



LSPoneQuick – User Guide

A short presentation of our software

Version 02.00

Advanced Microfluidics SA

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Document Purpose

This document shows the different possibilities of our LSPoneQuick GUI, given with a purchase of the LSPone.

Document Status and Revision History

<i>Version</i>	<i>Author</i>	<i>Release date</i>	<i>Modifications</i>	<i>Revised by</i>	<i>Approved by</i>
V01.00	Emilie Collot	26.05.17	First release version		
V02.00	Emilie Collot	25.08.17	Update for final stable version of LSPoneQuick		

Reference and applicable documents

Applicable documents

<i>Reference</i>	<i>Document description</i>
AD01	
AD02	

Reference documents

<i>Reference</i>	<i>Document description</i>
RD01	
RD02	

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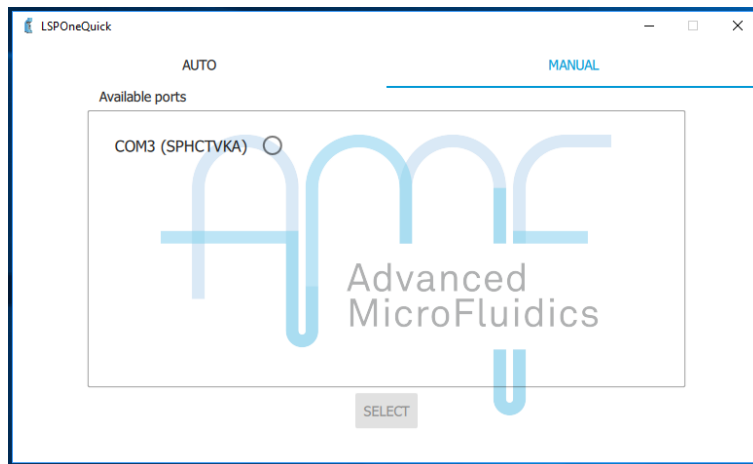
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1. Opening screen

When the opening screen shows up, the easiest is to follow the instructions. Turn the pump off and on again.



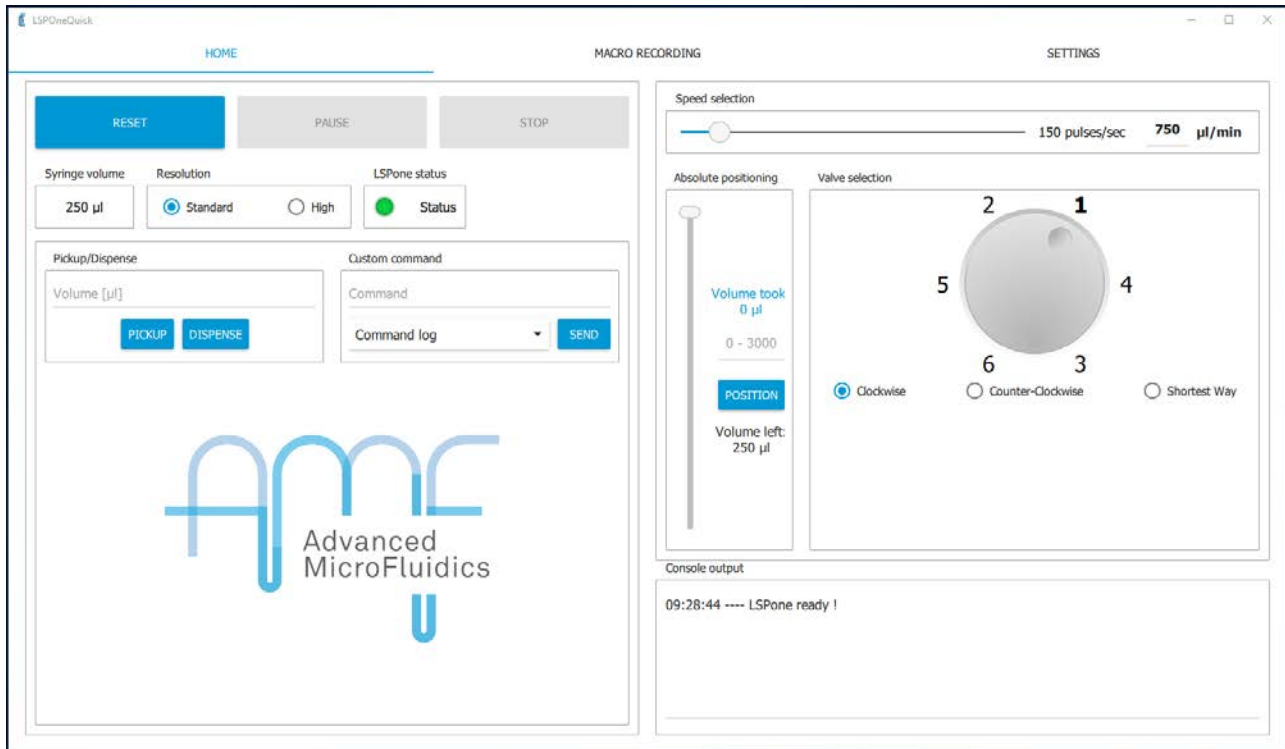
It is also possible to switch to Manual mode and select a specific serial port.



2. Home tab

Once the pump is connected, it should automatically initialise and bring you to the home tab.

Before doing anything with the pump, please check go to the settings tab to check that the settings correspond to the pump you have in front of you (syringe size, valve model)



If this is not the case, please click on *RESET*.

The home tab lets you:

- **Reinitialise the pump**
 - Click on *RESET*
 - Completely empties the syringe. Check that a waste is connected to port 1 for correct evacuation.
- **Stop the pump** at any time
 - Click on *STOP*
 - Requires you to reinitialise the pump after
- **Stop the pump** at the end of the current instruction
 - Click on *PAUSE*
 - Does NOT require a reinitialisation
- Shows the **syringe size**
 - Can be changed in the settings tab
- Choose the **resolution** of your displacement
 - Standard = the position of the plunger in the syringe is divided between 3'000 positions
 - High = the position of the plunger in the syringe is divided between 24'000 positions – useful when handling minimal quantities of liquid (e.g. up to 5 ul)
- Shows the **pump status**
 - Green = ready to receive the next command
 - Orange = currently busy

- Choose the **volume** that you would like to pickup/dispense at the next syringe movement
 - Pickup fills the syringe, dispense empties the syringe
- Add a **custom command**
 - *For advanced users only*
 - From the command set in the user manual, in the format: \1 + command + R
 - *E.g. the initialisation command would be \1ZR*
 - A history of your custom commands is kept in the “command log”. Just select an old command and click on *SEND* to launch the command.
- Enter the **speed** at which the syringe will be moving
 - The relation between the flow rate and the motor speed depend on the syringe size, as shown in the following table.

Motor speed [pulses/s]	Syringe size [ul]						Flow speed [ul/min]
	25	50	100	250	500	1000	
5	2.5	5	10	25	50	100	
10	5	10	20	50	100	200	
50	25	50	100	250	500	1'000	
100	50	100	200	500	1'000	2'000	
500	250	500	1'000	2'500	5'000	10'000	
1'000	500	1'000	2'000	5'000	10'000	20'000	
1'500	750	1'500	3'000	7'500	15'000	30'000	

- Choose the **absolute position** of the plunger in the syringe
 - Instead of moving the syringe using the quantity in ul, you can decide to move to a position.
 - *E.g. moving to position 0 ensures that you empty the syringe, regardless of the volume that is in it.*
- You can **select the port** on which you want to go using the valve selection
 - Simply click on the port number. If you are in “Click & Go” mode, that’s all. If not, then click on *MOVE*.
 - By default, the valve will turn in the clockwise direction. You will need to check the *counter-clockwise rotation* box to turn in the other direction. You can also automatically choose the closest path by selecting *Shortest way*.
- **Observe** what you are doing
 - The console at the bottom shows you the current state of the pump
 - If you right-click in the console, you can save or clear the log at any time.

3. Macro recording tab

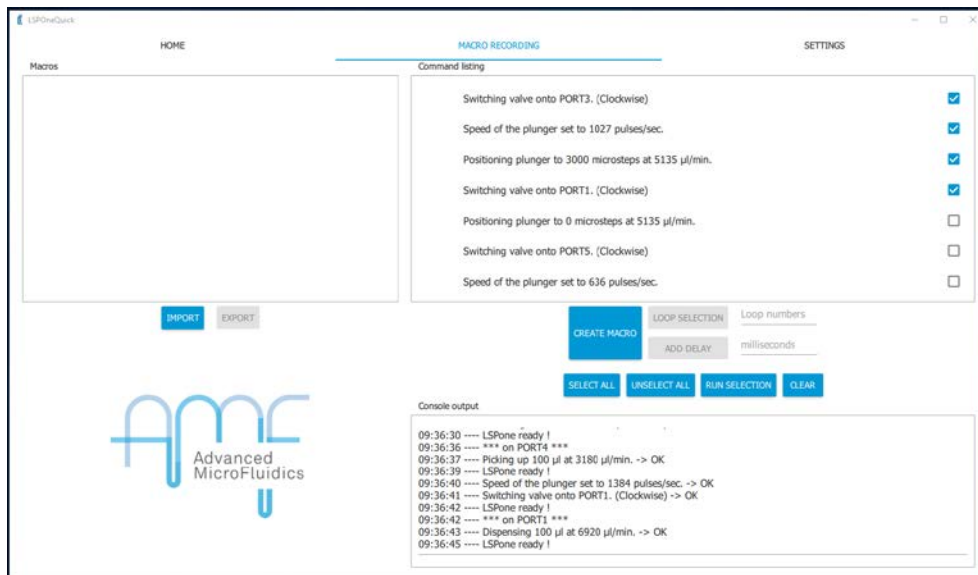
Any action that you perform in the home tab is automatically saved in the *command listing* of the *Macro recording* tab.

This allows you to control what you have done, to repeat it if you want to, and to save it for later.



Here are a few tips for how to use this tab:

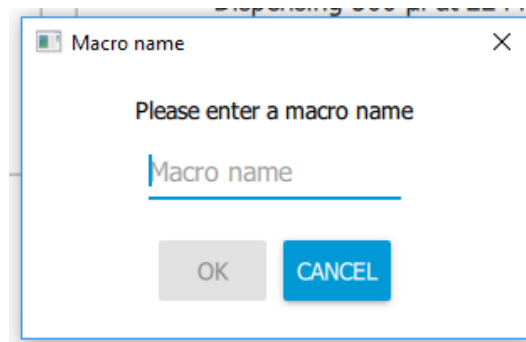
- Check the instructions that you want to deal with:



- If you simply want to repeat this set of instructions once, click on **RUN SELECTION**
- If you want to run this set more than once, enter a number of loops that you want on the *Loop number* line and click on loop selection. The number of loops will appear next to the instructions.
 - Only valid for consecutive instructions



- If you want to save the sequence that you created for future use, click on *CREATE MACRO*
 - A window will open asking for a macro name



- As you can see, a new macro has appeared on the left side.

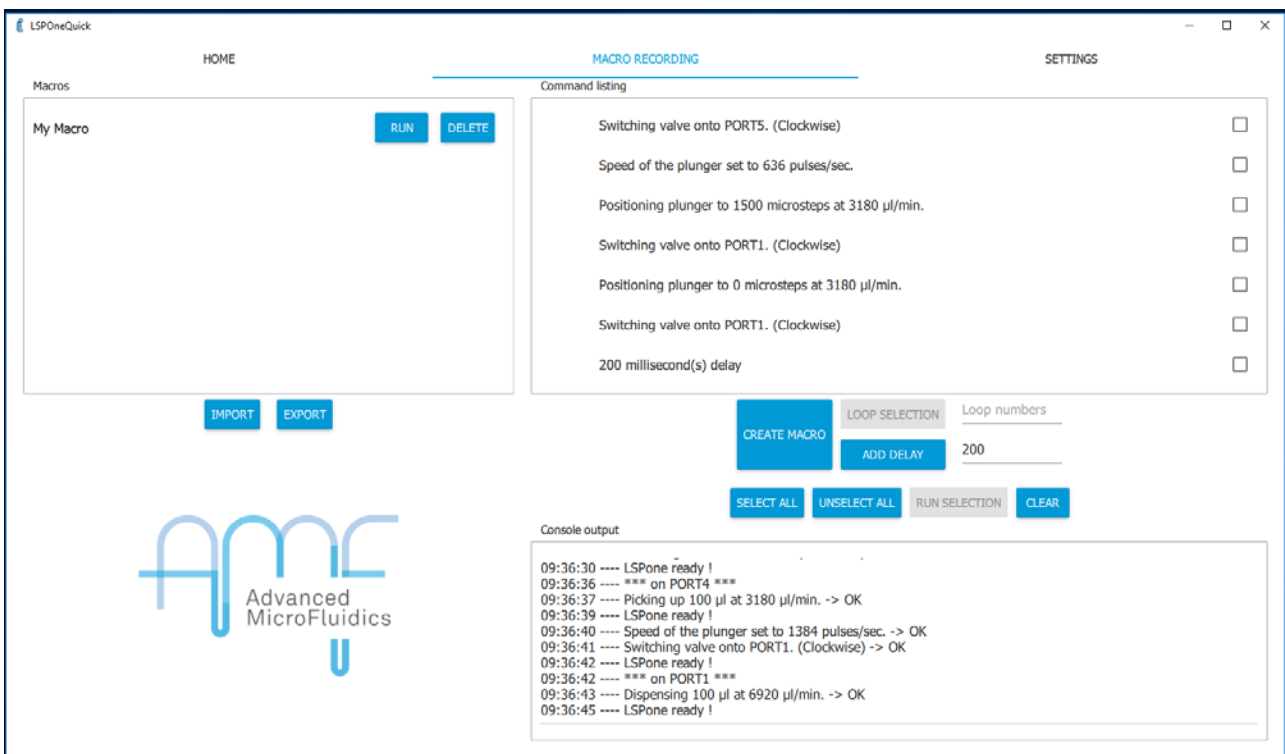


- To run this new macro, click on *RUN* next to the macro name.

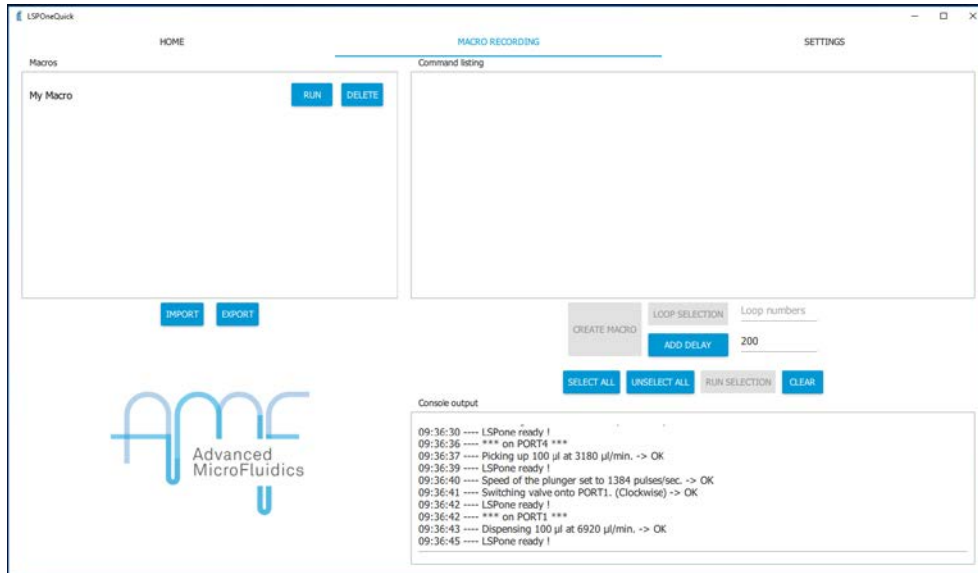
- **At this point, this macro only exists until you close the program. Then it will be lost forever.**
- If you want to keep this macro for future use the next time you open the program, click on *EXPORT*. A window will open for you to select the exporting directory.
- To retrieve a saved macro the next time you open the program, please click on *IMPORT* and find you macro in your system.
- It is also possible to add a delay between instructions by entering the time you want to wait (in milliseconds) and clicking on *ADD DELAY*
 - This delay will be added at the end of the current instruction set:



- If you have specific instructions that you would like to remove, check these specific instructions and click on *CLEAR*. They will then disappear from the list:

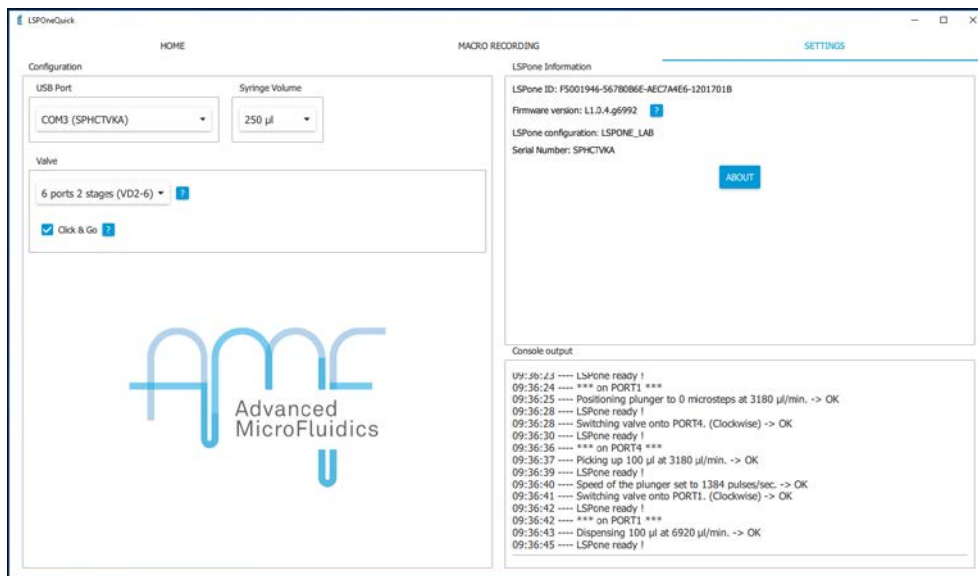


- You can use the *SELECT ALL* and *UNSELECT ALL* buttons for easier selection of your instructions, depending on the number that you have got.
- If you want to clear the full list and come to a fresh start, simply click on *CLEAR* without selecting anything:



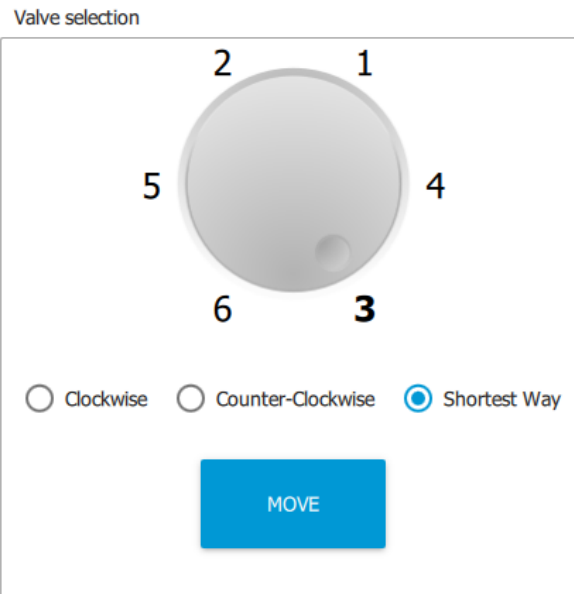
- The output console shows what the pump is doing and its status at any time.
 - If you right-click in the console, you can save or clear the log at any time.

4. Settings tab

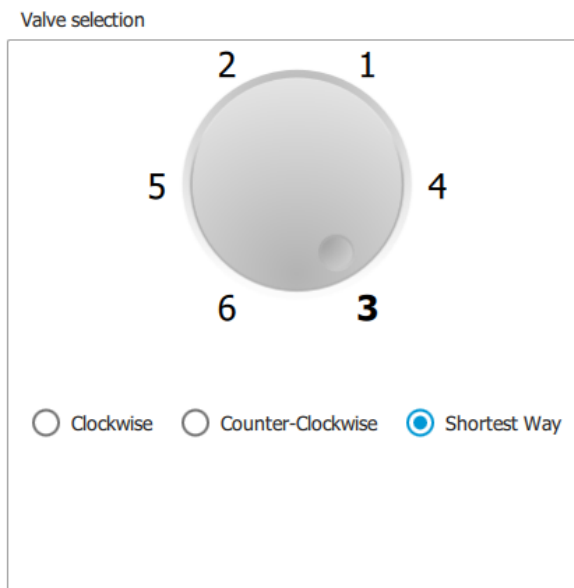


The settings tab allows you to input which specific pump configuration you are using:

- The **port** you are connected to (mostly important when using several pumps)
- The **syringe** that is mounted on the pump
- The **valve** model
- Whether you want to use the software with the “**Click & Go**” option
 - If the box is unchecked, you must select a port number, then click on *MOVE*



- If the option is selected, the port change happens as soon as click on a different port number. The move button then disappears



You can also have specific information (read on the firmware) to know which pump you are using. This is mostly useful if you need to contact us in case you have a problem. Here is the information given:

- The unique pump ID
- The firmware version (software in the pump)
- The LSPone configuration
- The serial number

The settings page also shows the output console, so you can monitor what is happening from any window. If you right-click in the console, you can save or clear the log at any time.