

# ACS200 Syringe Preparation Manual

Version of 10.24.2017. Get the latest one at <http://cmi.epfl.ch/photo/files/acs200/ACS200.syringe.manual.pdf>

## 1. Introduction

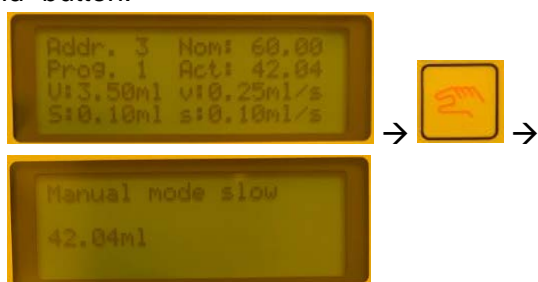
This user manual explains how to change and refill the manual syringe available in coater N°2 of the ACS200 automatic coater. Users should already be familiar with the ACS200 equipment before attempting this manipulation.

## 2. Changing the Syringe

- Put a second pair of nitrile gloves!
- To unlock the lateral doors of the ACS200 and access the coater 2 module, click on "Request Door Access" in the Overview window of the ACS200 user interface.



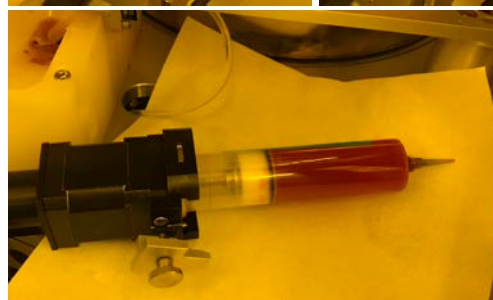
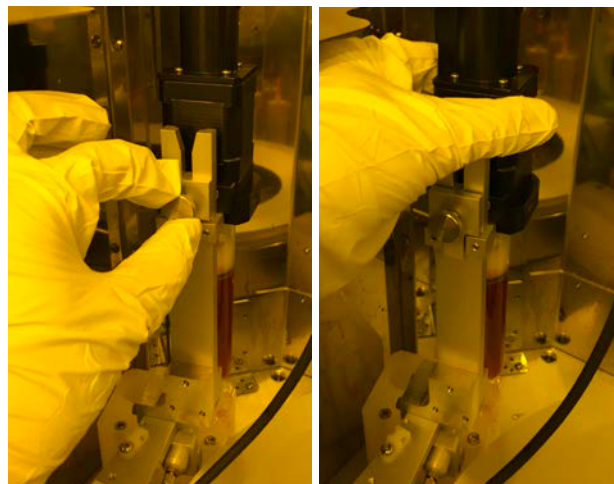
- On the syringe controller, switch from automatic to manual control of the syringe by pressing the "hand" button.



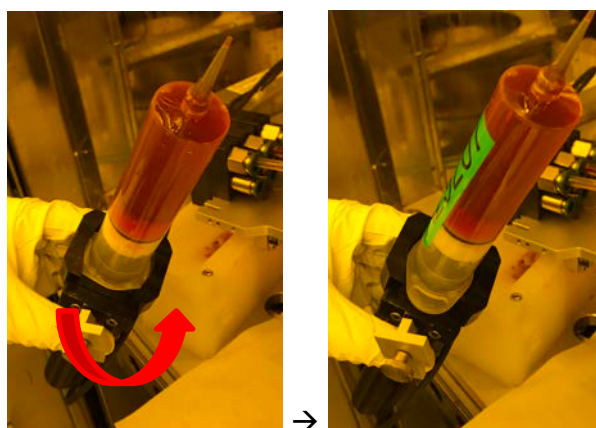
- The syringe motor speed switches from "slow" to "fast" by pressing the key N°5 on the controller.



- Remove the syringe from the robotic arm by unscrewing and lifting carefully the syringe module as shown below, then place it on a cleanroom paper sheet. ! If any resist droplets falls in the chamber, make sur to wipe and clean it with a cleanroom paper imbibed with IPA !

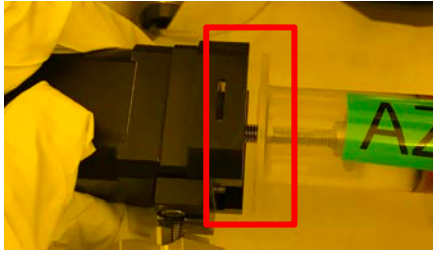


- Rotate the syringe ¼ turn to unclamp it from the motor block as shown below.



- Use the "down arrow" button to move the piston position down until the syringe can be safely and completely unscrewed.

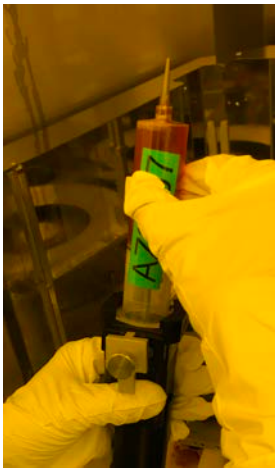




- Proceed to the syringe exchange. Adjust the position of the piston with the arrows as necessary depending on the fill level of the new syringe.



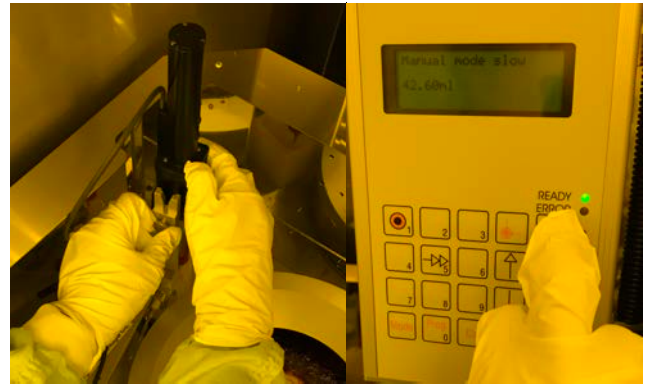
- **! Make sure not to screw the new syringe too tight on the piston. It should just be fixed and have enough freedom to do the final ¼ turn to clamp it !**



- Air is removed from the syringe using the “down arrow” in slow mode and facing the syringe upward. Clean with a paper sheet if any resist spills out.



- To complete the exchange, mount the syringe module back on the arm, switch the controller back to “automatic” mode.



- Close the CO2 lateral door and switch back to “Doors Not Accessible” on the UI.



### 3. Refilling the Syringe

- To refill the syringe, find resist bottles and teflon beakers in the cabinet under coater N°2. Pour some resist in the beaker as shown.



- Remove the syringe from the arm as explained in the previous section.
- Switch the syringe controller to manual mode.
- Deep the syringe tip into the resist and use the “up arrow” button to pump the resist into the syringe as shown below.



- Reinstall the syringe (see previous section).