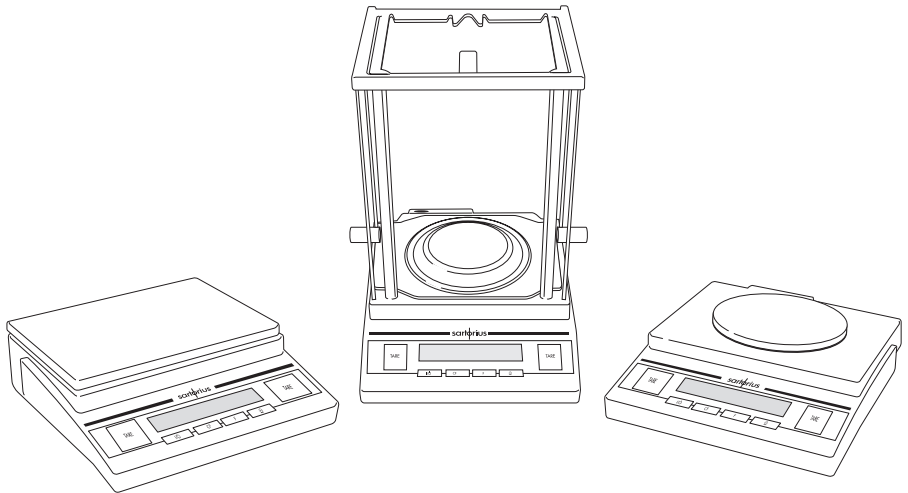


Sartorius Basic^{lite}, Sartorius Gem^{lite}

Electronic Analytical and Precision Balances
and Gold Scales with EC Type Approval
Installation and Operating Instructions



Intended Use

The Basic^{lite} Series and Gem^{lite} Series from Sartorius offer precision balances/scales with capacities ranging from 0.1 mg to 1,200 g.

These balances/scales guarantee reliable weighing results through the following features:

- Efficient filtering-out of unfavorable ambient conditions such as vibrations, drafts, etc.
- Reproducible results
- Rugged, durable weighing system

Basic^{lite} balances and Gem^{lite} scales save work and speed up simple routine applications through:

- Ultrafast response times
- Easy operation

You can also choose from the following extra functions for simple applications:

- Toggling between weight units
- Nettotal formulation (2nd tare memory)
- Counting
- Weighing in percent
- Averaging

Initial Verification

Models BL120-OCE and BL1200-OCE:

These models are supplied for use in legal metrological (legal-for-trade) applications in Germany and already verified ex factory. For use in legal metrology outside Germany, the balances/scales must be initially verified for the respective country at the place of installation. In such a case, please contact your Sartorius representative about the verification procedure.

Models BL210-S-OCE, BL120S-OCE, BL605S-OCE and GC503-OCE

These models are verifiable for use in legal metrology upon delivery. You can use the balance/scale immediately after:

- Warming up phase (see page 9)
- Adjustment (see page 10)

Always calibrate/adjust the balance/scale with the weight supplied at regular intervals and after setting it up in a new location.

Models BL510-OCE and GM512-OCE

These models are verifiable for use in legal metrology upon delivery.

- Before starting operations, perform an inspection of the delivery status. The green “M” must be affixed to the scale/balance (see also the chapter “Information on EC Verification”). The scale/balance is immediately ready for use in legal-for-trade applications.

If the green “M” is not affixed to a model acceptable for legal metrological verification:

Initial verification must be done at the place of installation by an authorized Sartorius representative or a local verification officer.

The balances/scales must be adjusted externally at the place of installation.

For further informations please refer to the section on “Information on Verified Balances/Scales” in the “Overview” chapter.

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Warning and Safety Information

Read these operating instructions thoroughly before using your balance/scale to prevent damage to the equipment. Keep these instructions in a safe place.

Follow the instructions below to ensure safe and trouble-free operation of your balance/scale:

- ⚠ Make sure that the voltage rating printed on the AC adapter is identical to your local line voltage
- ⚠ Do not use this balance/scale in a hazardous area/location
- The only way to turn the power off completely is to disconnect the AC adapter
- Connect only Sartorius accessories and options, as these are optimally designed for use with your balance/scale
- Protect the AC adapter from contact with liquids

Do not open the balance/scale housing. If the seal is broken, this will result in forfeiture of all claims under the manufacturer's warranty.

Getting Started

Warranty

Do not miss out on the benefits of our full warranty. Complete the warranty registration card, and return the card to your Sartorius office or dealer.

Storage and Shipping Conditions

Do not expose the balance/scale to shocks, vibrations, moisture or extreme temperatures.

Unpacking the Balance/Scale

- After unpacking the balance/scale, check it immediately for any visible damage as a result of rough handling during shipment.
- If you see any sign of damage, proceed as directed in the chapter entitled "Care and Maintenance," under the section on "Safety Inspection."

Save the box and all parts of the packaging until you have successfully installed your balance/scale.

Only the original packaging provides the best protection for shipment.

Before packing your balance/scale, unplug all connected cables to prevent unnecessary damage.

Equipment Supplied

The equipment supplied includes the components listed below:

- Balance/scale
- Weighing pan/load plate
- Pan support (only with models that have a round weighing pan)
- Fastener for an antitheft locking device
- AC adapter
- Operating instructions

Additional parts only for BL210S, BL120S, BL60S, GC503:

- Shield ring
- Shield plate
- Dust cover
- Calibration weight
- Gem tray (only for GC503)

Installation Instructions

Your balance/scale is designed to provide reliable weighing results under normal ambient conditions. When choosing a location to set up your balance/scale, observe the following so that you will be able to work with added speed and accuracy:

- Set up the balance/scale on a stable, even surface
- Avoid placing the balance/scale in close proximity to a heater or otherwise exposing the balance/scale to heat or direct sunlight
- Protect the balance/scale from drafts that come from open windows or doors
- Avoid exposing the balance/scale to extreme vibrations during weighing

- Protect the balance/scale from aggressive chemical vapors
- Do not expose the balance/scale to extreme moisture over long periods

Conditioning the Balance/Scale:

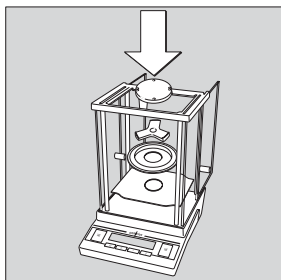
Moisture in the air can condense on the surfaces of a cold balance/scale whenever it is brought into a substantially warmer place. If you transfer the balance/scale to a warmer area, make sure to condition it for about 2 hours at room temperature, leaving it unplugged from AC power.

Seal on Balances/Scales for accuracy class **II** and **III** :

EU legislation requires that a control seal be affixed to the verified balance/scale. The control seal consists of a sticker with the "Sartorius" logo. This seal will be irreparably damaged if you attempt to remove it. If the seal is broken, the validity of the verification will become void, and you must have your scale re-verified.

Setting Up the Balance/Scale

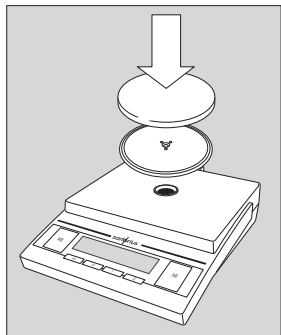
Balances/Scales with an analytical draft shield chamber



● Place the components listed below on the weighing chamber in the order given:

- Shield plate
- Shield ring
- Pan support
- Weighing pan/load plate
- Gem tray (only for GC503)

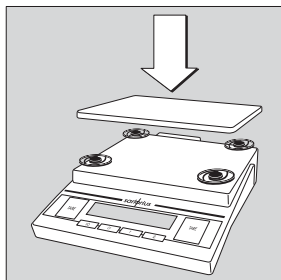
Balances/Scales with a Round Weighing Pan



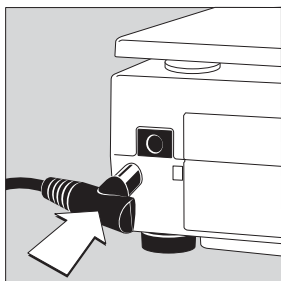
● Place the components listed below on the balance in the order given:

- Pan support
- Weighing pan/load plate

Balances/Scales with a Rectangular Weighing Pan



● Place the weighing pan/load plate on the balance/scale



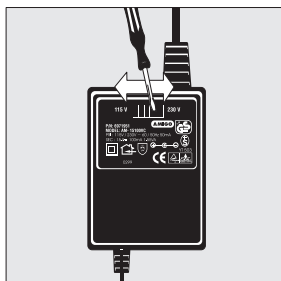
Connecting the Balance/Scale to AC Power/ Safety Precautions

Use only original Sartorius AC adapters:

- for Europe: 69 71948
- for the USA: 69 71947
- for the RSA: 69 71949
- for Australia: 69 71950

- Insert the right-angle plug into the jack
- The AC adapter rated to Class 2 can be plugged into any wall outlet without requiring any additional safety precautions

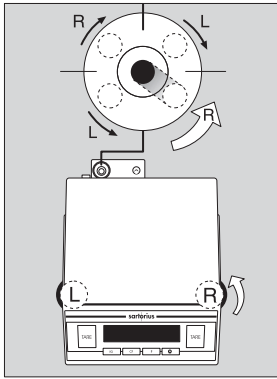
The ground is connected to the balance/scale housing, which can be additionally grounded for operation.



Selecting the Voltage

To select the voltage, use the following original AC adapters:

- AC adapter, TNG8, order no. 6971951 (universal)
- or
- AC adapter, TNG8, order no. 6971952 (for Great Britain)
- Switch for changing from 230 V to 115 V



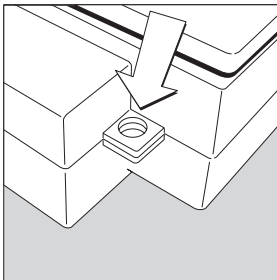
Leveling the Balance/Scale

Level the balance/scale any time you set it up in a new location.

Use only the 2 front feet of the balance/scale for leveling.

- Turn the 2 rear feet until they are in position (only for balances/scales with rectangular weighing pans/load plates)
- Turn the 2 front feet as shown here in the illustration until the air bubble is centered in the level indicator

> In most cases, this will require several adjustment steps



Antitheft Locking Device

To fasten an antitheft locking device, use the lug located on the rear panel of the balance/scale.

- Secure the balance/scale at the place of installation, e.g., with a chain or a lock.

Operating the Balance/Scale

Basic Weighing Function

Available Features

- Taring the balance/scale
You can tare the balance/scale within the entire weighing range.

Preparation

- Turn on the balance/scale: Press 
- To change configurations:
See the chapter entitled "Configuring the Balance/Scale"
- To load factory-set configurations:
See "Configuring the Balance/Scale," parameter 9 – 1
- To tare the balance/scale: Press 

Additional Functions:

- To turn off the balance/scale: Press 

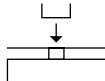
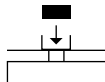
Warmup Time

- Before connecting the balance/scale to the line current for the first time, allow it to warm up for at least 24 hours. Do not use the balance/scale until it has reached the proper operating temperature.
- BL210S, BL120S, BL60S, GC503:
Whenever the balance/scale is disconnected from the line current, allow it to warm up for at least 10 minutes. Once the balance/scale has warmed up completely, adjust it with the weight supplied.

Example

Basic weighing

Menu code settings: Factory-set codes

Step	Key (or instruction)	Display
1. Turn on the balance/scale		
> Self-test is performed		
3. Place container on balance scale (here: 52 g)		+ 52.0 g
4. Tare the balance/scale		0.0 g
5. Place sample in container on balance/scale (here: 150.2 g)		+ 150.2 g

Calibration/ Adjustment*

Always calibrate/adjust the balance/scale after setting it up in a new location.

Available Features

Calibration/adjustment can only be performed when:

- There is no load on the balance/scale
- The balance/scale is tared
- The internal signal is stable

If these conditions are not met, an error message is displayed. The weight required for calibration/adjustment is displayed.

Calibration/Adjustment for Verified Balances/ Scales of Accuracy Class (II) and (III)

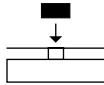
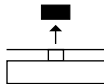
- The external calibration function is blocked (sealed switch cover)
- > You can only perform external calibration by removing this seal. In this case, verification is no longer valid and you must have your balance/scale re-verified.

* "Calibration" technically means to determine the difference between the balance/scale readout and the actual weight on the pan to determine the accuracy. Adjustment means to bring a balance/scale into the state of accuracy required for its use. Therefore, "calibration," as used in this manual, actually means "adjustment."

Example

Calibrate the balance/scale

Menu code settings: Factory-set codes

Step	Key (or instruction)	Display
1. Turn on the balance/scale		
2. To access the calibration switch: open the cover plate located below the balance/scale; flip the switch		
3. Tare the balance/scale		0.0 g
4. Begin calibration Calibration weight is displayed without weight unit (here: 1000 g)	 > 2 sec.	+ 1000.0
5. Place the indicated calibration weight on the balance/scale		1000.0
After calibration, the calibration weight is displayed with wt. unit		+ 1000.0 g
6. Remove the calibration weight		0.0 g

Application Programs

All application programs can also be used in legal metrology. Calculated weight values are indicated by one of the following symbols displayed to the right of the numerical value:

- Percentage = %
- Piece count = pcs
- Other calculated value = o

The application programs for calibrated balances/scales not intended for use in legal metrology are labeled with a triangle # in the right side of the display (e.g. averaging).

Toggle between Weight Units (only for BL and GC models)

With this application program you can toggle the display of a weight value back and forth between two weight units.

Configure the “Toggle weight units” application in the operating menu:
See “Configuring the Balance/Scale” menu code 2.1.2 Toggle weight units

Menu code	Unit	Conversion factor	Abbr. on printout
1.7.2o 3.1.2o	Grams	1.000	g
1.7.3 ¹ 3.1.3 ¹	Kilograms	0.001	kg
1.7.4 ¹ 3.1.4 ¹	Carats	5.000	ct

o = Factory setting

Function

- To toggle the display between the 1st and 2nd weight units:
Press the F key

¹ Changes in settings depend on the model.

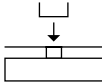
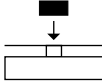
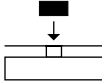
Net-Total Formulation/Second Tare Memory

With this application program you can weigh in components for formulation of a mixture.

Preparation

Configure the Net-total formulation/Second tare memory application in the operating menu: See "Configuring the Balance/Scale" Menu code **2.1.3**

Example

Step	Key (or instruction)	Display
1. Turn on the balance/scale		
2. Place an empty container on the balance/scale		+ 65.0 g
3. Tare the balance/scale		
4. Add the first component		+ 120.5 g
5. Store the first component weight. If the print format is set to include data ID codes, the following is printed		0.0 g _{NET}
6. Add the next component		N1 + 120.5 g
7. Store the 2nd component weight		0.0 g _{NET}
8. Add further components, if desired	As described for Steps 5 and 6	
9. Display total weight and fill to desired final weight		+ 191.0 g

Counting

Purpose

The Counting program allows you to automatically count the number of parts that have approximately the same weight.

Available Features

- Store the current weight value to have it loaded as the preset reference sample quantity next time you initialize the Counting application
- The reference sample quantity can be changed in the operating menu:
See “Configuring the Balance/Scale”
- The average piece weight is automatically output via the optional data interface port after initialization, if the menu code for “Printout with data ID codes” is set
- Press **[F]** to toggle the display between piece count and weight

Factory Settings

Reference sample quantity: 10 (menu code **3.3.2**)

Preparation

- Configure the Counting application in the operating menu:
See “Configuring the Balance/Scale”
Menu code **2.1.4** Counting
- Reference sample quantity:
Menu code **3.3.1** 5 pcs
Menu code **3.3.2** 10 pcs
Menu code **3.3.3** 20 pcs
Menu code **3.3.4** 50 pcs
Menu code **3.3.5** 100 pcs

See also “Configuring the Balance/Scale”

Example

Determine an unknown piece count; weigh the preset reference sample quantity

Settings (changes in the factory settings required for this example):

Menu: Application program: Counting (2. 1. 4),
Reference sample quantity: 20 pcs (3. 3. 3)

Step	Key (or instruction)	Display
1. Turn on the balance/scale		
2. Tare the balance/scale		0.0 g
3. Display the reference sample quantity (here: 20 pcs)	 > 2 sec.	rEF 20 (briefly)
4. Place the reference sample quantity (20 pcs) on the balance/scale (here: 66 g)		+ 66.0 g
5. Start the application; if the print format is set to include data ID codes, the following is printed		+ 20 pcs wRef + 3.300 g
6. Weigh uncounted parts (here: 174 pcs)		+ 174 pcs
7. Display weight		+ 574.2 g
8. Display quantity		+ 174 pcs
9. Unload the balance/scale		0 pcs
10. Delete the reference value		
11. Repeat the procedure starting from Step 6, if desired.		

Weighing in Percent

Purpose

This application program allows you to obtain weight readouts in percent which are in proportion to a reference weight.

Available Features

- Store the current weight value to have it loaded as the preset reference percentage next time you initialize the Weighing in Percent application
- The reference percentage can be changed in the operating menu:
See “Configuring the Balance/Scale”
- The reference percentage is automatically output via the optional data interface port after initialization, if the menu code for “Printout with data ID codes” is set
- Press **[F]** to toggle the display between percentage and weight

Factory Settings

Reference percentage: 10 (menu code **3.3.2**)

Preparation

- Configure the Weighing in percent application in the operating menu:
See “Configuring the Balance/Scale”
Menu Code **2.1.5** Weighing in percent
- Reference percentage:
Menu code **3.3.1** 5 %
Menu code **3.3.2** 10 %
Menu code **3.3.3** 20 %
Menu code **3.3.4** 50 %
Menu code **3.3.5** 100 %

See also “Configuring the Balance/Scale”

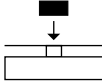
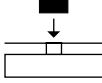
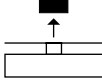
Example

Determine an unknown percentage; store the weight on the balance/scale as a reference percentage

Settings (changes in the factory settings required for this example):

Menu: Application program: Weighing in percent (2.1.5)

Menu: Reference percentage 100 % (3.3.5)

Step	Key (or instruction)	Display
1. Turn on the balance/scale		
2. Tare the balance/scale		0.0 g
3. Display the reference: percentage	 > 2 sec.	REF 100
4. Place the reference weight for 100% on the balance/scale (here: 222.5 g)		+ 222.5 g
5. Start application; if the print format is set to include data ID codes, the following is printed		+ 100.00 % Wxx% + 222.500 g
6. Place an unknown weight on the balance/scale (here: 322.5 g)		+ 144.94 %
7. Display weight		+ 322.5 g
8. Display percentage		+ 144.94 %
9. Unload the balance/scale		0.00 %
10. Delete the reference percentage		
11. Repeat the procedure starting from Step 6, if desired.		

Averaging

Purpose

Use this program to determine weights under extremely unstable ambient conditions. In this program, the balance/scale calculates the weight as the average value from a defined number of individual weighing operations. These weighing operations are also known as "subweighing operations" or "subweighs."

Available Features

- The measured result displayed is the arithmetic mean shown in the selected weight unit; a triangle under the plus or minus sign indicates that this is a calculated value
- You can set the number of subweighing operations performed in the operating menu: See "Configuring the Balance/Scale"
- Press **[F]** for at least 2 sec. to display the pre-set number of subweighing operations
- Press **[F]** to toggle the display between the calculated result and the weight

Factory Settings

Number of subweighs for averaging: 10 (3.3.2)

Preparation

- Configure the Averaging application:
See "Configuring the Balance/Scale"
Menu code **2. 1. 12** Averaging
- Number of subweighs for averaging:
 - 3.3. 1** 5 subweighs
 - 3.3. 2** 10 subweighs
 - 3.3. 3** 20 subweighs
 - 3.3. 4** 50 subweighs
 - 3.3. 5** 100 subweighs

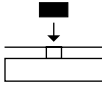
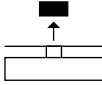
See also "Configuring the Balance/Scale"

Example

Determine the weight of a sample in extremely unstable ambient conditions by calculating the average of 10 subweighing operations.

Settings (changes in the factory settings required for this example):

Menu: Application program: Averaging (menu code 2. 1. 12)

Step	Key (or instruction)	Display
1. Turn on the balance/scale		
2. Tare the balance/scale		0.0 g
3. Display the number of subweighs (here: 10)	 > 2 sec.	EF 10 (briefly)
4. Place sample on the balance/scale (weight readout fluctuates; here: around 275 g)		+ 8888
5. Start measurement		+ 8888 10 9 8 ... 1
After 10 subweighs If the print format is set to include data ID codes, the following is printed		+ 275.5 g Δ
6. Unload balance/scale		RES + 275.5 g + 275.5 g Δ (stable weight readout locked into display)
7. Delete the result		
8. Repeat the procedure starting from Step 4, if desired.		

Configuring the Balance/Scale

Setting the Parameters (Menu Codes)

You can configure your balance scale to meet individual requirements by selecting from the parameters available in the menu.

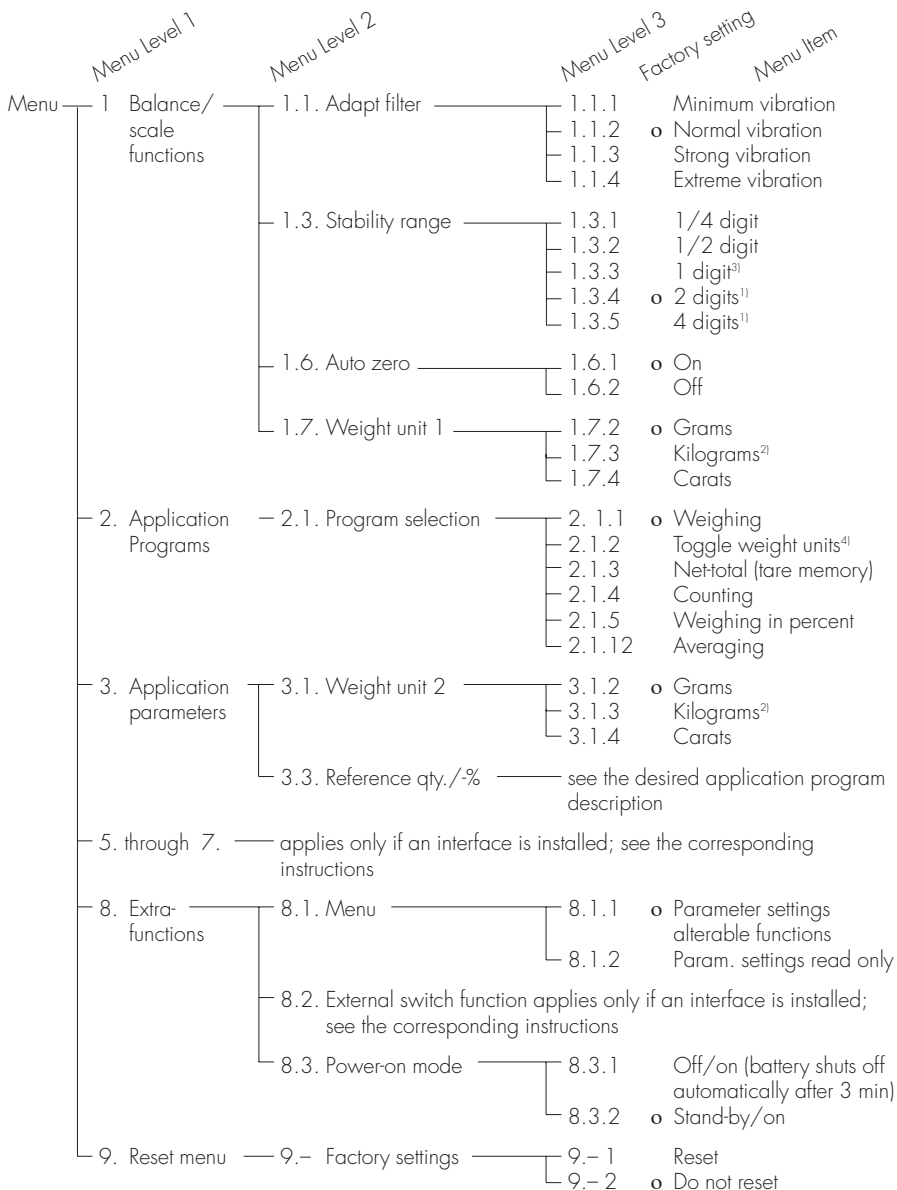
Example: Adapt the balance/scale to extremely unstable ambient conditions:
Menu code 1. 1. 4

Step	Key (or instruction)	Display
1. Turn off the balance/scale		
2. Turn the balance/scale back on; while all segments are displayed	  briefly	
☐ To navigate within a menu level; the last menu option is followed by the first option	 repeatedly	1. 2. ... 9. 1.
3. Select the 2nd menu level		1. 1.
4. Select the 3rd menu level		1. 1. 2 o
5. In Menu Level 3: Select the desired option	 repeatedly	1. 1. 4
6. Confirm new setting; the "o" indicates the currently set option	2 sec. 	1. 1. 4 o
☐ Select the next menu level – (here: move from the 3rd to the 1st level)		1.
☐ Set other menu codes, if desired	 , 	
7. Store parameter settings and exit operating menu	2 sec.  > 2 sec.	
or		
☐ Exit operating menu without storing changes		
> Restart the application		0.0 g

Balance/Scale Operating Menu (Overview)

o Factory setting

✓ User setting



¹⁾ = not for balances/scales of accuracy class III

²⁾ = only for BL models with a readability of $\geq 0.1 \text{ g}$

³⁾ = factory setting for balances/scales of accuracy class III

⁴⁾ = factory setting for model GC503 only

Error Codes

Error codes are shown in the main display for approx. 2 seconds, after which the program automatically returns to the weighing mode.

Display	Cause	Solution
No segments appear on the display	No AC power is available The AC adapter is not plugged in Battery is dead	Check the AC power supply Plug in the AC adapter Replace the battery Recharge the battery using an external recharging device
H	The load exceeds the balance/scale capacity	Unload the balance/scale
L	The load plate is not in place Something is touching the load plate	Place the load plate on the balance/scale Move the object that is touching the load plate
E 01	Display capacity exceeded: Value to be output cannot be shown on the display	Decrease the weight on the scale
E 02	Calibration parameter not met; e.g.: – balance/scale not zeroed – balance/scale is loaded	Unload the balance/scale Press [TARE] to tare the balance/scale Calibrate only when zero is displayed
E 09	If the gross weight $\leq$ zero, no tare weight is available	Tare the balance/scale
E 10	The [TARE] key is blocked when there is data in the second tare memory (net-total) – only 1 tare function can be used at a time	Press [CF] to clear the tare memory and release the tare key
E 11	Value input is not allowed for second tare memory	Press [TARE]
E 22	Weight is too light or there is no sample on the balance/scale	Increase the reference quantity
E 30	Interface port for printer output is blocked	Contact your local Sartorius Service Center
Max. weighing range is less than indicated under "Specifications"	The balance/scale was turned on without the weighing pan in place	Place the weighing pan on the balance/scale and press [ON] to turn on the balance/scale
The weight readout is obviously wrong	The balance/scale has not been calibrated/adjusted The balance/scale was not tared before weighing The balance/scale is not level	Calibrate/adjust the balance/scale Tare before weighing Level the balance/scale

If any other errors occur, contact your local Sartorius Service Center!

Care and Maintenance

Service

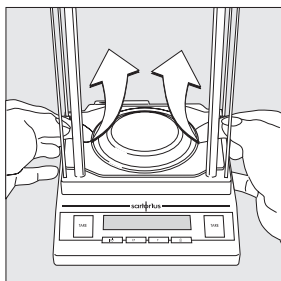
Regular servicing by a Sartorius technician will extend the service life of your balance/scale and ensure its continued weighing accuracy. Sartorius can offer you service contracts, with your choice of regular maintenance intervals ranging from 1 month to 2 years.

Repairs

Repair work must be performed by trained service technicians. Any attempt by untrained persons to perform repairs may lead to hazards for the user.

Cleaning

- ⚠ Disconnect the balance/scale from the AC adapter and unplug any data cables that are connected to the balance/scale
- ⚠ Make sure that no liquids enter the balance/scale housing
- ⚠ Do not use any aggressive cleaning agents (solvents or similar agents)
- Clean the balance/scale using a piece of cloth which has been wet with a mild detergent (soap)
- After cleaning, wipe down the balance/scale with a soft, dry cloth



Remove the weighing pan and clean as follows:

- Grasp the shield ring from below and lift the weighing pan together with the pan support to avoid damaging the weighing system

Safety Inspection

If there is any indication that safe operation of the balance/scale with the AC adapter is no longer warranted:

- Turn off the power and disconnect the equipment from AC power immediately
- > Lock the equipment in a secure place to ensure that it cannot be used for the time being

Safe operation of the balance/scale with the AC adapter is no longer ensured when:

- There is visible damage to the AC adapter
- The AC adapter no longer functions properly
- The AC adapter has been stored for a relatively long period under unfavorable conditions

In this case, notify your nearest Sartorius Service Center or the International Technical Support Unit based in Goettingen, Germany. Maintenance and repair work may only be performed by service technicians who are authorized by Sartorius and who

- have access to the required maintenance manuals
- have attended the relevant service training courses

Instructions for Recycling the Packaging

To ensure safe shipment, your balance/scale has been packaged using environmentally friendly materials. After successful installation of the balance/scale, you should return this packaging for recycling because it is a valuable source of secondary raw materials.

For information on recycling options, including recycling of old weighing equipment, contact your municipal waste disposal center or local recycling depot.

Overview

Specifications

Model		BL210S-OCE	BL120S-OCE	BL60S-OCE	GC503-OCE
Type designation		BD BH 110	BD BH 110	BD BH 110	BD BH 110
Accuracy class*		I	I	I	I
Weighing capacity, Max.*	g	210	120	60	505ct/101g
Scale interval d*	mg	0.1	0.1	0.1	0.001ct/0.0001g
Verification scale interval e*	g	0.001	0.001	0.001	0.01ct/0.001g
Minimum capacity, Min*	g	0.01	0.01	0.01	0.1ct/0.01g
Application range acc. to CD*	g	0.01 – 210	0.01 – 120	0.01 – 60	0.01 – 101
Tare range (subtractive)		$\leq 100\%$ of maximum weighing capacity			
Operating temperature range		+15 ... +25°C			
Response time (average)	s	3			
Adaptation to application and ambient conditions		By selection of 1 of 4 optimized filter levels			
Display update rate (depends on filter level selected)	s	0.1 – 0.4			
Pan size	mm	80 Ø			
Weighing chamber height	mm	200			
Dimensions (WxDxH)	mm	200 x 251 x 299			200x250x233
Net weight, approx.	kg	3.0			
AC power source/ power requirements		AC adapter, 230 V or 115 V, +15% ... – 20%			
Frequency		48 – 60 Hz			
AC power/constant voltage	V	10 to 20			
Power consumption (average)	W	1			
Hours of operation using the YRB08Z rechargeable battery pack	h	20			

* CD = Council Directive 90/384/EEC on non-automatic weighing instruments used in the European Economic Area

Model		BL510-OCE, GM512-OCE	BL120-OCE	BL1200-OCE
Type designation		DT BH 210	DT BH 310	DS BH 310
Accuracy class*		Ⓔ	Ⓔ	Ⓔ
Weighing capacity, max.*	g	510	120	1,200
Scale interval d*	g	0.01	0.1	1
Verification scale interval e*	g	0.1	0.1	1
Minimum capacity, min*	g	0.5	2	20
Application range acc. to CD*	g	0.5 – 510	2 – 120	20 - 1,200
Tare range (subtractive)		≤ 100% of maximum weighing capacity		
Operating temperature range		+10 ... +30°C	+10 ... +40°C	+10 ... +40°C
Response time (average)	s	2	1.5	1.5
Adaptation to application and ambient conditions		By selection of 1 of 4 optimized filter levels		
Display update (depends on filter level selected)	s	0.1 – 0.4		
Pan/load plate size	mm	116 Ø	116 Ø	174 x 143
Dimensions (W x D x H)	mm	188 x 250 x 70		
Net weight, approx.	kg	1.1	1.1	1.4
AC power source/ power requirements		AC adapter 230 V or 115 V, +15% ... – 20%		
Frequency		48 – 60 Hz		
AC power/constant voltage	V	10 bis 20		
Power consumption (average)	W	0.75		
Hours of operation with the YRB08Z rechargeable battery pack	h	25		

* CD = Council Directive 90/384/EEC on non-automatic weighing instruments used in the EU and the Signatories of the Agreement on the European Economic Area

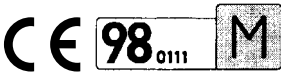
Accessories (Options)

Article	Order No.
Interface port, installation kit	YDO02BL
Data printer with date/time, statistical data evaluation and transaction counter functions and LCD (YDO01BL required)	YDP03-OCE
Paper (5 rolls)	6906937
Remote display (YDO01BL required)	
– reflective	YRD12Z
– for overhead projectors, transmissive	YRD13Z
External rechargeable battery pack with external battery charger	YRB08Z
SartoWedge data transfer software for on-line storage on weighing data	YSW01
Interface cable for connecting a PC; 25-pin	7357312
Universal remote control switch (YDO01BL required):	
Foot switch with T-connector	YFS01
Hand switch with T-connector	YHS01
T-connector for connecting 2 peripheral devices (YDO01BL required)	YTC01
Calibration weight, 500 g (accuracy class F2)	YCW5548-00
Carrying cases	
– for models with a readability ≥ 1 mg	YDB01BL
– for models BL210S, BL120S, BL60S	YDB02BL
Dust cover	
– for models with a rectangular weighing pan	YDC01BL
– for models with a round weighing pan	YDC02BL
Weighing bowls	
– 300 ml, weight: 86 g, stainless steel	6407
– 1000 ml, weight: 240 g, stainless steel	641211
– 300 ml, weight: 22 g, aluminum	69641304
– 270 ml, weight: 62 g, 137 Ø mm stainless steel	YWP03G

Information on EC Verification

Initial Verification

Performance of initial verification by Sartorius AG is documented on the balance/scale by the following label:



1. Explanation:

CE: EC mark of conformity

Green "M": Initial verification has already been performed on this instrument

98: Year in which the initial verification was performed, in this case 1998

0111: In Germany, Sartorius AG has been accredited by the Metrology authority of Lower Saxony to perform EC verification, Notified Body of the European Community No. 0111.



2. The security strip is affixed after the initial verification of weighing instruments of accuracy class **II**, **III** and seals it against unauthorized tampering with the metrological data. If the security strip is damaged, the verification is not valid and the weighing instrument is no longer approved for legal metrology.

Therefore, please check the status of the security ID label on your balance/scale.

Using Verified Balances/Scales Approved for Use as Legal Measuring Instruments in the EU*

The balance/scale is not allowed to be used for weighing goods intended for direct sale to the public.

The type-approval certificate for verification applies only to non-automatic weighing instruments; for automatic operation with or without auxiliary measuring devices, you must comply with the regulations of your country applicable to the place of installation of your balance/scale.

- The temperature range indicated on the verification ID label (°C) must not be exceeded during operation.

Any time the balance/scale is re-calibrated and/or re-adjusted following repairs, after the verification seal has been broken, after changing the position of the menu access switch, etc., you must observe the applicable national laws and regulations governing the use of weighing instruments in legal metrology in your country.

* including the Signatories of the Agreement on the European Economic Area

Only to be filled out by Sartorius service technicians authorized to perform initial verification* for balances/scales of accuracy class (II) and (III) in the case of verification at the site of application:

Initial verification (Date): _____

Verification is valid for the following place of installation:

Company/Name: _____

Serial No.: _____

Street: _____

Zip code and city: _____

Country: _____

or zone: _____

Subsequent Verifications within the European Countries

The validity of the verification will become void in accordance with the national regulations of the country in which the weighing instrument is used. For information on verification and legal regulations currently applicable in your country, and to obtain the names of the persons to contact, please contact your local Sartorius dealer or service center.

For further information on the subject of "verification," please contact your nearest Sartorius Service Center.

* = In accordance with the Council Directive 90/384/EEC governing non-automatic weighing instruments

Declaration of Type Conformity

CE Marking on Sartorius Equipment

In 1985, the Council of the European Community approved a resolution concerning a new approach to the technical harmonization and standardization of national regulations. The organization for monitoring compliance with the directives and standards concerning CE marking is governed in the individual EU Member States through the implementation of the EC Directives adopted by the respective national laws. As of December 1993, the scope of validity for all EC Directives has been extended to the Member States of the European Union and the Signatories of the Agreement on the European Economic Area.

Sartorius complies with the EC Directives and European Standards in order to supply its customers with weighing instruments that feature the latest advanced technology and provide many years of trouble-free service.

The CE mark may be affixed only to weighing instruments and associated equipment that comply with the applicable Directive(s):

Council Directive 89/336/EEC "Electromagnetic compatibility (EMC)"

Applicable European Standards:

Limitation of emissions:

EN 50081-1 Residential, commercial and light industry

EN 50081-2 Industrial environment

Defined immunity to interference:

EN 50082-1 Residential, commercial and light industry

EN 50082-2 Industrial environment

Important Note:

The operator shall be responsible for any modifications to Sartorius equipment and for any connections of cables or equipment not supplied by Sartorius and must check and, if necessary, correct these modifications and connections. On request, Sartorius will provide information on the minimum operating specifications (in accordance with the Standards listed above for defined immunity to interference).

Council Directive 73/23/EEC

"Electrical equipment designed for use within certain voltage limits"

Applicable European Standards:

EN 60950

Safety of information technology equipment including electrical business equipment

EN 61010

Safety requirements for electrical equipment for measurement, control and laboratory use

Part 1: General requirements

If you use electrical equipment in installations and under ambient conditions requiring higher safety standards, you must comply with the provisions as specified in the applicable regulations for installation in your country.

Additional Directive for Weighing Instruments Used in Legal Metrology: Directive 90/384/EEC "Non-Automatic Weighing Instruments"

This directive regulates mass determination in legal metrology.

For the respective Declaration of Type Conformity for weighing instruments approved for use as legal measuring instruments with an EC Type-Approval Certificate, see page 33.

This directive also regulates the performance of the EC verification by the manufacturer, provided that an EC Type-Approval Certificate has been issued (see page 34) and the manufacturer has been accredited by an officer of a Notified Body registered at the Commission of the European Community for performing such verification.

The legal basis allowing Sartorius to perform EC verification is constituted by the EC Council Directive No. 90/384/EEC on non-automatic weighing instruments that has been in effect since January 1, 1993, in the Internal Market as well as by the Certificate of Accreditation of the Sartorius AG Quality Management System issued by the Metrology Department of the Regional Administration Office of Lower Saxony, Germany ("Niedersächsisches Landesverwaltungsamt-Eichwesen") on February 15, 1993.

For information on the **CE** mark of conformity on Sartorius equipment and legal regulations currently applicable in your country, and to obtain the names of the persons to contact, please ask your local Sartorius office, dealer or service center.

DECLARATION OF TYPE CONFORMITY to Directive No. 90/384/EEC

This declaration is valid for non-automatic electromechanical weighing instruments for use in legal metrology. These weighing instruments accepted for legal metrological verification have an EC Type-Approval Certificate. The model(s) concerned is(are) listed below along with the respective type, accuracy class, and number of the EC Type-Approval Certificate:

Model	Type	Accuracy Class	EC Type-Approval Certificate No.
BL...-OCE	DT BH 210	(II)	D98-09-025
GM...-OCE	DT BH 210	(II)	D98-09-025
BL...-OCE	DT BH 310	(III)	D98-09-025
BL...-OCE	DS BH 310	(III)	D98-09-025
BL...-OCE	BD BH 110	(I)	D98-09-025
GC...-OCE	BD BH 110	(I)	D98-09-025

SARTORIUS AG declares that its weighing instrument types comply with the requirements of the Council Directive on non-automatic weighing instruments, no. 90/384/EEC of 20 June 1990; the associated European Standard "Metrological aspects of non-automatic weighing instruments," No. EN 45501; the amended, currently valid versions of the national laws and decrees concerning legal metrology and verification in the Member States of the European Union, the EU, and the Signatories of the Agreement on the European Economic Area, which have adopted this Council Directive into their national laws; and with the requirements stipulated on the Type-Approval Certificate for verification. This Declaration of Type Conformity is valid only if the ID label on the weighing instrument has the CE mark of conformity and the green metrology sticker with the stamped letter "M" (the two-digit number in large print stands for the year in which the mark has been affixed):

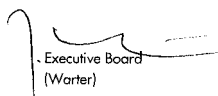


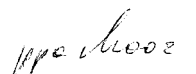
If these marks are not on the ID label, this Declaration of Type Conformity is not valid. Validity can be obtained, for example, by submitting the weighing instrument for final action to be taken by an authorized representative of SARTORIUS AG. The period of validity of this Declaration of Type Conformity shall expire upon any tampering with, repair or modification of this weighing instrument or, in some Member States, on the date of expiration.

The operator of this weighing instrument shall be responsible for obtaining an authorized renewal of the verification, such as subsequent or periodic verification, of the weighing instrument for use as a legal measuring instrument.

Goettingen, 08.05.00

SARTORIUS AG
37070 Goettingen
Germany


Executive Board
(Warter)


Head of Technical Operations
(Dr. Maaz)

0AW-113-2/02.96
P103ET01

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



EG-Bauartzulassung

EC type-approval certificate

Zulassungsinhaber: Sartorius AG
Issued to: Weender Landstraße 94-108
37075 Göttingen
Deutschland

Rechtsbezug: § 13 des Gesetzes über das Meß- und Eichwesen (*verification act*)
In accordance with: vom/dated 23. März 1992 (BGBl. I S. 711) in Verbindung mit Richtlinie
(*in connection with council directive*) 90/384/EWG, geändert durch
(*amended by*) 93/68/EWG

Bauart: Nichtselbsttätige elektromechanische Waage
In respect of: *Nonautomatic electromechanical weighing instrument*
Typen/ types: **BD BH 110, DS BH 310, DT BH 210, DT BH 310**
Max 50 g...1200 g
Genauigkeitsklasse/ class: $\textcircled{\text{I}}$ ($n \leq 210000$)
 $\textcircled{\text{II}}$ ($n \leq 5100$)
 $\textcircled{\text{III}}$ ($n \leq 1200$)

Zulassungsnummer: **D98-09-025 2. Revision**
Approval number:

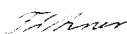
Gültig bis: 2008-08-06
Valid until:

Anzahl der Seiten: 8
Number of pages:

Geschäftszeichen: 1.14 - 00021166
Reference No.:

Benannte Stelle: 0102
Notified Body:

Im Auftrag
By order


Fitzner



Braunschweig, 2000-05-08

Siegel
Seal

Die Hauptmerkmale, Zulassungsbedingungen und Auflagen sind in der Anlage enthalten, die Bestandteil der EG-Bauartzulassung ist. Hinweise und eine Rechtsbehelfsbelehrung befinden sich auf der ersten Seite der Anlage.
The principal characteristics, approval conditions and special conditions, if any, are set out in the Annex which forms an integral part of the EC type-approval certificate. For notes and information on legal remedies, see first page of the Annex.

Physikalisch-Technische Bundesanstalt Anlage zur EG-Bauartzulassung

PTB

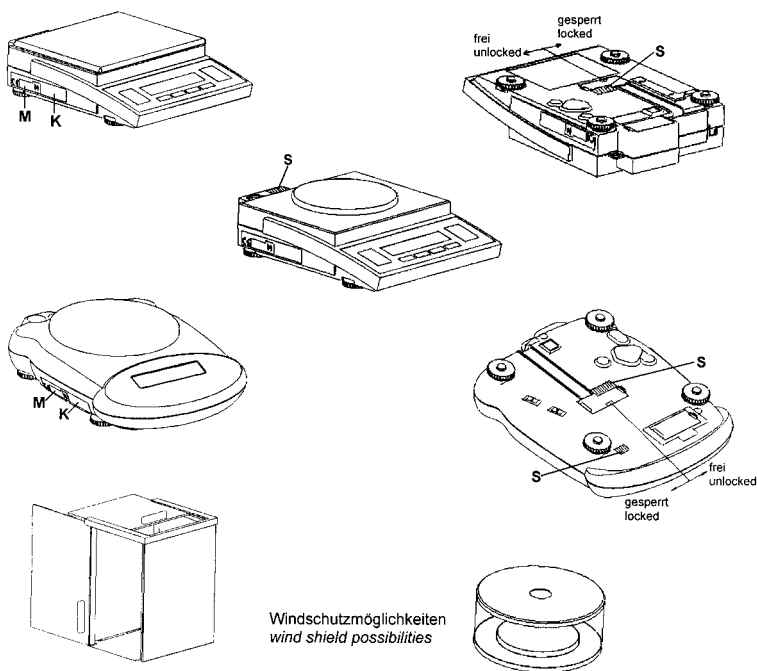
Annex to EC type-approval certificate

vom 2000-05-08, Zulassungsnummer: D98-09-025 2. Revision

dated 2000-05-08, Approval number: D98-09-025 2. Revision

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Windschutzmöglichkeiten
wind shield possibilities

- K** Kennzeichnungsschild mit CE-Zeichen
Descriptive plate with CE-Sign
- M** Zeichen für die EG-Eichung (grünes M)
Mark for EC-verification (green M)

- S** Sicherungsstempel
(selbstklebende Marke oder Plombe)
gilt nur für Genauigkeitsklasse II + III
*Protective mark
(self-adhesive mark or seal)
only for accuracy class II + III*

Bild 1

Picture 1

Sartorius AG

✉ 37070 Goettingen, Germany

🏠 Weender Landstrasse 94–108, 37075 Goettingen, Germany

☎ (+49/551) 308-0, 📠 (+49/551) 308-289

Internet: <http://www.sartorius.com>

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The status of the information, specifications and illustrations in this manual is indicated by the date given below. Sartorius AG reserves the right to make changes to the technology, features, specifications, and design of the equipment without notice.

Status: January 2000, Sartorius AG, Goettingen, Germany

Printed in Germany on paper that has been bleached without any use of chlorine · W1A000 · KT
Publication No.: WBL6006-e00011

The Sartorius logo consists of the word "sartorius" in a bold, lowercase, sans-serif font. A vertical line passes through the center of the letter "o", which is highlighted with a yellow circle.