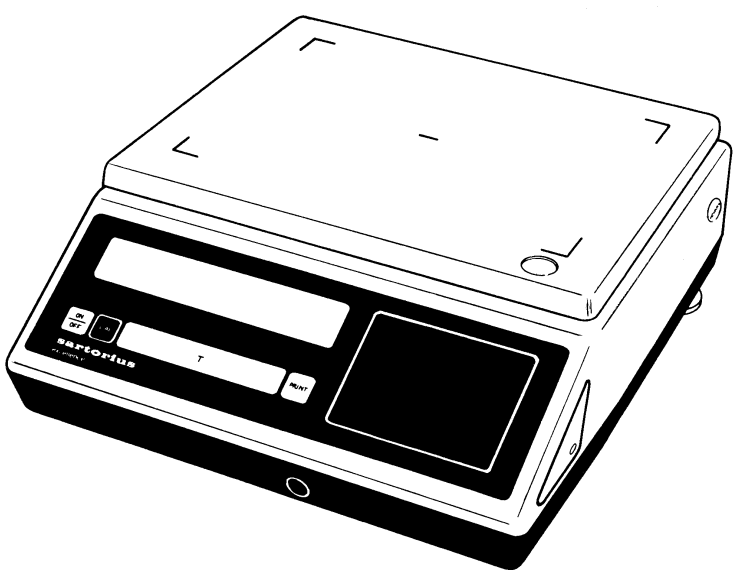
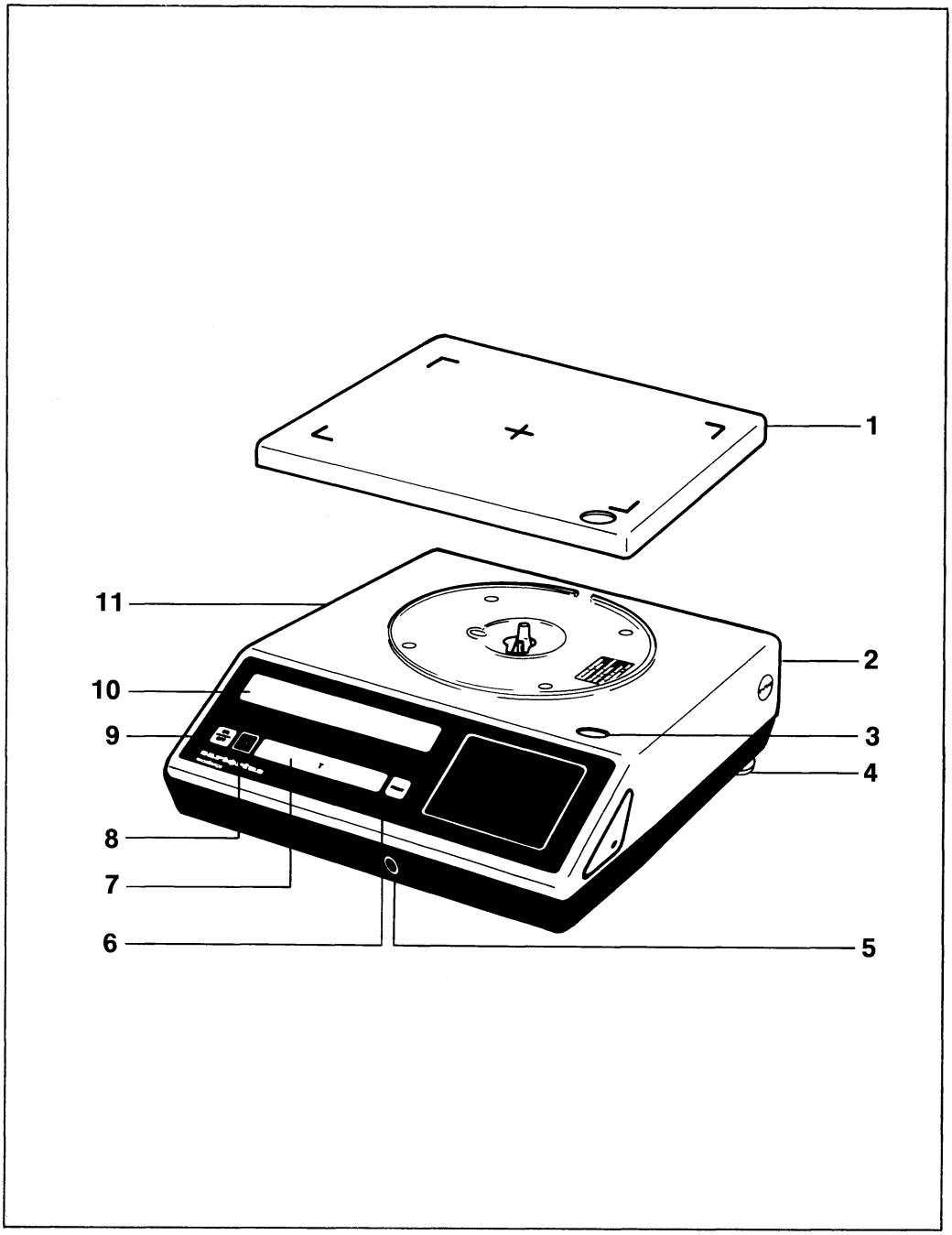
Sartorius excellence
E 5500 S, E 8100 P,
E 12000 S.



Electronic Toploaders
Installation and operating instructions

sartorius



1	Platform	**7**	Tare button
2	Power connection, fuse, voltage selector	**8**	CAL button
3	Level indicator	**9**	ON/OFF button
4	Levelling screw	**10**	Weight display
5	Unlocking switch	**11**	Manufacturer's label
6	PRINT button (functions only if toploader has a data output)		

Sartorius laboratory.
E 5500 S, E 8100 P, E 12000 S.

With this Sartorius toploader you have acquired a top-of-the-line, sophisticated electronic device that will lighten your daily workload.

Please read this manual carefully before starting to work with your new toploader.

Technical Data

Model		**E 5500 S**	**E 8100 P**	**E 12000 S**
Weighing range	g	5500	800/1600/4000/8100	12100
Readability	g	0.01	0,01/0,02/0,05/0,1	0,1
Tare range (by subtraction)	g	-5500	-8100	-12100
Standard deviation	g	≤± 0.01	≤± 0,01/0,01/0,025/0,05	≤± 0,05
Max. linearity	g	≤± 0.02	≤± 0,02/0,02/0,05/0,1	≤± 0,1
Stabilization time (typical)	s	2		
Display update	s	0.1 ... 0.8 (user-selectable)		
Adaption to ambient conditions and application requirements		by user-selection of 4 optimized filter levels		
Stability range	d	0.25 ... 64 (user-selectable)		
Ambient temperature range	K	+273 ... +313		
Sensitivity drift within 283 … 303 K	/K	≤± $2 \cdot 10^{-6}$		
Deviation of the readout when the balance is tilted 1:1000	g	≤± 0.01		
Pan dimensions	mm	235 x 190		
Balance housing (W x D x H)	mm	252 x 275 x 84		
Net weight	kg	8		
Line voltages, frequencies	V Hz	100/120 V/220/240 V, 50 - 60		
Consumption	VA	8		
Interface		RS 232 C/V24 – 28, RS 423/V10; 7-bit; parity: even, mark, odd, space; transmissions rate: 150 ... 9600 Baud		

Installation instructions

Choose a suitable installation site largely free of

- heat radiation
- aggressive/corrosive substances
- vibrations
- drafts.

Despite unfavourable operating conditions, your MP8 toploader will deliver accurate weight results, if you adapt it to the prevailing conditions at the point of use by programming the appropriate code for the digital filter and the stability range via the balance operating program. For this purpose, please refer to the final pages of the English section.

After connection to line power, allow for > 30 minutes warm up.

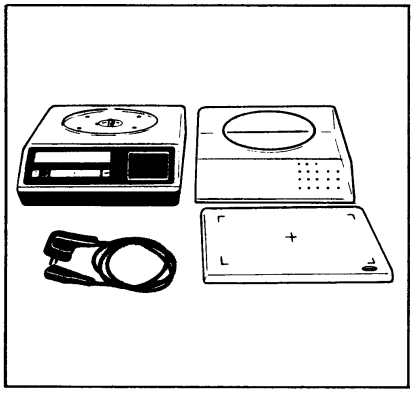
Important!
Unplug the power plug before connecting or disconnecting peripherals.

Accessories

Calibration weight for:		
E 5500 S	5000 g	7072 13
E 8100 P	5000 g	7072 13
E12000 S	10000 g	7072 18
Data output		YDO 01 E
Integratable keyboard “Data Input” with & = C for parts counting = F for formulation = A for animal weighing		YDI 01E-**&
Printer “Data Print”		YDP 01
Carrying case		6067 12
Theft prevention lock		6087

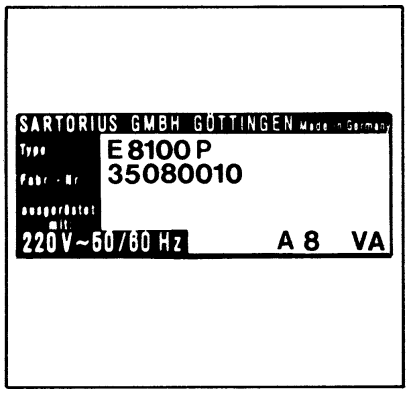
Complete Consignment

Please complete the guarantee card, indicating the installation date, and return the card to your Sartorius dealer.



Complete consignment.
A complete consignment consists of the illustrated components.

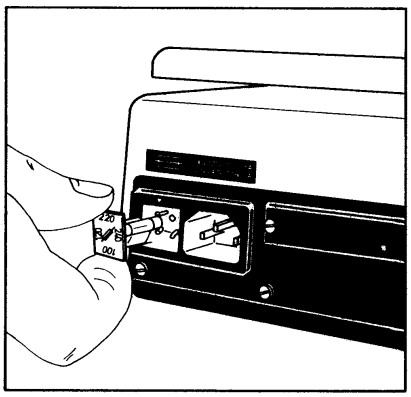
Startup



Install the protective cover with the adhesive points and install the platform.

The operating voltage was set to 220 V at the factory.

Adaption to your local line voltage:
set the voltage selector **(2)** to your local line voltage.
Write the new voltage setting on the manufacturer's label **(11)**.
Whenever you change the operating voltage to 100/120 V, you must switch fuses:
exchange the T 160 mA fuse **(2)** for the T 315 mA fuse that is included in the toploader.

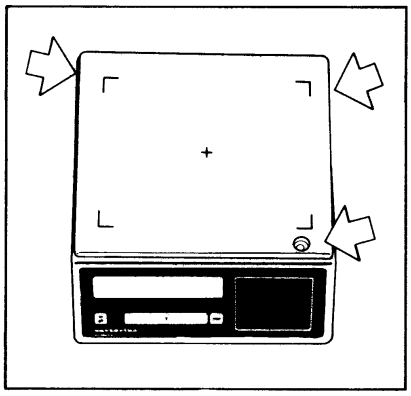


You will finde the fuse plugged into the rear panel together with the voltage selector.

100/120V-T315mA
220/240 V-T160 mA.

At the point of use, plug the line cord into a properly instalied line outlet.

If you have to use a line outlet that lacks the ground wire, make sure you ground the toploader itself.



Level the toploader using the levelling screws **(4)** such that the air bubble sits in the circle on the level indicator **(3)**.

Operation

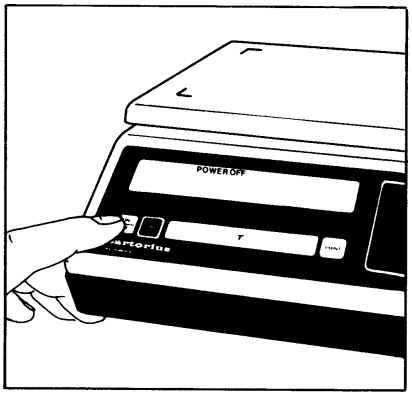
The weight display shows the following special Status messages for your information:

BUSY
The processor is still busy processing a function and will not accept any other commands to perform functions at this time.

STANDBY
The display has been turned off with the ON/OFF key (7) and the balance is now in the ready-to-operate mode so that it does not require warmup.

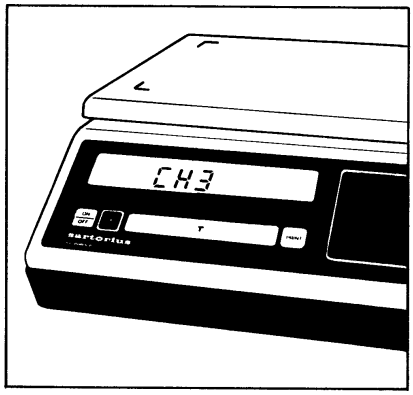
POWER OFF
The balance was disconnected from line power (power failure or outage, reconnection to line power after balance was un-plugged).

CAL
The calibration function has been activated.

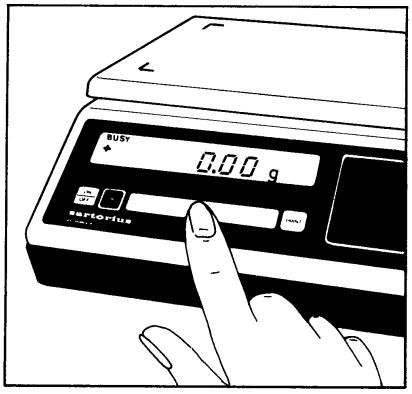


Use the ON/OFF button **(9)** for switching on or off.
You can also switeh the toploader on with the tare button **(7)**.

After connection to line power, only the weight display will go off whenever you switch the toploader off. The electronic circuits remain energized (STANDBY). This feature lets you operate the toploader the moment you switch it on, without having to wait for warmup.

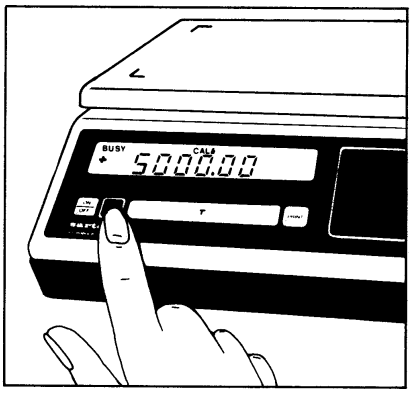


After power-on, a test of all essential electronic functions is automatically run. Successful completion of the test is indicated by 0.00 g/0.0 g in the weight display.



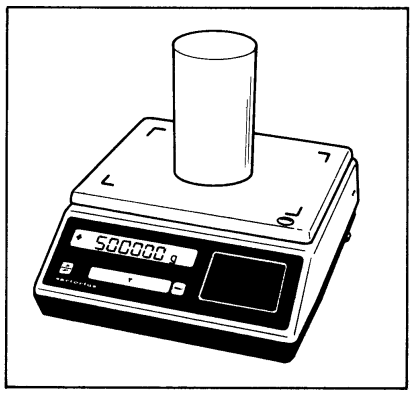
You must zero the display before weighing, if you are using a Container or if the weight display does not read 0.00 g/0.0 g (or the equivalent with the weight unit of your choice).

Calibration



- This requires an accurate calibration weight -
Please refer to "accessories".

Clear the pan and depress the CAL button **(8)** for least three seconds until the calibration weight appears in the display.



Place the calibration weight in the center ofthe pan.

Now the weight unit symbol appears, and a beeper Signals the end of the calibration procedure.

You can disable the calibration function – see "Balance operating program". (The function is enabled whenever the balance operating program is in the "C" mode).

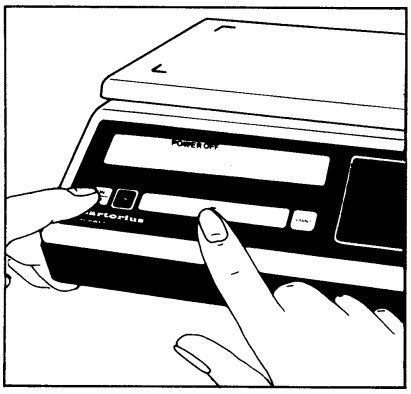
In addition to grams, this toploader gives you a variety of other international weight unit options to work with.

Select the weight unit you need from the table in the balance operating program, and set the appropriate code as described in section "Balance operating program."

Balance operating program

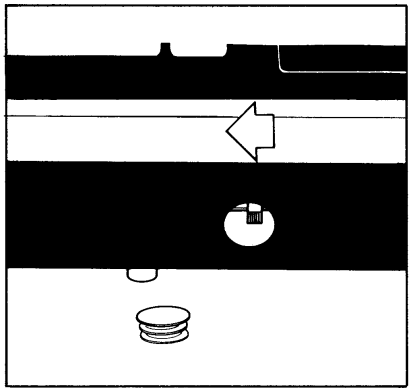
The balance operating program permits adaption of your top-loader to various ambient conditions at the point of use and to different weighing requirements, plus selection of various weight units.
At the factory, we have set the codes for a Standard program, which is protected by a locking function to prevent accidental changes.

The **"code"** is the information carrier of the operating program, It consists of three digits: one each for the page, the line and the word.



Access to the balance operating program:
Press the ON/OFF button while depressing the tare button at the same time. After completion of the automatic power-on test, the Status of the balance operating program appears in the weight display:

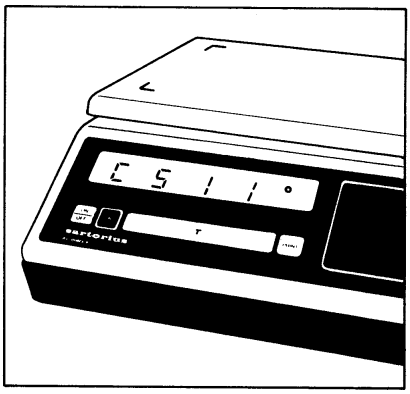
"L" Stands for the list mode. In this mode, you can only verity the code setting, but you cannot program new codes.
If you want to change a program code, you must first unlock the program access.



To do so, remove the cap over the unlocking switch **(5)** located at the forward right of your toploader and slide the switch in the direction of the arrow.

The display will Signal "C" representing the change mode, and you can now proceed to make the necessary code changes.

After the balance operating program has been called, the display will show a continuous numerical cycle from 0 to 5 representing the "page" selection, in addition to the Status signal "L" or "C". When your selected number for the "page" appears, push the tare button. The "page" code number now stops in the display, and the numerical sequence for the "line" Starts. Again press the tare button to stop the code number of your choice in the display, and your desired selection will be entered. Next, the numerical sequence for the "word" appears.



The appearance of the o-symbol indicates the actual setting.

To make changes ("'C" mode), press the tare button when the appropriate code appears.

Brief display of the o-symbol confirms your selection, followed by return to the "zero" representing the line.

To return to the weighing program:
push the tare button each time a 0 appears in the numerical cycle (word, line, page). If you have made code changes, your code entry is stored as soon as the display returns to the weighing mode.
Lock the program with the unlocking switch (display "L") and replace the protective cap.

Auto-zero

This toploader has an automatic zero tracking function. Any change off zero < 0.5 digit per second will be set to zero automatically.

Menu of the Balance Operating Program
(Active Parameters)

Code	Ambient Conditions	Factory setting
C 1 1 1	Very stable	■
C 1 1 2	Stable	
C 1 1 3	Unstable	
C 1 1 4	Very unstable	

Code	Stability Range	Factory setting
C 1 2 1	0,25 digit	
C 1 2 2	0,5 digit	
C 1 2 3	1 digit	
C 1 2 4	2 digits	
C 1 2 5	4 digits	■
C 1 2 6	8 digits	
C 1 2 7	16 digits	
C 1 2 8	32 digits	
C 1 2 9	64 digits	

Code	Display Format	Factory setting
C 1 3 1	Last decimal ON	■
C 1 3 2	Last decimal OFF	
C 1 3 3	Last decimal at stability	
C 1 3 4	All decimals at stability	

Code	Tare parameter	Factory setting
C 1 4 1	Without stability	
C 1 4 2	At stability	■

Code	Auto Zero	Factory setting
C 1 5 1	ON	■
C 1 5 2	OFF	

Code	Calibration	Factory setting
C 1 6 1	Accessible	■
C 1 6 2	Accessible blocked	

Code	Program Lock	Factory setting
C 4 1 1	OFF	
C 4 1 2	ON	■

Code	Acoustic Signal	Factory setting
C 4 3 1	ON	■
C 4 3 2	OFF	

Code	Weight Units[1])		Factory setting
C 5 1 1	Grams	g	
C 5 1 2	Kilograms	kg	■
C 5 1 3	Carats	ct	
C 5 1 4	Pounds	lb	
C 5 1 5	Ounces	oz	
C 5 1 6	Troy ounces	ozt	
C 5 1 7	Parts/pound	o	
C 5 2 1	Hong Kong taels	tl	
C 5 2 2	Singapore taels	tl	
C 5 2 3	Taiwan taels	tl	
C 5 2 4	Grains	gr	
C 5 2 5	Pennyweights	dwt	
C 5 2 6	Mommes	o	
C 5 2 7	Milligrams	o	
C 5 2 8	Austrian carats	o	

C 5 2 0	Call Program Line
C 5 0	Call Program page
C 0	**End of programming**

Additional Parameters for the data Output format at the interface port and for calculation programs are available on request.-Please refer to the “Accessories."

[1]) **You can choose any weight unit as long as it can be displayed in the particular weighing range you selected (for example do not set the code for "kg" when you are using a 0.1 mg balance).**

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