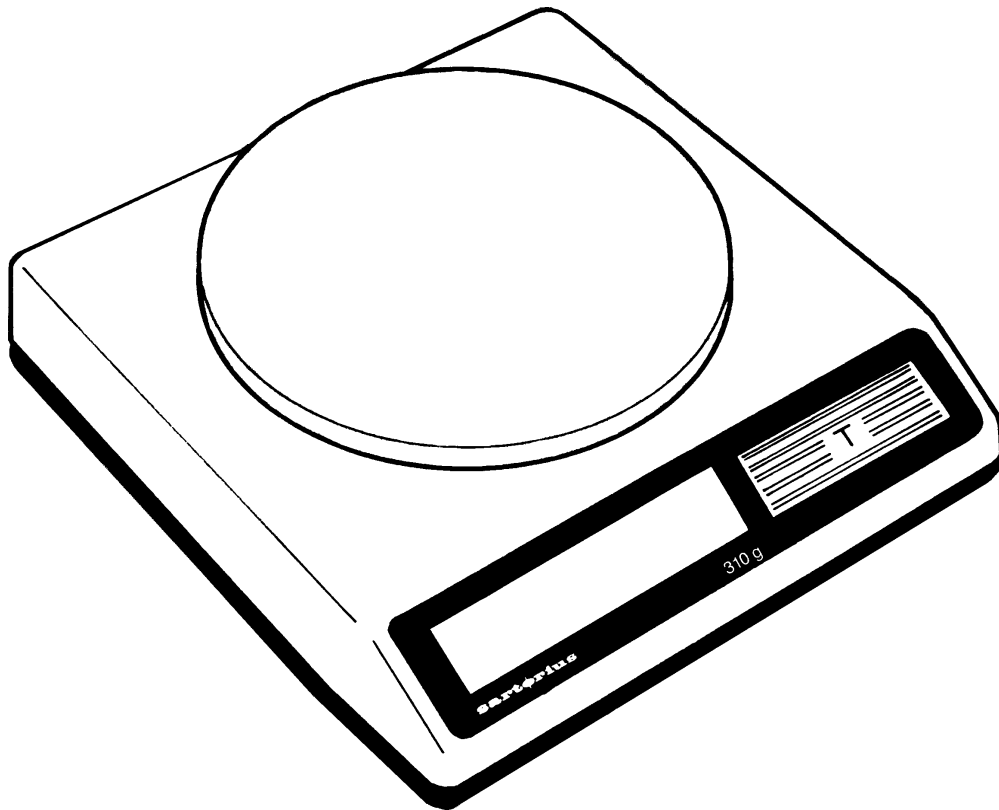

Electronic Toploaders
1401 MP8, 1402 MP8, 1403 MP8, 1409 MP8

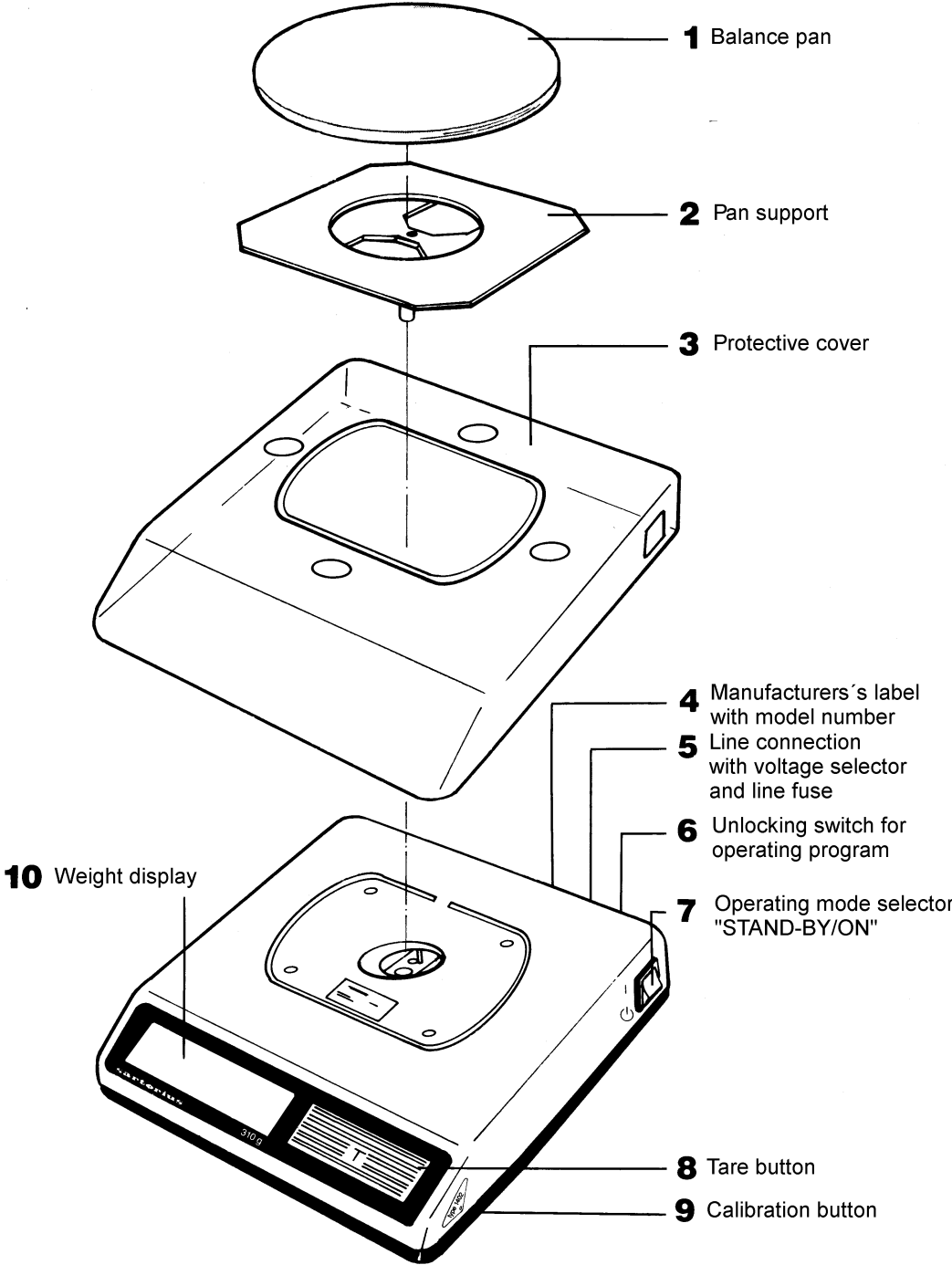


Installation and Operating Instructions

sartorius

Electronic Toploaders

1401 MP8, 1402 MP8, 1403 MP8, 1409 MP8



Technical Data				
Model	1401 MP8	1402 MP8	1403 MP8	1409 MP8
Weighing range	3600 g	310 g	6100 g	610 g
Readability	0,1 g	0,01 g	0,1 g	0,01 g
Standard deviation (reproducibility)	$\pm \leq 0,05$ g	$\pm \leq 0,01$ g	$\pm \leq 0,05$ g	$\pm \leq 0,005$ g
Max. linearity deviation	$\pm \leq 0,05$ g	$\pm \leq 0,001$ g	$\pm \leq 0,1$ g	$\pm \leq 0,01$ g
Taring range (by subtraction)	3600 g	310 g	6100 g	610 g
Stabilization time (typical)	2 s	2 s	2 s	2 s
Adaptation to environment and type of application	four optimised digital filters			
Display update	0,1 ... 0,8 s (selectable)			
Ambient temperature range	273 K ... 313 K (0°C ... +40°C)			
Sensitivity drift (ambient temperature range 283 K ... 303 K)	$\pm \leq 1 \cdot 10^{-5}/K$	$\pm \leq 1 \cdot 10^{-5}/K$	$\pm \leq 5 \cdot 10^{-6}/K$	$\pm \leq 5 \cdot 10^{-6}/K$
Line voltage	100 V/ 120 V / 220 V 240 V(-15% ... +10%)			
Frequencies	50-60 Hz			
Power consumption	8.5 VA	8 VA	9 VA	8 VA
Data output (option)	RS 232 C-S/ V 24 – V 28 /RS 423 / V 10			

Installation Notes

Avoid vibrations, drafts, exposure to heat and aggressive environmental conditions which will affect the weighing result or the balance itself.

Allow a warm-up period of 30 minutes after connecting balance to line voltage.

Delivery includes

1 electronic toploader
1 balance pan
1 pan support
1 power cable

Important

Connect or disconnect peripheral devices only after pulling off power plug!

Accessories

Vibration spatula for dosing of powdery or granular substances 6025

dust cover 6960 1401

calibration weights for
1401 MP8 (2 x 1000 g) 7072 08
1402 MP8 (1 x 200 g) 7072 17
1403 MP8 (1 x 5000 g) 7073 13
1409 MP8 (1X 500 g) 7072 16

Integrated Keyboard »Data Input« with 4 function keys and set of program cards 73461xxx-1

1)External keyboard »Data Input« with 4 function keys, numerical keys and set of program cards 73432xxx

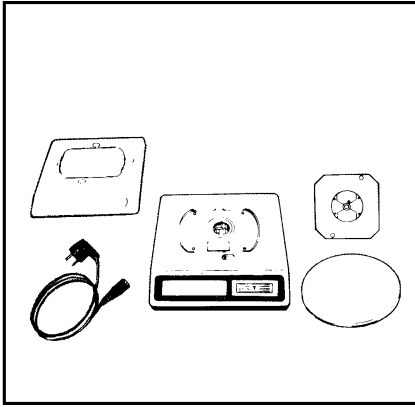
2)Printer »Data Input + Data Print« with 4 function keys, numerical keys and set of program cards 73802xxx

Set of program cards for statistics/ density determination:
for 1) 73422xxx
for 2) 73812xxx

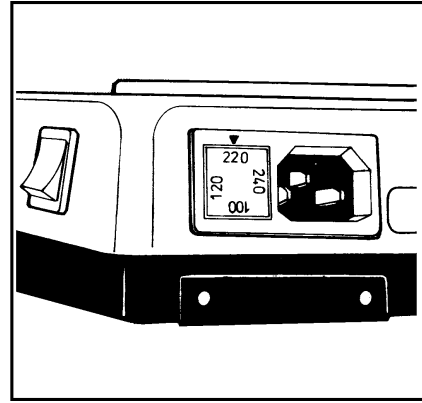
Data Print »Data Print« 7279

Data output 735734

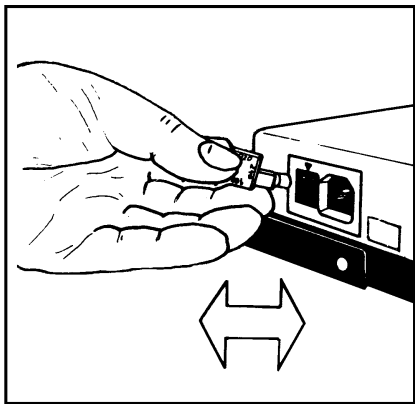
xxx = programm no.



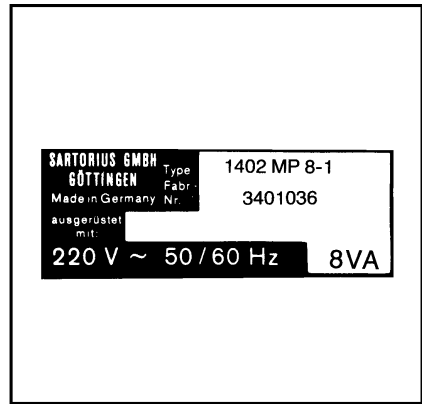
Remove from packing:
 electronic precision balance, balance pan, pan support, dust cover, power cable.



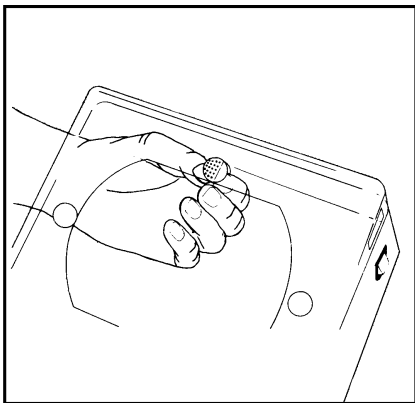
Check the factory setting of the voltage selector
 and compare it with the available line voltage.



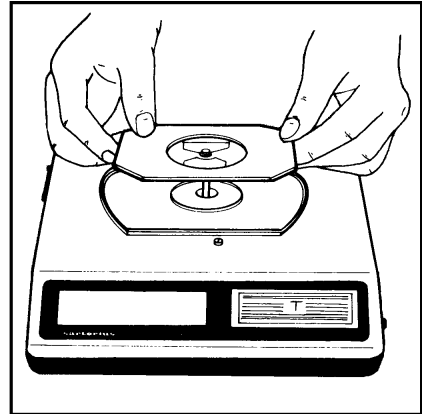
Correct the voltage: pull out and turn the voltage
 selector. Plug in correct voltage across from the
 arrow.



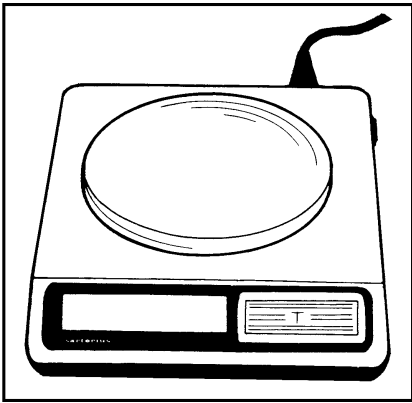
Write down the corrected voltage on
 manufacturer's label.



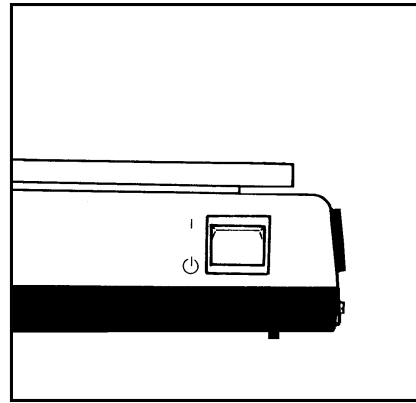
Remove the adhesive points and push hood into
 the balance.
 Make certain the hood does not touch the pan
 support or pan.



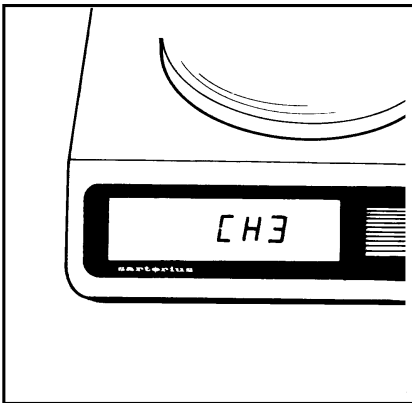
Install pan support.



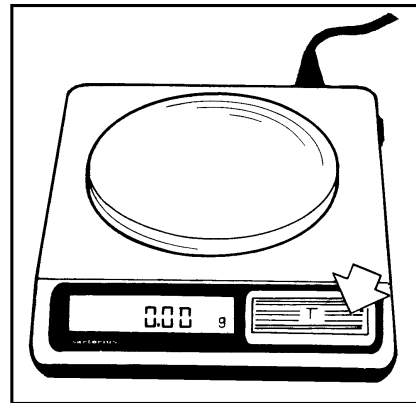
Fit pan onto support and make power connection (5).



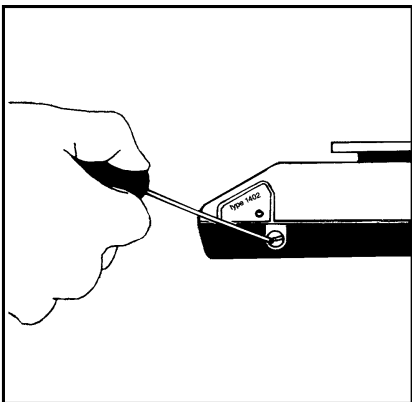
Operating mode switch
 STAND BY/ON. "Stand by" – all components subject to wear are turned off. "I" – unit is instantly read to operate after completion of the Autocheck.



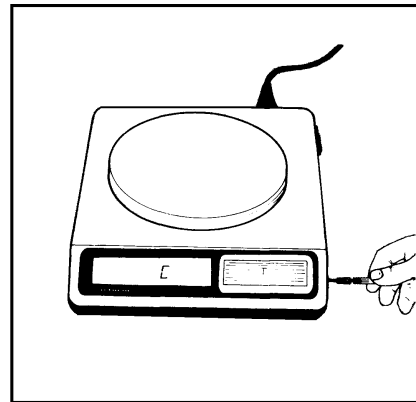
Autocheck:
 Balance electronics are being checked for correct function. In case of defect, a code number freezes in the display (e.g. "CH 3")



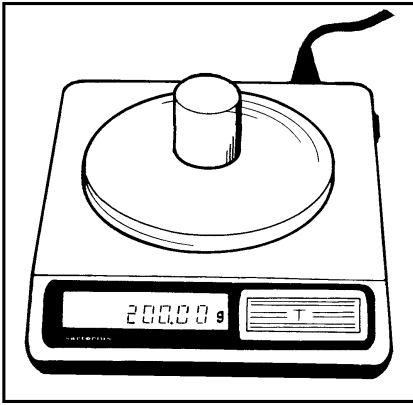
Taring: press tare button (8) display shows 0.00 g (0.0 g).



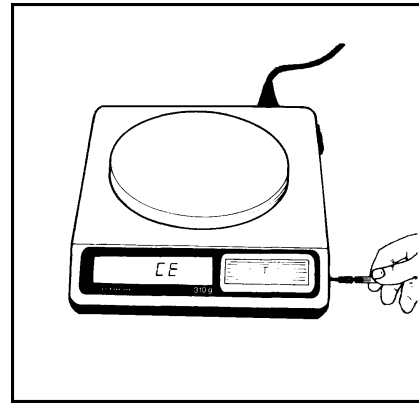
Calibration: Remove protective cap from the calibration button, (9) tare balance. Display (10) shows 0.00 g (0.0 g).



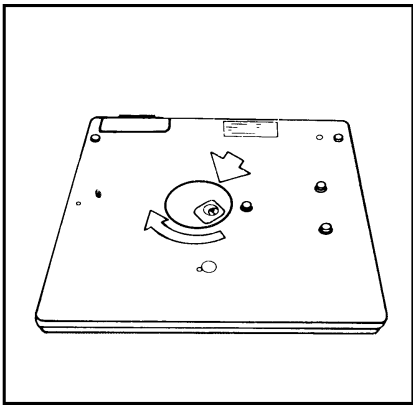
When display shows 0.00 g (0.0 g), press calibration button (9). Display shows "C".



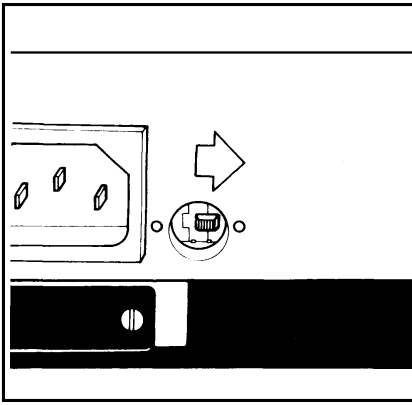
Put calibration weight on pan.
When display = calibration weight, remove the weight, tare, replace weight on pan.
Display = calibration weight $\pm 0.01\text{g}$ ($\pm 0.1\text{g}$).
For calibration weight, see accessories.



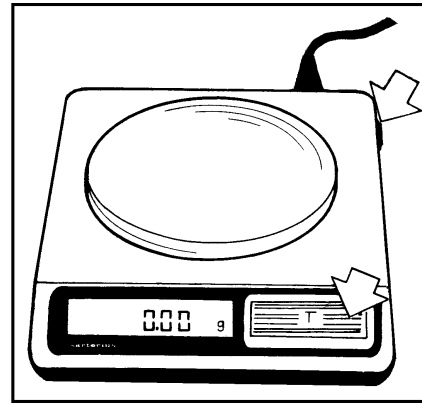
If you get "CE" display, tare display and repeat calibration procedure.



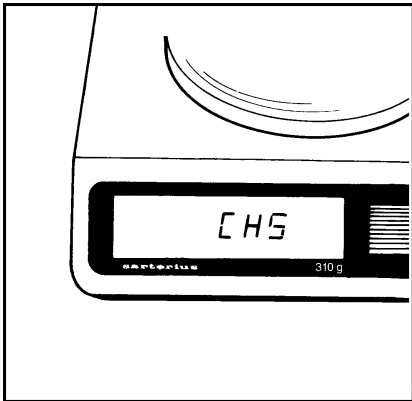
For below-balance weighing, turn cover on the bottom of the balance revealing below-balance weighing device.



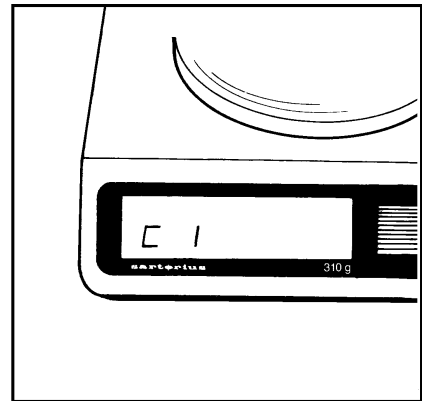
Unlocking the operating program
 Switch to "0" mode. Slide unlocking switch to right.



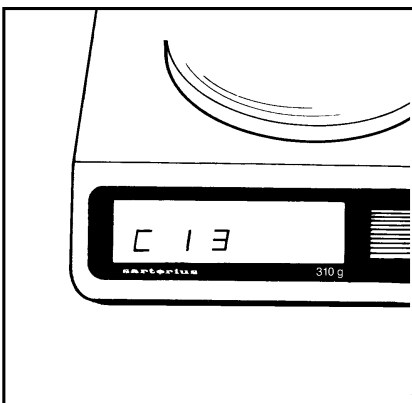
Keep the zero button, depressed and switch to "1" operation.



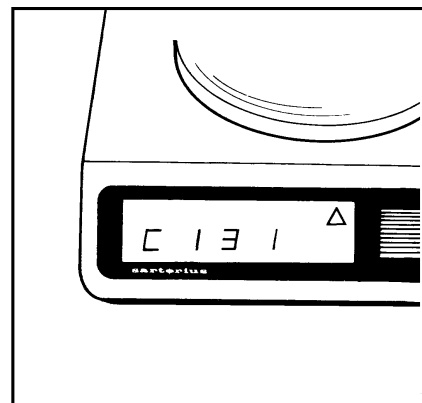
When display shows CH 5, release the zero button. Display now shows C 0 ... 4.



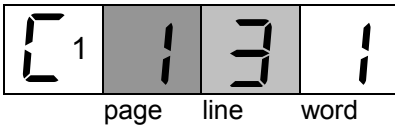
Parameter input
 The display first shows the "pages" as a continuous sequence of numbers. When the planned number appears, confirm it by pushing the zero button. Suppose you have confirmed the "1".



Now the "lines" appear in the same manner. Again confirm your selection with the zero button, for example the "3".



Finally, the "words" appear in the same sequence of numbers.
 Confirm your word selection with the zero button. Say you have selected the "1". The selected code - display format: last place "ON" - will be shown by a "△" lighting up.



Balance operating program
(Active Parameters)

Code

[1 1 1
[1 1 2
[1 1 3
[1 1 4

Digital filter

filtration normal
filtration amplified
filtration strong
filtration extreme

Code

[1 2 1
[1 2 2
[1 2 3
[1 2 4
[1 2 5
[1 2 6
[1 2 7
[1 2 8
[1 2 9

Stability range

0,25 digits
0,5 digits
1 digit
2 digit
4 digit
8 digit
16 digit
32 digit
64 digit

Code

[1 3 1
[1 3 2
[1 3 3
[1 3 4

Display format

last decimal ON
last decimal OFF
last decimal at stability
all decimal at stability

Code

[1 4 1
[1 4 2

Tare mode

without stability
at stability

Code

[1 5 1
[1 5 2

Auto Zero

ON
OFF

Code

[4 1 1
[4 1 2
[4 1 0
[4 0
[0

program lock OFF
program lock ON
call program line
call program page
END of programming

Factory setting

Adaption to environment and application

To obtain Optimum adaption of your toploader to the prevailing operating environment and to the application specifics, use the "Balance operating program" to the right, which gives you a wide choice of suitable Parameters. In addition, we can provide data Output and calculator program settings. If you are interested, please request this special list.

Verification of programmed parameters

If you activate the tare button while switching on the balance, you can call the current parameter setting into the display. "L" display means operating program is locked. "C" display means the program is unlocked and accessible for program changes. Procedure is described overleaf.

Parameter input

Use the parameter list to establish the combination best suited to your requirements. Note the appropriate codes.

Auto Zero

This toploader has an automatic zero setting. Any changes off zero that are < 0.5 digits per second will be set to zero automatically.

In case you want the operating program to remain accessible at all times, set code 411 (listed under Special information)

Once you have selected your code, you can return into the line, the page or the weighing program by confirming the "0". Following this, do not switch the balance off before stability indicator (g) appears.

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