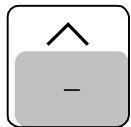


LC-PVolume

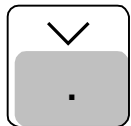
Short Operating Instructions

Functions of general system keys



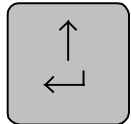
Previous or next position for program selection.
The DeltaTrac indicates the actual memory position, like the minute hand of a watch.

or



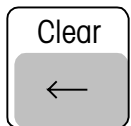
In menus: Stepping up or down on the **menu positions**.

Input of alphanumeric data: [^], [v] to select A...Z/a...z, . (decimal point), - (dash) and space, [↵], or 0...9 for the next character, and [↵] to conclude the input. If the last character inputted is alphanumeric, press [↵] [↵] to conclude the input.



In (Conf) or (Prog), [↵] **stores the displayed value**. The new entry is recorded on the printer. Otherwise the printer's **paper feed advances**.

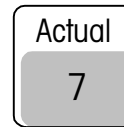
Confirmation for various functions and entries.



In alphanumeric entries: **Deletion of last inputted character/number**, if [↵] has not yet been pressed. When there is no digit to the left of the cursor, the old value is again shown. Pressing the key again provides an empty input. Pressing again terminates the entry function.

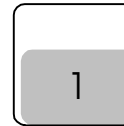
The current parameter can be **cleared** by pressing [Clear] immediately after the parameter value is displayed. The balance display shows “_”. Confirm by pressing [↵].

Pressing and holding down [Clear] for a few seconds will **abandon the pipette test** that is currently running. Confirm 'abort' by pressing [↵] or refuse by pressing [Clear] again.



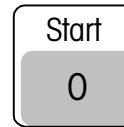
Displays the **current program** and its position on the DeltaTrac.

Pressing and holding down this key for a few seconds will switch from print mode to **LC-PVolume mode**.

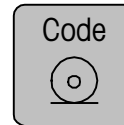


Pressing and holding down this key for a few seconds will switch from LC-PVolume mode to **print mode**.

Back to LC-PVolume mode: see [Actual].



Starts the volumetric test using the parameters defined for the current program position.



Pressing and holding down [Code] for a few seconds while switching on LC-PVolume: The **character set** is printed out.

Entry and printout of a **free code**: The code entered must always be concluded with [↵].

No program is active (standby mode):











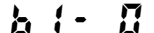

If [Code] is pressed directly following [>Conf], a **verification record** is printed out.






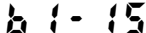





Pressing and holding down [Code] for a few seconds: A **program catalog** is printed out as an overview of LC-PVolume.

Printer mode :

Printout of the next stable value.

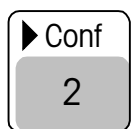
Volumetric test

Step	Key	Display	Procedure
1	 		Select an instrument using the [^] and [v] keys. Prepare the test instrument.
2			LC-PVolume is starting the volumetric evaluation using the test parameters defined for the current storage position.
3			Enter the temperature reading (15... 30°C), then press [↵].
4			Enter the barometer reading, press [↵] Range: 600 to 800 mmHg 800 to 1067 mbar 800 to 1067 hPa (See configuration of the system: C11)
5			Place a sample beaker containing water on the balance.
6			LC-PVolume is ready to press [Timer]
7			The countdown display will appear as soon as the balance gets a stable value.
8		 	The evaporation test (blank) has started. Note: For the blank tests, no water is added into the beaker.
9			The weighing result (mg) is displayed. It shows the amount of evaporated water during the countdown time.

10	 or 		If the current individual test is acceptable, press [Accept]. The weight result will be printed out. If an error occurs during the test cycle, press [Reject]. The weight result will be discarded and the sample counter will be reset.
11			LC-PVolume will again prompt the user to press [Timer].
12			Wait for the countdown display to appear.
13		 	Dispense water from the pipette into the beaker.
14			The weighing result (mg) is displayed on the balance.
15	 or 		Like the blank tests, each sample test can be accepted or rejected.
16			Repeat Steps 6 to 15, until the last of the sample/blank tests are done.
17			The end of the evaluation is signaled by the prompt for the second temperature reading.

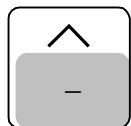
After the second temperature is entered, LC-PVolume prints out the calculated mean volume and the results of the statistical computations (imprecision and inaccuracy).

Configuring the system

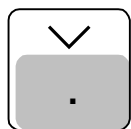


Enters the system configuration and proceeds to the next configuration parameter.
When [Print] is pressed directly after [>Conf], a balance/ scale check is carried out, according to GLP guidelines.

PASS Request to enter the password, ([↵] if no password is defined).



Moves forward to the next configuration parameter.



Moves back to the previous configuration parameter.

Configuration parameters, begin and terminate each entry with[↵]:
(characters printed in **boldface** are the default settings):

C1 PASS	Password up to 6 digits (0...9, . and -)	0...9
C2 Lang	Language: 1=German, 2=French, 3=English	1... 3
C3 dAtē	Date, e.g. 13.12.95 (Europe) or 12-13-95 (US format)	
C4 HH.MM	Time in hours and minutes, entry in 24-hour format	
C5 nrPg	Number of possible programs (E.g. if there are only 5 programs used, set C5 to "5";Default position -59- is accessible only when C5 is set to "60")	1... 60
C6 ABab	0=Upper case , 1=Mixed case letters (If set to "1", the scrolling alphanumeric character loop will also include lower case letters and "/").	0/1

C7 PrtM Printer mode: **0=Inactive** (Volume mode) **0/1/2**
1=no 'TA' and no leading 'S' will be printed out
2=All received data will be printed out

C8 7/8 For printer mode only: , **7/8**
7=7 bit, even parity, no handshakebaudrate=2400
8=8 bit, no parity, Xon/Xoff, baud rate=2400

Note: Restart LC-PVolume to activate new settings of C7/C8.

C9 LCo Number of line feeds after code input 0...**3**...255

C10 LOt Number of line feeds after miscellaneous printouts 0...**3**...255

C11 bUn Barometer unit: **1=mmHg**, 2=mbar, 3=hPa **1/2/3**

C12 reJ Printout of rejected values: 0=no printout **0/1/2**
1=printout of total number of rejected values
2=printout of total number and of all (max. 30) individual rejected values

C13 doo Automatic door mode (AT/MT balance): 0=none **0/1/2/3**
1=open, 2=open/close, 3=close

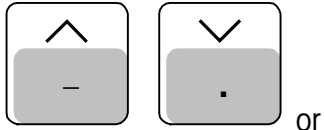
C14 eva Working with evaporation (blank) test: 0=no, **1=yes** **0/1**
0: Humidity trap is recommended

To print out configuration, press [Code] when the balance display shows the configuration parameter "C1 Pass".

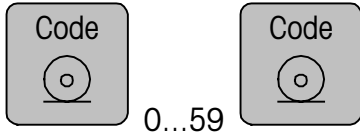


Quits the system configuration when the title of a configuration parameter ("C..") is on the display. Otherwise, press [↵] or [Clear] first.

Defining the program (test parameter)



Selection of the desired storage position of a new program (Display: -n- for empty positions, otherwise program name). The positions are shown by the DeltaTrac.



0...59



Pressing this key enters the program menu. Subsequent presses on this key switches to the next test parameter

[Print] directly after [>Prog]: Prints all test parameters.

PASS Prompt for password entry. Press [↵] if no password has been defined.

Select the desired test parameter with the keys [^] and [v]

The parameters may be entered or modified. Begin and terminate each entry with[↵]. **Bold face** for system default values.

P1 Inst Name of the volumetric equipment, up to 20 characters
[0]...[9] [↵]; [^] [v] for A to Z . - and space, [↵] for the next character, [↵][↵] to conclude the input.

Important: There has to be an input for this parameter.

P2 Opr Name of the operator, up to 15 characters, entry like P1

P3 no. Identification number, up to 20 characters, entry like P1

P4 noM Nominal volume to test [μl]: **0.0** 0.01 ... 10'000'000

P5 - n- Sample size: 4=Short, **10=Normal**, 30=Long 4/**10**/30

P6 Cy t Cycle time in seconds 1...**15**...99

P7 Eco EconoMode: **0=with instructions**, 1=Normal **0**/1/2
2=Compressed

```
P8 t1 Header line 1 .12. - 13.12.94 - 16:25 -- 7-
P9 t2 Header line 2 Text - THE QUALITY COMPANY --
P10 t3 Header line 3 .6. -----
P11 E 1 Footer line 1 .4. ----- 16:25 -----
P12 E 2 Footer line 2 empty
P13 E 3 Footer line 3 empty
```

Special header and footer lines (for P8...P13):

```
Entry: .1. Printout: -- 13.12.94 16:25:00 --
Entry: .2. Printout: --- 13.12.94 - 16:25 ---
Entry: .3. Printout: ----- 13.12.94 -----
Entry: .4. Printout: ----- 16:25 -----
Entry: .5. Printout: ----- 16:25:00 -----
Entry: .6. Printout: -----
Entry: .7. Printout: =====
```

With extra memory position N° at the right side of the printout.

```
Entry: .11. Printout: -13.12.94---16:25:00- 7-
Entry: .12. Printout: - 13.12.94 - 16:25 -- 7-
Entry: .13. Printout: ----- 13.12.94 ----- 7-
Entry: .14. Printout: ----- 16:25 ----- 7-
Entry: .15. Printout: ----- 16:25:00 ----- 7-
Entry: .16. Printout: ----- 7-
Entry: .17. Printout: ===== 7=
```



Quits and saves test parameter definitions.

Pressing and holding down [Code]: A program catalog will be printed out as an overview of all positions.