BA00489C/07/EN/15.13
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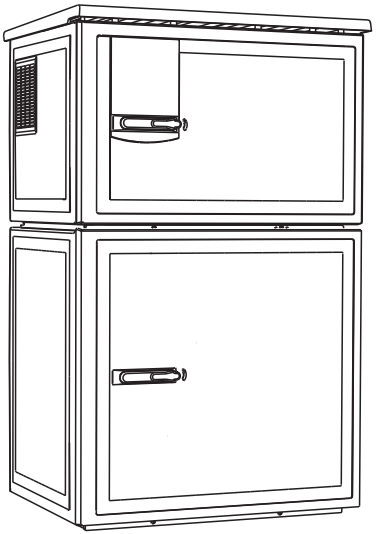
Valid as of:
Softwareversion 01.04.00

Operating Instructions
Liquistation CSF33

Automatic sampler for liquid media
Calibration



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About this manual

This manual describes how to calibrate the distribution arm and the sample volume.

This manual does not include the following:

- Setup/General settings
  --> Operating Instructions BA00479C "Commissioning"
- Display/Operation
  --> Operating Instructions BA00479C "Commissioning"
- Inputs
  --> Operating Instructions BA00487C "Operation & settings"
- Outputs
  --> Operating Instructions BA00487C "Operation & settings"
- Sampling programs
  --> Operating Instructions BA00487C "Operation & settings"
- Additional functions
  --> Operating Instructions BA00487C "Operation & settings"
- Data management
  --> Operating Instructions BA00487C "Operation & settings"
- Expert
  --> Internal Service Manual
- Diagnostics
  --> Operating Instructions BA00488C "Maintenance & diagnostics"

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1 Calibrating the distribution arm

It is only possible to calibrate the distribution arm in the version with multiple bottles.

The distribution arm must be calibrated if:
- The distribution arm motor has been replaced
- Error message "F236 Distribution arm" appears on the display

1. Select the number of bottles in the "Setup/Basic setup" menu.

2. Proceed as follows to calibrate the distribution arm:

Path: Menu/Calibration active

Function	Options	Info
▶ Distribution arm		
▷ Go to ref. point	Action	The reference run is started. The reference point is in the middle at the front. For versions with distributor plate, the reference point is at the arrow in the middle of the plate. For versions with distribution assembly the reference point is between bottle number 1 and the last one.

With ▷ Adjust you can correct the distribution arm if the unit does not move to the reference point correctly. Use the two arrow keys to correct the position.

3. Afterwards perform a distribution arm test in the "Diagnostics/Systemtest/Reset/Distribution arm" menu.

2 Calibrating the sample volume

2.1 Vacuum pump

The desired sample volume is set by manually adjusting the dosing tube.

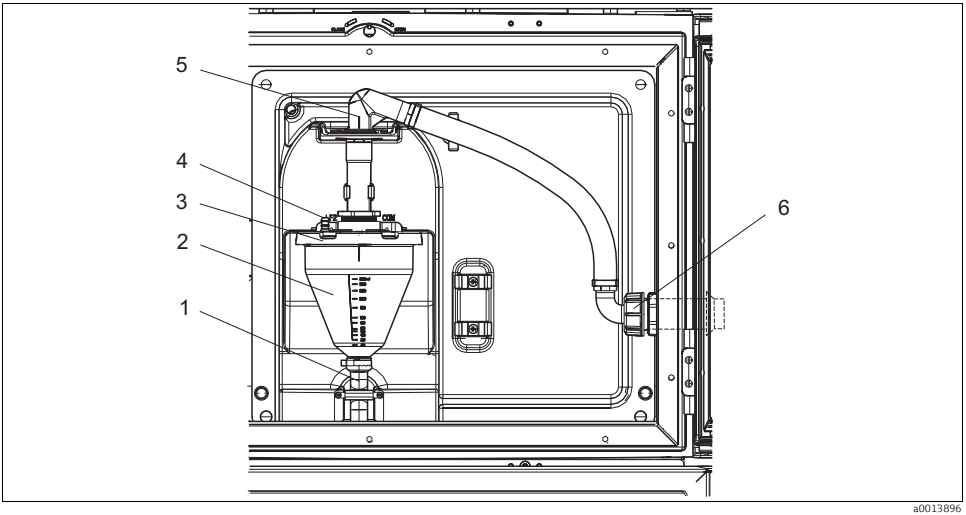
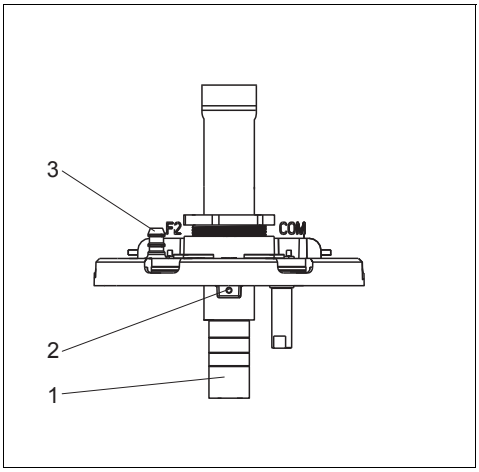


Fig. 1: Vacuum pump

1 Outlet hose
2 Dosing chamber
3 Dosing chamber cover
4 Air hose connection
5 Lock for intake hose
6 Thread adapter nut for intake hose

Proceed as follows to calibrate the sample volume:

1. Check the sample volume set under Menu/Setup/General settings/Sampling/Dosing volume.
2. Release the thread adapter nut on the intake hose (item 6).
3. Turn the intake hose to the "open" position at the hose lock (item 5) and remove the hose from above.
4. Release the air hose (item 4) and remove the dosing chamber (item 2) from the front along with the outlet hose (item 1).
5. Open the bayonet lock (item 3) and open the dosing chamber.



1 Dosing tube
2 Allen screw
3 Air hose connection

Fig. 2: Vacuum pump

1. Release the 2mm Allen screw with the key provided.
2. Set the sample volume by adjusting the dosing tube. Secure the dosing tube with the screw.
   Use the white scale (A) to dose without pressure.
   Use the blue scale (B) to dose with pressure.

3. Reinstall the parts in reverse order. Make sure that the contacts of the conductivity sensors are in the correct position.
4. Check that the dosing tube is set correctly by triggering a manual sampling routine.

2.2 Peristaltic pump

In order to calibrate the sample volume, a measurement beaker with a volume of at least 200 ml is required.

Proceed as follows to calibrate:

Path: Menu/Calibration active

Function	Options	Info
▶ Sample volume		
▶ 1-point calibration		
Distributor position	Options - Front - Bottle x - Back	Select the distributor position.
Sample volume	20 to 2000 ml **Factory setting** 100 ml	Set the sample volume.
▷ Start sampling	Action	The progress of the sampling operation is displayed.
Check whether the sample volume is correct. Use ▶ No to enter the sample volume actually taken, e.g. 110 ml. Use ▷ Yes to repeat the sampling.		
▶ 2-point calibration Use 2-point calibration for levels that fluctuate greatly. The second sampling point must be either higher or lower (height difference of at least 1 m).		
Distributor position	Options - Front - Bottle x - Back	Select the distributor position.
Sample volume	20 to 2000 ml **Factory setting** 100 ml	Set the sample volume.
▷ Start 1. sampling	Action	The progress of the sampling operation is displayed.
Check whether the sample volume is correct. Use ▶ No to enter the sample volume actually taken, e.g. 110 ml. Use ▷ Yes to repeat the sampling.		
▷ Start 2. sampling	Action	The progress of the sampling operation is displayed.
Check whether the sample volume is correct. Use ▶ No to enter the sample volume actually taken, e.g. 110 ml. Use ▷ Yes to repeat the sampling.		

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