daily, every time the device is switched on
  - After every leveling
  - After changing the ambient conditions (temperature, humidity, or air pressure)
  - After setting the device up at a new installation site

8.5.1 Adjusting With the isoCAL Function

The device can be automatically internally calibrated and adjusted using the isoCAL function.

Requirements

- The isoCAL function is configured in the “Safe Weighing” menu, e.g. “On, automatic execution”.
- The conditions for triggering and executing the isoCAL function are met (see Chapter “15.10 Conditions for isoCAL Function”, page 84).

Procedure

- ▶ If the isoCAL function is set to automatic start and the isoCAL function is triggered:
  - ▷ The [isoCAL] button flashes in the operating display.
  - ▶ Wait until the isoCAL function is executed.
  - ▷ In the operating display, a time display counts down from 15 seconds to 0.
  - ▷ If **no** load change or **no** operation takes place on the device before the expiration of the time display: The isoCAL function starts.
- ▶ If the isoCAL function is set to manual start and the isoCAL function is triggered:
  - ▷ The [isoCAL] button flashes in the operating display.
  - ▶ Press the [isoCAL] button.
  - ▷ The isoCAL function starts.
- ▷ If the isoCAL function is complete: The device confirms the completion of the calibration and adjustment process with an acoustic signal, and the calibration report is displayed.
- ▶ To output the calibration report via a connector: Press the [Print Memory] button.
- ▶ To close the calibration report and return to the previous display: Press the [OK] button.

8.5.2 Internally Calibrating and Adjusting the Device

Requirement

The weighing pan is unloaded.

Procedure

- ▶ Open the main menu.
- ▶ Select the “Internal Adjustment” task.
- ▷ The internal calibration and adjustment function is executed.
- ▷ If automatic leveling is configured: The device levels itself automatically.
- ▷ If the calibration and adjustment function is complete: The device confirms the completion of the calibration and adjustment process with an acoustic signal, and the calibration report is displayed.
- ▶ To output the calibration report via a connector: Press the [Print Memory] button.
- ▶ To close the calibration report and return to the previous display: Press the [OK] button.

8.6 Creating a Task

The QAPP applications must be configured in a task so that they can be executed, e.g. defining weighing and print profiles.

Procedure

- ▶ Open the task.
- ▶ Press the [New] button.
- ▷ A list of the activated applications is displayed.
- ▶ To select an application: Press the desired application.
- ▷ The wizard for creating a new task starts.
- ▶ Follow the wizard's instructions in the operating display.

8.7 Adding Weighing and Print Profiles to a Task

Weighing or print profiles must be added to a task in order to be used. The weighing and print profiles must be configured in the Settings menu.

Procedure

- ▶ Open the task.
- ▶ Start the wizard to create or edit a task and follow the wizard's instructions in the operating display.

8.8 Weighing

When weighing chemicals, suitable vessels must be used for the material to be weighed. This makes it possible to prevent damage to the device or its accessories.

Requirements

The device is leveled and adjusted.

Procedure

- ▶ Start a task with weighing function.
- ▶ Press the [Zero] button.
- ▶ If below-balance weighing is being carried out: Suspend the sample on the hook for below-balance weighing, e.g. with a wire.

- ▶ If a vessel is being used for the sample:
  - ▶ Place the vessel for the material to be weighed onto the weighing pan.
  - ▶ Press the [Tare] button. This compensates for the weight of the vessel.
  - ▶ Place the sample in the vessel.
- ▶ If **no** vessel is used for the sample: Place the sample on the weighing pan.
- ▶ Once the weight value is displayed in black and the weighing unit is displayed: Read off the measured value.

8.9 Weighing and Printing with ID Marking

8.9.1 Saving Values for Printouts

Every lot and every sample can be assigned an ID number. The ID numbers are saved in the print memory and exported during the printing process.

Requirements

The prompt for the lot IDs and sample IDs is activated for the "Weighing" task.

Procedure

- ▶ Open the main menu.
- ▶ Select the "Weighing" task.
- ▷ The input field for the lot ID is displayed.
- ▶ If a barcode scanner is connected to the device: Scan or type the lot ID into the entry field.
- ▶ If no barcode scanner is connected to the device: Type the lot ID into the entry field.
- ▶ Press the [OK] button.
- ▷ The weighing display is displayed.

Entering a Sample ID

Procedure

- ▶ Press the [Zero] button.
- ▶ Place the sample on the weighing pan.
- ▶ Press the [Save] button.
- ▷ The input field for the sample ID is displayed.
- ▶ Type or scan the sample ID into the entry field.
- ▶ Press the [OK] button.
- ▷ The [Print memory] button appears in the operating display.
- ▷ The weight value and entered IDs are saved.

- ▶ If additional values are to be saved:
  - ▶ Remove the sample being weighed.
  - ▶ Place the next sample on the weighing pan and press the [Save] button.
  - ▶ Type or scan the sample ID into the entry field.
  - ▶ Press the [OK] button.

8.9.2 Marking Saved Values as Invalid

Procedure

- ▶ Press the [Print Memory] button.
- ▷ The print memory opens and a list of all saved values is displayed.
- ▶ Press the desired items.
- ▷ An overview of all data to be printed is displayed for the selected items.
- ▶ Press the [Yes] button.
- ▶ If a reason for the invalidity of the value needs to be displayed on the printout: Enter a reason in the entry field and press the [OK] button.
- ▶ If no reason for the invalidity of the value needs to be displayed on the printout: Press the [No] button.

8.9.3 Marking Saved Values as Valid

Procedure

- ▶ Press the [Print Memory] button.
- ▷ The print memory opens and a list of all saved values is displayed.
- ▶ Press the items which are desired to be marked as invalid.
- ▷ An overview of all data to be printed is displayed for the selected items.
- ▶ Press the [Yes] button.

8.9.4 Printing Saved Values

Procedure

▶ Press the [Print Memory] button.
▷ The print memory opens and a list of all saved values is displayed.
▶ To start the print process using the print profile embedded in the current task: Press the [Print] button.
▷ A file, e.g. a PDF file, is produced and sent to the printer defined in the print profile. For two print profiles with different connectors: The print processes will be started in succession.

8.9.5 Exiting the Task

Procedure

▶ Press the [Exit] or [Menu] button.
▷ If additional values are to be saved in the print memory:
  ▷ A dialog for prematurely ending the task appears.
  ▶ To return to the weighing display and print the saved values: Tap on the [Yes] button and print the saved values.
  ▶ To exit the task and delete the saved values from the print memory: Press the [No] button.
▷ The task ends and the main menu is displayed.

8.10 Viewing the Data Storage Device

The weight values are stored in the data storage device along with the date, time, and process number. The content of the data storage device can be searched and sorted using a filter. The data storage device has a ring buffer. This means that the oldest data records can be overwritten by new ones. The data storage device is designed for a specific number of data records (for the number of data records see Chapter “15.11 Data Storage Device”, page 84).

The operator is responsible for regularly exporting the entries for archiving in the data storage device. The available storage capacity is displayed to the operator.

M The data storage device is verifiable. The proper functioning of the data storage device must be ensured for verification by saving and checking some values.

Procedure

▶ Open the “Settings” / “Device Settings” / “Device Information” menu.
▶ Select the “View data storage device” menu item.
▷ A list of all the values saved in the data storage device is displayed.
▶ If only the values for a desired date need to be displayed:
  ▶ Press the [Filter] button.
  ▶ Type the desired date into the entry field.
  ▶ To filter the list with the date entered: Press the [OK] button.
▶ If the list needs to be searched for a particular ID:
  ▶ Press the [Search] button.
  ▶ Type the desired ID into the entry field.
  ▶ To start the search with the entered ID: Press the [OK] button.

8.11 Starting the Ionization Process

Requirements

– The application for use of the ionizer is activated.
– The [Ionizer] button appears in the operating display.

Procedure

▶ Press the [Ionizer] button.

8.12 Running Applications (Examples)

8.12.1 Executing the “Unit change” Function

The “Unit change” function enables the user to switch between the different units and resolutions defined in the weighing profile of the active task. The units and resolutions can be set at the beginning of the weighing process.

Procedure

▶ Start the desired task.
▶ Press the [Unit change] button.
▷ All units defined in the weighing profile for the active task are displayed in a list.
▷ All resolutions for the weight value defined in the weighing profile for the active task are displayed in a list.
▶ Press the desired unit.
▶ To set the resolution for the selected unit: Press the desired resolution.
▶ To confirm the selection and return to the weighing display: Press the [OK] button.
▷ The current weight value is displayed in the selected unit and resolution.

8.12.2 Executing the “Statistics” Function (from“Essentials” QAPP Package)

The “Statistics” application saves up to 1000 weight values and evaluates these statistically.

The following values are saved and exported by the statistics application:

- Number of components
- Mean value
- Standard deviation
- Variation coefficient
- Sum of all values
- Lowest value (minimum)
- Highest value (maximum)
- Spread: Difference between maximum and minimum

The “Statistics” application can be combined with the following functions:

- Unit change, only available in the weighing display, before saving the initial weight value
- ID marking
- Automatic taring

Procedure

▶ Open the main menu.
▶ Start the task for the “Statistics” application.
▶ Press the [Zero] button.
▶ Place a sample on the weighing pan.
▶ To start the recording of the statistics: Press the [Confirm] button.
▷ The current weight value is saved and the device is automatically tared.
▶ If the next value is to be saved:
  ▶ Remove the sample on the weighing pan.
  ▶ Place a new sample on the weighing pan and press the [Confirm] button.
▶ To display an overview of the saved data: Press the [Report] button.
▶ To print the current statistics: Press the [Print] button.
▶ To exit the current statistics, and to delete the saved values: Press the [Exit] button.

9 Cleaning and Maintenance

9.1 Preparing the Device for Cleaning

Procedure

- If an accessory is connected to the device: Disconnect the accessory from the device (see instructions for the accessory).
- If the upper or lower cover for the rear wall of the weighing compartment is removed: Insert the cover for the weighing compartment into the rear wall of the weighing compartment (see Chapter 6.5, page 49).

9.2 Cleaning the Device

Sartorius recommends cleaning the device at regular intervals, e.g. weekly. There must be **no** foreign substances, e.g., particles, fibers or liquids, in the area of the weighing pan.

To clean the device, you can use the cleaning utensils supplied or a moistened cloth. Cleaning of the device is described in the QAPPs for device cleaning, e.g., "Advanced Cleaning".

Procedure

- ⚠ **WARNING** Risk of injury due to electrical current! Protect the power supply unit and the power supply cable from liquids.
- Only use suitable cleaning agents and cleaning procedures and observe the product information for the cleaning agent used (for cleaning agents, see Chapter "15.16 Metrological Data", page 87).
- Open the QAPP for cleaning the device and follow the instructions in the operating display.
- If the dirt is **not** coming away easily:
  - Lightly spray the surfaces of the device with the cleaning agent.
  - Leave the cleaning agent to work (for recommended contact time, see Chapter "15.16 Metrological Data", page 87).
  - Dry the surfaces with a **non**-abrasive cloth.

9.3 Maintenance Schedule

Interval	Component	Activity	Chapter, Page
12 to 24 months, depending on operating conditions	Device	Contact Sartorius Service.	

9.4 Re-starting the System

Procedure

- ▶ Reinstall the removed components back onto the device (see Chapter 5, page 42):
  - — Draft shield
  - — Weighing Pan and Associated Components
  - — Accessories
- ▶ Connect the desired accessories (see Chapter 6.5, page 49).
- ▶ Connect the device to the power supply (see Chapter 6.4, page 49).

9.5 Performing a Software Update

A software update can be installed (software package) from a USB mass storage device using the device's USB-A or USB-C connection. An update can also be carried out from a server via other connectors of the device. The following describes the installation of a USB mass storage device, taken from the Sartorius website.

A software update can extend or change the functionality of the device. Sartorius recommends carrying out software updates:

- — Prior to starting the software updates, save the device data to a USB mass storage device.
- — If a QAPP Center update is to be carried out in addition: Perform the software update for the device first.

Two files are required for the software update: Firmware file with file ending ".upd", and checksum file with file ending ".upd.md5".

Execution of the software update and troubleshooting during this process are described in the help text "Device maintenance" (for accessing help texts, see Chapter "7.4 Using the Help Function", page 51).

Requirements

The device is connected to the power supply.

Procedure

▶ Download the software package from the Sartorius website onto the USB mass storage device. To do this, download the "Cubis® MCA Firmware" file.
▶ If this relates to a zip file: Unpack the software package on the USB mass storage device. The files must be saved in the main directory (at root level). The files must **not** be copied into a folder.
▶ Insert the USB mass storage device with the software package into the device's USB-A connection.
▶ Select the "Update Firmware" menu entry in the "Settings / Device Maintenance" menu.
▶ Select the "USB stick" as the connector and select the desired software version.
▷ The software update takes approx. 5 minutes.
▷ Once the software update is complete: The software version number is updated in the login display.

9.6 Performing a QAPP Center Update

The QAPP Center package can be installed from a USB mass storage device using the device's USB-A or USB-C connection. An update can also be carried out from a server via other connectors of the device. The following describes the installation of a USB mass storage device, taken from the Sartorius website.

Sartorius recommends the following when carrying out QAPP Center updates:

— Prior to starting the QAPP Center update, save the device data to a USB mass storage device.
— If a software update is also to be carried out: Perform the software update for the device first.

Two files are required for the QAPP Center update: QAPP Center with file ending ".qappcenter", and checksum file with file ending ".qappcenter.md5.md5".

Execution of the QAPP Center update and troubleshooting during this process are described in the help text "Device maintenance" (for accessing help texts, see Chapter "7.4 Using the Help Function", page 51).

Requirements

— The device is switched on.
— The QAPP Center package is saved on a USB mass storage device or on a server via a connector.

Procedure

- ▶ Download the QAPP Center package from the Sartorius website onto the USB mass storage device. To do this, download the "Cubis® MCA Firmware" file.
- ▶ If this relates to a zip file: Unpack the QAPP Center package on the USB mass storage device. The files must be saved in the main directory (at root level). The files must **not** be copied into a folder.
- ▶ Insert the USB mass storage device with the QAPP Center package into one of the device's USB-A connections.
- ▶ Select the "Install QAPP Center" menu entry in the "Settings" / "Device Maintenance" menu.
- ▶ Select "USB stick" as the connector.
- ▶ Select the desired package.
- ▶ Once the QAPP Center update is complete: Confirm successful installation with the [OK] button.
- ▷ Existing tasks remain unchanged after the QAPP Center update. In the existing tasks, the original QAPP versions are used.
- ▶ In order to use the new QAPP version: Create a new task with the new QAPP version. Existing tasks are **not** automatically adapted via the QAPP Center update.

10 Malfunctions

10.1 Malfunctions on the Operating Display or During Weighing Processes

Fault	Cause	Solution	Chapter, Page
The operating display is blank.	The device is disconnected.	Check whether the power supply unit is connected to the device and the power supply at the installation site.	6.3, 48; 6.4, 49
The operating display is blank or an error is displayed.	The operating display is **not** connected.	Check if the connection cable for the operating display is connected to the device.	6.1, 48
The displayed weight value changes constantly.	The device installation site is unstable.	Adjust the parameters in the "Ambient conditions" submenu.	
		Change the installation site.	
	A foreign object is positioned between the weighing pan and the housing.	Remove the foreign object.	
The weight readout displayed by the device is obviously wrong.	The device has **not** been adjusted.	Calibrate the device.	
	The device was **not** tared before weighing.	Tare the device.	
The side or upper panel of the motorized draft shield does not open or close.	The operating range of the side or upper panel of the motorized draft shield is not functional or is blocked.	Hold down the palm-operated key. If the problem continues to occur: Contact Sartorius Service.	

11 Decommissioning

11.1 Decommissioning the Device

Procedure

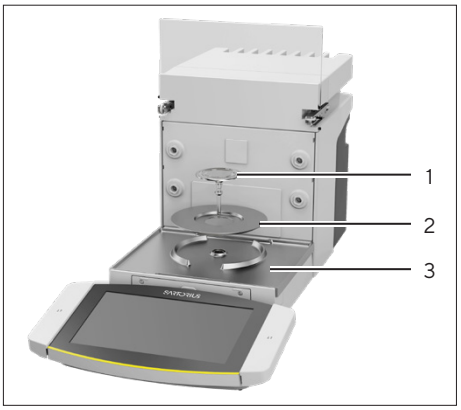
- ▶ Disconnect the device from the power supply.
- ▶ Disconnect the device from all connections at the installation site.
- ▶ If an accessory is connected to the device: Disconnect the accessory from the device (see instructions for the accessory).
- ▶ If the upper or lower cover for the rear wall of the weighing compartment is removed: Insert the cover for the weighing compartment into the rear wall of the weighing compartment (see Chapter 6.6, page 49).
- ▶ Clean the device.

11.2 Dismantling Device Parts

11.2.1 Removing the Weighing Pan and Associated Components

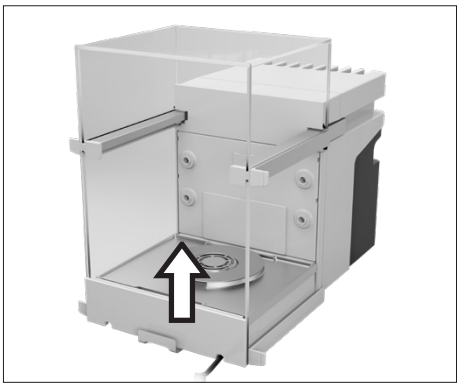
Procedure

- ▶ Open the draft shield, e.g. the right-hand door.
- ▶ Remove the weighing pan and the associated components from the device:
  - — Weighing pan (1)
  - — If there is a weighing pan with a shield plate: The shield plate (2)
  - — Base plate of weighing compartment (3)

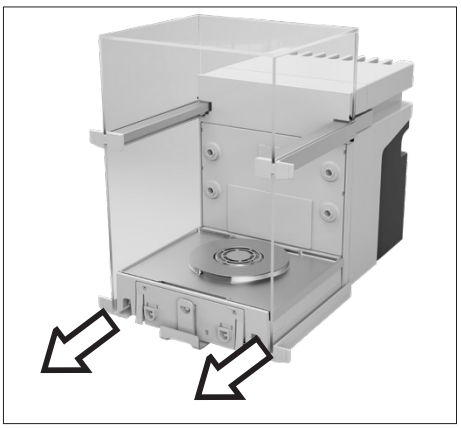


11.2.2 Dismantling the Draft Shield

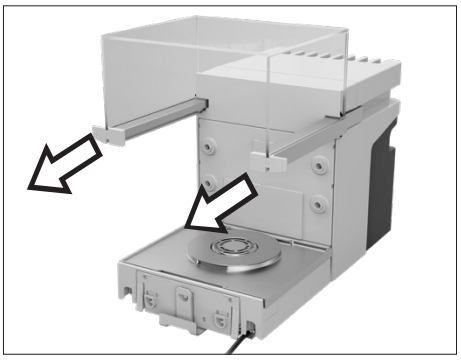
Procedure



- ▶ Remove the operating display from the device.
- ▶ Pull off the front panel of the device upwards.

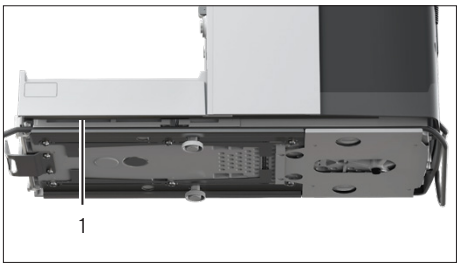


- ▶ Remove the right and left doors. To do this, pull each door forwards to pull it out of the guide rods on the device.



- ▶ Pull the upper door forwards on both sides and remove it from the guide rods on the device.

11.2.3 Dismounting the Connection Cable



Procedure

- ▶ Place the device on its side (see Chapter 5.5, page 44).
- ▶ Remove the connection cable for the operating display (1) out of the cable channel along the side of the device.
- ▶ Remove the Ethernet connection cable out of the cable channel along the side of the device.
- ▶ Place the device back onto its base.

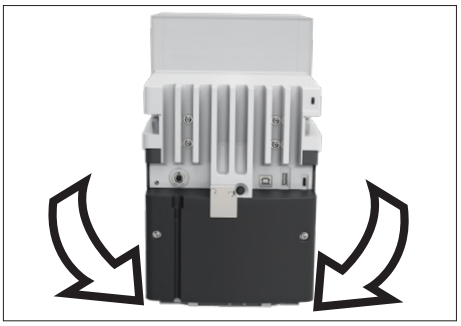
12 Transportation

12.1 Transporting the Device

Requirements

- – The device has been decommissioned.
- – The operating display is secured to the device.

Procedure



- ▶ ⚠ **CAUTION** Risk of injury when lifting or transporting!
  - ▶ Disconnect the device from all connections at the installation site.
  - ▶ Use both hands when transporting the device and setting it down. To do this, reach sideways under the device with both hands in the rear part of the device.
  - ▶ Do **not** carry the device on the draft shield or the control unit.
- ▶ For transporting over longer distances, use a trolley with soft mats. The operating display must be positioned entirely on the base.

13 Storage and Shipping

13.1 Storage

Requirements

The device has been decommissioned.

Procedure

- ▶ Store the device according to the ambient conditions (see Chapter “15.3 Ambient Conditions”, page 80).

13.2 Returning the Device and Parts

Defective devices or parts can be returned to Sartorius. Returned devices must be clean and packed in their original packaging.

Transport damage as well as measures for subsequent cleaning and disinfection of the device or parts by Sartorius are charged to the sender.

Devices contaminated with hazardous materials, e.g., harmful biological or chemical substances, will **not** be accepted for repair or disposal.

Procedure

- ▶ Decommission the device.
- ▶ Contact Sartorius Service for instructions on how to return devices or parts (please refer to www.sartorius.com).
- ▶ Pack the device and its parts in their original packaging for return.

14 Disposal

14.1 Disposing of the Device and Parts

The device and the device accessories must be disposed of properly by disposal facilities.

A lithium cell battery, type CR2032, is installed inside the device. Batteries must be disposed of properly by disposal facilities.

Procedure

- ▶ Dispose of the device in accordance with local government regulations. Inform the disposal facility that there is a lithium cell battery, type CR2032, installed inside the device.
- ▶ Dispose of the packaging in accordance with local government regulations.

15 Technical Data

15.1 Dimensions and Weights

	Unit	Value
Dimensions		
Dimensions (L x W x H)	mm	501 x 240 x 301
Dimensions (L x W x H), with operating display removed	mm	376.5 x 240 x 301
With operating display removed: Max. distance between device and operating display	cm	25
Width of door opening, with fully opened side door	mm	145
Width of door opening, with fully opened upper door	mm	145
Weighing pan dimensions (diameter)		
Semi-microbalance (models MCA125S-3 | MCA225S-3 | MCA225P-3)	mm	90
Semi-microbalance (model MCA226S-3) and high-capacity microbalance	mm	50
Weight, with draft shield mounted, approx.	kg	15

15.2 Installation Conditions

The installation site meets the requirements relating to the ambient conditions.
Access to operation-relevant parts is guaranteed.
Space Requirements
Suitable for the dimensions of the device and the associated components.
Setup Surface
Suitable for the weight of the device and the associated components.
Stable, fully flat, even, low vibrations
Not directly against a wall
No heat from heating systems or direct sunlight
No drafts from open windows, AC systems, or doors
No vibrations
No “heavy traffic” areas (personnel)
No electromagnetic fields
No dry air
When setting up the device in an isolator with protective argon atmosphere
Power supply unit is positioned outside the isolator and the argon atmosphere

15.3 Ambient Conditions

	Unit	Value
Installation site		
Standard laboratory rooms		
Installation site according to IEC 60259-1, maximum altitude above sea level	m	3000
For indoor use only		
Air pressure, maximum	mbar	600 – 1200
Temperature		
In operation	°C	+5 – +40
In operation, with isoCAL function*	°C	+10 – +30
In operation, without isoCAL function*	°C	+17 – +27
In operation, with conformity-assessed devices: see specifications on the device ID label		
During transport	°C	-20 – +60
Relative humidity		
For temperatures up to 31°C	%	80
Then linear decrease from 80% at 31°C to 50% at 40°C		
* Scope of application as per Directive 2014/31/EU		

15.3.1 Protection Class

IP Protection: Protected against dust and water (IP30)

15.4 Storage Conditions

	Unit	Value
Temperature	°C	-20 – +60
Dry		

15.5 Electrical Data

15.5.1 Power Supply

	Unit	Value
Power supply only permitted using Sartorius power supply unit		
Sartorius network device, type 1000099844		
Power supply at installation site (primary)		
AC voltage	V	100 – 240 ± 10%
Frequency	Hz	50 – 60
Current consumption, maximum	A	0.8
Overvoltage category according to IEC 60,664-1		II
Pollution level according to IEC 60664-1		2
Device power supply (secondary)		
Max. DC voltage at 4.3 A output current	V	15 ±15%
Power, maximum	W	64.5
Power supply cable		
Power supply cable according to IEC 60320-1 C13 | C14, with IEC plug, 3-pin, and with country-specific power plug		

15.5.2 Safety of Electrical Equipment

According to EN 61010-1 / IEC 61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General Requirements

15.5.3 Electromagnetic Compatibility

Interference Immunity
Suitable for use in industrial areas
Transient emissions
Class B; suitable for use in residential areas and areas that are directly connected to a low voltage network that (also) supplies residential buildings.

15.5.4 Interfaces

USB-A connection
Communication: USB host (master)
USB-B connection
Communication: USB device (slave)
Type of interface: Virtual serial interface (virtual COM-port, VCP) and “PC direct” communication
USB-C connection
Communication: Downstream-facing port (DFP), USB host (Master)
Communication: RS232 connection with accessory YCC-USB-C-D09M

15.6 Wait Times

	Unit	Value
Acclimatization: Time period between unpacking and connecting to a power supply	h	2
Warm-up (reaching operating temperature): Time period between connecting to the power supply and carrying out weighing tasks	h	1

15.7 Model-specific and Licensable Device Functions

	Semi-microbalance	High-capacity Microbalance
Model-specific device functions		
Proximity sensor	**Not** available	Available
Licensable device functions		
Use of motorized draft shield	Licensable	Licensable
Use of ionizer	Licensable	Licensable
Use of QAPP-controlled functions for specific tasks on the device, e.g., access management, electronic signature, device cleaning	Licensable	Licensable

15.8 Ionizer when Using Device in an Isolator with Protective Argon Atmosphere

Requirements for the ionizer: Deactivated (in the operating display).

15.9 Recommended Calibration Weight

15.9.1 Semi-microbalance

Models MCA226S-3 | MCA225S-3 | MCA225P-3 | MCA125S-3

		MCA226S-3	MCA225S-3	MCA225P-3	MCA125S-3
	Unit	**Value**	**Value**	**Value**	**Value**
Resolution	mg	0.005	0.01	0.01 | 0.1	0.01
Supported load	g	220	220	120 | 220	120
Recommended accuracy class		E2	E2	E2	E2
External test weight	g	200	200	200	100

15.9.2 High-capacity Microbalance

Models MCA116S-3 | MCA66S-3 | MCA66P-3

		MCA116S-3	MCA66S-3	MCA66P-3
	Unit	**Value**	**Value**	**Value**
Resolution	mg	0.002	0.001	0.01 | 0.001
Supported load	g	111	61	61 | 12
Recommended accuracy class		E2	E2	E2
External test weight	g	100	50	50

Models MCA36S-3 | MCA36P-3

		MCA36S-3	MCA36P-3
	Unit	**Value**	**Value**
Resolution	mg	0.001	0.01 | 0.001
Supported load	g	32	32 | 10
Recommended accuracy class		E2	E2
External test weight	g	20	20

15.10 Conditions for isoCAL Function

	Unit	Value
Possible Conditions for Triggering the isoCAL Function		
In the event of a temperature change	K	1.5
After a time interval	h	12
After successful leveling		
Only conformity-assessed devices: After interrupting the power supply		
Required Conditions for Executing the isoCAL Function		
Operating display is in weighing mode (**not** in menu)		
Alphanumeric inputs are **not** active.		
Min. time period without entry on the device	min	2
Min. time period with unchanged loading of the weighing pan	min	2
Max. loading of weighing pan, high-capacity	%	2

15.11 Data Storage Device

	Value
Maximum number of data records	150,000

15.12 Integrated Clock

	Unit	Value
Maximum deviation per month (RTC)	s	30

15.13 Backup Battery

	Unit	Value
Lithium battery, type CR2032		
Service life at room temperature, minimum	Years	10

15.14 Materials

Housing
Stainless steel 1.4401 | 1.4404, Aluminum
Plastic PBT | PA
Float glass Optiwhite
Control unit
Aluminum, painted
Plastic PBT | PP
Float glass
Weighing pan
Top section: Titanium
Bottom section: Stainless steel, zinc oxide, brass

15.15 Cleaning Agents and Cleaning Procedures

15.15.1 Approved Cleaning Agents

	Cleaning agents and concentration					
Device Components	Ethanol, 70%	Isopropanol, 70%	Citric acid, 10%	Diluted hydrogen peroxide, 3.5%	Sodium hydroxide, 32%	Ecolab™ Klercide Sporicidal Chlorine
Draft shield						
Top door	x	x	xx	xx	-	xx
Left and right doors	x	x	xx	xx	-	x
Front panel	x	x	x	x	-	x
Components in the weighing compartment						
Weighing pan	x	x	x	x	xx	x
Shield plate	x	x	x	x	xx	x
Base plate of weighing compartment (removable)	x	x	x	x	xx	x
Rear wall of weighing compartment	xx	x	x	x	x	x
Weighing compartment support (holds the base plate of the weighing compartment)	x	x	x	x	x	x
Control unit with operating display, without palm-operated key	x	x	x	x	x	x
Palm-operated key	x	x	x	x	-	x
Back of the device						
Plastic surfaces	x	xx	x	x	x	x
Cooling element	x	xx	x	x	x	x

x Suitable
xx Suitable, may affect visual appearance of the device, does not impact mechanical stability
- **Not** suitable

15.15.2 Approved cleaning process

Wiping the device surfaces with a lightly moistened cloth		
Spraying the device surfaces with cleaning fluid, contact time	Min	5–10

15.16 Metrological Data

15.16.1 Semi-microbalance

Models MCA226S-3 | MCA225S-3 | MCA225P-3 | MCA125S-3

		MCA226S-3	MCA225S-3	MCA225P-3	MCA125S-3
	Unit	**Value**	**Value**	**Value**	**Value**
Scale interval (d)	mg	0.005	0.01	0.01 | 0.1	0.01
Maximum capacity (Max)	g	220	220	120 | 220	120
Repeatability at 5 % load					
Standard deviation of the load values, tolerance	mg	0.01	0.015	0.015	0.015
Standard deviation of the load values, typical value	mg	0.005	0.007	0.007	0.007
Repeatability at approx. maximum capacity					
Standard deviation of the load values, tolerance	mg	0.025	0.025	0.04	0.025
Standard deviation of the load values, typical value	mg	0.015	0.015	0.02	0.015
Linearity deviation					
Tolerance	mg	0.07	0.07	0.1	0.07
Typical value	mg	0.03	0.03	0.03	0.03
Deviation when load is off-center, positions according to OIML R76					
Test weight	g	100	100	100	50
Tolerance	mg	0.12	0.15	0.2	0.12
Typical value	mg	0.04	0.05	0.06	0.04
Sensitivity drift of +10 °C to +30 °C	ppm/K	1	1	1	1
Tare-maximum capacity: Less than 100 % of maximum capacity					
Accuracy class according to Directive 2014/31/EU		I	I	I	I
Verification scale interval (e) according to Directive 2014/31/EU	mg	1	1	1	1
Minimum load (Min) according to Directive 2014/31/EU	mg	1	1	1	1
Minimum initial weight according to USP (United States Pharmacopeia), Chap. 41					
Optimum minimum initial weight	mg	4.1	8.2	8.2	8.2
Typical stabilization time	s	1.5	1.5	1.5	1.5
Typical measurement time	s	6	4	4	4

15.16.2 High-capacity Microbalance

Models MCA116S-3 | MCA66S-3 | MCA66P-3

		MCA116S-3	MCA66S-3	MCA66P-3
	Unit	**Value**	**Value**	**Value**
Scale interval (d)	mg	0.002	0.001	0.001 | 0.01
Maximum capacity (Max)	g	111	61	12 | 61
Repeatability at 5 % load				
Standard deviation of the load values, tolerance	mg	0.004	0.0015	0.002
Repeatability at approx. maximum capacity				
Standard deviation of the load values, tolerance	mg	0.01	0.004	0.01
Standard deviation of the load values, typical value	mg	0.005	0.0025	0.006
Linearity deviation				
Tolerance	mg	0.03	0.02	0.02
Typical value	mg	0.02	0.005	0.008
Deviation when load is off-center, positions according to OIML R76				
Test weight	g	50	20	20
Tolerance	mg	0.03	0.02	0.03
Typical value	mg	0.02	0.01	0.012
Sensitivity drift of +10 °C to +30 °C	ppm/K	1	1	1
Tare-maximum capacity: Less than 100 % of maximum capacity				
Accuracy class according to Directive 2014/31/EU		I	I	I
Verification scale interval (e) according to Directive 2014/31/EU	mg	1	1	1
Minimum load (Min) according to Directive 2014/31/EU	mg	0.2	0.1	0.1
Minimum initial weight according to USP (United States Pharmacopeia), Chap. 41				
Optimum minimum initial weight	mg	1.64	0.82	0.82
Typical stabilization time	s	3.5	3.5	3.5 | 2.5
Typical measurement time	s	8	10	10 | 6

Models MCA36S-3 | MCA36P-3

		MCA36S-3	MCA36P-3
	Unit	Value	Value
Scale interval (d)	mg	0.001	0.001 | 0.01
Maximum capacity (Max)	g	32	10.1 | 32
Repeatability at 5 % load			
Standard deviation of the load values, tolerance	mg	0.0015	0.002
Repeatability at approx. maximum capacity			
Standard deviation of the load values, tolerance	mg	0.0025	0.007
Standard deviation of the load values, typical value	mg	0.0018	0.005
Linearity deviation			
Tolerance	mg	0.012	0.015
Typical value	mg	0.005	0.006
Deviation when load is off-center, positions according to OIML R76			
Test weight	g	10	10
Tolerance	mg	0.015	0.02
Typical value	mg	0.006	0.008
Sensitivity drift of +10 °C to +30 °C	ppm/K	1	1
Tare-maximum capacity: Less than 100 % of maximum capacity			
Accuracy class according to Directive 2014/31/EU		I	I
Verification scale interval (e) according to Directive 2014/31/EU	mg	1	1
Minimum load (Min) according to Directive 2014/31/EU	mg	0.1	0.1
Minimum initial weight according to USP (United States Pharmacopeia), Chap. 41			
Optimum minimum initial weight	mg	0.82	0.82
Typical stabilization time	s	3.5	3.5 | 2.5
Typical measurement time	s	10	10 | 6

16 Accessories and Spare Parts

16.1 Accessories

This table contains a selection of the accessories that can be ordered. For information on other products, please contact Sartorius.

Article	Quantity	Order Number
Thermal transfer | thermal printer for GLP | GMP printouts on continuous paper and labels	1	YDP30 | YDP30-NET
Wireless nano USB adapter for company network or independent Wi-Fi network, e.g., operation with a Sartorius network printer YDP30-NET (only for Europe)	1	YWLAN01MS
Wireless nano router, e.g., for Sartorius network printer YDP30-NET for operation in an independent Wi-Fi network (only for Europe)	1	YWLAN02MS
Connection cable for operating display, length 3 m	1	YCC01-MCD3-3
Connection cable with RS232 adapter, USB-C to RS232, 9-pin	1	YCC-USB-C-D09M
Ethernet extension, 1 m	1	YCC-RJ-CAT7
Motion sensor with USB connection cable	1	YHS02USB
Inner draft shield		
Motorized	1	YDS125A
Manual	1	YDS125U
Climate module (connection to rear wall of weighing compartment)		
For determining temperature, air humidity and air pressure	1	YCM20MC
For determining temperature, air humidity and air pressure, with DAkkS calibration certificate	1	YCM20MC-DAKKS
Climate module tower (USB connection), for determining temperature, air humidity and air pressure	1	YCM20MC tower
Glass insert to reduce the height of the weighing compartment	1	YDSHR
Sample holder		
Configurable for sample bulbs of up to 50 mL	1	YSH02-3
For Safe-Lock® 2 mL sample tubes	1	YSH14-3
For Safe-Lock® 5 mL sample tubes	1	YSH18-3
For bottles of up to 40 mL	1	YSH22-3
For coronary stents	1	YSH12-3
For syringes	1	YSH46-3
Filter weighing pan, including protective plate for rear wall of weighing compartment		
For filters up to 75 mm	1	YSH35-3
For filters up to 150 mm	1	YSH30-3

Article	Quantity	Order Number
Weighing scoop holder	1	YSH26-3
Weighing pan		
90 mm weighing pan, slotted	1	YWP10-3
50 mm weighing pan, slotted, with protective plate for 50 mm weighing pan	1	YWP09-3
Dust cover	1	YDCC2MCA
Under-pan hook for below-balance weighing	1	69MS0307
Density determination set for solids and liquids	1	YDK03MS
Pipette calibration kit for semi-microbalances and high-capacity microbalances	1	YCP07MC
Sartorius Wedge, software for data communication between the PC and device	1	YSW02
Additional operating display (second display)	1	YSD01
Weighing table		
Weighing table made from synthetic stone, with vibration dampening	1	YWT03
Weighing table made from wood with synthetic stone	1	YWT09
Wall console	1	YWT04
Weighing scoop made from chrome-nickel steel, (90 mm x 32 mm x 8 mm)	1	641214
Cleaning kit	1	YCK01MC

16.2 Spare Parts

This table contains a selection of the spare parts that can be ordered. For information on other products, please contact Sartorius.

Article	Quantity	Order number
Left door for draft shield (external draft shield)	1	YCCDSL
Right door for draft shield (external draft shield)	1	YCCDSR
Upper door for draft shield (external draft shield)	1	YCCDSU
Front panel for draft shield (external draft shield)	1	YCCDSF

17 Sartorius Service

Sartorius Service is at your disposal for queries regarding the device. Please visit the Sartorius website (www.sartorius.com) for information about the service addresses, services provided, or to contact a local representative.

For inquiries about the system or when contacting Sartorius Service in the event of a malfunction, ensure that you have the device information, e.g., serial number, hardware, firmware, configuration, close at hand so you can pass it on to Sartorius Service. Consult the information on the manufacturer's ID label and in the "Device Information" menu.

18 Conformity Documents

The attached documents declare the conformity of the device with the designated directives or standards.

M

The Declaration of Conformity supplied here is for conformity-assessed (verified) balances for use in the EEA. Please keep the enclosed Conformity Declaration in a safe place.

19 Trademark Information

Ecolab™ Klercide is a registered trademark of Ecolab Europe GmbH.

Original

EG-/EU-Konformitätserklärung
EC / EU Declaration of Conformity

Hersteller
Manufacturer

Sartorius Lab Instruments GmbH & Co. KG
37070 Goettingen, Germany

erklärt in alleiniger Verantwortung, dass das Betriebsmittel
declares under sole responsibility that the equipment

Geräteart
Device type

Elektronische Semi-Mikrowaage und Hochlast-Mikrowaage | Netzgerät | Bewegungssensor| Klimamodul | Automatischer motorischer Innenwindschutz
***Semi-micro balance and high capacity micro balance* | *Power Supply* | *Motion sensor* | *Climatic module* | Automatic motorized inner draft shield**

Modelle
Models

MCAvw-3x-**D**, **MCE**vw-3x-**D** | **ZAG65US15** | **YHS02SB** | **YCM20MC, YCM20MC-DAKKS | YDS125A**

v = 36, 66, 116, 226, 225, 125
w = S, P;

x = S00, S01, CEU, CFR, CCN, OBR, OIN;

in der von uns in Verkehr gebrachten Ausführung allen einschlägigen Bestimmungen der folgenden Europäischen Richtlinien entspricht und die anwendbaren Anforderungen folgender harmonisierter Europäischer Normen einschließlich deren zum Zeitpunkt der Erklärung geltenden Änderungen erfüllt:

in the form as delivered fulfils all the relevant provisions of the following European Directives and meets the applicable requirements of the harmonized European Standards including any amendments valid at the time this declaration was signed listed below:

	EMV | EMC	RoHS	Maschinen | Machines
Richtlinie *Directive*	2014/30/EU	2011/65/EU	2006/42/EG 2006/42/EC
Norm(en) *Standard(s)*	EN 61326-1:2013	EN IEC 63000:2018	EN ISO 12100:2010 EN 61010-1:2010 +A1:2019 +AC2014-04

Die Person, die bevollmächtigt ist, die technischen Unterlagen zusammenzustellen:
The person authorised to compile the technical file: Sartorius Lab Instruments GmbH & Co. KG
Electronics & Product Compliance
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Sartorius Lab Instruments GmbH & Co. KG
Goettingen, **2023-04-20**

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*: angewandte, jedoch für Maschinen nicht harmonisierte Norm /
applied standard, which however is not harmonized for machines

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Original

UK Declaration of Conformity

Manufacturer Sartorius Lab Instruments GmbH & Co. KG
37070 Goettingen, Germany

declares under sole responsibility that the equipment

Device type **Semi-micro balance and high capacity micro balance | Power Supply | Motion sensor | Climatic module | Automatic motorized inner draft shield**

Models **MCA**vw-3x-**D**, **MCE**vw-3x-**D** | **ZAG65US15** | **YHS02SB** | **YCM20MC, YCM20MC-DAKKS | YDS125A**

v = 36, 66, 116, 226, 225, 125
w = S, P;

x = S00, S01, CEU, CFR, CCN, OBR, OIN;

in the form as delivered fulfils all the relevant provisions of the following British Regulations and meets the applicable requirements of the British Designated Standards including any amendments valid at the time this declaration was signed listed below:

The Electromagnetic Compatibility Regulations 2016
UK Statutory Instruments 2016 No. 1091

BS EN 61326-1:2013

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012; UK Statutory Instruments 2012 No. 3032

BS EN IEC 63000:2018

The Supply of Machinery (Safety) Regulations 2008
UK Statutory Instruments 2008 No. 1597

BS EN ISO 12100:2010, BS EN 61010-1:2010+A1:2019*)

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Goettingen, 2023-04-20

Mario Hespe
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*: applied standard, which however is not harmonized for machines

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20 Index

A

Accessories ... 11, 19, 90
  Connecting ... 49
Acclimatization ... 47, 82
Adjustment ... 61
  Calibration weight ... 83
  Internal ... 62
  With isoCAL Function ... 61
Ambient conditions ... 80
Application ... 32
  Examples ... 67
Assigning a Password ... 54

B

Backup Battery ... 84

C

Cable. See Connection cable
Calibration ... 61
Calibration weight ... 83
Cleaning
  Cleaning the Device ... 69
  Preparation ... 69
Cleaning Agents and
Cleaning Procedures ... 86
Clock ... 84
Conduct in an Emergency ... 11
Configuring Print Profiles ... 58
Conformity ... 92
Conformity-assessed Devices ... 19
Connection cable
  For Ethernet ... 45, 48
  For operating display ... 44, 48
  Risk of tripping ... 12
Connections ... 16
Control unit
  Attaching or removing ... 43
  Connection cable for
  operating display ... 44, 48
  Setting up ... 47
Covers ... 18

D

Data storage device ... 84
Decommissioning ... 74
Device ... 13
  Components in the Weighing
  Compartment ... 15
  Connections ... 16
  Draft shield ... 14
  Start-up and Shut-down ... 50
Dimensions and Weights ... 79
Disposal ... 78
Draft shield
  Dismantling ... 75
  Mounting ... 46
  Overview ... 14
Draft shield, manual
  Opening and Closing ... 59
Draft shield, motorized
  Opening or Closing ... 59
  Saving Functions ... 54

E

Electrical Equipment
  Connection Point for Power
  Supply Unit and
  Power Supply Cable ... 11
  Interfaces ... 82
  Power consumption ... 81
  Power supply ... 81
  Power Supply Unit and
  Power Supply Cable ... 11
  Safety and Electromagnetic
  Compatibility ... 81
Electromagnetic compatibility ... 81
Emergency ... 11

F

Foreseeable Misuse ... 9
Functionality of the Device Parts ... 10

G

Getting Started ... 48
Glass Breakage ... 12

I

Installation ... 42
Installation Conditions ... 79
Intended Use ... 9
  Modifications to the Device ... 9
  Operating Conditions
  for the Device ... 9
  Repairs and Maintenance
  on the Device ... 10
Interfaces ... 82
Ionizer
  Activating, Deactivating,
  or Configuring ... 53
  Starting the
  Ionization Process ... 67
isoCAL Function
  Adjustment ... 61
  Conditions ... 84
  Switch-off ... 53

L

Leveling ... 60
Licensable device functions ... 32
Linearization ... 61

M

Maintenance ... 10
Maintenance Schedule ... 70
Materials ... 85
Metrological data ... 87
Misuse ... 9
Models ... 7
Modifications to the Device ... 9

O

Opening the Help Function ... 51
Operating Conditions
for the Device ... 9
Operation ... 59
Operation in an Isolator
with Protective Argon
Atmosphere ... 82

P

Performing a QAPP Center Update 71
Performing a Software Update 70
Performing System Settings 51
Placing device on its side and installing 44
Power consumption 81
Power supply 49, 81
Power supply unit and power supply cable
- Mounting 48
- Power supply 49

Power Supply Unit and Power Supply Cable 11
- Connection Point 11

Print
- Marking Values as Invalid 65
- Marking Values as Valid 65
- Printing Values 66
- Saving Values for Printout 64

Protection class 80
Protective Caps 18

Q

Qualifications of Personnel 10

R

Related Documents 7
Repairs and Maintenance on the Device 10
Re-starting the System 70

S

Safety Information on the Device ... 10
Safety of Electrical Equipment 81
Sartorius Service 92
Scope of Delivery 42
Selecting an Installation Site 43, 79, 80
Setting up a Network Printer 56
Spare Parts 91
Start-up 50
Storage and Shipping 77
Storage Conditions 80
Switch-off 50
Symbols on the Device 10
Symbols Used 8

T

Target Groups
- Description 7
- Qualifications of Personnel 10

Task 32
- Creating or Adding 63
- End 66

Technical Data 79
Transport 12, 76

U

Unpacking 43
Update
- QAPP Center 71
- Software 70

User Login or Logout 50

V

Viewing the Data Storage Device 66

W

Wait times 82
Warm-up Time 59, 82
Weighing 63
Weighing pan 15
- Inserting 45
- Removing 74

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