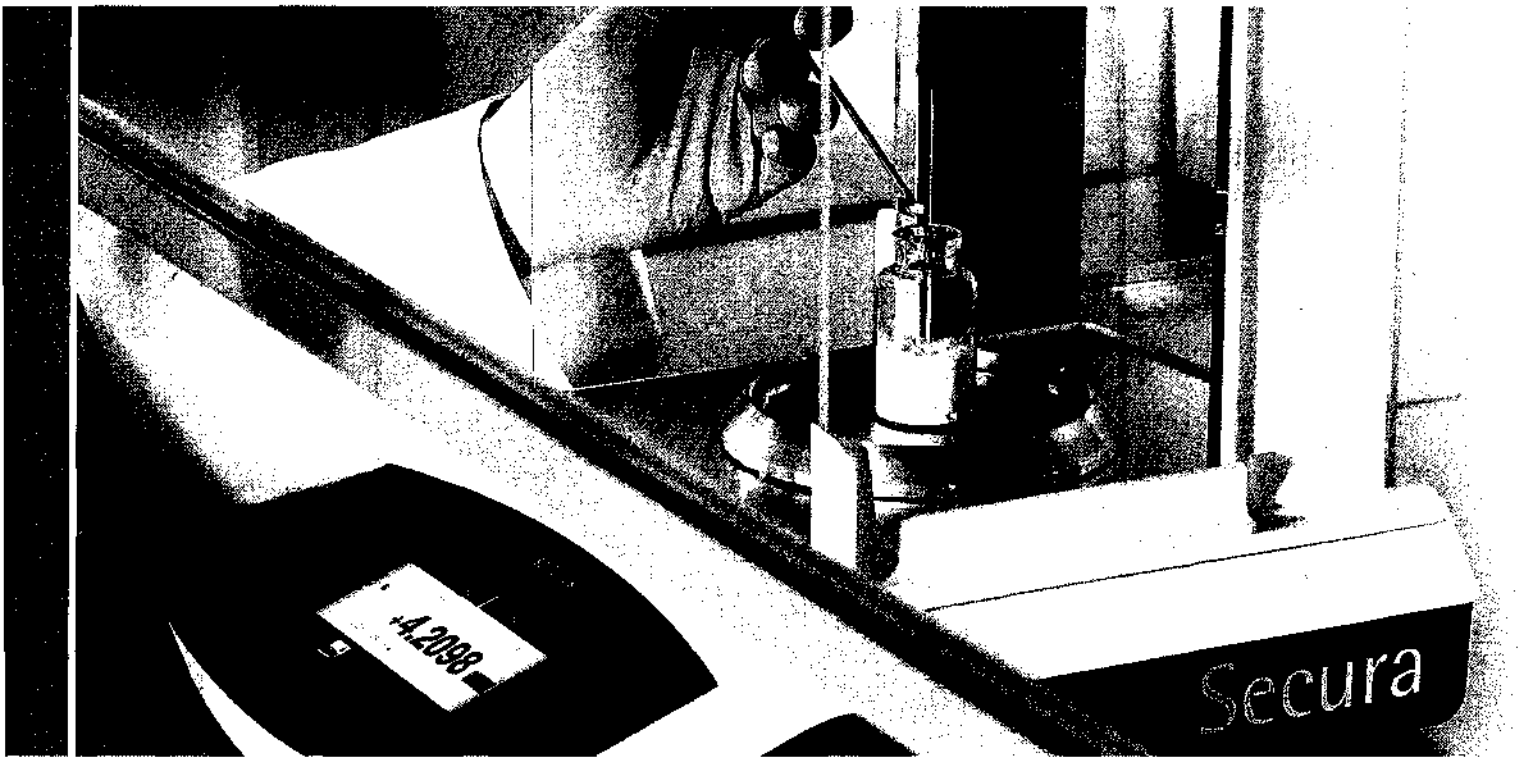
sartorius

FOR INTERNAL USE

Secura
Demo Box Guide



turning science into solutions

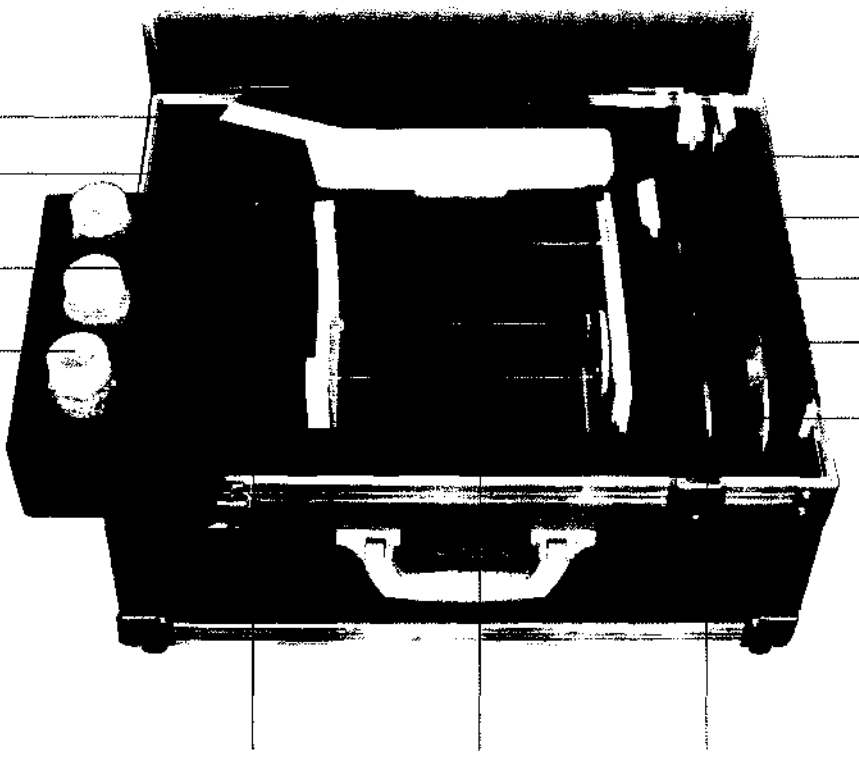
Purpose of the Document

This manual is part of the Secura Demo Box YDB-Secura and provides step-by-step demonstration instructions. This tool is intended for Sartorius Sales representatives only!

If you need further support, please contact your local weighing specialist.

Table of Contents

1. What is in the Box?



Important Handling Instructions for the Carrying Case

Shipping and Transportation Information
The carrying case is designed for storing and hand-transporting a Secura balance. Shock or vibration may cause damage to the weighing system of the balance.

Carrying Case **should not be used** for the following:

- Shipping by courier (UPS | FEDEX) without additional shock absorbing packaging. Recommendation would be to ship the balance in the original card board box, separate from the demo box.
- Carry-on during a flight. Recommendation would be to ship the balance in the original card board box, separate from the demo box.
- Stacking, transporting with the high-potential of vibration.

If you are using a trolley to transport the balance (in the carrying case) please do not stack. Transport carefully, minimizing vibration. If you need to use a trolley take one with biggest wheels possible, in order to prevent the balance from shocks and vibrations.

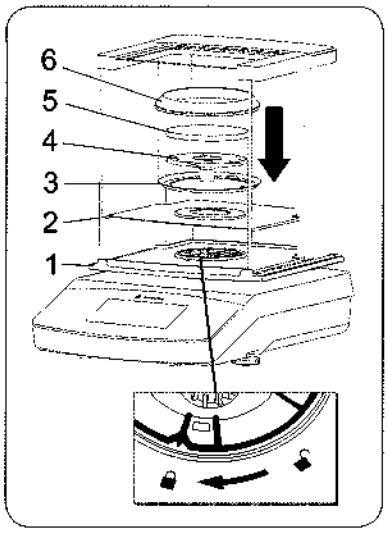
Important Note!
Before you pack or transport the balance, make sure isoCAL ist turned off or the balance has completed its internal calibration routine. An interrupted isoCAL may damage the weight cell.

Carrying Case dimensions WxHxD: 54x32x47 cm | ~21.3"x 12.6"x 18.5" inches
Carrying Case weight | lbs: - 13.2 kg 129 lb with balance
-9 kg 118.7 1b empty

2. Prepare Demonstration

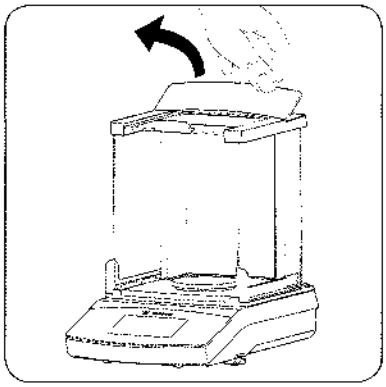
2.1. Assemble

Be aware that for the assembly of the top sliding pane the plastic cover need to be removed. See second graphic beside.



Hint:
Do not forget to assemble the draft protection ring which is very beneficial for reliable results.

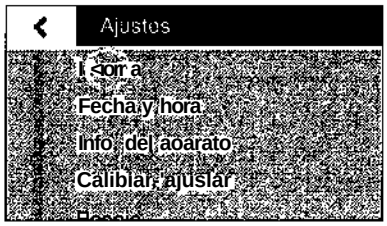
2.2. Best "Weighing" Settings for Demonstration



- Safety Level -» High
- Ambient conditions -» Unstable
- Application -»Weighing
- Stability signal -» Fast
- SQmin -»switched "On".

Hint:
If "SQmin" does not appear in the weighing menu at first, no SQmin value is programed in the Service settings. You need assistance from Sartorius Service to program. Recommended minimum weight value of 100 mg for demonstration purposes on an analytical balance.

2.3. Change Language



1) Touch menu button at low left corner [redacted].
2) Touch on the wrench symbol *J*.*
3) Touch on first menu point in the list - which is for language (Just in case you do not recognize the language).
4) Select language and confirm with check mark.
5) Go back to main display.

3. Start Demonstration

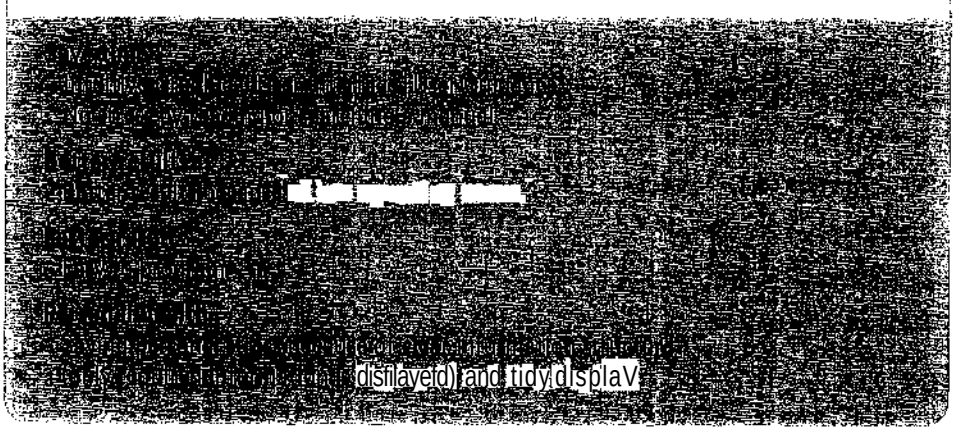
Hint:
Maybe you let the potential user do the rest in order to let him | her experience the Secura feeling.

What will happen
After switching "On" the balance will ask immediately for leveling and calibration.

Typical questions

- What do you want to do next?
- What do you see?
- What do you expect?

User Benefits:



4. Weighing Without Risk

(Secura Only)

-^ User Problem

Customers who are working a in a regulated environment are in the need of high quality results and need to reduce risk where ever possible.

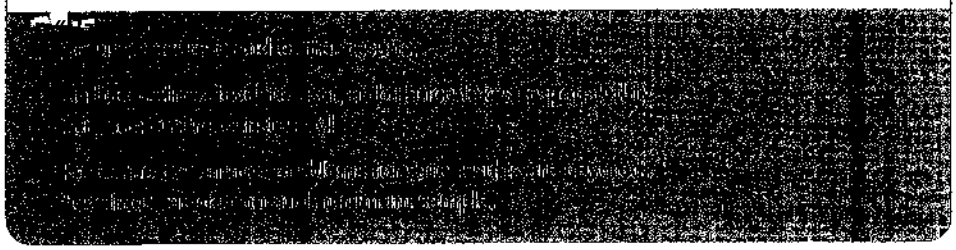
{• Sartorius Solution

Seeura will not transfer data to printer or computer if "Safety Level" is set to "High" and...

- minimum sample weight requirement is not fulfilled (SQmin),
- balance need to be calibrated;
- balance need to be leveled...

Hint:
All above mentioned features are explained in detail on the following pages.

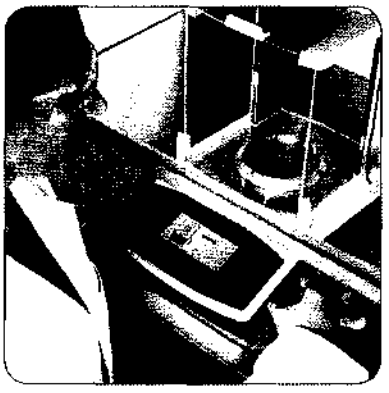
User Benefits:



How to Demonstrate

See following pages.

4.1. Leveling



A User Problem

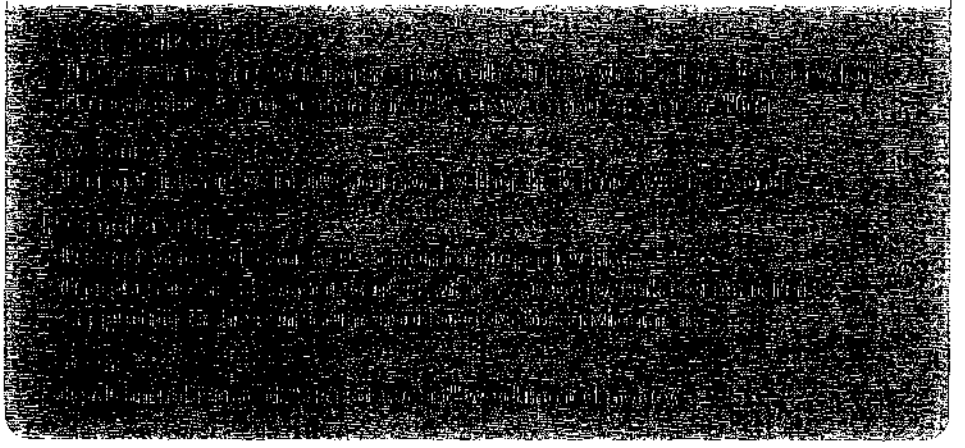
- User has to check the balance on regular basis to see if it is correctly leveled. This could be several times a day or built into SOP.
- User cannot see without technical help if balance is leveled properly. A usual business card, thickness 0.25 mm or 1/100 inch under one level foot, results in a 20 digit fault with an analytical - 4 digit balance. But the balance still look well leveled.
- Leveling bubble is not easy to "read"
  - because balance is under some kind of fume hood (See picture) or...
  - Leveling bubble is located at the back of the instrument -almost hidden and hinders visibility.
  - other reasons hindering user to check without problems (User not tall enough).
  - Sometimes only a mirror helps to check level bubble.
- If not properly leveled it needs some experience to level the balance properly. Users are very often confused by which level feet to turn in which direction.
- Very often it is difficult or inconvenient to reach the leveling feet on the balance and see a hidden leveling bubble simultaneously. This is especially true in a laminar flow hood environment or on a crowded lab bench full of lab equipment.

fe Sartorius Solution

Secura is the **first and only** laboratory balance in this market segment which has LevelControl. It constantly monitors the leveling of the Secura itself, gives clear message to the user and gives direct interactive support in the display to level the balance properly.

Competitor Information
Ohaus Explorer has only one static screen, called "Level Assist". While Secura LevelControl gives interactive support, Ohaus Explorer Level Assist shows only a static (confusing) picture with different positions of the level bubble and four adjustable feet. Definitely not comparable and on a lower level!

User Benefits:

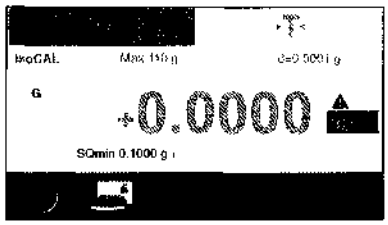


[1] Intensity is depending on the settings for "Safety level"

How to Demonstrate

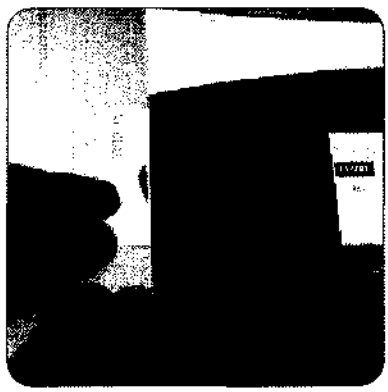
Pre-conditions: Secura is assembled; set to zero and properly leveled.
See also chapter Best "Weighing" Settings to demonstrate.

Display at the beginning.



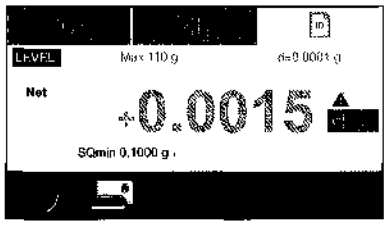
Put business card under one foot by lifting the balance slightly.
Typical thickness of a business is 0,25 mm or 1/100 inch.

Hint:
Maybe you ask customer what he observes and what he would do the next.



The display is now showing the following:

- Deviation, eg. +0.0015 g. Too high to be accepted! Taring does not help.
  It will lead to non retraceable results as Secura is in undefined condition...
- Warning symbol, black triangle.
- Warning symbol LLVFL.
- Numeric reading does not change to black and remains gray.
- If Printer or Computer is connected: Printer button is deactivated. Printing and data transfer is not possible - results are secure because inaccurate measurement can not be recorded (Printer or Computer).
- After 60 seconds an alarm message will appear, with a very clear request to level the Secura.

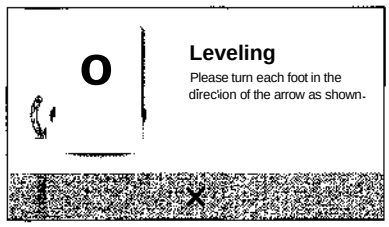


There are two ways to start leveling from this point

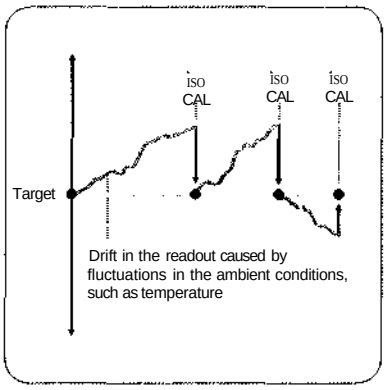
1. You touch **uaaas.**

2, You follow the instructions and interactive feedback arrows in the Alarm message.

The next screen is interactive and self-explaining. Level the balance and close action by touching *S.* Leveling is done. See also next chapter.



4.2. Internal Calibration - isoCAL



•^ User Problem

A balance needs to be calibrated[2] and adjusted.

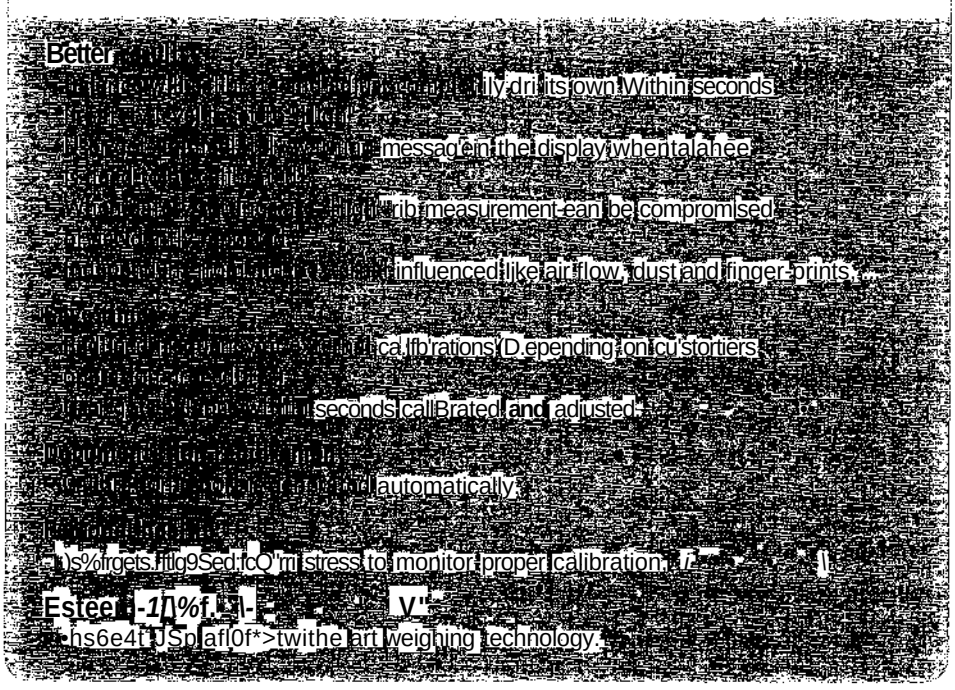
- on regular base.
- after temperature change.
- every time a balance was physically moved.
- every time it was leveled.

Very often the user is obliged to keep a calibration history.

b! Sartorius Solution

Secura is equipped with isoCAL. IsoCAL is an internal calibration and adjustment performed automatically with the fluctuation of temperature or by a timed interval. The internal calibration is performed by a motorized weight located inside the balance. Every time isoCAL is performed, a calibration report is generated and stored for traceability. Retrieval of this calibration report is called Cal Audit Trail. External Calibrations are also stored in this memory.

User Benefits:



How to Demonstrate

10 sec. after leveling, Secura will automatically self-calibrate (isoCAL).
- Safety level is set to "High" and
- isoCAL is set to "Automatic" {/* -* Calibration | Adjustment -» isoCAL).

- Within this 10 sec. "isoCAL" is shown. Touching this will also start the isoCAL.
- Behind the menu button ^ ^ g you will find "CAL" on the left side. Behind that you will find "CAL-Intern" which also starts the intern calibration and adjustment routine.

After the routine has ended a calibration report will appear. See chapter 9 "Customers section" for example to show.

Calibration history is stored sequentially (dated) in Secura in day by day order. {/" -* Calibration | Adjustment -» Calibration report). User will find up to 99 reports per day stored for 30 days.

[2] The commonly used term ..Calibration" means actually calibration and adjustment. While the meaning of "calibration" is actually describing the determination of a deviation, "adjustment" is describing the correction of the determined deviation. In this chapter we will use both terms in its original meaning.

[3] Intensity is depending on the settings for "Safety level".

4.3. Minimum Sample Weight - SQmin

Advanced Pharma Compliance

Situation

In laboratories with regulated environment the minimum sample weight needs to be determined according USP in order to keep measurement uncertainty in an acceptable limit. Every balance needs to be tested by a qualified person at its place of installation. The minimum sample weight is depending on the environment conditions and the quality of the balance. The result needs to be reported and a sticker will be placed on the balance. Values below this minimum sample are not valid. The absolute minimum for an analytical balance like Secura224 is 100 mg. Sample containers like flasks, vessels must be tared.

Sartorius Field Service offers the determination of the minimum sample weight according USP for every balance. Only a few balance models in the market are capable to get the minimum sample weight programed. For more details ask your local weighing specialist or use information from the Sartorius Advanced Pharma Competence package.

-^ User Problem

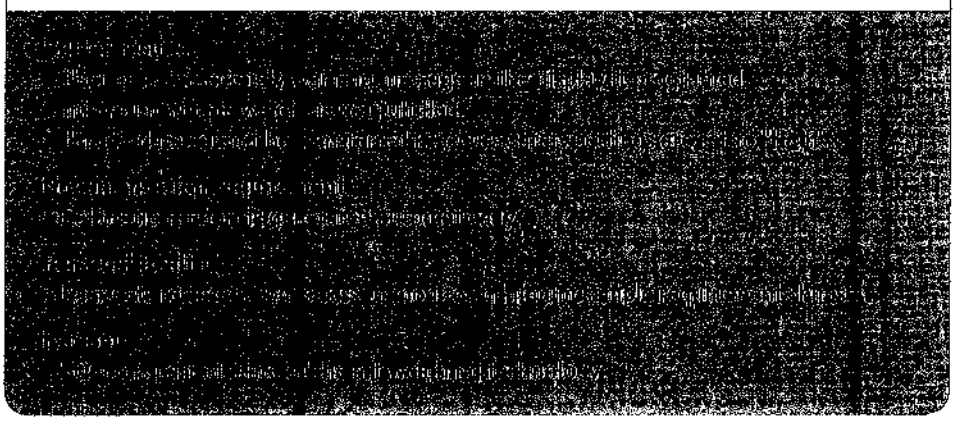
The user is obliged to observe the minimum sample weight. Measurements or samples below minimum sample weight are not valid or allowed to be processed.

Expensive materials and most stringent quality requirements do not allow mistakes.

••Sartorius Solution

Sartorius Field Service will program minimum sample weight in Secura. It will be constantly indicated in the display and monitored by Secura. Alarm messages in the display appear if minimum sample weight is not fulfilled. If Safety level is set to "High" no data will be printed or transferred to the printer.

User Benefits:

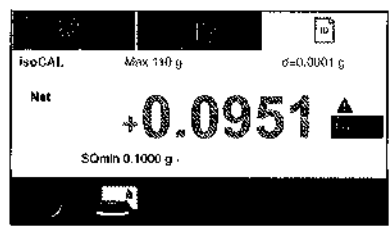


How to Demonstrate

Use small samples below SQmin (shown in the display). Use the sample material from Secura demo box.

Show user how balance behaves with sample below SQmin:

- If Printer is connected: Printer button is inactiv (white). Print out and data transfer are not possible.
- Warning symbol, black triangle.
- Reading is not getting black and remains grey.



Exceed the SQmin slowly and observe how displayed information will change. Use sample material which is in the demo box.

[4] Intensity is depending on the settings for "Safety level"

4.4. Safety Levels

•4 User Problem

Secura offers the best solution for the most stringent safety regulations in regulated laboratories. For some reasons less stringent safety settings might be required.

i> Sartorius Solution

Secura allows three different levels of Safety settings.

User Benefits:

How to Demonstrate

Discuss with customer different Safety levels and use table "Safety levels" in chapter 9.3.

Show where he will find it in the menu *(J*-* Weighing -* Safety level)

5. Applications

Several useful Application programs are integrated in Secura and Quintix. They are designed to support the daily laboratory routine. Many users do not expect that a Sartorius balance will support him in his daily routine in such an intelligent way. Therefore this routines need to be demonstrated. This is actually what the demo box was designed for. Have fun with demonstrating Secura's applications.

5.1. Counting

•4 User Problem

User need to count identical parts like pills, screws, electronic components or plastic parts.

Hint:
This App is very good to start to explain the Secura and Quintix[5]. With a little guidance the user can do it by himself and will experience how easy it is to get fast results with the new Sartorius graphical user interface. Even when this application is not used in laboratories.

• Sartorius Solution

"Counting" App

User Benefits:

How to Demonstrate

Check video or application guide. Use coins as sample. 1 coin might be 10 pieces.

www.sartorius.com/manual-secura

[5] The app "Counting" is integrated in Practum.
[6] A big reference and a small standard deviation of the sample parts will lead to a better accuracy.

5.2. Mixing

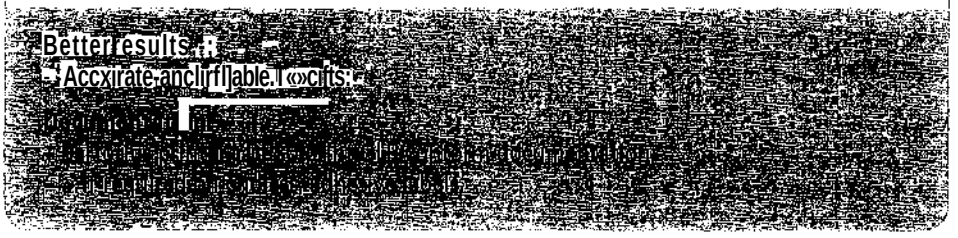
•^ User Problem

User has to complete a recipe and want to weigh the different components in **one** sample dish[7].

$> Sartorius Solution

"Mixing"[8] App

User Benefits:



How to Demonstrate

Check video or application guide.

◆▶ www.sartorius.com/manual-secura

Make use of the sample material in the three plastic bottles, spatula and sample dishes.

See also sample of print out in chapter 9.2 GLP print out for App "Mixing" and "Components".

[7] See App ..Components" for making a recipe in different sample dishes
[8] This App is not integrated in Practum

5.3. Components

•^ User Problem

User has to complete a recipe and want to weigh the each component in **separate** sample dishes.

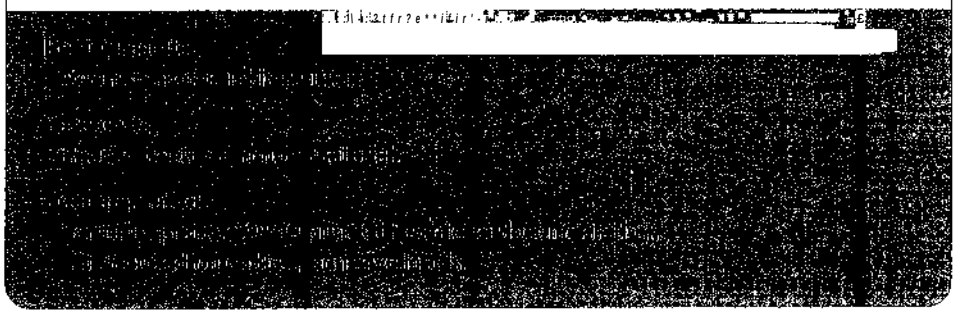
Reasons might be:

- Expensive components which cannot be separated anymore once mixed in one dish (Think of two white powders).
- Immediate chemical reactions
- Process requirements

P- Sartorius Solution

"Components" App[9]

User Benefits:



How to Demonstrate

Check video or application guide. See also

www.sartorius.com/manual-secura

Make use of the sample material in the three plastic bottles, spatula and sample dishes.

See also sample of print out in chapter 9.2 GLP print out for App "Mixing" and "Components"

[9] This App is rot integrated in Practum

6. Data Transfer into Microsoft® Excel

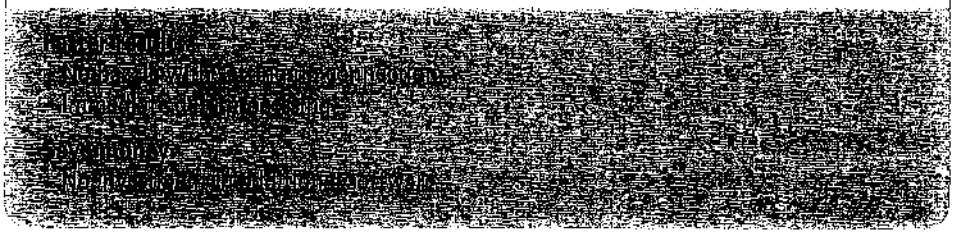
•4 User Problem

Every scientist has to work with loads of data and want to use an office program like Microsoft* Excel. Nobody is keen on spending additional money for special software or to program sophisticated interface settings.

h- Sartorius Solution

Every Sartorius Secura, Quintix and Practum can transfer weighing results directly into a text or spread sheet program (preferred Microsoft* Excel).

User Benefits:

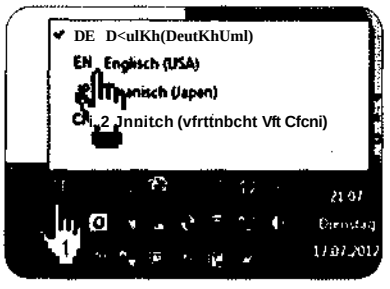


How to Demonstrate

Connect computer and balance with USB cable from Secura Demo Box.

Settings in Secura:

- USB port - Device | protocol - PC spreadsheet format -



On the connected computer:

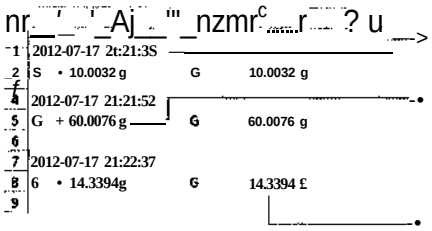
- Open spread sheet program e.g. Microsoft[8] Excel.
- Make sure that key board driver is set to "US" key board driver. See how to change in most Windows* versions in the picture.

Hint:
Setting for US driver is independent from the location were balance is located or will be demonstrated. Demonstration will not work with different seetings.

- Put cursor of computer to position where you want to print.

Finished!

Push print button on the balance. See results in spreadsheet.



-> Date and time as text.

• Weighing result as text, including unit, indication for Gross and Net.

• Weighing result as value.
Can be calculated in spread sheet.

Hint:
With this settings the balance will print everywhere where the cursor is positioned, e.g. address field of browser, which might cause some interesting results.

Hint:
Automatic printouts with timed outputs are also possible.

7. Metrology - Draft Protection Ring

(Secura Only)

•^ User Problem

Users of Secura need to have quick and reliable results. Very often they need to work in laminar flow for personal safety while every balance is sensitive against draft and wind e.g. in an fume hood.
It is a typical task to do dosing of smallest amounts, which is an increased difficult task under the fume hood.

Usually the user needs to close the draft shield of an Analytical balance after he has changed the weight and need to wait for the stabilization of the balance. This is very time consuming. If the door is left open the balance will not stabilize or activated programmed filter algorithm will make the balance slow as a result make the balance slow to respond to environmental conditions.

Both is a problem for the user if he needs to dose small amounts in laminar flow like an exhaust or fume hood.

• Sartorius Solution

Sartorius developed the draft protection ring (Ring around load plate) and optimized it for maximum draft protection. This enables the balance to stabilize faster and enable the user to dose smallest amounts under a fume hood much easier. For secure and final measurement the Analytic draft shield need to be closed completely.

A typical improvement of 30 digits with open draft shield is possible, depending on the situation on site.

User Benefits:

How to Demonstrate

Use diagram in the Chapter "Customer section" and explain the difference.

8. Cleaning

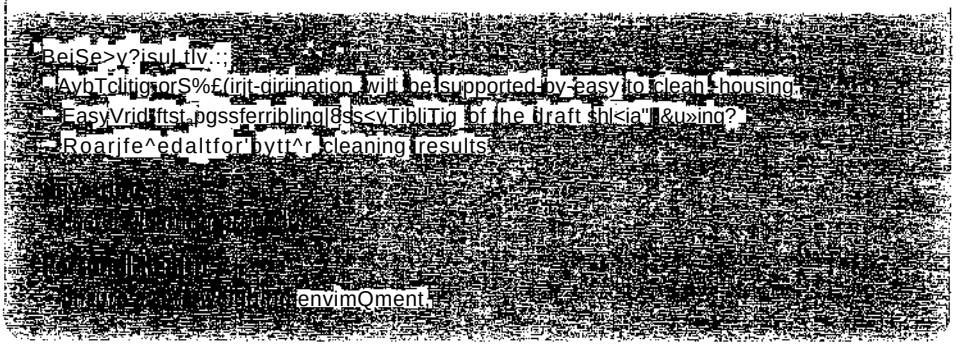
A User Problem

Cross contamination is a "No Go" in every laboratory. In addition to that a clean and tidy workplace is an important guarantee for personal health and protection against unknown and harmful substances. Last not least the reliability of every instrument need to be protected against the little spills caused misadventures in daily rush.

Uj Sartorius Solution

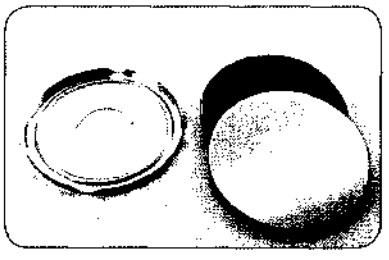
A smart construction principle of the draft shield facilitates the customer to clean the contaminated parts of the housing and protects the measurement system.

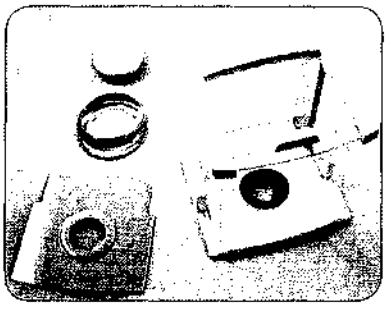
User Benefits:



How to Demonstrate

Show customer the cleaning procedure, disassemble and assemble the windshield. Point out the details as shown below.

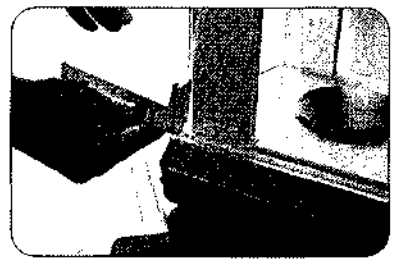




1. For cleaning no tools are required.

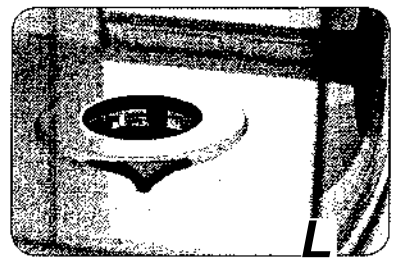
-» No screws, where the screw head can be contaminated. Stainless steel parts can be cleaned in a dish washer. See pictures for precision balances and analytic balances.

2. Side slide doors can be removed in seconds.

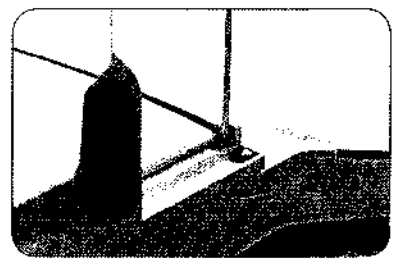


3. Spilled liquid will not flow into the system or sophisticated parts like tightening ring.

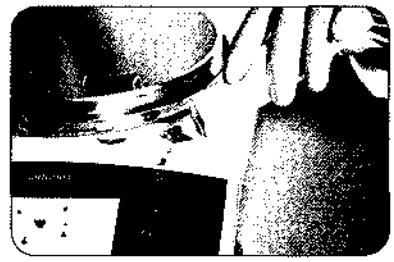
Hint:
Mettler MS has here a problem and liquid will flow into the tightening ring.
-» Not easy to clean.



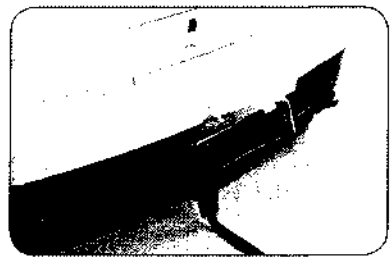
4. Streamlined contoured corners -» easy to clean. Parts can be wiped down with Aceton or Isopropanol, as well as in use cover cover.



5. Reduced gaps, edges and corners.



6. Work cover will give additional protection.



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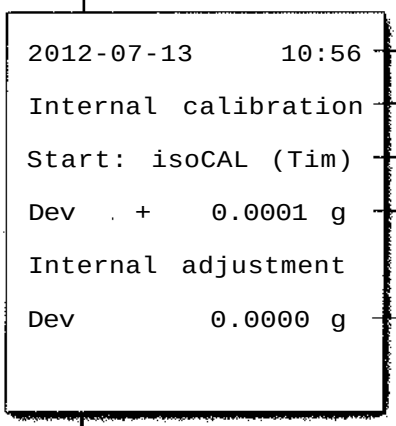
Specifications subject to change without notice.
Printed in Germany on paper that has been
bleached without any use of chlorine, | W
Publication No.: WSE6004-el2111
Order No.: 98649-013-59
Ver. 11 |2012

9. Customers Section

This section contains pictures, graphics, etc. which might be needed for discussions.

9.1. Calibration Report (Secura Only)



Date and time

Internal | external calibration

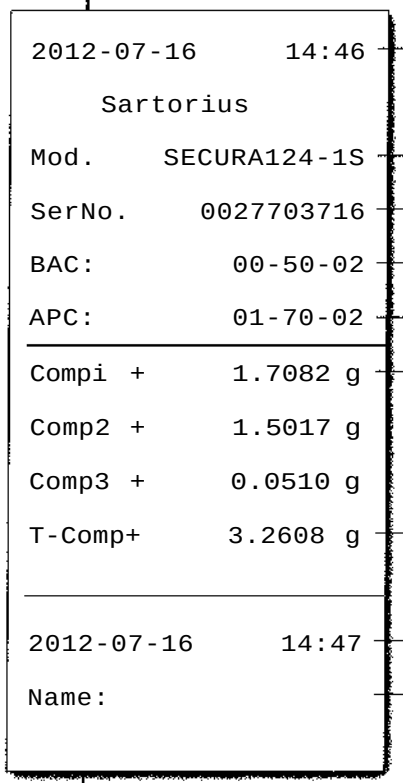
Reasons for start:

(Tim) - after time
(Niv) - after leveling
(Tmp) - temperature change
(Manually) - external calibration

Deviation determined

Deviation after correction

9.2. GLP Printout for App "Mixing" and "Components"



Start date and time

Balance model

Serial number of balance

Version metrology software

Version application software

Weight of single components

Total weight of components

End of measurement date and time

Field for signature

9.3. Safety Levels (Secura Only)

Secura monitors constantly if:

- Balance is properly leveled.
- Calibration and adjustment is required.
- USP minimum sample weight requirement is fulfilled.

Hint:
Your will find Safety levels in the menu settings for "Weighing" (Secura only).

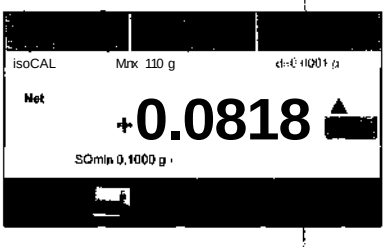
Safety Level "High"

If one condition monitored by Secura (Leveling, Calibration or minimum sample weight) is not fulfilled, warning messages will appear instantly. Also data transfer to printer or computer is blocked immediately. Only if all conditions are fixed, warning messages will disappear and the data will be transferred again. Invalid data will not be transferred -» Highest security.

Safety Level "Standard"

If SQmin requirement is not fulfuilled:

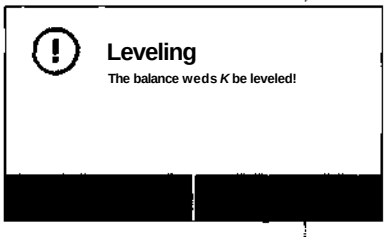
- Reading remains grey.
- Black warning symbol at the unit.
- SQmin value remains red.
- But: Printing and Data transfer is possible and values on the printout will be marked with an attention mark.



If balance is not properly leveled or need to be calibrated:

- Red Button "Level" or "isoCAL" appear immediately.
- Reading remains grey.
- Black warning symbol appears immediately.
- Printing or data transfer is possible, but value will be marked with an attention mark

After 60 sec a prompt message appears and requires action. See picture for "Leveling". Printouts will show message "Stat Invalid".



If prompt is aborted, above mentioned will start from the beginning.

Safety Level "Low"

If:

- SQmin is not fulfilled -» SQmin Value remains red.
- Balance need to be leveled -> Red Button "Level" appears immediately.
- Balance need to be calibrated -» Red Button "isoCAL" appears immediately.

No other safety actions!

9.4. Draft Protection Ring (Secura Only)

This diagram shows the typical effect of the Secura draft protection ring under in laminar flow. The effect of the wind is reduced. Results depend on situation on site.